

## 2021 Q3 Groundwater and Soil Vapor Sampling Results

**District Six C6**

**Facility ID 286487**

**NENE Section 20, Township 5 North, Range 65 West**

---

**EXTRACTION OIL & GAS INC.**

370 17<sup>th</sup> Street, Suite 5300

Denver, Colorado 80202

**Preparation Date**

November 10, 2021

**TABLE OF CONTENTS**

Introduction.....2  
Background.....2  
    Production Well Plugging and Abandonment Activities.....2  
    Groundwater Well Installation and Development.....2  
    Groundwater Well Elevation Survey .....3  
    Groundwater Sampling Activities and Results.....3  
        Groundwater Isotopic Interpretation .....4  
    Soil Vapor Monitoring Well Installation.....4  
    Division of Water Resources Water Sources.....5  
    Systematic Review of Regional Groundwater Data.....5  
Quarterly Activities.....5  
    Groundwater Well Elevation Survey .....5  
    Groundwater Sampling Activities and Results.....6  
        Groundwater Isotopic Interpretation .....7  
    Soil Vapor Sampling Activities and Results .....8  
Recommendations and Additional Actions .....8

**LIST OF TABLES**

- 1-1. Analytical Summary Groundwater Monitoring Well Sample Results
- 1-2. Soil Vapor Monitoring Point Field Results Summary

**LIST OF APPENDICES**

- A. District Six C6 Plug and Abandonment Workover Daily Summary
- B. Groundwater and Soil Vapor Well Location Map
- C. Groundwater Well Permit Records
- D. Groundwater Well Borehole and Completion Logs
- E. Groundwater Monitoring Well Gauging and Inferred Groundwater Flow Diagrams
- F. Soil Vapor Monitoring Probe Construction Diagram
- G. Division of Water Resources (DWR) Water Source One-Mile Radius Identification Inventory and Map
- H. 2021 Q3 Groundwater Laboratory Reports
- I. 2021 Q3 Groundwater Isotope Ratio Plots



## INTRODUCTION

Apex Companies, LLC (Apex) has been contracted by Extraction Oil & Gas Inc. (Extraction) to complete monitoring activities, provide data review services, and to prepare reports detailing the results and findings of monitoring activities. The following document is the monitoring report for activities conducted during the third quarter (Q3) of 2021 to support the site investigation of the plugged and abandoned well District Six C6 following a mechanical integrity test failure.

Per the site investigation and remediation project #13928 conditions of approval and amended by the Site Investigation and Remediation Workplan (Form 27), document 402332199, five monitoring wells were installed, and sample analyzed for all constituents in Table 3-1 of the Colorado Oil and Gas Conservation Commission (COGCC) Model Sample and Analysis Plan (SAP) with the exception of biological activity reaction tests (BART). In addition, eight soil vapor monitoring points were installed, and field screened for methane. Per Site Investigation and Remediation Workplan (Form 27), document 402460091, three additional monitoring wells were installed during the fourth quarter (Q4) 2020 in an attempt to determine vertical and lateral extent of impacts to groundwater and to obtain a point of compliance.

Quarterly laboratory results will be uploaded into the Colorado Environmental (COENV) database and identified impacts will be reported, as required for each discovery. A subsequent Form 27 will be submitted following work completion.

## BACKGROUND

### Production Well Plugging and Abandonment Activities

Production well District Six C6, API 05-123-24211 was successfully plugged and abandoned (P&A) by Ranger Energy Services. This P&A was accomplished via a workover rig between June 14, 2019 and July 11, 2019. Wellhead was cut and capped eight feet below ground surface on July 18, 2019. See **Attachment A** for the Daily Workover Activity Summary.

### Groundwater Well Installation and Development

Groundwater monitoring well 5993-MH MW-1 (MW-1) was installed on August 28, 2019. Groundwater monitoring wells 60666-MH MW-2 (MW-2), 60666-MH MW-3 (MW-3), 60666-MH MW-4 (MW-4), 60666-MH MW-5 (MW-5) were installed between April 21, 2020 to April 30, 2020 radially around MW-1. 61256-MH MW-6 (MW-6), 61256-MH MW-8 (MW-8), and 61256-MH MW-10 (MW-10) were installed between October 20, 2020, and November 9, 2020, upgradient of MW-5 and downgradient of MW-2 and MW-4. See **Attachment B** for a groundwater well location map.

All wells were drilled using a hollow stem auger drill rig. Monitoring wells MW-1, MW-3, MW-4, MW-5, MW-6, MW-8, and MW-10 were drilled and installed at a depth of approximately 85-feet below ground surface (bgs). Each well has a screened interval of 40 feet. MW-2 was drilled and set at a depth of 60-feet bgs with 25-feet of screen. MW-2 was placed at a shallower depth than other onsite wells due to health and safety concerns associated with methane observed during drilling activities.

The wells are all completed at the surface with a flush-mounted well box and set in a two-foot by two-foot by six-inch concrete pad. The wells were permitted through the Division of Water Resources. See **Attachment C** for well permit records and **Attachment D** for well borehole logs and monitoring well completion reports.

During installation at monitoring wells MW-1 and MW-2, positive pressure and emitting vapors were reported from each wellbore. The pressures were also observed during well development and initial sampling events but appears to have dissipated and the positive pressure and emitting vapors remained low during subsequent sample events.

MW-1, MW-3, MW-4, MW-5, MW-6, MW-8, and MW-10 were developed to confirm parameter stabilization using a low-flow purge method. Per *U.S. EPA Environmental Response Standard Operating Procedures for Monitoring Well Development* (2001), the well shall be considered developed upon parameter stabilization or once the turbidity is below 50 Nephelometric Turbidity Units (NTU). During the well development, turbidity at MW-1 and MW-8 did not reach values of less than 100 NTU; however, field parameters values did stabilize per ASTM D4448-01 (Reapproved 2019) Standard Guide for Sampling Ground-Water Monitoring Wells guidance.

Elevated atmospheric gas readings were detected during well development activities at MW-2, and additional safety measures were taken to dissipate any potential for an explosive atmosphere at the surface during well development. Field parameter stabilization was not achieved at MW-2, so a volumetric purge method was used.

During late 2020 / early 2021, monitoring well MW-10 was buried during on-site grading and transfer tubing construction operations. Apex field crews were able to clear the sediment from around and inside the casing and redeveloped MW-10 on March 16, 2021. During redevelopment, all field parameters except turbidity stabilized; however, turbidity was reported below 50 NTU therefore the well was considered developed.

During Q2 2021, monitoring well MW-6 was also buried during on-site grading and site construction activities. Thorough searches of the area did not find the well casing and no further sampling will be completed from this monitoring well.

### **Groundwater Well Elevation Survey**

Surface elevations were surveyed at a point at the top of the well casings. These locations were used as a reference point for measuring groundwater depths. See **Attachment E** for monitoring well gauging and inferred groundwater flow diagrams. Based on elevation data, groundwater flow direction is assumed to be moving in a southeasterly direction. The groundwater flow elevation at the site has historically fluctuated, possibly due to natural processes such as precipitation and evapotranspiration, human related activities (e.g., irrigation), or an increase in seasonal domestic use (for lawns and gardens). The fluctuations surveyed may also have been a result of natural variances in the gradient itself at such a small scale.

### **Groundwater Sampling Activities and Results**

The initial samples at MW-1 were collected on October 17, 2019, and MW-2 through MW-5 were collected in May 2020. MW-6, MW-8, and MW-10 were initially sampled on November 23, 2020. Laboratory results from the MW-1 initial sample and subsequent samples indicate Table 915-1 (formally 910-1) exceeded benzene levels. Slight total petroleum hydrocarbons, gasoline range organics (GRO) and diesel range organics (DRO) detections are consistently seen in the MW-1. GRO has also been detected MW-2 and MW-4.

Additional isotopic analysis has been completed at the MW-1, MW-2, MW-4, MW-5, MW-6, and MW-10 due to dissolved methane greater than 1 milligram per liter (mg/L). Results from the isotopic analysis has plotted the gas origin in the thermogenic range. Laboratory data from the monitoring wells is accessible in the Colorado Environmental Database.

### Groundwater Isotopic Interpretation

Isotopic water data from MW-1, MW-2, MW-4, MW-5, MW-6, and MW-10 was compared to the District Six C6 bradenhead sample (Sample ID 606506), gathered from the Colorado Environmental Database. The data indicates that gasses identified in the monitoring well samples could be related to the bradenhead sample.

Per the original review of the MW-1 results, the methane, ethane, and propane have the same thermogenic source and there was no appreciable mixing of methane from alternative sources. The likely source would be consistent with gas from the J-Sand / Codell / Niobrara production zone. Variations in mole % (Mol%) can be explained by solubility, dilution, and oxidation effects that are acting on the MW-1 sample, but not on the bradenhead sample. Hydrocarbons tend to have low solubilities in water and water solubilities tend to decrease with hydrocarbon mass, thus the expectation is progressively less of the heavier hydrocarbons dissolve in water for aqueous samples that are in equilibrium with gas. Therefore, it is expected to see much less butane, pentane and C6+ in the MW-1 sample than seen in the bradenhead gas. The lower British Thermal Unit (BTU) of the MW-1 sample is also explainable by this effect.

Isotope ratio plots, indicate the bradenhead plots almost coincident with the MW-1 sample with variation of less than five percent. Variations for d13C2 and d13C3 between the samples are even lower (within two percent) as expected due to reduced chance for any minor mixing with biogenic methane in the area.

### **Soil Vapor Monitoring Well Installation**

Eight soil vapor monitoring wells were installed on August 28, 2019. The wells are dual-nested into four casings and are radially located, approximately five-feet from the District Six C6 production well, and are identified as:

- SVP-1-5
- SVP-1-30
- SVP-2-5
- SVP-2-30
- SVP-3-5
- SVP-3-30
- SVP-4-5
- SVP-4-30

Soil vapor probes SVP-1 through SVP-4 were each advanced to 30-feet bgs using a hollow stem auger rig equipped with six-inch augers. Probes were installed at each location at approximately five and 30-foot bgs. The probe depths are differentiated at the surface using different lengths of stick-up, with the longer tubing associated with the 30-foot probe and the shorter tubing associated with the five-foot probe. See **Attachment F** for the Soil Vapor Monitoring Probe Construction Diagram

On April 1, 2020, Extraction completed a forward-looking infrared (FLIR) sweep at soil vapor monitoring points SVP-1 through SVP-4 to determine if fugitive vapors were visible. No evidence of hydrocarbons was found, and no additional soil vapor monitoring points have been installed to-date.

### **Division of Water Resources Water Sources**

All Colorado Division of Water Resources (DWR) water sources within a quarter mile radius were identified and evaluated for inclusion in a sampling event as part of the COGCC approved action plan. All DWR permitted water sources within the quarter-mile radius were eliminated based on an abandoned, incomplete, or expired permit status or after completion of field verification. One water source, Doty 160051, Facility ID 754055, located 0.33 miles from the District Six C6 well was sampled on March 27, 2020.

In early 2021, the radius was expanded and all DWR water sources within a one-mile radius were identified and evaluated for inclusion in a one-time sampling event, see **Attachment G** Division of Water Resources (DWR) Water Source One-Mile Radius Identification Inventory and Map. Starting with the nearest wells to the District Six C6 site and moving radially outward, five DWR water sources were sampled during 2020 and 2021. Laboratory data for the samples have been uploaded to the Colorado Environmental Database and indicated no constituents exceeded the threshold limits for immediate COGCC or landowner notification as specified in the COGCC Model SAP. Twelve additional water sources were eliminated due to well construction/operation status or lack of water source owner permissions.

### **Systematic Review of Regional Groundwater Data**

In Q2 2021, as a part of a systematic review of regional groundwater data prior to drilling additional monitoring wells and to better understand any underlying sources or regional areas of concern, Apex reviewed readily available historical groundwater data; including the following:

- 1) USGS monitoring well data;
- 2) lithology cross sections; and
- 3) research into any known groundwater flow direction changes due to seasonal fluctuations.

A limited amount of publicly available historical groundwater analytical data was found within close proximity (approximately one-mile radius) of the District Six C6 site. The analytical and lithology data that was reviewed did not provide conclusive evidence in regard to any underlying sources or areas of concern.

## **QUARTERLY ACTIVITIES**

### **Groundwater Well Elevation Survey**

Groundwater well elevations were re-surveyed on September 20, 2021, to confirm current groundwater flow as it relates to future monitoring activities. The previously identified fluctuations in groundwater flow direction from previous surveys continues and groundwater flow direction is currently assumed to be moving at a southeasterly direction.

### Groundwater Sampling Activities and Results

Q3 sampling of MW-1, MW-2, MW-3, MW-4, MW-5, MW-8, and MW-10 was completed on September 7 and 8, 2021. The water samples were collected in laboratory-supplied containers and submitted to Summit Scientific Inc. (Summit) in Golden, Colorado and IsoTech Laboratories, Inc. (IsoTech) in Champaign, Illinois, for analysis of the required water quality parameters. The laboratory analytical results are listed in the attached Groundwater Monitoring Well Sample Results summary table, **Table 1-1**, and 2021 Q3 Groundwater Laboratory Reports, **Attachment H**. For comparison purposes, a regulatory limit for each analyte is included in the summary table where applicable.

Dissolved methane, ethane, and propane was collected using an in-line sample collection container and analyzed using the IsoTech in-house dissolved gas screening (DGS) method. For a historical comparison, **Figure 1**, includes both the DGS and RSK175 sampling methods results.

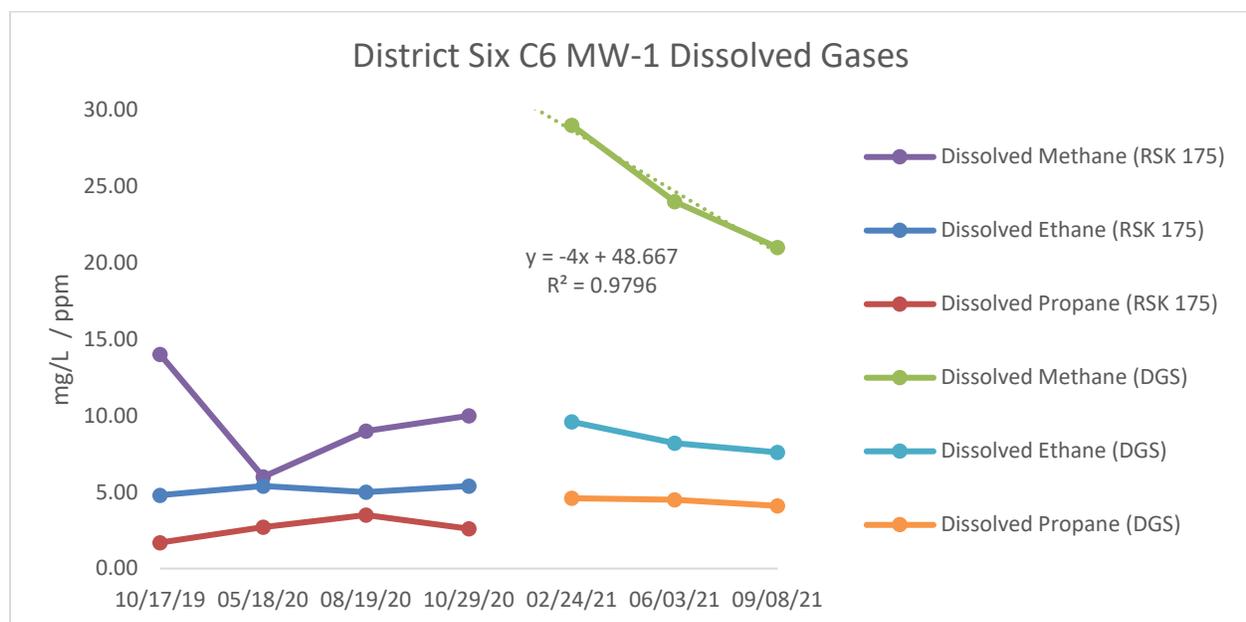


Figure 1 District Six C6 MW-1 Dissolved Gases – RSK 175 (mg/L) and DGS (ppm)

Dissolved methane was detected during Q3 2021 at monitoring wells MW-1 (21.00ppm), MW-4 (19.00 ppm), and MW-5 (2.6 ppm) and additional isotopic analysis was requested. DGS analysis did not detect enough dissolved methane gas from MW-2 (0.00079 ppm), MW-3 (0.044 ppm), or MW-8 (0.0027 ppm) to run the additional isotopic analysis. MW-10 was approved by the COGCC for RSK175 sampling due to proximity to newly installed equipment presenting safety concerns; however, due to bottle set communication errors, the dissolved gas was not analyzed during Q3.

Laboratory results at MW-1 indicate benzene levels above the Table 915-1 threshold.

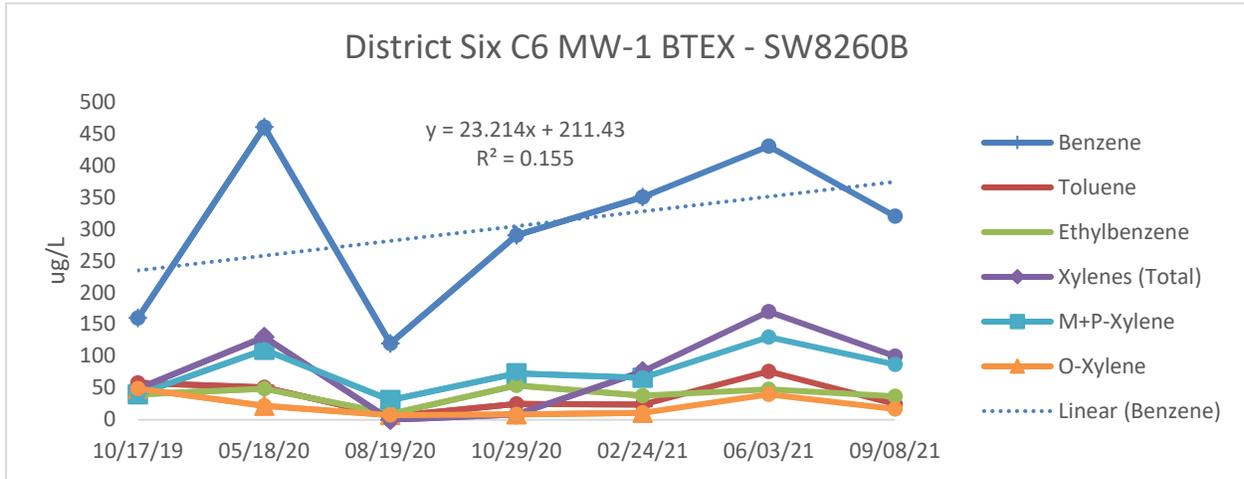


Figure 2 District Six C6 MW-1 BTEX (ug/L) detections

GRO was detected in only the MW-1 monitoring well. DRO was again detected in the MW-1 and MW-5, and for the first time was also detected in the MW-2, MW-3, and MW-4.

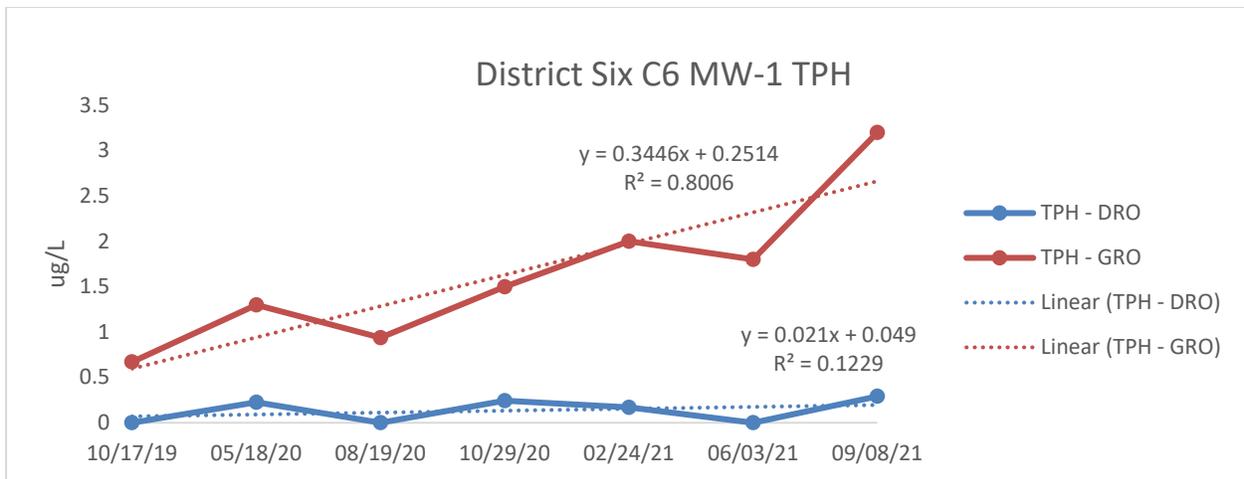


Figure 3 District Six C6 MW-1 TPH (ug/L) detections

### Groundwater Isotopic Interpretation

Additional stable isotope analysis of hydrocarbon gases C1 through C5 was analyzed of the dissolved gas during the latest sampling events. Isotopic analysis on the MW-1, MW-4, MW-5, and MW-6 indicates the stable isotope distribution for methane plots in the thermogenic range. See **Attachment I** for the isotope ratio plots.

The Q3 isotopic gas data from MW-1, MW-4, and MW-5 was compared to the original District Six C6 bradenhead sample (Sample ID 606506). The data continues to indicate the monitoring wells are impacted with a thermogenic gas similar to the District Six C6 bradenhead sample. The three monitoring well samples contain levels of heavier hydrocarbons, up to and including C6+, which also indicates a thermogenic origin. MW-1 is the most concentrated gas with highest BTU, MW-4 is intermediate in concentration and BTU, and MW-5 is the most diluted with ambient air with corresponding lowest BTU. The Mol% (ethane + propane) is relatively high in all tested wells relative to Mol% methane in these wells.

### **Soil Vapor Sampling Activities and Results**

Readings were collected from each soil vapor point using a RKI Eagle 2 gas meter. The gas meter was equipped with methane (CH<sub>4</sub>), hydrogen sulfide (H<sub>2</sub>S), carbon monoxide (CO), and O<sub>2</sub> sensors. The field reported results are listed in the attached Soil Vapor Monitoring Point Field Results Summary table, **Table 1-2**.

### **RECOMMENDATIONS AND ADDITIONAL ACTIONS**

Field and laboratory results from the latest sampling events will be uploaded into the Colorado Environmental (COENV) database via Form 43 and as a supplemental Form 27. Extraction will continue to collect quarterly groundwater samples and complete soil vapor monitoring at the District Six C6 well site through the fourth quarter of 2021.

Extraction recognizes drilling additional monitoring wells to the North / Northwest to determine vertical and lateral extent of impacts to groundwater and to obtain a point of compliance and as a replacement for MW-6 may need to be a part of a revised monitoring plan for 2022.

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	59993-MH MW-1 Facility ID 762176						
				Initial	1	2	3	4	5	6
Date Sampled	-	-	-	10/17/19	05/18/20	08/19/20	10/29/20	02/24/21	06/03/21	09/08/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>										
Total Alkalinity	mg/l	None	-	260	260	210	280	260	320	350
Bicarbonate	mg/l	None	-	260	260	210	280	260	320	350
Carbonate	mg/l	None	-	ND	ND	ND	ND	ND	ND	ND
<b>BTEX - SW8260B</b>										
Benzene	µg/l	5	915-1	160	460	120	290	350	430	320
Toluene	µg/l	560 to 1,000	915-1	58	51	5.4	25	24	76	25
Ethylbenzene	µg/l	700	915-1	40	49	9.2	54	38	48	37
Xylenes (Total)	µg/l	1400 to 10,000	915-1	49	130	ND	8.2	76	170	100
M+P-Xylene	µg/l	None	-	40	110	31	73	66	130	87
O-Xylene	µg/l	None	-	49	22	7.3	8.3	11	40	17
<b>TPH-DRO/GRO - SW8015M/SW8015</b>										
TPH - DRO	mg/L	None	-	ND	0.227	ND	0.244	0.169	ND	0.291
TPH - GRO	mg/L	None	-	0.67	1.3	0.94	1.5	2	1.8	3.2
<b>DISSOLVED GASES</b>										
Dissolved Methane (RSK 175)	mg/L	None	-	14.00	6.00	9.00	10.00	#N/A	#N/A	#N/A
Dissolved Ethane (RSK 175)	mg/L	None	-	4.80	5.40	5.00	5.40	#N/A	#N/A	#N/A
Dissolved Propane (RSK 175)	mg/L	None	-	1.70	2.70	3.50	2.60	#N/A	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	29.00	24	21
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	9.60	8.2	7.6
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	4.60	4.5	4.1
<b>IONS - EPA 300.0</b>										
Bromide	mg/l	None	-	9.64	7.63	4.37	0.983	2.1	ND	1.74
Chloride	mg/l	250 or 1.25x background	915-1	771	512	366	172	296	194	147
Fluoride	mg/l	4	Reg 41	0.899	0.603	0.358	0.321	0.452	0.721	0.505
Nitrate + Nitrite as N	mg/l	10	Reg 41	1.87	0.491	ND	0.102	ND	0.460	ND
Nitrate as N	mg/l	10	Reg 41	1.87	0.491	ND	0.102	ND	0.460	ND
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND	ND	ND	ND
Sulfate	mg/l	250 or 1.25x background	915-1	105	63.8	113	127	33.3	50.1	9.73
<b>METALS EPA 200.8</b>										
Dissolved Barium	mg/l	2	Reg 41	0.125	0.153	0.0853	0.0607	0.0563	0.0589	0.0733
Dissolved Boron	mg/l	0.4	RSL	0.0751	0.127	0.166	0.0961	0.14	0.0931	0.186
Dissolved Calcium	mg/l	None	-	150	197	170	81.1	107	70.5	96.7
Dissolved Iron	mg/l	0.3	Reg 41	ND	0.0508	ND	0.0557	0.0287	0.245	0.0527
Dissolved Magnesium	mg/l	None	-	88.5	107	91.4	38.4	50.9	39	45.8
Dissolved Manganese	mg/l	0.05	Reg 41	1.43	1.49	1.51	0.773	1.19	0.633	0.945
Dissolved Potassium	mg/l	None	-	3.88	4.91	6.69	2.78	3.83	3.14	4.1
Dissolved Selenium	mg/l	0.05	Reg 41	0.00131	ND	ND	ND	0.00576	0.00194	ND
Dissolved Sodium	mg/l	None	-	104	174	203	77	146	95.5	168
Dissolved Strontium	mg/l	1.2	RSL	1.9	2.53	2.47	0.959	1.5	0.939	1.33
<b>WATER QUALITY</b>										
pH	s.u.	6-9	Reg 41	7.25	8.09	7.39	7.92	7.94	8.01	7.84
Specific Conductivity	µmhos/cm	None	-	1,910	3,180	2,420	1,140	1390	1,090	1,270
Total Dissolved Solids	mg/l	1.25 X background	915-1	942	1,580	1,200	570	694	540	602
Total Phosphorous	mg/l	None	-	0.0940	0.222	ND	ND	0.0825	0.088	0.0785

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	59993-MH MW-1 Facility ID 762176						
				Initial	1	2	3	4	5	6
<b>Aqueous</b>										
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	NA	-17.6	NA	-18.6	-20	-18.8	-19.9
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	NA	-13.8	NA	-14.42	-13.63	13.87	-13.68
Delta D H2O (dD of water)	% per mil	None	-	NA	-108.3	NA	-111.7	-107.2	-108.6	-107.3
<b>Gaseous</b>										
Argon (Ar)	MOL %	None	-	0.213	0.203	0.28	0.129	0.277	0.148	0.141
C <sub>6</sub> + (hexanes +)	MOL %	None	-	0.0324	0.044	0.0344	0.0649	0.0102	0.0298	0.0206
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	-	2.37	1.63	1.91	1.66	1.16	1.6	1.28
Carbon Monoxide (CO)	MOL %	None	-	ND	ND	ND	ND	ND	ND	ND
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	ND	ND
Ethane (C <sub>2</sub> )	MOL %	None	-	10.19	11.86	10.01	12.44	9.82	12.09	12.39
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	-	8.4	7.5	7.6	7.5	8.1	7.4	6.2
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	-	10	9.4	9.5	9.4	10	9.2	7.8
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	-	ND	ND	ND	ND	ND	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.5	0.67	0.62	0.59	0.38	0.58	NA
Hydrogen (H <sub>2</sub> )	MOL %	None	-	ND	ND	ND	ND	ND	ND	ND
Isobutane (iC <sub>4</sub> )	MOL %	None	-	0.273	0.368	0.317	0.426	0.292	0.432	0.423
Isopentane (iC <sub>5</sub> )	MOL %	None	-	0.0667	0.0883	0.0785	0.128	0.0635	0.123	0.105
Methane (C <sub>1</sub> )	MOL %	None	-	65.45	70.18	58.57	73.99	56.93	69.48	69.68
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	-	50	42	42	41	43	39	31
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	-	33	28	28	27	28	26	21
n-Butane (nC <sub>4</sub> )	MOL %	None	-	0.326	0.647	0.518	0.808	0.408	0.866	0.807
Nitrogen (N <sub>2</sub> )	MOL %	None	-	15.63	10.79	22.64	5.73	22.19	9.14	9.00
n-Pentane (nC <sub>5</sub> )	MOL %	None	-	0.0404	0.0485	0.0428	0.0899	0.0214	0.0711	0.0551
Oxygen (O <sub>2</sub> )	MOL %	None	-	2.74	ND	2.16	0.12	5.46	1.34	NA
Propane (C <sub>3</sub> )	MOL %	None	-	2.67	4.14	3.44	4.41	3.37	4.68	4.75
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	-	2.1	2.5	2.5	2.5	2.6	2.7	2.2
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	-	3.8	4.6	4.6	4.6	4.8	4.9	4
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	-	ND	ND	ND	ND	ND	ND	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-2 Facility ID 766284					
				Initial	1	2	3	4	5
Date Sampled	-	-	-	05/19/20	08/19/20	10/28/20	02/23/21	06/02/21	09/07/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>									
Total Alkalinity	mg/l	None	-	280	340	310	310	340	350
Bicarbonate	mg/l	None	-	280	340	310	310	340	350
Carbonate	mg/l	None	-	ND	ND	ND	ND	ND	ND
<b>BTEX - SW8260B</b>									
Benzene	µg/l	5	915-1	ND	ND	ND	ND	ND	ND
Toluene	µg/l	560	915-1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	700	915-1	ND	ND	ND	ND	ND	ND
Xylenes (Total)	µg/l	1,400	915-1	ND	ND	ND	ND	ND	ND
M+P-Xylene	µg/l	None	-	0.0038	ND	ND	ND	ND	ND
O-Xylene	µg/l	None	-	0.013	ND	ND	ND	ND	ND
<b>TPH-DRO/GRO - SW8015M/SW8015</b>									
TPH - DRO	mg/l	None	-	ND	ND	ND	ND	ND	0.193
TPH - GRO	mg/l	None	-	0.17	ND	ND	ND	ND	ND
<b>DISSOLVED GASES</b>									
Dissolved Methane (RSK 175)	mg/l	None	-	2.30	ND	ND	#N/A	#N/A	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	1.40	ND	ND	#N/A	#N/A	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	ND	ND	ND	#N/A	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.00051	0.066	0.00079
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	<0.0002	0.013	0.00042
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	<0.0002	0.0047	<0.0002
<b>IONS - EPA 300.0</b>									
Bromide	mg/l	None	-	0.254	0.252	0.251	ND	0.475	0.29
Chloride	mg/l	250 or 1.25x background	915-1	26.4	26.6	71	36.4	87	31
Fluoride	mg/l	4	Reg 41	0.383	0.292	0.343	0.416	0.659	0.418
Nitrate + Nitrite as N	mg/l	10	Reg 41	ND	8.88	10.4	16.3	12.2	11
Nitrate as N	mg/l	10	Reg 41	ND	8.76	10.4	16.3	12.2	11
Nitrite as N	mg/l	1	Reg 41	0.112	0.114	ND	ND	ND	ND
Sulfate	mg/l	250 or 1.25x background	915-1	157	89.5	195	124	193	64.1
<b>METALS EPA 200.8</b>									
Dissolved Barium	mg/l	2	Reg 41	0.0388	0.0397	0.0307	0.0368	0.0372	0.0445
Dissolved Boron	mg/l	0.4	RSL	0.202	0.206	0.176	0.222	0.209	0.242
Dissolved Calcium	mg/l	None	-	92.3	94.500	89.900	98.8	86.4	110
Dissolved Iron	mg/l	0.3	Reg 41	ND	ND	0.0117	<b>0.0365</b>	0.136	0.13
Dissolved Magnesium	mg/l	None	-	38.9	45.1	39.4	43.2	38	51.8
Dissolved Manganese	mg/l	0.05	Reg 41	0.165	ND	6.26	ND	0.0041	0.00233
Dissolved Potassium	mg/l	None	-	4.58	3.97	2.97	2.76	2.85	3.31
Dissolved Selenium	mg/l	0.05	Reg 41	0.00409	0.00743	0.00562	0.00884	0.0514	0.00531
Dissolved Sodium	mg/l	None	-	97.5	82.4	71.7	75.7	64.2	87.6
Dissolved Strontium	mg/l	1.2	RSL	<b>1.08</b>	1.25	1.13	1.32	1.16	1.42
<b>WATER QUALITY</b>									
pH	s.u.	6-9	Reg 41	7.47	7.41	7.4	7.41	7.33	7.34
Specific Conductivity	µmhos/cm	None	-	1220	1,050	1,200	662	1140	1,370
Total Dissolved Solids	mg/l	1.25 X background	915-1	602	517	591	478	559	673
Total Phosphorous	mg/l	None	-	ND	ND	ND	0.0564	0.065	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-2 Facility ID 766284					
				Initial	1	2	3	4	5
<b>Aqueous</b>									
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	-13.4	NA	-11.3	-11.6	-12.8	-12.7
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	-13.43	NA	-13.08	-13.06	-13.13	-1305
Delta D H2O (dD of water)	% per mil	None	-	-105.4	NA	-102.4	-102.5	-103	-102.1
<b>Gaseous</b>									
Argon (Ar)	MOL %	None	-	0.817	NA	NA	NA	NA	NA
C <sub>6</sub> + (hexanes +)	MOL %	None	-	0.0122	NA	NA	NA	NA	NA
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	-	0.7	NA	NA	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	ND	NA	NA	NA	NA	NA
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Ethane (C <sub>2</sub> )	MOL %	None	-	1.22	NA	NA	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	-	13	NA	NA	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	-	16	NA	NA	NA	NA	NA
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	-	ND	NA	NA	NA	NA	NA
Helium (He)	MOL %	None	-	0.0109	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	-	NA	NA	NA	NA	NA
Hydrogen (H <sub>2</sub> )	MOL %	None	-	ND	NA	NA	NA	NA	NA
Isobutane (iC <sub>4</sub> )	MOL %	None	-	0.0561	NA	NA	NA	NA	NA
Isopentane (iC <sub>5</sub> )	MOL %	None	-	0.0212	NA	NA	NA	NA	NA
Methane (C <sub>1</sub> )	MOL %	None	-	9.1	NA	NA	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	-	96	NA	NA	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	-	64	NA	NA	NA	NA	NA
n-Butane (nC <sub>4</sub> )	MOL %	None	-	0.0984	NA	NA	NA	NA	NA
Nitrogen (N <sub>2</sub> )	MOL %	None	-	68.9	NA	NA	NA	NA	NA
n-Pentane (nC <sub>5</sub> )	MOL %	None	-	0.0134	NA	NA	NA	NA	NA
Oxygen (O <sub>2</sub> )	MOL %	None	-	18.59	NA	NA	NA	NA	NA
Propane (C <sub>3</sub> )	MOL %	None	-	0.457	NA	NA	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	-	4.8	NA	NA	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	-	8.9	NA	NA	NA	NA	NA
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	-	ND	NA	NA	NA	NA	NA

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-3 Facility ID 766285					
				Initial	1	2	3	4	5
Date Sampled	-	-	-	05/15/20	08/17/20	10/20/20	02/23/21	06/02/21	09/07/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>									
Total Alkalinity	mg/l	None	-	340	330	320	320	320	340
Bicarbonate	mg/l	None	-	340	330	320	320	320	340
Carbonate	mg/l	None	-	ND	ND	ND	ND	ND	ND
<b>BTEX - SW8260B</b>									
Benzene	µg/l	5	915-1	ND	ND	ND	ND	ND	ND
Toluene	µg/l	560	915-1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	700	915-1	ND	ND	ND	ND	ND	ND
Xylenes (Total)	µg/l	1,400	915-1	ND	ND	ND	ND	ND	ND
M+P-Xylene	µg/l	None	-	ND	ND	ND	ND	ND	ND
O-Xylene	µg/l	None	-	ND	ND	ND	ND	ND	ND
<b>TPH-DRO/GRO - SW8015M/SW8015</b>									
TPH - DRO	mg/l	None	-	ND	ND	ND	ND	ND	0.143
TPH - GRO	mg/l	None	-	ND	ND	ND	ND	ND	ND
<b>DISSOLVED GASES</b>									
Dissolved Methane (RSK 175)	mg/l	None	-	ND	1.400	0.028	#N/A	#N/A	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	ND	0.056	ND	#N/A	#N/A	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	ND	ND	ND	#N/A	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.040	0.018	0.044
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.00029	0.0025	0.0030
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	<0.0002	<0.0003	<0.0002
<b>IONS - EPA 300.0</b>									
Bromide	mg/l	None	-	0.404	0.378	0.280	0.213	0.507	0.307
Chloride	mg/l	250 or 1.25x background	915-1	47.9	41.5	97.0	39.2	105	47.6
Fluoride	mg/l	4	Reg 41	0.637	0.485	0.270	0.325	0.515	0.223
Nitrate + Nitrite as N	mg/l	10	Reg 41	9.62	9.53	8.56	8.97	12.0	8.24
Nitrate as N	mg/l	10	Reg 41	9.62	9.53	8.56	8.97	12.0	8.24
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND	ND	ND
Sulfate	mg/l	250 or 1.25x background	915-1	98.7	84.5	197	110	226	170.0
<b>METALS EPA 200.8</b>									
Dissolved Barium	mg/l	2	Reg 41	0.0753	0.0867	0.0611	0.0642	0.0496	0.0705
Dissolved Boron	mg/l	0.4	RSL	0.167	0.216	0.157	0.183	0.176	0.243
Dissolved Calcium	mg/l	None	-	109	123	109	111	90.7	139
Dissolved Iron	mg/l	0.3	Reg 41	0.0316	0.225	ND	0.0318	0.137	0.0991
Dissolved Magnesium	mg/l	None	-	45	52	44.8	44.2	37.4	57.7
Dissolved Manganese	mg/l	0.05	Reg 41	0.327	0.39	0.26	0.343	0.178	0.205
Dissolved Potassium	mg/l	None	-	4.92	5.31	3.84	4.51	3.81	4.85
Dissolved Selenium	mg/l	0.05	Reg 41	0.00246	0.0021	0.00181	0.00629	0.0465	0.00271
Dissolved Sodium	mg/l	None	-	69.3	82.8	70.7	91.9	63.9	108
Dissolved Strontium	mg/l	1.2	RSL	1.27	1.62	1.33	1.42	1.17	1.76
<b>WATER QUALITY</b>									
pH	s.u.	6-9	Reg 41	7.44	7.28	7.18	7.4	7.22	7.25
Specific Conductivity	µmhos/cm	None	-	1260	1110	1,310	1,010	1210	1,440
Total Dissolved Solids	mg/l	1.25 X background	915-1	609	547	655	513	586	706
Total Phosphorous	mg/l	None	-	0.0620	ND	ND	ND	0.083	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-3 Facility ID 766285					
				Initial	1	2	3	4	5
<b>Aqueous</b>									
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	-13.1	NA	-12.8	-12	-12.3	-12.1
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	-13.21	NA	-13.34	-13.52	-13.28	-13.44
Delta D H2O (dD of water)	% per mil	None	-	-102.9	NA	-102.9	-105.6	-103.4	-104.8
<b>Gaseous</b>									
Argon (Ar)	MOL %	None	-	NA	NA	NA	NA	NA	NA
C <sub>6</sub> + (hexanes +)	MOL %	None	-	NA	NA	NA	NA	NA	NA
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Ethane (C <sub>2</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	-	NA	NA	NA	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	-	NA	NA	NA	NA	NA	NA
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	NA	NA	NA	NA	NA	NA
Hydrogen (H <sub>2</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Isobutane (iC <sub>4</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Isopentane (iC <sub>5</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Methane (C <sub>1</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	-	NA	NA	NA	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	-	NA	NA	NA	NA	NA	NA
n-Butane (nC <sub>4</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Nitrogen (N <sub>2</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
n-Pentane (nC <sub>5</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Oxygen (O <sub>2</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Propane (C <sub>3</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	-	NA	NA	NA	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	-	NA	NA	NA	NA	NA	NA
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	-	NA	NA	NA	NA	NA	NA

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-4 Facility ID 766286					
				Initial	1	2	3	4	5
Date Sampled	-	-	-	05/05/20	08/18/20	10/28/20	02/24/21	06/03/21	09/08/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>									
Total Alkalinity	mg/l	None	-	280	310	310	270	360	380
Bicarbonate	mg/l	None	-	280	310	310	270	360	380
Carbonate	mg/l	None	-	ND	ND	ND	ND	ND	ND
<b>BTEX - SW8260B</b>									
Benzene	µg/l	5	915-1	ND	ND	3.7	<b>5.2</b>	4.1	ND
Toluene	µg/l	560	915-1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	700	915-1	ND	ND	ND	ND	ND	ND
Xylenes (Total)	µg/l	1,400	915-1	3.3	ND	ND	ND	ND	ND
M+P-Xylene	µg/l	None	-	ND	ND	ND	ND	ND	ND
O-Xylene	µg/l	None	-	3.3	ND	ND	ND	ND	ND
<b>TPH-DRO/GRO - SW8015M/SW8015</b>									
TPH - DRO	mg/l	None	-	ND	ND	ND	ND	ND	0.193
TPH - GRO	mg/l	None	-	0.067	0.5	0.18	0.53	0.13	ND
<b>DISSOLVED GASES</b>									
Dissolved Methane (RSK 175)	mg/l	None	-	5.60	6.30	7.80	#N/A	#N/A	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	7.60	3.20	3.90	#N/A	#N/A	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	0.03	2.00	2.20	#N/A	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	24.00	19.00	19.000
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	7.20	5.30	5.400
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	1.80	0.47	0.740
<b>IONS - EPA 300.0</b>									
Bromide	mg/l	None	-	0.872	0.498	0.815	0.766	ND	1.01
Chloride	mg/l	250 or 1.25x background	915-1	72.1	40	119	89.2	122	68.4
Fluoride	mg/l	4	Reg 41	0.9	0.335	0.395	0.475	0.771	0.461
Nitrate + Nitrite as N	mg/l	10	Reg 41	3.65	ND	ND	ND	2.18	ND
Nitrate as N	mg/l	10	Reg 41	3.54	ND	ND	ND	2.18	ND
Nitrite as N	mg/l	1	Reg 41	0.114	ND	ND	ND	ND	ND
Sulfate	mg/l	250 or 1.25x background	915-1	<b>282</b>	115	229	129	149	85.0
<b>METALS EPA 200.8</b>									
Dissolved Barium	mg/l	2	Reg 41	0.043	0.0418	0.0285	0.04	0.0446	0.0497
Dissolved Boron	mg/l	0.4	RSL	0.221	0.259	0.196	0.204	0.205	0.264
Dissolved Calcium	mg/l	None	-	93.2	104	93.9	101	97.1	114
Dissolved Iron	mg/l	0.3	Reg 41	0.017	0.0512	0.0476	0.0473	0.0488	0.0189
Dissolved Magnesium	mg/l	None	-	38.9	46.2	41.9	42.3	44.7	51.7
Dissolved Manganese	mg/l	0.05	Reg 41	<b>0.253</b>	<b>0.795</b>	<b>0.748</b>	<b>1.09</b>	0.793	1.08
Dissolved Potassium	mg/l	None	-	2.47	3.06	2.33	2.26	2.77	2.81
Dissolved Selenium	mg/l	0.05	Reg 41	ND	ND	ND	0.00438	ND	ND
Dissolved Sodium	mg/l	None	-	86.4	106	94.4	97.1	94.2	116
Dissolved Strontium	mg/l	1.2	RSL	<b>1.19</b>	1.41	1.17	1.4	1.32	1.52
<b>WATER QUALITY</b>									
pH	s.u.	6-9	Reg 41	7.69	7.26	7.39	7.63	7.65	7.77
Specific Conductivity	µmhos/cm	None	-	1220	1050	1,280	1,070	1160	1,180
Total Dissolved Solids	mg/l	1.25 X background	915-1	608	518	951	538	586	582
Total Phosphorous	mg/l	None	-	ND	ND	ND	0.098	0.054	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-4 Facility ID 766286					
				Initial	1	2	3	4	5
<b>Aqueous</b>									
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	-11.1	NA	-13.5	-15.2	-16.0	-15.8
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	-13.69	NA	-13.76	-13.71	-13.6	-13.64
Delta D H2O (dD of water)	% per mil	None	-	-107.4	NA	-108	-107.6	-106.5	-107
<b>Gaseous</b>									
Argon (Ar)	MOL %	None	-	0.392	0.429	0.19	0.207	0.323	0.300
C <sub>6</sub> + (hexanes +)	MOL %	None	-	0.0168	0.0108	0.0195	0.0056	0.0066	0.0071
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	-	3.8	3.22	3.52	3.23	3.28	2.81
Carbon Monoxide (CO)	MOL %	None	-	ND	ND	ND	ND	ND	ND
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Ethane (C <sub>2</sub> )	MOL %	None	-	8.79	6.3	10.97	10.32	9.14	9.35
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	-	4.2	5.1	5.4	5.9	4.7	4.5
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	-	5.3	6.5	6.7	7.4	5.9	5.6
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	-	ND	ND	ND	ND	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.72	0.6	0.64	0.57	0.62	NA
Hydrogen (H <sub>2</sub> )	MOL %	None	-	ND	ND	ND	ND	ND	ND
Isobutane (iC <sub>4</sub> )	MOL %	None	-	0.297	0.203	0.351	0.206	0.1	0.116
Isopentane (iC <sub>5</sub> )	MOL %	None	-	0.0686	0.0507	0.0937	0.0452	0.0241	0.0298
Methane (C <sub>1</sub> )	MOL %	None	-	62.02	41.47	70.6	68.43	66.49	65.14
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	-	28	32	32	35	31	28
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	-	19	21	21	24	21	18
n-Butane (nC <sub>4</sub> )	MOL %	None	-	0.391	0.252	0.396	0.247	0.0813	0.149
Nitrogen (N <sub>2</sub> )	MOL %	None	-	20.17	37.1	10.8	13.98	18.23	18.43
n-Pentane (nC <sub>5</sub> )	MOL %	None	-	0.0272	0.0141	0.031	0.0176	0.0095	0.0126
Oxygen (O <sub>2</sub> )	MOL %	None	-	1.49	9.05	0.19	1.49	1.73	NA
Propane (C <sub>3</sub> )	MOL %	None	-	2.54	1.9	2.84	1.82	0.581	0.909
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	-	1.2	1.5	1.3	0.97	0.28	0.4
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	-	2.1	2.7	2.4	1.8	0.51	0.73
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	-	ND	ND	ND	ND	ND	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-5 Facility ID 766287					
				Initial	1	2	3	4	5
Date Sampled	-	-	-	05/06/20	08/18/20	10/28/20	02/24/21	06/02/21	09/08/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>									
Total Alkalinity	mg/l	None	-	230	220	240	250	230	250
Bicarbonate	mg/l	None	-	230	220	240	250	230	250
Carbonate	mg/l	None	-	ND	ND	ND	ND	ND	ND
<b>BTEX - SW8260B</b>									
Benzene	µg/l	5	915-1	ND	ND	ND	ND	ND	ND
Toluene	µg/l	560	915-1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	700	915-1	ND	ND	ND	ND	ND	ND
Xylenes (Total)	µg/l	1,400	915-1	ND	ND	ND	ND	ND	ND
M+P-Xylene	µg/l	None	-	ND	ND	ND	ND	ND	ND
O-Xylene	µg/l	None	-	ND	ND	ND	ND	ND	ND
<b>TPH-DRO/GRO - SW8015M/SW8015</b>									
TPH - DRO	mg/l	None	-	ND	0.464	ND	ND	ND	0.142
TPH - GRO	mg/l	None	-	ND	ND	ND	ND	ND	ND
<b>DISSOLVED GASES</b>									
Dissolved Methane (RSK 175)	mg/l	None	-	0.19	1.30	0.90	#N/A	#N/A	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	ND	0.39	0.10	#N/A	#N/A	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	ND	ND	0.04	#N/A	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	3.60	4.00	2.6
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.71	0.89	0.51
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.13	0.27	0.048
<b>IONS - EPA 300.0</b>									
Bromide	mg/l	None	-	8.38	3.71	314	2.27	5.07	2.24
Chloride	mg/l	250 or 1.25x background	915-1	740	330	4.95	308	480	187
Fluoride	mg/l	4	Reg 41	0.678	0.307	0.360	0.462	0.669	0.445
Nitrate + Nitrite as N	mg/l	10	Reg 41	8.47	4.87	5.35	6.55	7.85	6.77
Nitrate as N	mg/l	10	Reg 41	8.47	4.87	5.35	6.55	7.85	6.77
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND	ND	ND
Sulfate	mg/l	250 or 1.25x background	915-1	216	141	280	170	261	187.0
<b>METALS EPA 200.8</b>									
Dissolved Barium	mg/l	2	Reg 41	0.0641	0.0504	0.0409	0.0366	0.054	0.0491
Dissolved Boron	mg/l	0.4	RSL	0.181	0.209	0.181	0.175	0.245	0.242
Dissolved Calcium	mg/l	None	-	227	230.000	187.000	153	143	173
Dissolved Iron	mg/l	0.3	Reg 41	ND	0.0443	0.024	ND	0.273	0.0216
Dissolved Magnesium	mg/l	None	-	94.9	93.8	67.5	57.3	56.8	68.9
Dissolved Manganese	mg/l	0.05	Reg 41	<b>0.252</b>	0.341	0.236	<b>0.206</b>	0.64	0.42
Dissolved Potassium	mg/l	None	-	4.19	5.11	3.71	3.69	3.91	4.31
Dissolved Selenium	mg/l	0.05	Reg 41	0.0024	0.00266	0.00303	0.00442	0.062	0.00262
Dissolved Sodium	mg/l	None	-	156	224	170	152	139	177
Dissolved Strontium	mg/l	1.2	RSL	<b>2.96</b>	3.24	2.46	2.13	2.05	2.41
<b>WATER QUALITY</b>									
pH	s.u.	6-9	Reg 41	7.41	7.31	7.30	7.46	7.31	7.57
Specific Conductivity	µmhos/cm	None	-	2960	2,390	2,350	1,680	2050	1,670
Total Dissolved Solids	mg/l	1.25 X background	915-1	1460	1,170	1,180	827	1010	834
Total Phosphorous	mg/l	None	-	0.0770	0.389	ND	ND	ND	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	60666-MH MW-5 Facility ID 766287					
				Initial	1	2	3	4	5
Date Sampled	-	-	-	05/06/20	08/18/20	10/28/20	02/24/21	06/02/21	09/08/21
<b>Aqueous</b>									
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	-9.8	NA	-10.7	-10.5	-10.5	-10.9
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	-13.43	NA	-13.47	-13.43	-13.45	-13.4
Delta D H2O (dD of water)	% per mil	None	-	-105.8	NA	-106	-105.9	-105.8	-105.5
<b>Gaseous</b>									
Argon (Ar)	MOL %	None	-	1.39	1.19	1.24	1.04	1.09	1.23
C <sub>6</sub> + (hexanes +)	MOL %	None	-	0.0006	0.0012	0.0057	ND	0.0056	0.0048
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	-	6.66	6.02	5.88	2.41	4.25	4.41
Carbon Monoxide (CO)	MOL %	None	-	ND	ND	ND	ND	ND	ND
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA	NA	NA
Ethane (C <sub>2</sub> )	MOL %	None	-	0.949	1.46	1.92	1.06	2.34	1.48
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	-	0.25	0.38	0.57	0.63	0.8	0.41
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	-	0.31	0.48	0.72	0.79	1.0	0.52
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	-	ND	ND	0.0005	ND	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.83	0.83	0.81	0.51	0.73	NA
Hydrogen (H <sub>2</sub> )	MOL %	None	-	ND	ND	ND	ND	ND	ND
Isobutane (iC <sub>4</sub> )	MOL %	None	-	0.0238	0.0184	0.0535	0.0104	0.0504	0.0203
Isopentane (iC <sub>5</sub> )	MOL %	None	-	0.0006	0.0083	0.001	0.0016	0.0185	0.0143
Methane (C <sub>1</sub> )	MOL %	None	-	11.83	17.38	18.73	11.6	23.25	16.80
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	-	2.8	4.2	5.2	6.2	7.2	4.2
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	-	1.9	2.8	3.5	4.1	4.8	2.8
n-Butane (nC <sub>4</sub> )	MOL %	None	-	0.0238	0.0154	0.101	0.0047	0.108	0.0403
Nitrogen (N <sub>2</sub> )	MOL %	None	-	72.58	64.77	60.71	70.21	61.28	67.85
n-Pentane (nC <sub>5</sub> )	MOL %	None	-	0.0046	ND	0.0062	ND	0.0085	0.0052
Oxygen (O <sub>2</sub> )	MOL %	None	-	6.31	8.96	10.85	13.52	7.08	ND
Propane (C <sub>3</sub> )	MOL %	None	-	0.232	0.18	0.506	0.14	0.522	0.102
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	-	0.056	0.044	0.14	0.077	0.17	0.026
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	-	0.1	0.081	0.26	0.14	0.31	0.048
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	-	ND	ND	ND	ND	0.0004	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	61256-MH MW-6 Facility ID 766715	
				Initial	1
Date Sampled	-	-	-	11/23/20	02/23/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>					
Total Alkalinity	mg/l	None	-	210	200
Bicarbonate	mg/l	None	-	210	200
Carbonate	mg/l	None	-	ND	ND
<b>BTEX - SW8260B</b>					
Benzene	µg/l	5	915-1	ND	ND
Toluene	µg/l	560	915-1	ND	ND
Ethylbenzene	µg/l	700	915-1	ND	ND
Xylenes (Total)	µg/l	1,400	915-1	ND	ND
M+P-Xylene	µg/l	None	-	ND	ND
O-Xylene	µg/l	None	-	ND	ND
<b>TPH-DRO/GRO - SW8015M/SW8015</b>					
TPH - DRO	mg/l	None	-	ND	ND
TPH - GRO	mg/l	None	-	ND	ND
<b>DISSOLVED GASES</b>					
Dissolved Methane (RSK 175)	mg/l	None	-	#N/A	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	#N/A	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	2.6	2.6
Dissolved Ethane (DGS)	ppm	None	-	0.53	0.57
Dissolved Propane (DGS)	ppm	None	-	0.089	0.032
<b>IONS - EPA 300.0</b>					
Bromide	mg/l	None	-	ND	ND
Chloride	mg/l	250	Reg 41	15.2	14.3
Fluoride	mg/l	4	Reg 41	0.284	0.387
Nitrate + Nitrite as N	mg/l	10	Reg 41	3.76	4.53
Nitrate as N	mg/l	10	Reg 41	3.38	3.72
Nitrite as N	mg/l	1	Reg 41	0.375	0.807
Sulfate	mg/l	250	Reg 41	88.1	119
<b>METALS EPA 200.8</b>					
Dissolved Barium	mg/l	2	Reg 41	0.0653	0.083
Dissolved Boron	mg/l	0.4	RSL	0.102	0.104
Dissolved Calcium	mg/l	None	-	54.000	77.7
Dissolved Iron	mg/l	0.3	Reg 41	0.0387	<b>0.0546</b>
Dissolved Magnesium	mg/l	None	-	23.4	30.5
Dissolved Manganese	mg/l	0.05	Reg 41	0.0719	<b>0.0391</b>
Dissolved Potassium	mg/l	None	-	2.17	2.4
Dissolved Selenium	mg/l	0.05	Reg 41	ND	0.00238
Dissolved Sodium	mg/l	None	-	39.9	51
Dissolved Strontium	mg/l	1.2	RSL	0.759	0.943
<b>WATER QUALITY</b>					
pH	s.u.	6-9	915-1	7.50	7.63
Specific Conductivity	µmhos/cm	None	-	860	926
Total Dissolved Solids	mg/l	1.25 X background	915-1	423	333
Total Phosphorous	mg/l	None	-	ND	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	61256-MH MW-6 Facility ID 766715	
				Initial	1
Date Sampled	-	-	-	11/23/20	02/23/21
<b>Aqueous</b>					
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	-10.8	-11.1
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	-14.48	14.4
Delta D H2O (dD of water)	% per mil	None	-	-112.1	-111.4
<b>Gaseous</b>					
Argon (Ar)	MOL %	None	-	1.35	1.29
C <sub>6</sub> + (hexanes +)	MOL %	None	-	0.0008	ND
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	-	2.34	2.5
Carbon Monoxide (CO)	MOL %	None	-	ND	ND
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	-	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	-	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	-	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	-	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	-	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	-	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	-	NA	NA
Ethane (C <sub>2</sub> )	MOL %	None	-	1.42	1.36
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	-	0.44	0.46
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	-	0.54	0.57
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	-	ND	ND
Helium (He)	MOL %	None	-	NA	NA
Helium Dilution Factor	Other	None	-	0.75	0.72
Hydrogen (H <sub>2</sub> )	MOL %	None	-	ND	ND
Isobutane (iC <sub>4</sub> )	MOL %	None	-	0.0432	0.0092
Isopentane (iC <sub>5</sub> )	MOL %	None	-	0.0067	0.0007
Methane (C <sub>1</sub> )	MOL %	None	-	15.27	14.85
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	-	4.2	4.5
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	-	2.8	3
n-Butane (nC <sub>4</sub> )	MOL %	None	-	0.0008	ND
Nitrogen (N <sub>2</sub> )	MOL %	None	-	72.37	74.45
n-Pentane (nC <sub>5</sub> )	MOL %	None	-	ND	ND
Oxygen (O <sub>2</sub> )	MOL %	None	-	7.03	5.49
Propane (C <sub>3</sub> )	MOL %	None	-	0.167	0.055
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	-	0.048	0.017
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	-	0.087	0.032
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	-	0.0004	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	61256-MH MW-8 Facility ID 766716			
				Initial	1	2	3
Date Sampled	-	-	-	11/23/20	02/23/21	06/02/21	09/07/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>							
Total Alkalinity	mg/l	None	-	290	290	300	300
Bicarbonate	mg/l	None	-	290	290	300	300
Carbonate	mg/l	None	-	ND	ND	ND	ND
<b>BTEX - SW8260B</b>							
Benzene	µg/l	5	915-1	ND	ND	ND	ND
Toluene	µg/l	560	915-1	ND	ND	ND	ND
Ethylbenzene	µg/l	700	915-1	ND	ND	ND	ND
Xylenes (Total)	µg/l	1,400	915-1	ND	ND	ND	ND
M+P-Xylene	µg/l	None	-	ND	ND	ND	ND
O-Xylene	µg/l	None	-	ND	ND	ND	ND
<b>TPH-DRO/GRO - SW8015M/SW8015</b>							
TPH - DRO	mg/l	None	-	ND	ND	ND	ND
TPH - GRO	mg/l	None	-	ND	ND	ND	ND
<b>DISSOLVED GASES</b>							
Dissolved Methane (RSK 175)	µg/l	None	-	-	-	-	-
Dissolved Ethane (RSK 175)	µg/l	None	-	-	-	-	-
Dissolved Propane (RSK 175)	µg/l	None	-	-	-	-	-
Dissolved Methane (DGS)	ppm	None	-	0.012	0.0079	0.14	0.0027
Dissolved Ethane (DGS)	ppm	None	-	0.0013	0.0012	0.031	0.00041
Dissolved Propane (DGS)	ppm	None	-	0.00040	<0.0002	0.0002	<0.0002
<b>IONS - EPA 300.0</b>							
Bromide	mg/l	None	-	0.345	0.312	0.717	0.407
Chloride	mg/l	250 or 1.25x background	915-1	34.8	44.7	114	44.66
Fluoride	mg/l	4	Reg 41	0.220	0.320	0.455	0.252
Nitrate + Nitrite as N	mg/l	10	Reg 41	6.34	8.85	11.2	8.71
Nitrate as N	mg/l	10	Reg 41	6.34	8.85	11.2	8.71
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND
Sulfate	mg/l	250 or 1.25x background	915-1	70.2	224	294	228
<b>METALS EPA 200.8</b>							
Dissolved Barium	mg/l	2	Reg 41	0.0672	0.0451	0.0361	0.0409
Dissolved Boron	mg/l	0.4	RSL	0.193	0.161	0.197	0.213
Dissolved Calcium	mg/l	None	-	81.80	111.00	94.70	134.00
Dissolved Iron	mg/l	0.3	Reg 41	0.0201	0.0301	<b>0.0637</b>	<b>0.0407</b>
Dissolved Magnesium	mg/l	None	-	36.9	43.1	37.9	53.5
Dissolved Manganese	mg/l	0.05	Reg 41	0.215	0.0522	<b>0.013</b>	<b>0.00214</b>
Dissolved Potassium	mg/l	None	-	3.42	3.15	3.02	3.64
Dissolved Selenium	mg/l	0.05	Reg 41	0.00268	0.0058	0.0636	0.0029
Dissolved Sodium	mg/l	None	-	80.8	95.1	76.7	115
Dissolved Strontium	mg/l	1.2	RSL	1.17	1.33	1.19	1.57
<b>WATER QUALITY</b>							
pH	s.u.	6-9	Reg 41	7.36	7.44	7.27	7.54
Specific Conductivity	µmhos/cm	None	-	1,350	1,080	1,320	1520
Total Dissolved Solids	mg/l	1.25 X background	915-1	670	1,070	643	750
Total Phosphorous	mg/l	None	-	ND	ND	0.05	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	61256-MH MW-8 Facility ID 766716			
				Initial	1	2	3
Date Sampled	-	-	-	11/23/20	02/23/21	06/02/21	09/07/21
<b>Aqueous</b>							
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	-11.3	-10.9	-11.2	-11.3
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	-13.66	-13.71	-13.53	-13.64
Delta D H2O (dD of water)	% per mil	None	-	-107.2	-107.5	-106.0	-106.5
<b>Gaseous</b>							
Argon (Ar)	MOL %	None	NA	NA	NA	NA	NA
C <sub>6</sub> + (hexanes +)	MOL %	None	NA	NA	NA	NA	NA
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	NA	NA	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	NA	NA	NA	NA	NA
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	NA	NA	NA	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	NA	NA	NA	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	NA	NA	NA	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	NA	NA	NA	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	NA	NA	NA	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	NA	NA	NA	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	NA	NA	NA	NA	NA
Ethane (C <sub>2</sub> )	MOL %	None	NA	NA	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	NA	NA	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	NA	NA	NA	NA	NA
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	NA	NA	NA	NA	NA
Helium (He)	MOL %	None	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	NA	NA	NA	NA	NA
Hydrogen (H <sub>2</sub> )	MOL %	None	NA	NA	NA	NA	NA
Isobutane (iC <sub>4</sub> )	MOL %	None	NA	NA	NA	NA	NA
Isopentane (iC <sub>5</sub> )	MOL %	None	NA	NA	NA	NA	NA
Methane (C <sub>1</sub> )	MOL %	None	NA	NA	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	NA	NA	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	NA	NA	NA	NA	NA
n-Butane (nC <sub>4</sub> )	MOL %	None	NA	NA	NA	NA	NA
Nitrogen (N <sub>2</sub> )	MOL %	None	NA	NA	NA	NA	NA
n-Pentane (nC <sub>5</sub> )	MOL %	None	NA	NA	NA	NA	NA
Oxygen (O <sub>2</sub> )	MOL %	None	NA	NA	NA	NA	NA
Propane (C <sub>3</sub> )	MOL %	None	NA	NA	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	NA	NA	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	NA	NA	NA	NA	NA
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	NA	NA	NA	NA	NA

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	61256-MH MW-10 Facility ID 766717			
				Initial	1	2	3
Date Sampled	-	-	-	11/23/20	03/18/21	06/03/21	09/08/21
<b>ALKALINITY AS CALCIUM CARBONATE - SM2320B</b>							
Total Alkalinity	mg/l	None	-	275	320	320	360
Bicarbonate	mg/l	None	-	275	320	320	360
Carbonate	mg/l	None	-	ND	ND	ND	ND
<b>BTEX - SW8260B</b>							
Benzene	µg/l	5	915-1	ND	ND	ND	ND
Toluene	µg/l	560	915-1	ND	ND	ND	ND
Ethylbenzene	µg/l	700	915-1	ND	ND	ND	ND
Xylenes (Total)	µg/l	1,400	915-1	ND	ND	ND	ND
M+P-Xylene	µg/l	None	-	ND	ND	ND	ND
O-Xylene	µg/l	None	-	ND	ND	ND	ND
<b>TPH-DRO/GRO - SW8015M/SW8015</b>							
TPH - DRO	mg/l	None	-	ND	ND	ND	ND
TPH - GRO	mg/l	None	-	ND	ND	ND	ND
<b>DISSOLVED GASES</b>							
Dissolved Methane (RSK 175)	µg/l	None	-	#N/A	#N/A	#N/A	#N/A
Dissolved Ethane (RSK 175)	µg/l	None	-	#N/A	#N/A	#N/A	#N/A
Dissolved Propane (RSK 175)	µg/l	None	-	#N/A	#N/A	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	2.1	0.031	#N/A	#N/A
Dissolved Ethane (DGS)	ppm	None	-	0.52	0.0041	#N/A	#N/A
Dissolved Propane (DGS)	ppm	None	-	0.10	0.00057	#N/A	#N/A
<b>IONS - EPA 300.0</b>							
Bromide	mg/l	None	-	0.240	ND	ND	0.305
Chloride	mg/l	250 or 1.25x background	915-1	31.3	37.5	51.7	52.4
Fluoride	mg/l	4	Reg 41	0.283	0.386	0.769	0.418
Nitrate + Nitrite as N	mg/l	10	Reg 41	5.59	9.3	14.8	8.35
Nitrate as N	mg/l	10	Reg 41	5.53	9.3	12.2	8.35
Nitrite as N	mg/l	1	Reg 41	ND	ND	2.54	ND
Sulfate	mg/l	250 or 1.25x background	915-1	112	99.2	<b>265</b>	162.0
<b>METALS EPA 200.8</b>							
Dissolved Barium	mg/l	2	Reg 41	0.0523	0.05	0.0515	0.0513
Dissolved Boron	mg/l	0.4	RSL	0.185	ND	0.161	0.267
Dissolved Calcium	mg/l	None	-	70.300	108	94.6	116
Dissolved Iron	mg/l	0.3	Reg 41	ND	0.0187	1.11	0.0233
Dissolved Magnesium	mg/l	None	-	29.7	42.7	38	54.2
Dissolved Manganese	mg/l	0.05	Reg 41	0.0244	0.00156	0.0163	1.1
Dissolved Potassium	mg/l	None	-	3.19	3.53	5.54	2.95
Dissolved Selenium	mg/l	0.05	Reg 41	0.00225	0.0035	0.00383	ND
Dissolved Sodium	mg/l	None	-	64.7	83.6	90.9	123
Dissolved Strontium	mg/l	1.2	RSL	1.03	1.4	1.18	1.58
<b>WATER QUALITY</b>							
pH	s.u.	6-9	Reg 41	7.36	7.23	7.64	7.48
Specific Conductivity	µmhos/cm	None	-	1,150	1,170	1120	1,160
Total Dissolved Solids	mg/l	1.25 X background	915-1	571	587	554	569
Total Phosphorous	mg/l	None	-	ND	0.053	0.085	ND

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Parameter	Units	Standard	Source	61256-MH MW-10 Facility ID 766717			
				Initial 11/23/20	1 03/18/21	2 06/03/21	3 09/08/21
Date Sampled	-	-	-				
<b>Aqueous</b>							
Delta 13C DIC (d <sup>13</sup> C of DIC)	% per mil	None	-	-11	-11.7	NA	NA
Delta 18O H2O (d <sup>18</sup> O of water)	% per mil	None	-	-13.71	-13.31	NA	NA
Delta D H2O (dD of water)	% per mil	None	-	-107	-103.9	NA	NA
<b>Gaseous</b>							
Argon (Ar)	MOL %	None	-	1.01	NA	NA	NA
C <sub>6</sub> + (hexanes +)	MOL %	None	-	0.0007	NA	NA	NA
Carbon Dioxide (CO <sub>2</sub> )	MOL %	None	-	4.88	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	ND	NA	NA	NA
Delta 13C C1 (d <sup>13</sup> C <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA
Delta 13C C2 (d <sup>13</sup> C <sub>2</sub> )	% per mil	None	-	NA	NA	NA	NA
Delta 13C C3 (d <sup>13</sup> C <sub>3</sub> )	% per mil	None	-	NA	NA	NA	NA
Delta 13C CO2 (d <sup>13</sup> CO <sub>2</sub> )	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C iC4 (d <sup>13</sup> iC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C nC4 (d <sup>13</sup> nC <sub>4</sub> )	per mil VPDB	None	-	NA	NA	NA	NA
Delta D C1 (dDC <sub>1</sub> )	% per mil	None	-	NA	NA	NA	NA
Ethane (C <sub>2</sub> )	MOL %	None	-	1.32	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	cc/L	None	-	0.44	NA	NA	NA
Ethane, Dissolved (C <sub>2</sub> H <sub>6</sub> )	mg/L	None	-	0.54	NA	NA	NA
Ethylene (C <sub>2</sub> H <sub>4</sub> )	MOL %	None	-	ND	NA	NA	NA
Helium (He)	MOL %	None	-	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.73	NA	NA	NA
Hydrogen (H <sub>2</sub> )	MOL %	None	-	ND	NA	NA	NA
Isobutane (iC <sub>4</sub> )	MOL %	None	-	0.012	NA	NA	NA
Isopentane (iC <sub>5</sub> )	MOL %	None	-	0.0007	NA	NA	NA
Methane (C <sub>1</sub> )	MOL %	None	-	11.75	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	cc/L	None	-	3.5	NA	NA	NA
Methane, Dissolved (CH <sub>4</sub> )	mg/L	None	-	2.3	NA	NA	NA
n-Butane (nC <sub>4</sub> )	MOL %	None	-	0.0022	NA	NA	NA
Nitrogen (N <sub>2</sub> )	MOL %	None	-	72.33	NA	NA	NA
n-Pentane (nC <sub>5</sub> )	MOL %	None	-	0.0004	NA	NA	NA
Oxygen (O <sub>2</sub> )	MOL %	None	-	8.51	NA	NA	NA
Propane (C <sub>3</sub> )	MOL %	None	-	0.185	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	cc/L	None	-	0.056	NA	NA	NA
Propane, Dissolved (C <sub>3</sub> H <sub>8</sub> )	mg/L	None	-	0.10	NA	NA	NA
Propylene (C <sub>3</sub> H <sub>6</sub> )	MOL %	None	-	ND	NA	NA	NA

**TABLE 1-1: ANALYTICAL SUMMARY  
GROUNDWATER MONITORING WELL SAMPLE RESULTS**

Notes:

COGCC - Colorado Oil and Gas Conservation Commission

BART - Biological Activity Reaction Test

cfu/ml - colony forming units per millimeter

µg/l - micrograms per liter

Bolded concentrations exceed regulatory comparison value.

E - Analyte detection exceeds the upper level of the calibration range.

915-1 - Regulatory comparison value taken from concentration levels as presented in COGCC Table 915-1

Reg 41 - Regulatory comparison value taken from Colorado Department of Health and Environment,

Water Quality Control Commission, Regulation 41, The Basic Standards for Ground Water.

< - Analyte was not detected above the laboratory detection limit.

RSL - Regulatory comparison value taken from EPA Regional Screening Levels, June 2015.

s.u. - standard units

µmhos/cm - micromhos per centimeter

MEK - Methyl Ethyl Ketone

ND - None of the analytes were detected above the laboratory detection limit.

NI - Compound Not Identified in Laboratory TIC Report

\* - Dissolved gas content measured greater than 1.0 ppm, therefore the sample was further analyzed for gas composition.

mg/l - milligrams per liter

NA - not analyzed

TPH - Total Petroleum Hydrocarbons

DRO - Diesel Range Organics

GRO - Gasoline Range Organics

EPA - Environmental Protection Agency

**TABLE 1-2 FIELD SUMMARY  
SOIL VAPOR MONITORING WELL SAMPLE RESULTS**

Probe ID	Sample Date	Units	Balance	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	H <sub>2</sub> S	CO	PID
			%	%	%	%	ppm	ppm	ppm
SVP-1-5'	8/30/2019		96.3	3.6	0	0.1	NA	NA	6.3
	9/10/2019		80.7	0.2	5.2	13.9	0	0	30.5
	10/15/2019		80.6	0	2.1	17.3	0	1	0
	5/13/2020 <sup>1</sup>		83.6	5	11.4	0	0	0	NA
	8/17/2020		80.8	0	2.3	16.9	0	0	NA
	10/27/2020		78.8	2	2	17.2	0	0	NA
	2/23/2021		79.9	0	0.3	19.8	0	0	NA
	6/1/2021		86	1	4.7	8.3	0	10	NA
	9/7/2021		78.6	1	1.4	19	0	0	NA
SVP-1-30'	8/30/2019		81.1	8.1	10.8	0	NA	NA	5.3
	9/10/2019		68.5	18.9	12.6	0	0	0	68
	10/15/2019		57.3	29.6	13.1	0	0	1	5.3
	8/17/2020		74.3	11	14.7	0	0	0	NA
	10/27/2020		69.8	16	14.2	0	6	0	NA
	2/23/2021		78.7	3	3.1	15.2	0	0	NA
	6/1/2021		46.7	40	13.3	0	6	10	NA
	9/7/2021		67.7	17	15.3	0	0	0	NA
SVP-2-5'	8/30/2019		93.8	3.2	0	3	NA	NA	3.5
	9/10/2019		80.1	0.4	4.1	15.4	0	0	0
	10/15/2019		79.3	0	2.2	18.5	0	1	1.3
	5/13/2020 <sup>1</sup>		73.5	14.5	12	0	0	0	NA
	8/17/2020		82.6	0	11.5	5.9	0	0	NA
	10/27/2020		83.7	1	5.9	9.4	0	0	NA
	2/23/2021		79.6	1	0.7	18.7	0	0	NA
	6/1/2021		83.1	1	4.7	11.2	0	0	NA
	9/7/2021		81.5	0	5.5	13	0	0	NA
SVP-2-30'	8/30/2019		67.1	22.2	10.7	0	NA	NA	9.8
	9/10/2019		0	87.8	12.2	0	0	0	5.5
	10/15/2019		0	87.6	12.4	0	0	1	23.1
	8/17/2020		73.1	12	14.9	0	8	0	NA
	10/27/2020		46.2	39.5	14.3	0	5	0	NA
	2/23/2021		78.8	3	3.2	15	0	0	NA
	6/1/2021		78.6	7.5	13.9	0	4	4	NA
	9/7/2021		44.7	39	16.3	0	4.5	0	NA

**TABLE 1-2 FIELD SUMMARY  
SOIL VAPOR MONITORING WELL SAMPLE RESULTS**

Probe ID	Sample Date	Units	Balance	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	H <sub>2</sub> S	CO	PID
			%	%	%	%	ppm	ppm	ppm
SVP-3-5'	8/30/2019		92	8	0	0	NA	NA	19.2
	9/10/2019		79.4	0.4	4.8	15.4	0	0	416
	10/15/2019		78.4	0	2.3	19.3	0	1	2.3
	5/13/2020 <sup>1</sup>		24.9	64	11.1	0	6.5	0	NA
	8/17/2020		82.1	0	4.4	13.5	0	0	NA
	10/27/2020		86.1	2	3.9	8	0	0	NA
	2/23/2021		81	0	0.6	18.4	0	0	NA
	6/1/2021		79.8	5	3.8	11.4	0	0	NA
9/7/2021		78	1	1.2	19.8	0	0	NA	
SVP-3-30'	8/30/2019		39.7	51	9.3	0	NA	NA	59.1
	9/10/2019		0	89.4	10.2	0.4	0	0	782
	10/15/2019		0	89.2	10.8	0	1	2	39
	8/17/2020		2.4	84	13.6	0	5	0	NA
	10/27/2020		-12.5	100	12.5	0	3.5	0	NA
	2/23/2021		67.7	14	2.7	15.6	0	0	NA
	6/1/2021		-10	98	12	0	3	4	NA
	9/7/2021		31.5	54	14.5	0	0	0	NA
SVP-4-5'	8/30/2019		86	0.7	0	13.3	NA	NA	0.2
	9/10/2019		91.3	1.4	1.2	6.1	0	0	250
	10/15/2019		88.5	0	4.3	7.2	0	1	0.1
	5/13/2020 <sup>1</sup>		91.1	0.1	8.8	0	0	0	NA
	8/17/2020		82.1	0	16.5	1.4	0	0	NA
	10/27/2020		85.9	2	7.7	4.4	0	0	NA
	2/23/2021		81.9	0	1.2	16.9	0	0	NA
	6/1/2021		80.3	6	7.5	6.2	0	4	NA
9/7/2021		76.9	1	10	12.1	0	0	NA	
SVP-4-30'	8/30/2019		74.2	15.3	10.5	0	NA	NA	6.3
	9/10/2019		60.8	27.1	11.7	0.4	0	0	819
	10/15/2019		53.8	33.5	12.7	0	0	1	13
	8/17/2020		66.3	19	14.7	0	0	0	NA
	10/27/2020		65.5	20	14.5	0	0	0	NA
	2/23/2021		74.8	7	2.9	15.3	0	0	NA
	6/1/2021		81.1	5.5	13.4	0	4.5	10	NA
	9/7/2021		75.8	8.5	15.7	0	4.5	0	NA

Notes:

<sup>1</sup>Atmospheric readings collected from the top of casing

**Attachment A**

**District Six C6 Plug and Abandonment Workover Daily Summary**



## Daily Activity and Cost Summary

**Well Name: DISTRICT SIX C06**

API 0512324211	Surface Legal Location NENE 20 5N65W 6 PM	Field Name WATTENBERG	License #	State/Province COLORADO	Well Configuration Type VERTICAL
Original KB Elevation (ft) 4,682.00	KB-Tubing Head Distance (ft)	Spud Date Production 11/10/2006 00:00	Rig Release Date 11/15/2006 00:00	PBTD (All) (ftKB) Original Hole - 8,261.0	Total Depth All (TVD) (ftKB)

Job Category WORKOVER	Primary Job Type P&A	Secondary Job Type Drilling - re-entry	Status 1 COMPLETED
AFE Number	Start Date 6/14/2019	End Date 7/11/2019	Total AFE Amount (Cost)

Objective

Summary

Contractor RANGER ENERGY SERVICES	Rig Number \ Crew	Rig Type Workover
--------------------------------------	-------------------	----------------------

Rpt #	Start Date	End Date	Day Total (Cost)	Cum To Date (Cost)	Summary
1.0	6/14/2019	6/14/2019	4,853.00	4,853.00	MIRU W/O RIG AND SUPPORT EQUIP MAKE READY FRO RENENTRY OPS AND SDFN
2.0	6/15/2019	6/15/2019	7,218.00	12,071.00	AOL; HSM/JSA; CHECK PRESSURE SICP=0PSI SURFACE CSG=5PSI; R/U P/S TALLY DRILL COLLARS (6) AND 2.875 N80 TBG; M/U BHA 3BLADE 3.75" BIT AND DRILL COLLARS (3 1/8") TAG TOC @ 3' AND DRILLOUT EOT @ 349' P/U OFF TOC AND CIRC CLEAN; LAYDOWN 5JTS (EOT @ 218') SECURE WELL AND SD TILL MONDAY
3.0	6/17/2019	6/17/2019	6,489.00	18,560.00	AOL; HSM/JSA; CHECK PRESSURES (SICP=0PSI SITP=0PSI,SISCP=15PSI/BDI); TIH 4JTS; R/U P/S; TAG TOC @ 349'; BEGIN TO DRILLOUT CEMENT; EOT @ 1089' STOP DRILLING OUT THE PUMP INTO SURFACE CASING AD PRESSURE UPTO 500PSI PRESUURE BLEED OFF FORMM 500PSI TO 0PSI IN 2MINUTES; WOO; R/D P/S; AND POOH LAYING DOWN: EOT @ 777', RIG CREW MAKING ADJUSTMENTS TO BRAKES SECURE WELL AND EQUIP; SDFN
4.0	6/18/2019	6/18/2019	5,230.00	23,790.00	AOL; HSM/JSA;; CHECK PRESSURES SICP=0PSI, SITP=0PSI,SISCP=8PSI BDI; CONTINUE TO POOH LAYING DOWN TBG AND COLLARS; OOH; R/D RIG FLOOR N/D BOPS & WELLHEAD, R/U 8 5/8 LARKIN FLANGE; R/U CASING JACK; WORK 4.5 CSG FROMM 80K TO 200K IN ATTEMPT TO PULL CASING SLIPS; SLIPS OOH; R/D CASING JACK;; N/U 7 1/16 5K RIG BOPS AND SECURE WELL WHILE WAITING FOR TOOLS AND EQUIP FOR CASING WASH OVER TO AOL; KLX BOPS AND ANNULAR AOL; N/D RIG BOPS; N/U KLX 9" 5K BOPS AND ANNULAR; R/U WORK FLOOR; SPOT TRAILERS AND MAKE READY TO WASH OVER CASING & SDFN
5.0	6/19/2019	6/19/2019	6,694.50	30,484.50	AOL; HSM/JSA; R/U P/S AND DUEL DEADMEN; M/U XO, 7 3/8 WASH PIPE & WAVY BOTTOM SHOE; RIH TAG TOC @ 3' BEGIN TO WASH OVER 4.5 CSG; ROP 6' PER HR; END OF SHOE @ 38' POOH TO INSPECT WEAR AND CHANGE OUT BHA FOR CROWN STYLE SHOE;RIH TAG TOC @ 38' BEGIN TO WASH OVER; MAKE ADJUSTMENTS TO DEADMEN LINES/STIFFARMS; POOH AND SECURE WELL/EQUIP & SDFN
6.0	6/20/2019	6/20/2019	6,856.00	37,340.50	AOL; HSM/JSA; CHECK PRESSURES SICP/SISCP=25PSI (BDI); RIH TAG ON TOP OF 4.5 WORK WASH PIPE OVER TOP OF; CONT TO RIH TAG TOC @ 41'; BEGIN TO WASH DOWN; SWIVLE TORQED UP AND WRAPPED HOSES/DEADMEN LINES; MAKE ADJUSTMENTS TO DEADMEN AND ADD EXTRA SUPPORT TO LINES ABOVE TBG BOARD; CONT TO WASH OVER; HYDRAULIC CONNECTION ON SWIVEL BEGIN TO LEAK; P/U OFF OF AND REPAIR HYDRAULIC LEAK; RETURN TO WASHING OVER 4.5CSG TAG TOC @ 42'; ADDITIONAL HYDRAULIC LEAK EMERGED ON SWIVEL POOH LAYING DOWN 1JT WASH PIPE AND REPAIR HYDRAULIC LEAKS ON SWIVEL; P/U 1JT WASH PIPE AND RIH TAG TOC @ 42' AND CONTINUE TO WASH OVER; END OF WAS H PIPE @ 58' POOH TO SECURE WELL AND INSPECT BHA (NORMAL WEAR); OOH SECURE WELL & EQUIP CHANGE OUT CROWN STYLE SHOE FOR WAVY BOTTOM & SDFN
7.0	6/21/2019	6/21/2019	6,533.00	43,873.50	AOL; HSM/JSA; SICP/SISCP=22PSI (BDI); OPEN WELL; WORK 7 3/8 WASH PIPE OVER TOP OF 4.5 CSG RIH; TAG TOC @ 58' BEGIN TO WASH OVER 4.5 CSG, PUMPING 1BPM @ 200PSI RETURNING 1BPM WITH FINE METAL SHAVINGS (20%) AND FINE TO COARSE CEMENT (80%); END OF WASH PIPE @ 72'(CBL SHOW CSG COLLAR @ THIS DEPTH); RACK SWIVEL BACK TO DERRICK AND POOH 1 STAND OF WASH PIPE INSPECT WAVY BOTTOM SHOE FOR EXCESSIVE WEAR; OOH SHOE SHOWS SIGNS OF EXCESSIVE WEAR ON LEADING EDGE ; BREAK DOWN BHA AND STAND BACK WASH PIPE; SECURE WELL AND EQUIP AND SDFN
8.0	6/22/2019	6/22/2019	6,694.50	50,568.00	AOL; HSM/JSA; SICP/SISCP=7PSI (BDI); OPEN WELL ATTEMPT OT RUN STAND IN HOLE UNABLE TO GET DOWN TAG 8' HIGH; LAY DOWN 1JT WASH PIPE; R/U P/S; AND RIH TAG TRASH @ 64'; BEGIN TO WASH DOWN DEBRIS WASH AWAY TAG SOLID @ 73' IH;L CONTINUE TO WASH OVER CSG; RETURN FINE MEATAL SHAVINGS AND FINE TO COARSE CEMENT; CIRC CLEAN ; END OF WASH PIPE @ 83'; POOH LAYING DOWN; CHANGE OUT WAVY BOTTOM SHOE FOR DRAG SHOE; SECURE WELL AND SDFN

## Daily Activity and Cost Summary

**Well Name: DISTRICT SIX C06**

API 0512324211	Surface Legal Location NENE 20 5N65W 6 PM	Field Name WATTENBERG	License #	State/Province COLORADO	Well Configuration Type VERTICAL
Original KB Elevation (ft) 4,682.00	KB-Tubing Head Distance (ft)	Spud Date Production 11/10/2006 00:00	Rig Release Date 11/15/2006 00:00	PBTD (All) (ftKB) Original Hole - 8,261.0	Total Depth All (TVD) (ftKB)

Rpt #	Start Date	End Date	Day Total (Cost)	Cum To Date (Cost)	Summary
9.0	6/23/2019	6/23/2019	6,210.00	56,778.00	AOL; HSM/JSA; SICP/SISCP=3.5PSI (BDI); M/U WASH PIPE AND DRAG SHOE; RIH TAG TOC @ 83' AND BEGIN WASH OVER 4.5 CSG. END OF WASH PIPE @ 93'; P/U OFF TOC AND UP RATES AND CIRC CLEAN; POOH LAYING DOWN WASH PIPE; OOH INSPECT SHOE (NORMAL WEAR STILL HAS CUTTING EDGE); PULL/HAUL OFF WATER FROM WORK TANK AND MAKE READY FOR HYDROVAC IN AM (BACK OF TANK FULL OF CUTTINGS) SECURE WELL AND EQUIP AND SDFN
10.0	6/24/2019	6/24/2019	7,179.00	63,957.00	AOL:HSM/JSA; SICP/SISCP=0PSI; HYDROVAC AOL CLEAN OUT CEMENT AND CUTTINGS FROM RIG TANK; PREFORM SAFETY STAND DOWN DISCUSS PROPER HAND PLACEMENT AND COMMUNICATION; P/U JT OF WASH PIPE ATTEMPT TO M/U BHA ( FLAT BOTTOM) UNABLE TO MA/U INSPECT THREADS PIN END ON WASH PIPE CRACKED LAYDOWN AND REPLACE THREADS ON SHOE DAMAGED, LAYDOWN SHOE P/U WAVY BOTTOM SHOE M/U BAH AND RIH TAG TOC @ 93' BEGIN TO WASH OVER CSG; END OF WASH PIPE @ 98'; NOTICE WATER @ SURFACE FROM AROUND SURFACE CASING P/U CIRC CLEAN; BEGIN DIGGING OUT SURFACE IN ATTEMPT TO FIND HOLE IN SURFACE; DUG DOWN 5' (TO CEMENT) UNABLE TO FIND LEAK WATER STILL SEEPING TO SURFACE WHILE PUMPING; POOH TO SECURE WELL; BREAK FIRST CONNECTION; 4.5 CSG INSID E WASH PIPE; RIH TAG TOC/CSG; R/D P/S; R/U ELEVATORS (7 3/8) POOH; STRIP WASH PIPE OVER CSG; CHANGE OUT ELEVATORS (4.5) PULL CSG FROM WASH PIPE (75") DISCOVER 1.25" TBG WRAPPED AROUND 4.5CSG (APPROX 30'+/-); LAYDOWN 4.5; R/U 7 3/8 ELEVATORS LAYDOWN WASHPIPE AND SECURE WELL AND EQUIP; SDFN
11.0	6/25/2019	6/25/2019	10,246.16	74,203.16	AOL:HSM/JSA; BREAK DOW N STAND OF 4.5 CSG LAID DOWN PREVIOUS DAY MOVE OFF TO EDGE OF LOCATION; WOO; M/U 7 3/8 SKIRTED HOG NOSE MILL WITH FLAT 3' BOTTOM SHOE; RIH TAG TOF @ 75' NO TAGS PRIOR; POOH BREAKDOWN BHA; M/U 8 5/8 PACKER RIH TAG TOF P/U 1' SET PACKER PULLING 40K INTO; TIE PUMP INTO SURFACE CSG AND PRESSURE UP TO 500 PSI FLUID @ SURFACE FROM AROUND SURFACE CSG; RELEASE PACKER PULL UP HOLE 10; SET PACKER PULL INTO TENSION PRESSURE UP LEAK AND SURAFACE AGAIN; LAYDOWN 1JT; SET PACKER @ 60' ATTEMPT TO PRESSURE UP UNABLE TO PRESSURE MOVE PACKER UP HOLE TO 53' AND PRESSURE UPTO 600PSI (DOWN SURFACE) ; PRESSURE HOLDING HOLE IN CSG BENEATH 53' IH; RELEASE PACKER POOH; WOO; MAKE READY TO RIH AND PUMP CEMENT IN AM SECURE WELL AND EQUIP; SDFN
12.0	6/26/2019	6/26/2019	3,095.00	77,298.16	AOL:HSM/JSA; CHECK PRESSURES SICP/SISCP=0PSI; OPEN WELL RIH EOT @ 60.15'; SPOT AND R/U CEMENTERS; HSM/JSA; P/T LINES TO 2500PSI (GOOD TEST) PUMP 20SKS GNEAT W/2%; POOH LAYING DOWN SECURE BLINDS RAM PUMP 2.5BBL SPACER AND SQUEEZE CEMENT INTO HOLE IN 85/8 CSG;CLEAN OUT EQUIP TO DIRTY TANK; SWI AND SDFN
13.0	6/27/2019	6/27/2019	3,163.00	80,461.16	AOL; HSM/ JSAS CHECK PRESSURES SISCP=0PSI =SLIGHT BLOW WHEN OPENING VALVE (BDI); M/U 7 7/8 BIT BIT SUB AND PU 4 3/4 COLLAR INS PECT CEMNET SAMPLE SAMPLE APPEERS TO BE STILL TO MOIST ("GREEN") IN CENTER WOO, SDFN AND ALLOW CEMENT TO FURTHER HARDEN OVER NIGHT
14.0	6/28/2019	6/28/2019	4,962.00	85,423.16	AOL:HSM/JSA, CHECK PRESSURES SISCP= 0PSI W/ SLIGHT BLOW (BDI) OPON OPENING VALVE; OPEN WELL RIH W/ 7 7/8 BI AND 4 3/4 DRILL COLLARS TAG TOC @ 55' AND BEGIN TO DRILL OUT TO TOF (4.5 CSG); TAG TOP OF CSG @ 78'; CIRC CLEAN AND POOH; OOH ; CHANGE OVER HANDLING EQUIP TO 2.875; M/U 8 5/8 PACKER AND RIH EOT @ 67.7"; PULL TENSION INTO PACKER (45K) PUMP DOWN SURFACE TO FILL/ ENSURE PACKER HOLDING/ UNABLETO PRESSURE UP NO RETURNS FOR TBG ASSUME PACKER TO BE HOLDING; SECURE WELL AND INSTAL GAUGES ON TBG AND SURFACE VALVES; SDFN
15.0	6/29/2019	6/29/2019	9,289.36	94,712.52	AOL; HSM/JSA; CHECK PRESSURES STIP= 0PSI (STATIC) SISCP=0PSI ( ON VACUUM); CALL OFFICE; UNSET PACKER POOH ; ESTABLISH INJECTION RATES PUMPING .5BPM @ 10PSI, 1BPM @ 35PSI, 2BPM @ 45PSI; P/U AND RIH W 2.875 TBG (OPEN ENDED); EOT @ 60.66'; SPOT AN R/U CE (RANGER); HSM/JSA; P/T LINES TO 1000PSI (GOOD TEST); BEGIN PUMPING 20SKS GNEAT WITH 2%; 20SKS AWAY POOH W/ TBG; SECURE BLIND RAMS DISPLACE 2.8BBL FW DOWN SURFACE CASING & SQUEEZE; SECURE WELL; WASH UP EQUIP TO DIRTY TANK; RDMO CE AND SHUT DOWN FOR REMAINDER OF WEEKEND



## Daily Activity and Cost Summary

**Well Name: DISTRICT SIX C06**

API 0512324211	Surface Legal Location NENE 20 5N65W 6 PM	Field Name WATTENBERG	License #	State/Province COLORADO	Well Configuration Type VERTICAL
Original KB Elevation (ft) 4,682.00	KB-Tubing Head Distance (ft)	Spud Date Production 11/10/2006 00:00	Rig Release Date 11/15/2006 00:00	PBTD (All) (ftKB) Original Hole - 8,261.0	Total Depth All (TVD) (ftKB)

Rpt #	Start Date	End Date	Day Total (Cost)	Cum To Date (Cost)	Summary
16.0	7/1/2019	7/1/2019	6,210.00	100,922.52	AOL;HSM/JSA; CHECK PRESSUES SISCP=6PSI (BDI); OPEN WELL OBSERVE BUBBLES BREAKING SURFACE EVERY 5MIN +/-, R/U P/S; P/U D/C AND M/U 7 7/8 (TRICONE) AND RIH TAG TOC @ 46' AND BEGIN DRILLING OUT @ 1.5BPM RETURN FINE TO CORSE CEMENT; TAG TOP OF 4.5 CSG @ 78' P/U OFF OF AND CIRC CLEAN; POOH LAYING DOWN COLLARS; OOH; SECURE WELL; B/D BHA; RACK SWIVEL BACK TO DERRICK; PERFORM INJECTION TEST ABLE TO INJECT AS FOLLOWS .5 BPM @ 80PSI, 1BPM @ 170-190PSI, 2BPM @ 250-280PSI; SECURE WELL AND EQUIP; SDFN
17.0	7/2/2019	7/2/2019	8,030.80	108,953.32	AOL; HSM; CHECK PRESSURES SISCP=15PSI (BDI); WOC; CE AOL; MIRU CE (OTEX) AND FW TRANSPORT (MILLER); HSM/JSA; P/T LINES TO 2400PSI (GOOD TEST); OPEN WELL AND PUMP 10BBL CaCl2, FOLLOWED BY 3BBL FW SPACER, 10BBL SMS (WELL BLOCK); 10BBL FW SPACER ; 100SKS CONTROL SET C 13.5 # CEMENT; WASH UP EQUIP; SQUEEZE CEMENT INTO HOLES PUMPING .5 BBL (3TIMES) CONTINUE TO SQUEEZE CEMENT INTO HOLE PUMPING .25BBL (5 TIMES) PRESRING UP TO 600PSI PRESSURE BLEEDING BACK TO 140PSI AND HOLDING EACH TIME; CONTIUE TO SQUEEZE CEMENT ONLY ABLE TO .1BBL (X2) EACH TIME BEFORE PRESSURING UP TO 600PSI; .3BBL OF CEMENT LEFT IN CSG PRESSURE UPTO 800PSI AND SWI RDMO CE AND SDFN
18.0	7/3/2019	7/3/2019	1,538.00	110,491.32	AOL; HSM/JSA; CHECK PRESSURE SISCP=50PSI (BDI); OPEN WELL TOP OFF CSG W/ FW MONITOR WELL FOR MIGRATION (BUBBLES); OBSERVE "BUBBLES" BREAKING SURFACE OF FW P/U 2.875 TBG RIH TAG TOC @ 43.66'; POOH ; CLOSE AND SEUCRE BLIND RAMS; ATTEMPT TO GET INJECTION RATE .5BPM @ 70PSI BEGIN WALKING UPTO 1BPM PRESSURE SPIKED TO 1000PSI; AND PARTED SURFACE CSG @ BOTTOM OF COLLAR (8 5/8) BENEATH SURFACE HEAD; R/D RIG FLOOR; REMOVE BOPS; WAIT ON WELDER; WELDER AOL; HSM/AOL (HOTWORK PERMIT) ASSIGN FIRE WATCHMEN; BEGIN TO CUT/DRESS CSG; INSTALL WELD ON COLLAR; ALLOW TO COOL; M/U SURFACE HEAD, LARKIN FLANGE, N/U BOPS, R/U WORK FLOOR & P/S; M/U 7 7/8 TRICONE BIT, BIT SUB & 4 3/4 COLLARS; RIH TAG TOC @ 43' AND DRILLOUT TO 64.35' CIRC CLEAN; POOH LAYING DOWN; OOH BREAK DOWN BHA; FILL CSG; COSE AND SECURE BLINDRAMS AND PREFORM INJECTION TEST PUMPING .5BPM @ 50-100PSI, 1BPM @ 200-250PSI, 2BPM @ 300-400PSI; SECURE WELL AND EQUIP; SDFN
19.0	7/4/2019	7/4/2019	1,538.00	112,029.32	AOL; HSM, CHECK PRESSURES; SISCP= 0PSI (ON VACUUM), C&J & MILLER FW TRK AOL; MIRU CE EQUIP; HSM/JSA; P/T LINE TO 2000PSI (5MIN); BEGIN TO PUMP DOWN SURFACE CSG; PUMPING .5BBL GEL SPACER; FOLOWED BY 26SKS (6BBL) RDP BLEND; DISPLACE RDP PUMING 2.8BBL FW/GEL; SWI; WASH UP EQUIP TO DIRTY TANK; RDMO; SHUT DOWN TILL WEEKEND
20.0	7/6/2019	7/6/2019	1,538.00	113,567.32	AOL; HSM/JSA; CHECK PRESSURES SISCP= 13PSI (BDI); OPEN WELL, WATCH FOR MIGRATION (BUBBLES), NO MIGRATION OBSERVED; SECURE WELL AND INSTALL DIGITAL GAUGE AND MONITOR FOR 1HR; AFTER 1HR SISCP=0PSI, RIH WITH 6 3/4 TRICONE BIT & 4 3/4 DC'S, TAG TOC @ 43' DRILLING OUT RDP TO 60.58'; SECURE WELL AND INSTALL DIGITAL GAUGE AND MONITOR FOR 1 HR; AFTER 1HR SISCP= 0PSI; CONTINUE TO DRILLOUT RDP/CEMENT TO TOP OF 4.5CSG TAG TOP OF 4.5 CSG @ 76' P/U OFF OF AND CIRC WELLBORE CLEAN; POOH LAYING DOWN; OOH BREAK DOWN BHA; FILL CSG; SECURE WELL INSTALL GAUGE AND MONITOR PRESSURE SISCP= 0PSI AFTER 30MIN; SECURE WELL AND EQUIP; SDFN
21.0	7/7/2019	7/7/2019	104,385.94	217,953.26	AOL; HSM/JSA; CHECK PEASURE SISCP=0PSI AND OBSERVED NO MIGRATION @ SURFACE; WOO/WOC; C&J CE & MILLER FW TRUCK AOL; MIRU CE; HSM/JSA; P/T LINES TO 1500PSI FOR 5 MIN; P/U & RIH 2 JTS OF 2.375 TBG (EOT @ 61.23'); PUMP 1BBL FW FLUSH FOLLOWED BY 30SKS MIGRASEAL CEMENT (14.6PPG 1.38 YIELD); POOH W/ TBG; SECURE WELL; WASH UP EQUIP TO DIRTY TANK; APPLY 100PSI TO TOP CEMENT/CSG; SWI; RDMO CE & SDFN



## Daily Activity and Cost Summary

**Well Name: DISTRICT SIX C06**

API 0512324211	Surface Legal Location NENE 20 5N65W 6 PM	Field Name WATTENBERG	License #	State/Province COLORADO	Well Configuration Type VERTICAL
Original KB Elevation (ft) 4,682.00	KB-Tubing Head Distance (ft)	Spud Date Production 11/10/2006 00:00	Rig Release Date 11/15/2006 00:00	PBTD (All) (ftKB) Original Hole - 8,261.0	Total Depth All (TVD) (ftKB)

Rpt #	Start Date	End Date	Day Total (Cost)	Cum To Date (Cost)	Summary
22.0	7/8/2019	7/8/2019	1,538.00	219,491.26	AOL; HSM/JSA;; CHECK PRESSURES SISCP=0PSI;; NO MIGRATION; R/D WORK FLOOR; N/D BOPS; R/D PUMP IRON; RECEIVE CALL FROM OFFICE; BEGIN TO MIRU BACK ONTO WELL; R/U PUMP IRON; N/U BOPS; R/U WORK FLOOR; SPOT AND R/U P/S; SPOT TBG/COLLAR TRAILERS; P/U-M/U 3.125 DC'S & 7 7/8 BLADE BIT, RIH TAG TOC @ 7.5' (KB) AND BEGIN TO DRILLOUT PUMPING 1.5BPM @ 0-100PSI RETURNING SAME WITH FINE TO COARSE CEMENT IN RETURNS AND MINIMAL METAL SHAVINGS; TAG TOP OF 4.5 CSG @ 76.35' LIGHTLY FEATHERING DOWN ONTO; P/U OFF OF AND UP PUMP RATE (2.5BPM @ 0-200PSI) AND CIRC CLEAN; RETURNS CLEAN POOH; LAYING DWON 2 DC'S OOH SECURE WELL, B/D BHA AND M/U 3 3/4 TRICONE BIT; INSTALL CRYSTAL GAUGE AND MONITOR PRESSURE S FOR 30MIN AFTER 30MIN SISCP=0PSI; SECURE EQUIP AND SDFN
23.0	7/9/2019	7/9/2019	5,155.00	224,646.26	DRIVE TO LOC. CHECK PRESSURES SICSP=0 OPEN WELL OBSERVED NO MIGRATION P/U BHA 3 3/4 TRYCONE BIT RUN IN THE HOLE WITH 5- 2 7/8 DRILL COLLARS TAG CEMENT @76FT BREAK CIRCULATION GET INTO 4.5 CASING WATCH RETURNS CLOSELY PUMPING @ 2.5 BBLS . PUMP PSI 100-300 DRILLED 20FT. OF CEMENT THEN IT FELL THROUGH CONTINUE RIH. TAGGED AGAIN @251 FT. STARTING PUMPING AGAIN @2.5 BBLS PUMP PSI 100-300 DRILLED 2 FT. FELL THROUGH AGAIN CONTINUE RIH. TO TAG RETAINER @1085FT. PICK OFF OF IT 5FT. CIRCULATE HOLE CLEAN LAY DOWN 2 JOINTS RACK POWER SWIVEL BACK TRIP OUT TO DERRICK 7 STANDS LAY DOWN 5 DRILL COLLARS GO BACK IN THE HOLE WITH MULE SHOE TAG RETAINER @ 1085' LAYING DOWN 1JT EOT @ 1069'; MIRU RANGER CE AND RANGER FW TRUCK; P/T LINES TO 1500PSI FOR FIVE MIN. AND PUMP 15SKS (15.8# 1.15 YIELD) G NEAT W/2% CaCl2 DISPLACE WITH 4.66BBLS OF FW R/D CE AND WASH UP TO DIRTY TANK; POOH LAYING DOWN/ STANDING BACK 14 STANDS TO DERRICK; OOH; SECURE WELL AND EQUIP; SDFN
24.0	7/10/2019	7/10/2019	4,479.20	229,125.46	DRIVE TO LOC. HAVE JSA SAFETY MEETING CHECK SISP =0 NO MIGRATION RIH. TAGGED TOC AT 880FT. COME OUT LAYING DOWN ALL BUT 4 JTS. 129 FT R/U CE (C&J) AND MILLER FRESH WATER HAVE SAFETY MEETING LOAD LINES AND PRESSURE TEST TO 2042 PSI HOLD FOR 5 MIN. TEST WAS GOOD START PUMPING FRESH WATER FOLLOWED BY 24 SX @14.6 PPG (1.38 YEILD) TRIP OUT THE REMAINING OF THE JTS. PUMP 1SX@14.6 PPG (1.38 YEILD) TOP OFF (0.1BBLS) WASH UP R/D CE (C&J) JOB COMPLETE SECURE WELL AND EQUIPMENT SDFN
25.0	7/11/2019	7/11/2019	1,538.00	230,663.46	AOL; HSM/JSA; CHECK PRESSURES SISCP=13PSI (BDI) TOP OFF WITH FW; MONITOR FOR MIGRATION; NO MIGRATION ;N/D BOPS AND CROSS OVER FLANGE; INSTALL 8 5/8 NIGHT CAP AND RDMO
26.0	7/18/2019	7/18/2019	2,000.00	232,663.46	DISTRICT SIX C06 WAS CUT AND CAPPED ON 7/18/2019. ATP VERIFIED CEMENT AT SURFACE, DIG DOWN AROUND WELLHEAD TO 8', CUT AND CAP WELL.

**Attachment B**

**Groundwater and Soil Vapor Well Location Map**



MW-8

MW-5

MW-4

SVP-1

SVP-4

SVP-2

SVP-3

MW-1

MW-2

MW-6

MW-3

MW-10

**Legend**

- Buried MW-6
- Monitoring Well
- Soil Vapor Point

60 ft

**Attachment C**  
**Groundwater Well Permit Records**

# NOTICE OF INTENT TO CONSTRUCT MONITORING HOLE(S)

Please type or print legibly in black or blue ink or file online, [dwrpermitsonline@state.co.us](mailto:dwrpermitsonline@state.co.us)

State of Colorado, Office of the State Engineer 1313 Sherman St, Room 821,  
Denver, CO 80203 Phone 303-866-3581 [www.water.state.co.us](http://www.water.state.co.us)

RECEIVED

AUG 23 2019

WATER RESOURCES  
STATE ENGINEER  
COLO

Well Owner Name(s): Extraction Oil and Gas, LLC  
Address: 370 17th Street, Suite 5300, Denver, CO 80202  
Phone: (970) 778-5956  
Email: bford@extractionOG.com

Landowner's Name: Extraction Oil and Gas LLC

Please check one and complete as indicated including contact info:

Water Well Driller Licensed in Colorado - Lic. No. \_\_\_\_\_

Professional Engineer Registered in Colorado - Reg. No. \_\_\_\_\_

Professional Geologist per C.R.S. 23-41-208(b)

Other - anyone directly employed by or under the supervision of a licensed driller, registered professional engineer or professional geologist

Contact / Company Maggie Graham/Apex Companies LLC

Address 1746 Cole Blvd, Suite 250, Building 21

City, State & Zip Lakewood, Colorado 80401

Phone (720) 501-5065

Email maggie.graham@apexcos.com

Print Name: Maggie Graham

Signature or enter full name here: Maggie Graham

Location: Section 20  
Township 5 N S, Range 65 E W, 6 PM  
County: Weld

Subdivision: NENE  
Lot: \_\_\_\_\_ Block: \_\_\_\_\_ Filing: \_\_\_\_\_

Site/Property Address \_\_\_\_\_  
40.391325°, -104.681889°

GPS Location in UTM format if known:  
Set GPS unit to true north, datum NAD83, and use meters for the distance units, Zone 12 or Zone 13.  
Easting 526998.24 Northing 4471240.51

# of Monitoring Holes to be constructed in Section: 1  
Estimated Depth 90 Ft., Aquifer Type III/II

Purpose of Monitoring Hole(s) \_\_\_\_\_  
Groundwater monitoring

Anticipated Date of Construction: 08/26/2019

Date Notice Submitted: 08/23/2019  
(Must be at least 3 days prior to construction)

## ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE FOR OFFICE USE ONLY

059993 - MH  
Div. 6 WD 2 BAS \_\_\_\_\_ MD \_\_\_\_\_

PROCESSED BY [Signature]  
DATE ACKNOWLEDGED 8/23/2019

### CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

A COPY OF THE WRITTEN NOTICE OR ACKNOWLEDGEMENT SHALL BE AVAILABLE AT THE DRILLING SITE.

- 1) Notice was provided to the State Engineer at least 72 hours prior to construction of monitoring & observation hole(s).
- 2) Construction of the hole(s) must be completed within 90 days of the date notice was given to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing must not be used for beneficial purposes. The owner of the hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.
- 3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Standard permit application and work report forms are found on the DWR website at <http://www.water.state.co.us>. Well Construction and Yield Estimate Reports (GWS-31) must be completed for each hole drilled. The licensed contractor or authorized individual must submit the completed forms to this office within 60 days of monitoring hole completion. Aquifer testing information must be submitted on Well Yield Test Report (GWS-39).
- 4) Unless a well permit is obtained or variance approved, the hole(s) must be plugged and sealed within eighteen (18) months after construction. An Abandonment Report (GWS-09) must be submitted within 60 days of plugging & sealing. The above MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction and abandonment reports.
- 5) A MONITORING HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery) or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and policies of the State Engineer.
- 6) IF HOLES WILL NOT BE CONSTRUCTED UNDER THIS NOTICE WITHIN 90 DAYS, PLEASE WRITE "NO HOLES CONSTRUCTED" ON A COPY OF THE ACKNOWLEDGED NOTICE WITH THE FILE NUMBER AND EMAIL TO THE DIVISION OF WATER RESOURCES AT [DWRpermitsonline@state.co.us](mailto:DWRpermitsonline@state.co.us).

THIS ACKNOWLEDGEMENT OF NOTICE DOES NOT INDICATE THAT WELL PERMIT(S) CAN BE APPROVED.  
Incomplete forms or Notice provided less than 72 hours prior to well construction will not be acknowledged



STATE OF COLORADO

DWRPermitsOnline, DNR <dnr\_dwrpermitsonline@state.co.us>

# Notice of Intent to Construct Monitoring Hole - APEX Companies LLC - Greeley Directional location

1 message

Maggie Graham <Maggie.Graham@apexcos.com>

Fri, Aug 23, 2019 at 1:10 PM

To: "dwrpermitsonline@state.co.us" <dwrpermitsonline@state.co.us>

Cc: Denver Remediation <DenverRemediation@apexcos.onmicrosoft.com>, Kevin Ambrose <Kevin.Ambrose@apexcos.com>, Maggie Graham <Maggie.Graham@apexcos.com>

Good Afternoon,

Please find attached a Notice of Intent to construct 1 (one) Monitoring Hole at the location referenced within.

Kind Regards,

Maggie Graham

RECEIVED

AUG 23 2019

WATER RESOURCES  
STATE ENGINEER  
COLO

Maggie Graham

Sr Project Manager

1746 Cole Blvd Bldg 21, Ste 250

Lakewood, CO 80401



O) 720-501-5065

Add me to your contact list!









Form No. GWS-31 02/2017	<b>WELL CONSTRUCTION AND YIELD ESTIMATE REPORT</b> State of Colorado, Office of the State Engineer 1313 Sherman St., Room 821, Denver, CO 80203 303.866.3581 www.water.state.co.us and dwrpermitsonline@state.co.us	For Office Use Only								
1. Well Permit Number: 60666-MH      Receipt Number:										
2. Owner's Well Designation: MW-4										
3. Well Owner Name: Extraction Oil and Gas, LLC										
4. Well Location Street Address: 20 29th Street, Greeley, CO 90631										
5. As Built GPS Well Location (required): <input type="checkbox"/> Zone 12 <input checked="" type="checkbox"/> Zone 13 Easting: 526994.4    Northing: 4471243.04										
6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 <input checked="" type="checkbox"/> N or S <input type="checkbox"/> Range 65 <input type="checkbox"/> E or W <input checked="" type="checkbox"/> 6 P.M. County: Weld Subdivision: _____, Lot _____, Block _____, Filing (Unit) _____										
7. Ground Surface Elevation: 4672 feet    Date Completed: 04/27/2020    Drilling Method: Hollow Stem Auger										
8. Completed Aquifer Name : Unnamed Type III/II    Total Depth: 87 feet    Depth Completed: 85 feet										
9. Advance Notification: Was Notification Required Prior to Construction? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No,    Date Notification Given: 04/07/2020										
10. Aquifer Type: <input type="checkbox"/> Type I (One Confining Layer) <input type="checkbox"/> Type I (Multiple Confining Layers) <input type="checkbox"/> Laramie-Fox Hills (Check one) <input type="checkbox"/> Type II (Not overlain by Type III) <input checked="" type="checkbox"/> Type II (Overlain by Type III) <input type="checkbox"/> Type III (alluvial/colluvial)										
11. Geologic Log:		12. Hole Diameter (in.)      From (ft)      To (ft)								
Depth	Type	Grain Size	Color	Water Loc.	8	0	85			
0 - 11	ML	fg	Bwn.							
11 - 20	SM	fg - cg, G	Bwn.							
20 - 31	SP	fg - cg	Bwn.							
31 - 50	ML	fg	Gley	40	13. Plain Casing					
50 - 60	SM	fg	Bwn.		OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)	
60 - 61	GP	fg - cg, G	Bwn.		2.375	Sch40PVC	0.328	0	45	
61 - 70	CL	vfg	Bwn.		Perforated Casing Screen Slot Size (in): _____					
70 - 80	SM	fg - cg, G	Bwn.		OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)	
80 - 85	ML	vfg	Bwn.		2.375	Sch40PVC	0.328	45	85	
85 - 87	CL	vfg	Bwn.							
					14. Filter Pack:		15. Packer Placement:			
					Material	Sand	Type			
					Size	10-20	Depth			
					Interval	43-87				
					16. Grouting Record					
					Material	Amount	Density	Interval	Method	
					Cement Grout	800 lbs	Grout	0 - 40	Tremie Pipe	
Remarks: v = very, f = fine, m = medium, c = coarse, g = grain, G = gravel, Bwn. = Brown, Gley - Greenish-Gray										
17. Disinfection: Type N/A      Amt. Used										
18. Well Yield Estimate Data: <input type="checkbox"/> Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report										
Well Yield Estimate Method: N/A										
Static Level: 39.90					Estimated Yield (gpm) N/A					
Date/Time measured: 5/5/20					Estimate Length (hrs) N/A					
Remarks:										
19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402.2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to \$1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.										
Company Name: Apex Companies, LLC			Email: Kevin.Ambrose@apexcos.com			Phone w/area code: (925) 596-1862		License Number: CA-PG# 9617		
Mailing Address: 1746 Cole Blvd., Suite 250, Lakewood, CO 80401										
Sign (or enter name if filing online) <i>Kevin Ambrose</i>			Print Name and Title Kevin Ambrose, Project Geologist				Date: 06/02/2020			



# NOTICE OF INTENT TO CONSTRUCT MONITORING HOLE(S)

Please type or print legibly in black or blue ink or file online, [dwrpermitsonline@state.co.us](mailto:dwrpermitsonline@state.co.us)

State of Colorado, Office of the State Engineer 1313 Sherman St, Room  
821, Denver, CO 80203 Phone 303-866-3581 [dwr.colorado.gov](http://dwr.colorado.gov)

# RCVD DWR 10/01/2020

Well Owner Name(s): Extraction Oil and Gass, LLC  
Address: 370 17th Street, Suite 5300, Denver, CO 80202  
Phone: (970) 576-3446  
Email: jcarlisle@extractionog.com

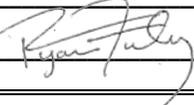
Landowner's Name: Extraction Oil and Gas LLC

Please check one and complete as indicated including contact info:

- Water Well Driller Licensed in Colorado - Lic. No. \_\_\_\_\_
- Professional Engineer Registered in Colorado - Reg. No. \_\_\_\_\_
- Professional Geologist per C.R.S. 23-41-208(b)
- Other – anyone directly employed by or under the supervision of a licensed driller, registered professional engineer or professional geologist

Contact / Company Ryan Finley  
Address 1746 Cole Blvd, Suite 250, Building 21  
City, State & Zip Lakewood, Colorado 80401  
Phone (303) 907-0635  
Email Ryan.Finley@apexcoss.com

Print Name: Ryan Finley

Signature or enter full name here: 

Location: Section 20  
Township 5 N S, Range 65 E W, 6 PM  
County: Weld  
Subdivision: NENE  
Lot: \_\_\_\_\_ Block: \_\_\_\_\_ Filing: \_\_\_\_\_  
Site/Property Address \_\_\_\_\_  
40.391325° , -104.681889°

GPS Location in UTM format if known:  
Set GPS unit to true north, datum NAD83, and use meters for the distance units, Zone 12 or Zone 13.  
Easting 526998.24 Northing 4471240.51

# of Monitoring Holes to be constructed in GWMcb: 3

Estimated Depth 85 Ft., Aquifer Type III/II

Purpose of Monitoring Hole(s) \_\_\_\_\_  
Groundwater Monitoring

Anticipated Date of Construction: 10/19/2020

Date Notice Submitted: 09/30/2020  
(Must be at least 3 days prior to construction)

### ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE FOR OFFICE USE ONLY

61256 - MH  
DIV. 1 WD 2 BAS \_\_\_\_\_ MD \_\_\_\_\_

PROCESSED BY   
DATE ACKNOWLEDGED 10/02/2020

### CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

A COPY OF THE WRITTEN NOTICE OR ACKNOWLEDGEMENT SHALL BE AVAILABLE AT THE DRILLING SITE.

- 1) Notice was provided to the State Engineer at least 72 hours prior to construction of monitoring & observation hole(s).
- 2) Construction of the hole(s) must be completed within **90 days** of the date notice was given to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing **must not** be used for beneficial purposes. The owner of the hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.
- 3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Standard permit application and work report forms are found on the DWR website at [dwr.colorado.gov](http://dwr.colorado.gov). Well Construction and Yield Estimate Reports (GWS-31) must be completed for each hole drilled. The licensed contractor or authorized individual must submit the completed forms to this office within 60 days of monitoring hole completion. Aquifer testing information must be submitted on Well Yield Test Report (GWS-39).
- 4) Unless a well permit is obtained or variance approved, the hole(s) must be plugged and sealed within **eighteen (18) months after construction**. An Abandonment Report (GWS-09) must be submitted within 60 days of plugging & sealing. The above MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction and abandonment reports.
- 5) A MONITORING HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery) or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and policies of the State Engineer.
- 6) **IF HOLES WILL NOT BE CONSTRUCTED UNDER THIS NOTICE WITHIN 90 DAYS, PLEASE WRITE "NO HOLES CONSTRUCTED" ON A COPY OF THE ACKNOWLEDGED NOTICE WITH THE FILE NUMBER AND EMAIL TO THE DIVISION OF WATER RESOURCES AT [DWRpermitsonline@state.co.us](mailto:DWRpermitsonline@state.co.us).**

THIS ACKNOWLEDGEMENT OF NOTICE DOES NOT INDICATE THAT WELL PERMIT(S) CAN BE APPROVED.

Incomplete forms or Notice provided less than 72 hours prior to well construction will not be acknowledged

## Mike Ruiz

---

**From:** erica.gutierrez@state.co.us on behalf of DWR - DNR, Permitsonline  
<dnr\_dwrpermitsonline@state.co.us>  
**Sent:** Wednesday, January 27, 2021 3:42 PM  
**To:** Mike Ruiz  
**Subject:** [EXT] Re: Extraction Oil & Gas District Six MW-6, MW-8, MW-10 GWS-31 forms

### CAUTION

Thank you for your submission. These forms do not require payment of a fee.

Check status of permit applications / updates to well permits at: <https://dwr.state.co.us/tools/WellPermits>

...  
DWR Permits Online



P 303.866.3581x0

[DWRPermitsOnline@state.co.us](mailto:DWRPermitsOnline@state.co.us) | [dwr.colorado.gov](http://dwr.colorado.gov)

On Wed, Jan 27, 2021 at 3:20 PM Mike Ruiz <[Mike.Ruiz@apexcos.com](mailto:Mike.Ruiz@apexcos.com)> wrote:

Hello DWR reviewer,

Please accept the following GWS-31 forms on behalf of Extraction Oil & Gas, LLC for recently installed monitoring wells at District Six. Attached to this email are Well Construction and Yield Estimate Reports for Permit #: 61256-MH (MW-6, MW-8, and MW-10).

Please let us know if you have any questions or require additional information.

Thank you,

-Michael Ruiz

  
**Mike Ruiz**  
Scientist 2  
**Apex Companies, LLC**  
347 Sinclair St  
Gillette, WY 82718  
M) 307-274-6386  
 Add me to your contact list!  


**ENR Top 30 All-Environmental Firm**   

**Privacy Notice:** This message and any attachment(s) hereto are intended solely for the individual(s) listed in the masthead. This message may contain information that is privileged or otherwise protected from disclosure. Any review, dissemination or use of this message or its contents by persons other than the addressee(s) is strictly prohibited and may be unlawful. If you have received this message in error, please notify the sender by return e-mail and delete the message from your system. Thank you.

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.







**Attachment D**  
**Groundwater Well Borehole and Completion Logs**







PROJECT NAME AND SITE ADDRESS: Greeley Directional

BORING LOCATION (AT SITE):

PROJECT NO.:

TIME	SAMPLE INTERVAL	BLOW COUNTS	PID (ppmV)	DEPTH	USCS LITHOLOGY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size/plasticity, other) ALL PERCENTAGES APPROXIMATE UNLESS STATED OTHERWISE	WELL CONST.
1230	2 5 6 7	3.5		38 40	CL SM	brown clay, stiff, medium plasticity, slight he order c 38-38.5 w/ black streaks, trace (5-10% fine sand), wet + driller notes water on side of sampler & can hear it coming into borehole. Pull augers 10' to allow water to enter, take lunch, & check stabilized data	20
1335	2 6 13 17	0.4		48 50 52	SP SP SP	fine sand, brown, wet, m. dense saturated, brown, m. stiff, m. plasticity, 10-20% fine sand saturated, brown, fine sand, m. dense	25
1440	2 10 15 20	2.4		58 60	SP	Saturated, dense, fine-med sand w/ 5% coarse gravel stabilized water c 37.70 1530 - auger gets stuck @ ~65' due to bearing sands	30
1540	6 12 14	2.4		70 72	SP	med-coarse sand w/ 20% coarse gravel, saturated, brown, m. dense fine sand (4") in shoe, m. dense, saturated, brown	35
915	1 5 8 10	6.3		80 82	SM CL	Saturated, fine sand, m. dense, brown stiff, saturated, brown, medium plasticity clay, trace fine sand	40
						@ 85' - driller's encounter bedrock @ 85'. Stop drilling & call in to client & project manager. Wait for water to stabilize, to collect multiple readings @ 59.5' bgs. Set well screen @ 75 to 85' bgs (20' above or below assumed breach @ 65')	45

clay

107

# WELL CONSTRUCTION LOG

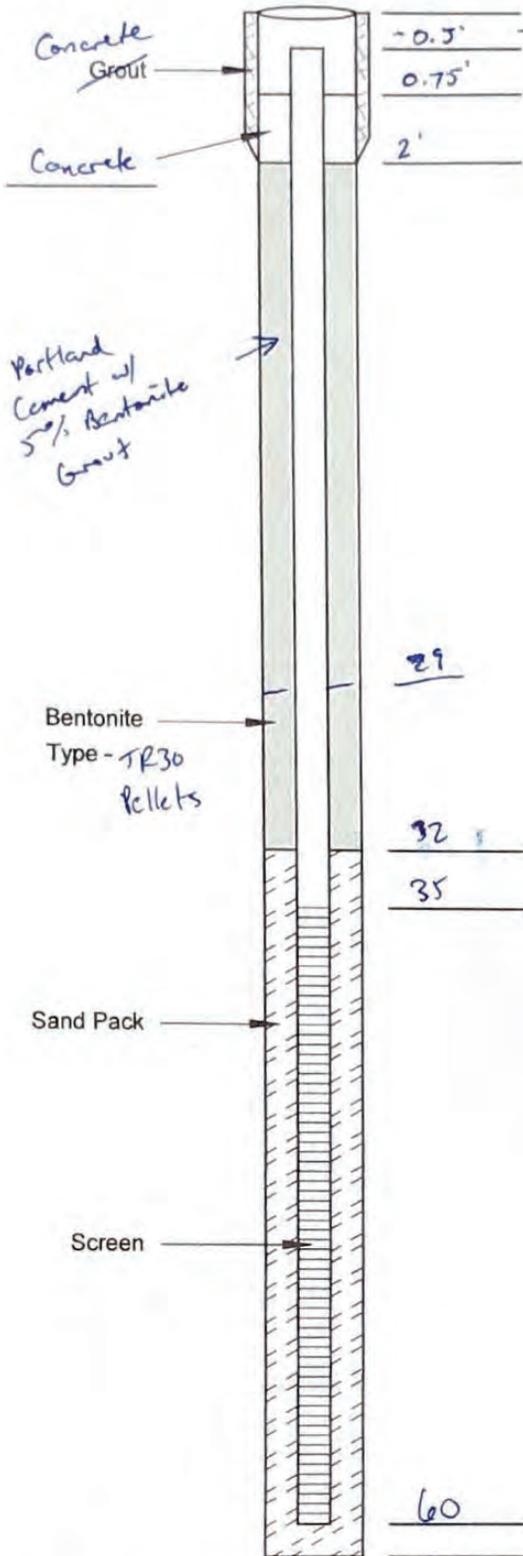
## Well Completion Detail

Project Number 744.1708.01  
280487

Well Number MW02

Street Box Diam. = 8"

Surveyed Dif. Btwn. GS and TOC



## Drilling Summary

Total Depth of Hole: 60'  
 Hole Diameter: 8"  
 Drilling Company: Cascade Environmental  
 Driller: Robbie Gildea  
 Rig Type: B-59 Hollow Stem Auger  
 Bits: 8" diameter, 5' auger flights  
 Geologist: Kevin Ambrose

## Time Log

	Start Date	Start Time	Finish Date	Finish Time
Drilling:	<u>4/30/20</u>		<u>4/30/20</u>	
Well Completion:	<u>5/5/20</u>			
Grouting:			<u>5/5/20</u>	

## Depth to Water (Below TOC)

Depth: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>2-29</u>	<u>29-32</u>	<u>32-60</u>
Type:	<u>Portland w/ Bent. Grout</u>	<u>TR30 Bent</u>	<u>10/20 Sand</u>
Screen			
Size:	<u>Sch. 40</u>	Config.:	
Area/Ft.:	<u>0.14 5' x 4'</u>	Comp.:	<u>PVC</u>
Inside Diam.:	<u>2"</u>	Outside Diam.:	<u>2-3"</u>

## Comments

Drilling stopped at 60' bgs due to presence of methane gas in borehole. After the explosive atmosphere remained for several days, the borehole was completed w/ a well at 60' instead of attempting advancement to 85'.

\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 60'



Boring Location Sketch

SOIL BORING LOG

Project Number: M1002 Boring Number: 1 of 1 Sheet



Project: District Six CG Investigation Location: Greeley Directional Pad  
 Drilling Method & Equipment: B-59 HSA Rig, 8" OD auger Drilling Contractor: Cascade, Robbie Gildea  
 Date: 4/21/20, clear 6' Water Level: Start 4/19/20, 1300 Finish: Logger: X. Ambrise

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
10	10-12	1330	66%	2/4/4	(0, 90, 10, 0) brown, moist, fine sand, trace med sand, loose	SP-SM	N	0	plastic mount box
20	20-22	1345	50%	9/18/20	(20, 80, 0, 0) brown w/ lt grey pulverized gravel, fine-coarse sand, fine gravel, damp, dense	SP	N	0	gravel
30	30-32	1415	50%	5/5/5	(5, 90, 5, 0) brown, damp, loose, fine-c sand (0, 20, 50, 30) greenish grey w/ brown mottling, moist, soft, fine sand, med. plasticity	SP ML	N N	0	29 bent. 32
40	40-42	1430	75%	4/7/9	SAA, wet	ML	N	0	10/20 Sand
50	50-52	1450	100%	7/12/12	(0, 60, 40, 0) m. dense, lt brown, wet, fine sand	SM	N	0	
60		1530			* Gurgling/boiling sound, gassy odor, br fines from augers when drillers reach 60'. Stop work to collect gas readings & see if gas action dissipates.			Readings from auger: 4-gas alarm, 20-25% LEL PID ~ 15-20 ppm	60

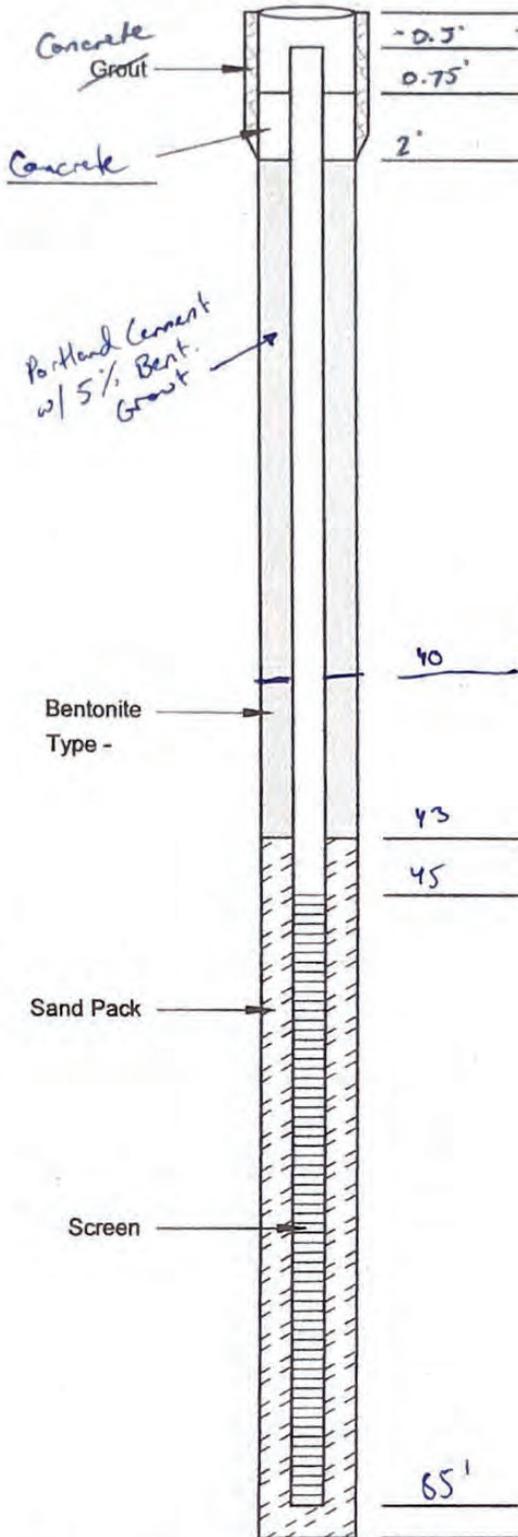
Total Depth(s) = Soil Sample(s): Rationale: Additional Information:  
 TD = 60'  
 Preficked 2" Screen, 10-20 sand w/ 0.010" slot, 35-60'

# WELL CONSTRUCTION LOG

## Well Completion Detail

Street Box  
Diam. = 8"

Surveyed Dif.  
Btwn. GS and  
TOC



\* Measuring Point is Below Ground Surface (bgs)

Project Number 744.1703.01  
286487

Well Number MW03

## Drilling Summary

Total Depth of Hole: 85'  
Hole Diameter: 8"  
Drilling Company: Cascade Environmental  
Driller: Robbie Gildea  
Rig Type: B-59 Hollow Stem Auger  
Bits: 8" diameter, 5' auger slights  
Geologist: Kevin Ambrose

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>4/21/20</u>		<u>4/22/20</u>	
Well Completion:	<u>4/22/20</u>			
Grouting:			<u>4/23/20</u>	

## Depth to Water (Below TOC)

Stabilized  
Depth: ~ 39' Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>2-40</u>	<u>40-43</u>	<u>43-85</u>
Type:	<u>Portland Cement w/ Bent</u>	<u>TR30 Bent.</u>	<u>10/20 Sand</u>

	Screen	
Size:	<u>Sch. 40</u>	Config.: _____
Area/Ft.:	<u>0.16 5 1/4"</u>	Comp.: <u>PVC</u>
Inside Diam.:	<u>2"</u>	Outside Diam.: <u>2.3"</u>

## Comments

---

---

---

---

---

---

---

---

Total Depth from TOC = 85'

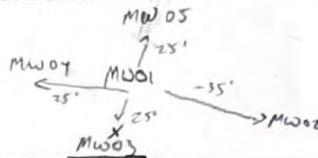
4/18 5:45



Boring Location Sketch

SOIL BORING LOG

Project Number: MW03 Boring Number: 1 of 1 Sheet



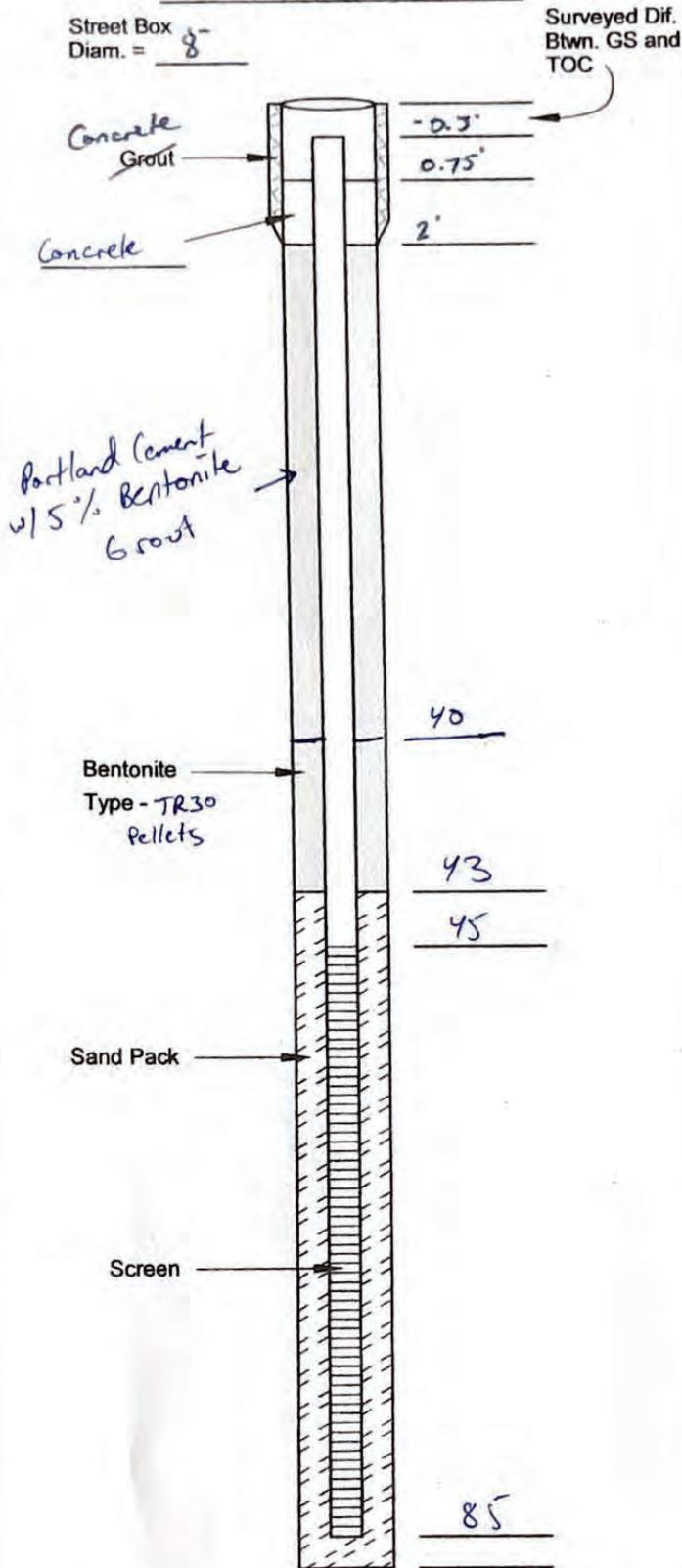
Project: District Six CG Location: Greeley Dir. Pad  
 Drilling Method & Equipment: HydroVac, B-59 HSA w/ 8" Drill Contractor: Cascade Drilling, Robbie Gildea  
 Date: 4/21/20 Water Level: ~45-50' bgs Start: 4/21/20, 1000 Finish: 4/23/20, Logger: K. Ambrose

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	Well ID, Const. Reading, Diagram, etc.
	Interval	Depth/Time	Recovery						
10	10-12	4/21 1145	100%	3/5/5	hydrovac to 6' bgs x 10" wide for clearance. m. dense, lt brown sand, dry, no significant odor or staining	SP	N	0	
10	10-12	1145	100%	3/5/5	(0, 95, 5, 0) lt brown, dry, m. dense ↓ grades into fine sand	SP	N	10 : 0 10.5 : 0 11 : 0 11.5 : 0	
20	20-22	1205	50%	5/8/9	(0, 60, 40, 0) lt brown, dry, m. dense	SM			
20	20-22	1205	50%	5/8/9	(10, 90, 0, 0) fine to coarse sand, fine gravel, lt brown, damp, m. dense	SP	N	20 : 0 20.5 : 0 21 : 0 21.5 : 0	cement grout
30	30-32	1330	75%	8/8/8	(0, 70, 30, 0) fine sand, brown, wet, trace med sand, ↓ grades into	SM	N	30 : 0 30.5 : 0 31 : 0 31.5 : 0	
40	40-42	1405	100%	5/8/13	(0, 30, 40, 20) fine sand, brown, wet, med. plasticity, v. stiff	ML			bent. 37
40	40-42	1405	100%	5/8/13	(0, 20, 40, 40) fine sand, lt grey, damp, med. plast	ML	N	40 : 0 40.5 : 0 41 : 0 41.5 : 0	48
50	50-52	1505	66%	10/11/10	(0, 40, 50, 10) yellowish brown, saturated, fine sand, low plasticity, stiff	ML	N	50 : 6 50.5 : 0 51 : 0 51.5 : 0	0.010" slot screen
60	60-62	1616	80%	13/8/5	(0, 70, 30, 0) y. brown, saturated, m. dense, fine sand	SM	N	60 : 0 60.5 : 0 61 : 0 61.5 : 0	45-85
70	70-72	1020	66%	9/21/24	(10, 80, 10, 0) greenish grey, saturated, mostly fine to med sand, fine gravel, trace coarse sand	SM	N	70 : 0 70.5 : 0 71 : 0 71.5 : 0	slowly sandy, entered boring
80	80-82	1130	100%	7/11/13	(0, 80, 20, 0) med. brown, saturated, fine gr sand, dense	SM	N	80 : 0 80.5 : 0 81 : 0 81.5 : 0	10-20 filter sand
85	84-86	1230	100%		(5, 65, 30, 0) brown, wet, fine-med sand, trace fine gravel, m. dense	SM			
					(0, 40, 50, 10) brown, stiff, fine sand, low plasticity, wet	ML			
					S&A (brown, wet)				end cap
					(0, 70, 50, 30) greenish grey w/ black seam, hard, wet, no hc odor, med plasticity	ML		84.5 : 0 85 : 0	8" barbed

Total Depth(s) = 85'  
 Soil Sample(s): No soil samples retained for lab analysis  
 Rationale: No staining or elevated PID readings  
 Additional Information:

# WELL CONSTRUCTION LOG

## Well Completion Detail



Project Number 744.1703.01  
286487

Well Number MW04

## Drilling Summary

Total Depth of Hole: 85'

Hole Diameter: 8"

Drilling Company: Cascade Environmental

Driller: Robbie Gildea

Rig Type: B-59 Hollow Stem Auger

Bits: 8" diameter, 5' auger flights

Geologist: Kevin Ambrose

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>4/23/20</u>		<u>4/24/20</u>	
Well Completion:	<u>4/24/20</u>		<u>4/27/20</u>	
Grouting:	<u>4/27/20</u>		<u>4/27/20</u>	

## Depth to Water (Below TOC)

stabilized  
 Depth: ~39' Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>2-40</u>	<u>40-43</u>	<u>43-85</u>
Type:	<u>Portland/Bent. Grout</u>	<u>TR30 Bent</u>	<u>10/20 Sand</u>
	Screen		
Size:	<u>Sch 40</u>	Config.: _____	
Area/Ft.:	<u>0.165<sup>1/4</sup></u>	Comp.: <u>NC</u>	
Inside Diam.:	<u>2"</u>	Outside Diam.: <u>2.3"</u>	

## Comments

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\* Measuring Point is Below Ground Surface (bgs)

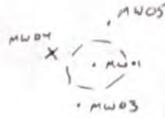
Total Depth from TOC = 85'



Boring Location Sketch

SOIL BORING LOG

Project Number: MW04 Boring Number: MW04 Sheet: 1 of 1



Project: District Six C6 Location: Greeley Directional Pad  
 Drilling Method & Equipment: HydroVac (G), BSA 113A w/ 8" auger flights Drilling Contractor: Cascade - Robbie Gildca  
 Date: 4/21/20 <sup>cleaning</sup> Water Level: 6' Start: 4/23/20, 1130 Finish: Logger: K Ambrose

Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	Well Const.
	Interval	Depth/Time	Recovery						
10	10-12	4/23 1140	75%	4/7/9	Clear to ~5.5' bgs using hydrovac & hand tools. Compacted gravelly sand & wood debris.	ML	N	0 e 10	
10.5					(0, 30, 70, 0) fine sand, brown w/ lt brown streaking, no plasticity, stiff, dry	SM	N	0 e 11	
11.5					(5, 70, 25, 0) fine sand w/ trace med/ coarse sand, trace fine gravel, brown, damp, m. dense				
20	20-22	1200	66%	6/13/14	(0, 85, 5, 0) fine-coarse sand, lt brown, m. dense, moist, fine gravel	SP	N	0 e 20 0 e 21 0 e 22	
30	30-32	1325	75%	12/7/4	3' S&A above	SP	N	0 e 30	
31					(0, 30, 50, 20) greenish grey, low plasticity, fine gr. sand, wet	ML	N	0 e 31 0 e 32	
40	40-42	1350	100%	5/5/7	(0, 20, 50, 30) brown, wet, med plast. fine grain sand	ML	N	0 e 40 0 e 41 0 e 42	
50	50-52	1420	100%	5/8/11	(0, 60, 40, 0) brown, saturated, m. dense, fine gr. sand	SM	N	0 e 50 0 e 51	
60	60-62	930	100%	6/29/307	(60, 30, 10, 0) brown, wet, fine-coarse sand, gravel, fine-coarse sand, dense	GP	N	0 e 52 0 e 60	
60					2" layer of black silty sand, trace fine gravel, wet, no odor (organic?)	SM	N	0 e black in	
60					(0, 20, 30, 50) brown, wet, high plasticity, hard, fine sand	CL	N	0 e CL	
70	70-72	1030	100%	5/11/13	(0, 80, 20, 0) brown, saturated, fine gr. sand, m. dense, trace coarse gravel @ 71.5' (1 stone ~ 0.75")	SM	N	0 e 70 0 e 71 0 e 72	
80	80-82	1130	100%	5/1-20	(0, 00, 40, 0) brown, saturated, dense	SM	N	0 e 80 0 e 81	
85	85-87	1150	100%	7/11/13	(0, 40, 60, 0) brown, saturated, fine gr sand	ML	N	0 e 85	
86					(0, 0, 30, 70) greyish brown, hard, wet	CL	N	0 e 86	

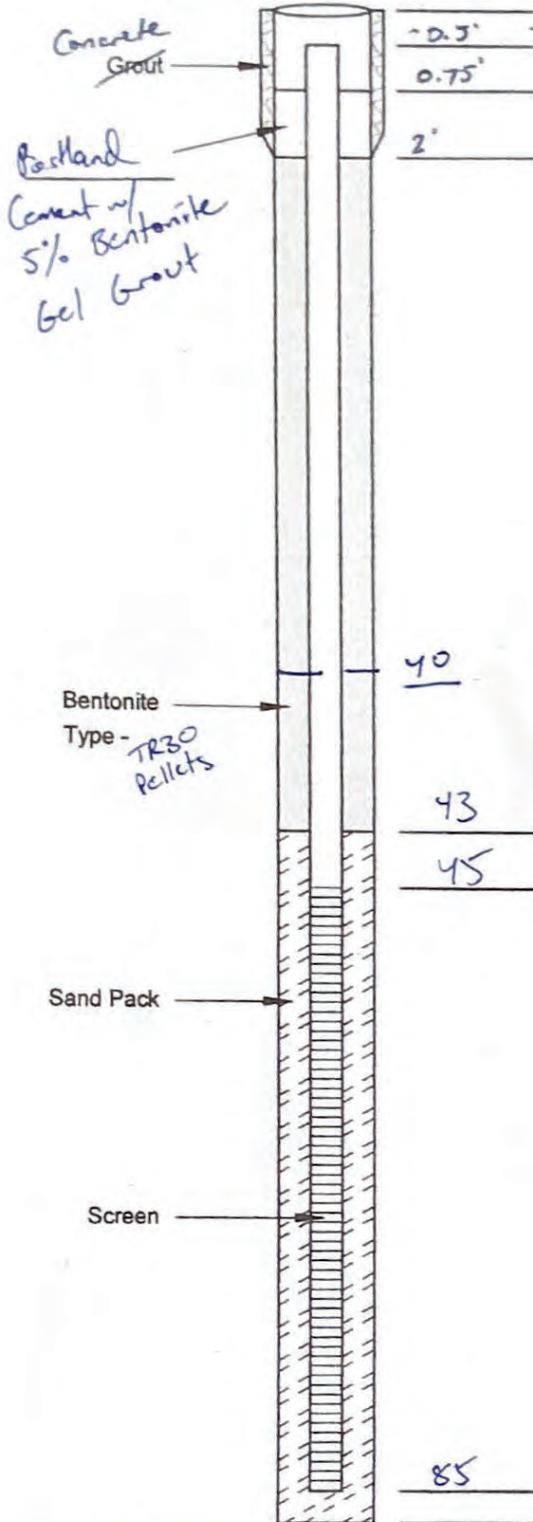
Total Depth(s) = Soil Sample(s): Rationale Additional Information: (0.010'-1.0')

# WELL CONSTRUCTION LOG

## Well Completion Detail

Street Box  
Diam. = 8"

Surveyed Dif.  
Btwn. GS and  
TOC



\* Measuring Point is Below Ground Surface (bgs)

Project Number 744.1708.01  
286487

Well Number MW05

## Drilling Summary

Total Depth of Hole: 85'  
Hole Diameter: 8"  
Drilling Company: Cascade Environmental  
Driller: Robbie Gildea  
Rig Type: B-59 Hollow Stem Auger  
Bits: 8" diameter, 5' auger flights  
Geologist: Kevin Ambrose

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	4/27/20		4/28/20	
Well Completion:	4/28/20			
Grouting:			4/30/20	

## Depth to Water (Below TOC)

Depth: ~45' Date: 4/27/20 *first water, drilling*  
~39' 4/30/20 *stabilized water*

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	2-40	40-43	43-85
Type:	Bent./Cement Grout	TR30 Bent.	10-20 Sand
Screen			
Size:	2" Sch 40	Config.:	
Area/Ft.:	6.16 sq/ft	Comp.:	PVC
Inside Diam.:	2"	Outside Diam.:	2.3"

## Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Total Depth from TOC = 85'



Boring Location Sketch

SOIL BORING LOG

Project Number \_\_\_\_\_ Boring Number MW05 Sheet 1 of 1



Project District Six C6

Location Greeley Directional Pad

Drilling Method & Equipment Hydramac B-59 HSA w/ 8" OD 6" auger flights

Drilling Contractor Cascade, Robbe Gildea

Date 4/21/20 <sup>deaf.</sup> 6 Water Level \_\_\_\_\_

Start 4/27/20 12:00

Finish 4/30/20

Logger K Ambrose

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	Well Const.
	Interval	Depth/Time	Recovery						
10	10-12	4/27 1305	80%	3/6/7	(0, 30, 70, 0) lt brown, dry, m. stiff, v. low/no plasticity, fine gr sand grades into	ML	N	0	<p>2" slot prepack 0.010" slot screen 44-84</p> <p>10-20 sand</p> <p>8" borehole</p>
12					(0, 60, 40, 0) lt brown, m. dense, dry, fine gr sand	SM	N	0	
20	20-22	1330	66%	3/11/10	(0, 100, 0, 0) lt brown, fine - coarse sand, damp, m. dense	SP	N	0	
30	30-32	1405	66%	11/17/9	(0, 100, 0, 0) greenish brown from 30-30.5, yellowish brown 30.5-31.5, fine - coarse sand, wet, m. dense	SP	N	0	
40	40-42	1430	100%	3/6/8	in shoe, 2" - dark green low plasticity silt w/ fine gr sand, damp	M	N	0	
42					(0, 20, 50, 30) greyish brown, med plasticity, moist, stiff	ML	N	0	
50	50-52	1455	10%	4/7/7	saturated yellowish brown fine sand, m. dense	SP-SM	N	0	
60	60-62	930	100%	8/28/33	(0, 40, 60, 0) lt brown, fine sand, saturated, hard grades into	ML	N	0	
62					(0, 20, 30, 50) lt brown, saturated, fine sand, v. hard, high plasticity	CL	N	0	
70	70-72	1035	100%	11/12/23	(0, 60, 40, 0), saturated, lt brown, m. dense/mush, fine gr sand	SM	N	0	
72					(0, 40, 50, 10) wet, lt brown, hard, fine sand, low plasticity/smearing	ML	N	0	
80	80-82	1100	75%	5/6/9	(0, 60, 30, 10) lt brown, saturated, loose, fine - med sand	SM	N	0	
82					(0, 30, 50, 20) lt brown, wet, stiff, fine sand, low plasticity	ML	N	0	
85	84-86	1200	100%	7/11/13	(0, 10, 40, 50) lt grey, wet, stiff, high plasticity	ML	N	0	
86						CL	N	0	

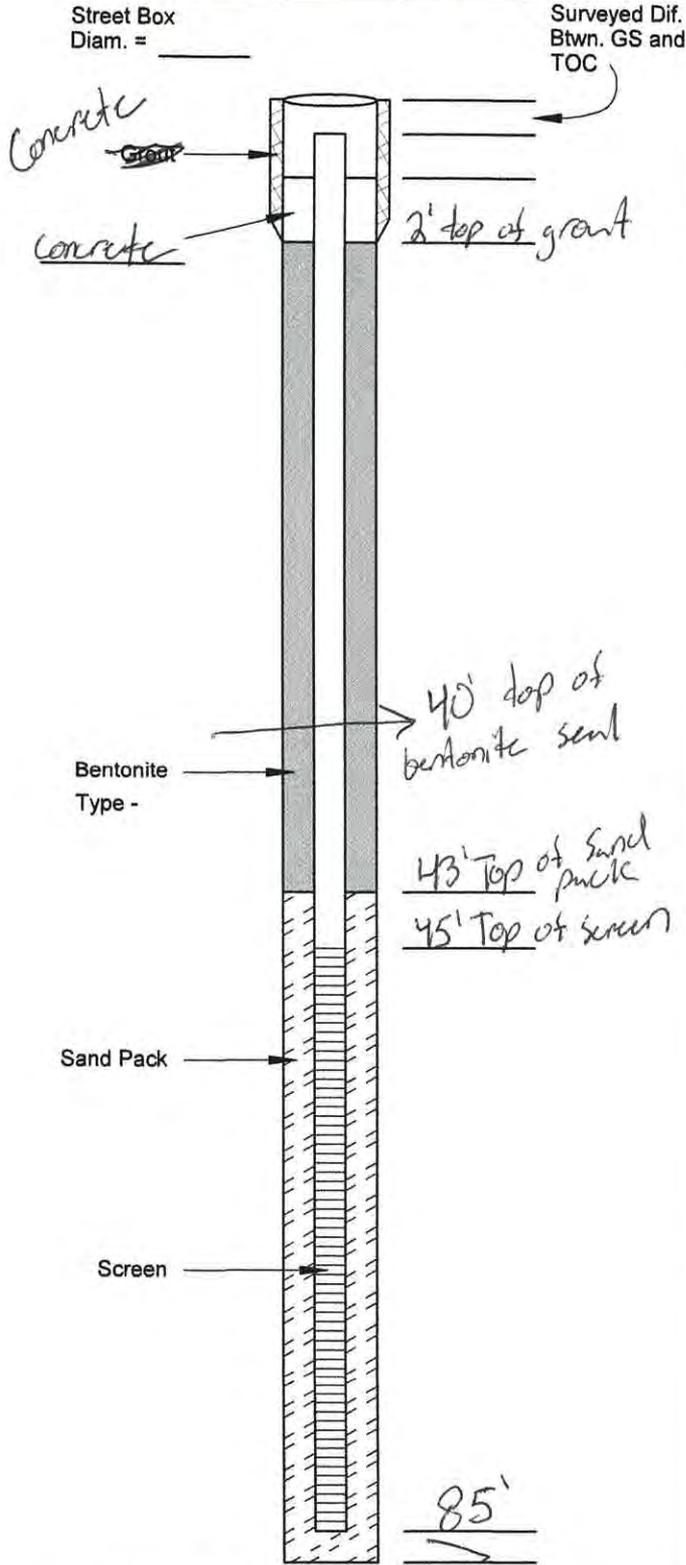
Total Depth(s) = 85'

Soil Sample(s): \_\_\_\_\_ Rationale \_\_\_\_\_

Additional Information: Flush mount well box (8") set in 2' x 2' concrete pad.



### Well Completion Detail



\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = \_\_\_\_\_

### WELL CONSTRUCTION LOG

Project 7441708.01  
Number 286487

Well Number MW-06

#### Drilling Summary

Total Depth of Hole: 85'  
Hole Diameter: 8 1/4"  
Drilling Company: Cascade Environmental  
Driller: Robbie Gilkey  
Rig Type: B-59 Hollow Stem Auger  
Bits: 8 1/4" D, 5' flights  
Geologist: Kirk MacDougall

#### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>11/09</u>	<u>0927</u>	<u>11/09</u>	<u>1258</u>
Well Completion:	<u>11/09</u>	<u>1258</u>		
Grouting:				

#### Depth to Water (Below TOC)

Depth: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

#### Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>2'-40'</u>	<u>40'-43'</u>	<u>43'-85'</u>
Type:	<u>port cement portland mix</u>	<u>chipped 3/8" mesh perlite</u>	<u>1020 washed silicon</u>
Screen			
Size:	<u>40'</u>	Config.:	
Area/Ft.:		Comp.:	<u>PVC</u>
Inside Diam.:	<u>2"</u>	Outside Diam.:	<u>2.3"</u>

#### Comments

40-ft pre-packed screen used from 85-45'

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# WELL CONSTRUCTION LOG

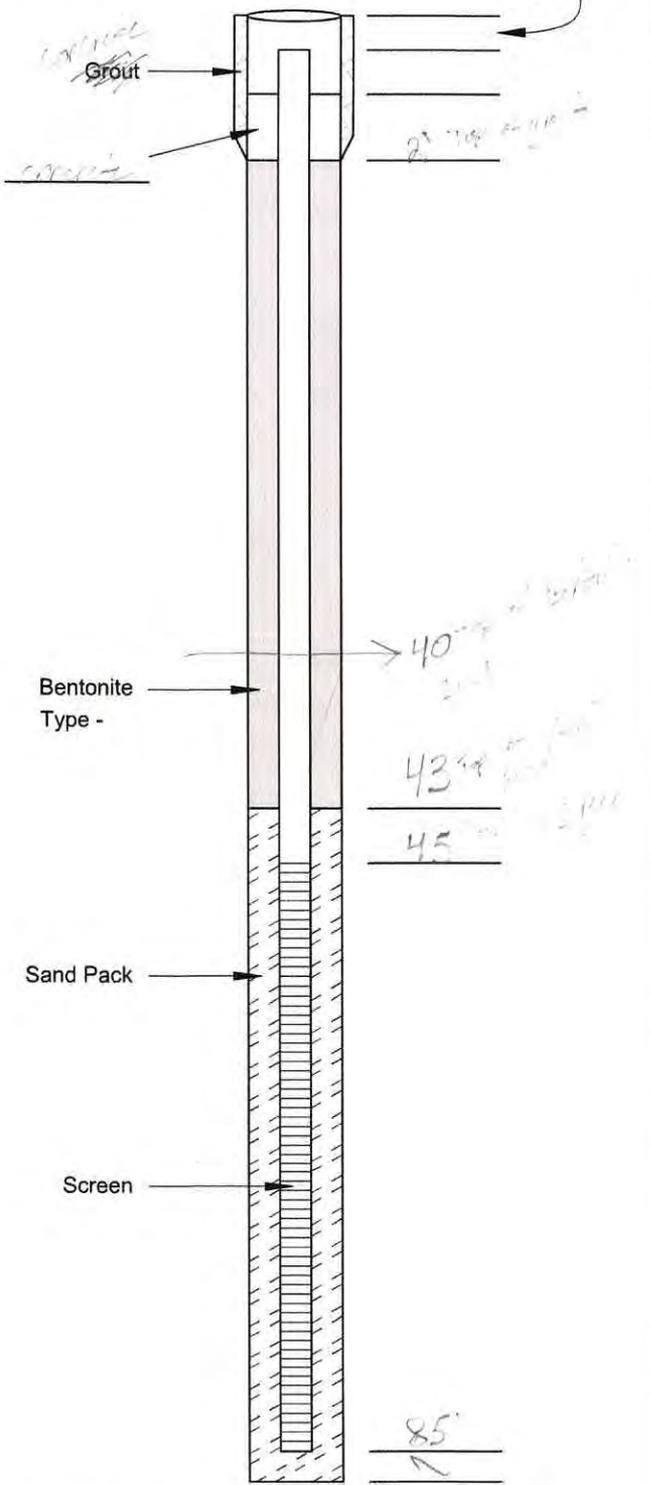
Project Number 744.1708.01  
286487

Well Number MW-06

## Well Completion Detail

Street Box  
Diam. = \_\_\_\_\_

Surveyed Dif.  
Btwn. GS and  
TOC



\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = \_\_\_\_\_

## Drilling Summary

Total Depth of Hole: 85'  
 Hole Diameter: 8 1/2"  
 Drilling Company: Cascade Environmental  
 Driller: Robbie Gildea  
 Rig Type: B-59 Hollow Stem Auger  
 Bits: 8 1/2" D, 5' high TS  
 Geologist: Kyle MacFarrell

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>11/09</u>	<u>0927</u>	<u>11/09</u>	<u>1259</u>
Well Completion:	_____	_____	_____	_____
Grouting:	_____	_____	_____	_____

## Depth to Water (Below TOC)

Depth: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Well Construction Materials

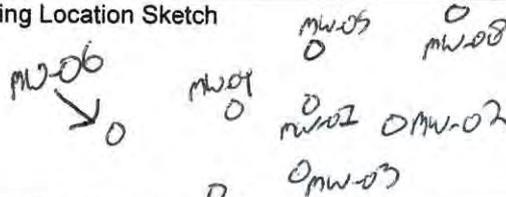
	Grout	Seals	Filter
Quantity:	<u>2-40'</u>	<u>40-43'</u>	<u>43-85'</u>
Type:	<u>port cement mix</u>	<u>chipped 3/8 mesh bentonite</u>	<u>10/20 washed silt/clay</u>
Screen			
Size:	<u>1/2"</u>	Config.: _____	
Area/Ft.:	_____	Comp.: <u>PVC</u>	
Inside Diam.:	<u>2"</u>	Outside Diam.: <u>2.3"</u>	

## Comments

40' grouted screen and seal  
25'-45'  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Boring Location Sketch



**SOIL BORING LOG**

Project Number          Boring Number MW-06 Sheet 1 of 2

Project District 6 CB Location MW-10 Greeley District and Pcd, X06  
 Drilling Method & Equipment B59 HSA, 8 1/4" D x 5' L Drilling Contractor Cusack, Robbie Gilman  
 Date 2/11/09 Water Level          Start 0927 Finish 1258 Logger Kirk Madryall

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0-10'	10-12	0937	2.0'	3/6/9	0-6 hydro-vac for utility 10-12 light brown, poorly sorted sediments w/ trace amounts pen gravel. Sub-rounded, vt-c. Fining downwards w/ light clay intermixed @ 11.5'. Crumbly, no plasticity. Dry	SM	no	0.0 0.0 0.0	10' 11' 12'
10-20'	20-22	0958	1.4'	1/3/8	20-22 light brown w/ poorly sorted sediments ranging from vt-c. Light amounts of clay present @ 20', coarsening down to VC w/ pen gravel @ 22'. Low plasticity, Dry, sub-rounded	SU	no	0.0 0.0 0.0	20' 21' 22'
20-30'	30-32	1024	1.6'	3/14/21	30-32 Light brown w/ poorly sorted sediments ranging from m-vc w/ pen gravel, no plasticity, low dense, sub-rounded, sub-angular quartz gms, Dry, loose	SW	no	0.0 0.0 0.0	30' 31' 32'
30-40'	40-42	1052	1.8'	4/3/4	40-42 Brown to light grey. 40-41 sed partly sorted, m-vc w/ pen gravel. No plasticity, low dense, sharp contact @ 41' to m-vt w/ mod amounts clay, mod plasticity + density, planar laminae w/ oxidized silt lenses. Sub-rounded, moist.	SW	no	0.0 0.0 0.0	40' 41' 42'
40-50'	50-52	1141	2.1'	4/5/10	50-52 light brown, wet, poorly sorted silts and sands, vt-m, sub-rounded w/ mod clay. Mod dense, low-mod plasticity.	SC	no	50-0.0 51-0.0 52-0.0	50' 51' 52'

Total Depth(s) = 85' Soil Sample(s): No soil samples taken due to no PID detect, color or staining Rationale          Additional Information: Hydro-vac 0-6' for utility clearance Flaming sands 50-85'



Boring Location Sketch

SOIL BORING LOG

See page 1

Project Number Boring Number Sheet  
MW-06 2 of 2



Project District 6 C6 Location Greeley Ditchwood Pond, X06  
Drilling Method & Equipment B59 ASA Drilling Contractor Cascardi, Robbie Gilchen  
Date 20/11/09 Water Level Start 0927 Finish 1258 Logger Kade Mackay

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
60-60'			NA	NA	-No core samples after 52' due to flowing sands. Log trending from ungraded sediments.				
60-70'			NA	NA	60' Brown, moist/wet, poorly sorted U-C w/ light clay. Sub-rounded, med dense, low plasticity.	SM/SC	no	0.0	60'
70-70'			NA	NA	70' Brown, moist. Poorly sorted U-C w/ light intermixed clay and trace fine gravel. low plasticity, med dense, sub-rounded.	SM	no	0.0	70'
80-80'			NA	NA	80' 80'/85'	SM/SC	no	0.0	80'
85-85'		R58	NA	NA	light brown, highly sub-sorted/flowing sands w/ U-C seds. Slick feel suggesting entrained clays.	SM/SC	no	0.0	85'

Total Depth(s) = 85'

Soil Sample(s): NO samples taken due to no PFD, staining or odor

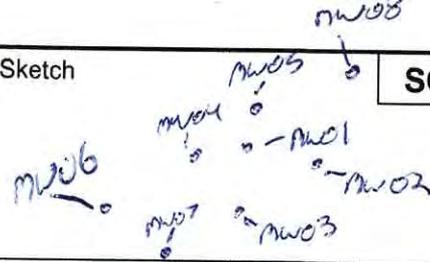
Rationale

Additional Information: No core spans after 50' due to flowing sands.



Boring Location Sketch

SOIL BORING LOG



Project Number Boring Number Sheet  
MW-06 1 of 2

Project District 6 CB Location Greeley Directives Rd, X06

Drilling Method & Equipment B59 HSA 8" D x 5' L Drilling Contractor Cascade, Robbie Gilman

Date 2/11/09 Water Level Start 0927 Finish 1258 Logger Karl MacRae/11

Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
10	10-12	0937 20'	3/16/19		10-12 light brown poorly sorted sand and silts w/ light amount of gravel. Sub-rounded, V-C. Fining downward w/ light clay interbed @ 11.5. No plasticity/curmbly.	SM		10-0.0 11-0.0 12-0.0	10' 11' 12'
20	20-22	0958 1.4'	1/3/18		20-22 light brown-brown w/ poorly sorted subround ranging from v-c. light amount of clay present @ 20' increasing down to v-c and gravel @ 22'. low plasticity. Dry sub-rounded.	SW		20-0.0 21-0.0 22-0.0	20' 21' 22'
30	30-32	1024 1.6'	3/14/21		30-32 light brown-brown w/ poorly sorted subround ranging from M-Vc w/ fine gravel. Sub-rounded, low plasticity. No amount of swelling. Some sandy. Loose.	SW		30-0.0 31-0.0 32-0.0	30' 31' 32'
40	40-42	1053 1.8'	1/3/14		Moist soil must brought to surface by auger @ 40-42'	SW		40-0.0 41-0.0 42-0.0	
50	50-52	1114 2.1'	4/5/16		40-42' Brown silty clay. 40'-41' sediments fairly well sorted w/ some fine gravel. No plasticity. Fine sand. Sharp contact down to 41'-42' w/ med amount clay med plasticity + dense. Plastic laminated w/ sand. Intert. with loose sub-rounded gravel. Moist.	SC		50-0.0 51-0.0 52-0.0	
80	80-82				50-52 light brown white sand silt and silty v-f-Mc, sub-rounded w/ med amount, clay. Med dense, bit hard. Plasticity.	SC			
85					No Spun core following 52'. Log from required sediment to				

Total Depth(s) = 854  
 Soil Sample(s): -NO Soil samples taken.  
 No Staining, Rationale: PID readings were in red  
 Additional Information: Hydro-vac at 61' by Miller, Larsson



Boring Location Sketch

SOIL BORING LOG

Project Number Boring Number Sheet  
MW-06 2 of 2



Project District 6 Ct Location Greeley Recreational pad  
Drilling Method & Equipment B59 HSA 8"D x 5'L Drilling Contractor Cascade, Robbie Gildea  
Date 20/11/09 Water Level Start 0927 Finish 1258 Logger Kuba McDougall

Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
60	60'		NA	NA	No spoon core following 52', Lay from ungraded sediment/soil 60' Brown clay/mud with black spots 1/4" - 1/2" light grey silt/clay soil description per log	Sr/c 70		60'-0.0	60'
70	70'		NA	NA				70'-0.0	70'
80	80'		NA	NA				80'-0.0	80'
85	85'		NA	NA				85'-0.0	85'

Total Depth(s) = 85ft	Soil Sample(s): No samples were taken	No sampling rationale as PID readings were found	Additional Information: No samples taken 50'-85' w/ no recovery to surface
--------------------------	---------------------------------------	--------------------------------------------------	----------------------------------------------------------------------------

# WELL CONSTRUCTION LOG

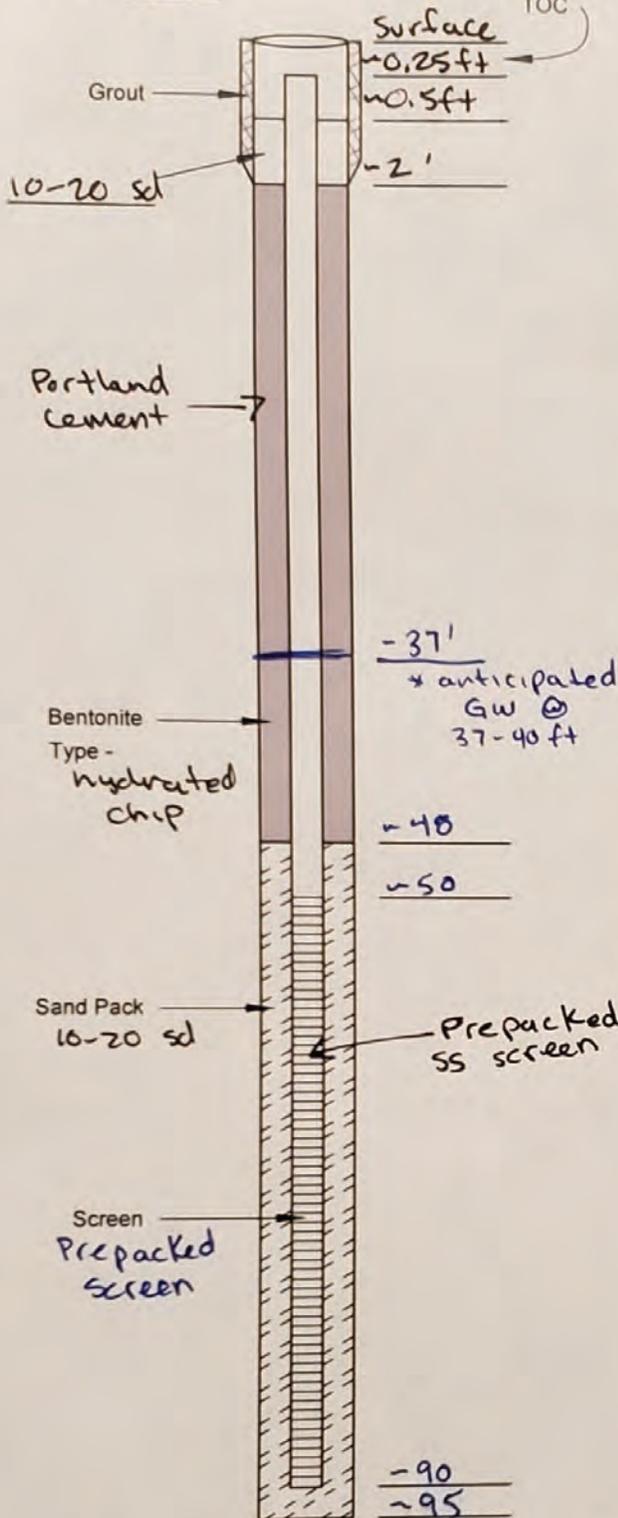
## Well Completion Detail

Project District  
Number Six C6

Well Number MW08

Street Box  
Diam. = 6"

Surveyed Dif.  
Btwn. GS and  
TOC



\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = \_\_\_\_\_

## Drilling Summary

Total Depth of Hole: ~95ft BGS

Hole Diameter: 8 1/4"

Drilling Company: Cascade

Driller: Miles

Rig Type: Hollow stem auger

Bits: 8 1/4", 5ft flights

Geologist: Ryan Finley

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	10/19/20	1115	10/19/20	1455
Well Completion:	10/20/20	0855	10/20/20	1212
Grouting:	11/9/20		11/10/20	1645

## Depth to Water (Below TOC)

Depth: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	10 bq	4 bq	28 bq
Type:	Quikrete	Bent chip	10-20 sd
	Screen		
Size:	40 ft	Config.:	Sch 40
Area/Ft.:	10 slot	Comp.:	PVC
Inside Diam.:	2.047	Outside Diam.:	2.375

## Comments

well was drilled to 85ft.  
Driller may have lost count  
+ drilled to 95ft. Casing was  
sinking @ TD, 105ft of  
casing initially installed.  
casing brought back to 85ft  
+ left over night. on  
10/20/20, casing dropped to 90ft  
+ stayed. well set @ 90ft



Boring Location Sketch

SOIL BORING LOG

Project Number 286487 Boring Number MW08 Sheet 1 of 3



Project 744.1708.01 - 286487 Location District Six C6  
 Drilling Method & Equipment Hollow stem Auger Drilling Contractor Cascade, Miles (driller)  
 Date 10/19/20 Water Level ~38ft Start 1115 Finish 1455 Logger R. Finley

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
3					Hydrovac potholing to 6ft	Gm	N		
6					BGS for utility clearance	Sm	N		
10					10ft med bwn gravelly silty sd + clay sd. vfg-mg sd. 75% mg-cg gravel up to 1/4" dia. moist. No plastic w/ areas of low plastic. No odor/stn	Gm	N	0.8	10
12						Gc	N		
15						Gm	N	1.2	20
20					20ft med bwn gravelly silty sd. vfg-mg. 75% mg-cg sd. up to 1/4" dia. No plastic, low cohesive. moist. No odor/stn.	Sm	N	2.3	30
30						Gm	N		
35					30ft med bwn silty sd. w/ some gravel 5-10%. vfg-mg sd. grav up to 1/4" angular gravel, rounded sd. No plastic. moist. No odor/stn.	Sc	N	2.9	40
45						Sm	N	2.7	50
50					40ft med bwn - L. grey clay sd. vfg-fg. med-high plastic. low dense. moist-satur. slight unknown odor NOT HC. No stain.	Sm	N	3.1	60
60						Sc	N		
65					50ft. m. bwn - olive gr/grn silty sd. vfg-mg. low plastic Tr. clay. very loose. v. low dense saturated SA. No odor/stn	Sm	N	2.6	70
75						Sc	N		
80					60ft same as above very saturated - soupy	Sm	N	3.9	80
85						Sc	N		
90					70ft same as above flowing sd.	Sm	N	2.2	85
						Sc	N		
					80ft same as above flowing sd				
					85ft same as above flowing sd				

\* All samples collected off auger flights every 10ft No sampler split spoon used. No hammer counts

Total Depth(s) = ~95ft \*\* Soil Sample(s): Ø Rationale: No suspected impacts Additional Information: \*\* Driller lost count of depth + drilled to 95ft. depth listed above may not be accurate

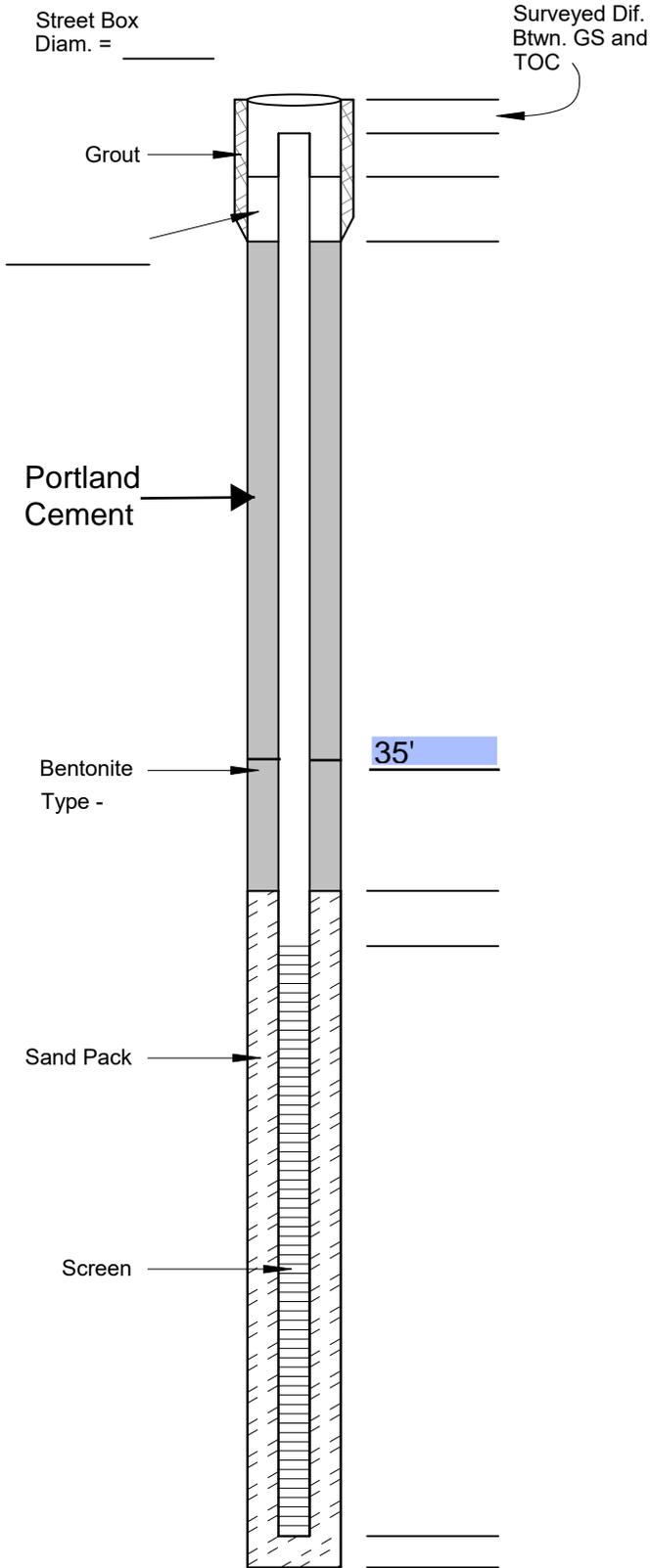


# WELL CONSTRUCTION LOG

Project Number \_\_\_\_\_

Well Number \_\_\_\_\_

## Well Completion Detail



## Drilling Summary

Total Depth of Hole: \_\_\_\_\_  
 Hole Diameter: \_\_\_\_\_  
 Drilling Company: \_\_\_\_\_  
 Driller: \_\_\_\_\_  
 Rig Type: \_\_\_\_\_  
 Bits: \_\_\_\_\_  
 Geologist: \_\_\_\_\_

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	_____	_____	_____	_____
Well Completion:	_____	_____	_____	_____
Grouting:	_____	_____	_____	_____

## Depth to Water (Below TOC)

Depth: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	_____	_____	_____
Type:	_____	_____	_____
	Screen		
Size:	_____	Config.:	_____
Area/Ft.:	_____	Comp.:	_____
Inside Diam.:	_____	Outside Diam.:	_____

## Comments

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = \_\_\_\_\_



Boring Location Sketch

## SOIL BORING LOG

Project Number

Boring Number

Sheet

MW07

1 of 2

MW-10



Project

District 6

Location

Greely, CO

Drilling Method &amp; Equipment

HSA

Drilling Contractor

Cascade

Date

10/20/20

Water Level

Start

10:00

Finish

14:50

Logger

JDG

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
					Hydrovac to 6 ft bgs No utilities				
10		10:28	50%	7/7/9	Brown, very fine to medium silty sand, low density. Moist. No odor or staining.	MLs		0.0	12'
20		11:10	50%	14/14/21	Brown, very fine to coarse sand with some silts (<25%) slightly moist. No odor or staining.	SW		0.0	22'
30		11:24	80%	4/5/6	Dark brown w/dark tan layers, silt/clay with medium to high plasticity. Moist. No odor or staining.	ML CL		0.0	32'
40		13:03	60%	6/10/2	Tan, silt/clay with some very fine sands (<10%). High plasticity. Saturated. No odor or staining.	ML CL		0.0	42'
50					At 45' the center rod sunk to 48' and became stuck. Removed auger and rod and used plug to advance boring for well placement.				
60					Cuttings consisted of very fine sands with silt.				
70									

Total Depth(s) =

85'

Soil Sample(s):

Rationale

Additional Information:

Stepped out from original location of MW07



Boring Location Sketch

SOIL BORING LOG

Project Number Boring Number Sheet  
MW07 2 of 2

MW-10  
N

Project District 6 Location Greeley, CO

Drilling Method & Equipment HSA Drilling Contractor Cascade

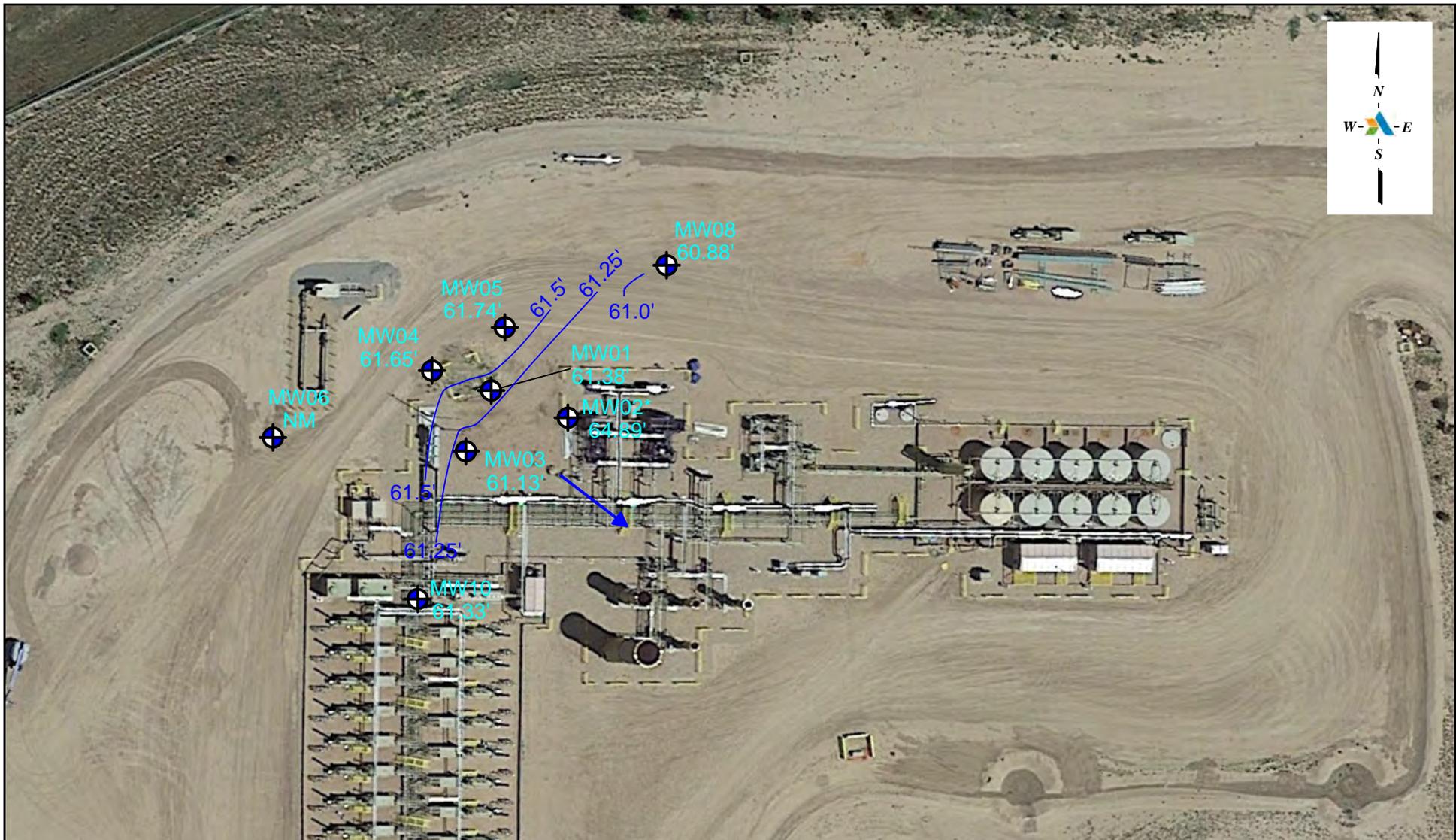
Date 10/20/20 Water Level \_\_\_\_\_ Start 10:00 Finish 14:50 Logger JDG

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
80					Flowing sands in auger to 79.5'				
90					85' Bottom of boring				

Total Depth(s) =	Soil Sample(s):	Rationale	Additional Information:
------------------	-----------------	-----------	-------------------------

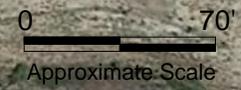
## **Attachment E**

### **Groundwater Monitoring Well Gauging and Inferred Groundwater Flow Diagrams**



**LEGEND**

- Groundwater Contour
- Groundwater Flow Direction
- Monitoring Well
- MW10  
61.33' Well Name and Groundwater Elevation
- MW02\*  
64.89' Well Not Included in Groundwater Contour
- NM Not Measured



**Groundwater Elevation data  
collected September 20, 2021**

Attachment E: Groundwater Monitoring Well Gauging and  
Inferred Groundwater Flow Diagram

**District Six C6 - Location ID 473512  
NENE 20 5N65W, Weld County, CO**

Apex Job No. 744.1708.01

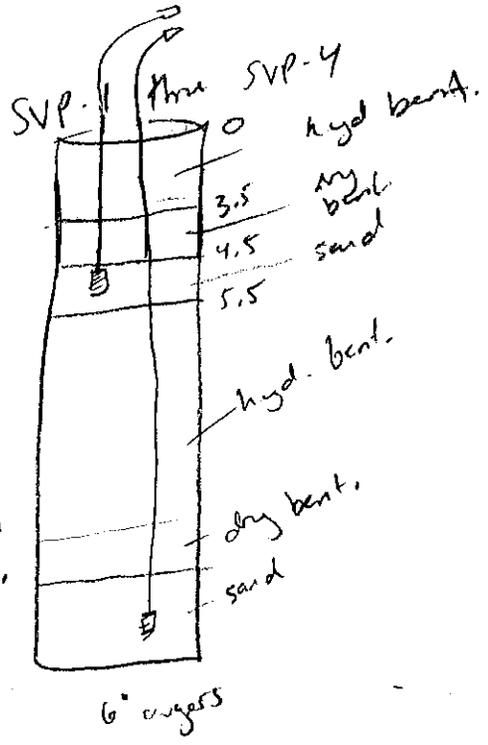
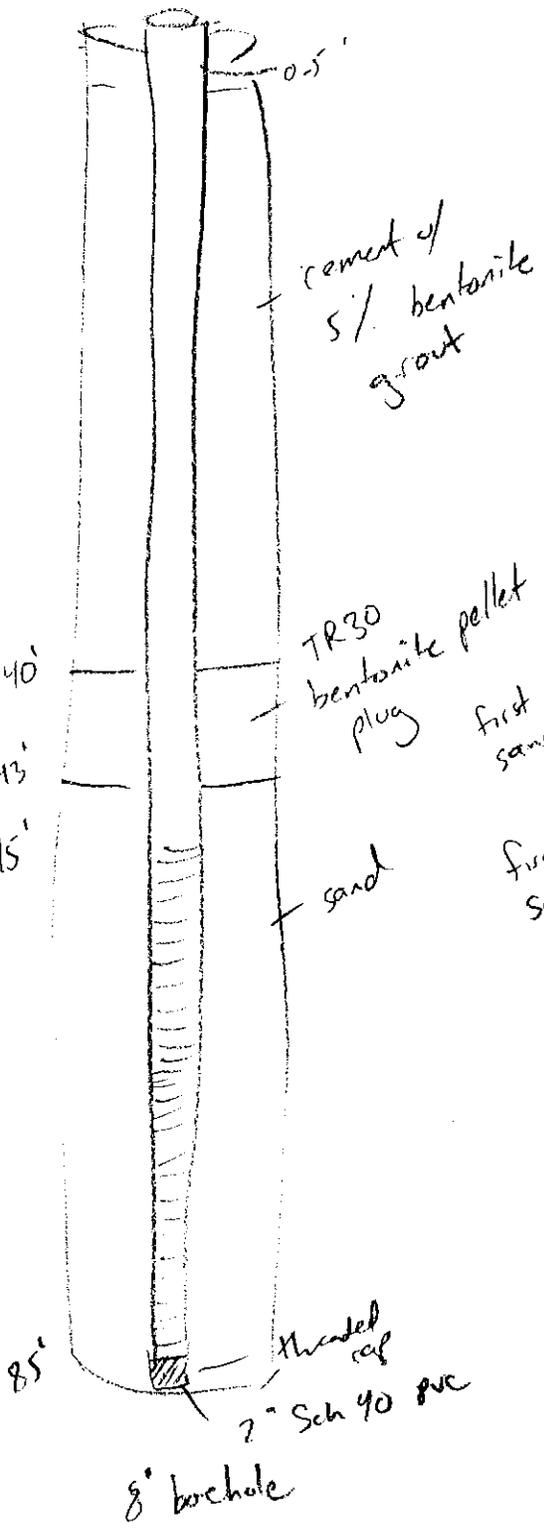
DATE - 10/28/2021 (JDG)  
FILE - 744.1708.01 FD.dc



## **Attachment F**

### **Soil Vapor Monitoring Probe Construction Diagram**

Mw-1



first water on samples (~38'-40')

first saturated sample = 48'-50' run

water in borehole 9/24 @ 1530 = 37.7' (current auger depth 70')

water in borehole 8/27 @ 1130 = 59.5' (auger depth 95' [bedrock])

stabilized water in well 9/30 @ 900 = 37.64

**Attachment G**

**Division of Water Resources (DWR) Water Source One-Mile Radius  
Identification Inventory and Map**

Extraction Oil & Gas  
**DWR Water Sources**  
**District Six C6 286487**

Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
1 - Sampled 5/24/2021	8313	128949--A	Well Constructed	Clark, Rodney & Lori 2605 1st Ave Greeley, CO 80631-7418 970-356-6534	5N	65W	17	SE	SE	40.39538	-104.678395	Domestic	106
3 - Sampled 5/24/2021	80250	90300--A	Well Constructed	Martinez, Maria L. Physical: 3300 Empire St., Evans, CO 80620 Mailing: 28725 County Road 64, Gill, CO 80624-9110	5N	65W	20	NE	SW	40.382396	-104.687375	Domestic	43
Eliminated -- Landowner called 5/25/21, stated well is currently non-functioning. They would contact us when it would be available to sample	9058877	2229-	Well Constructed	Krieger, Clarence J Living Trust (Attn: Tammy Malick) 970-522-9771 Physical: Garden City 1st Add Block 2 Lot 10 Garden City, CO Mailing: 2743 6th Avenue Ln, Greeley, CO 80631-8455	5N	65W	17	SE	SW	40.393659	-104.689691	Domestic	71
Eliminated -- No water source owner response. Letters sent 4/30/21 and 6/22/21.	9062662	19734-F	Well Constructed	GKT University Square Greeley LL2, LLC C/O TKG Management Physical: 2716 11th Ave., Greeley, CO 80631 Mailing: 211 N Stadium Blvd. Suite 201, Columbia, MO 65203-1161	5N	65W	17	SE	SW	40.392219	-104.691984	Industrial	
Eliminated -- Per Permit, Dry well, P&A'd 6/13/1968	9063738	34191-	Well Constructed	Maple Real Estate, LLC / 4K Real Estate, LLC Physical: 615 E 26th St., Garden City, CO 80631 Mailing: 30941 Rocky Rd., Greeley, CO 80631-9375	5N	65W	17	SE	SW	40.393659	-104.689691	Domestic	
Eliminated -- Non-functioning per owner 5/11/2021	9064222	41128-	Well Constructed	Yoshida Partners Physical: 3104 Empire St. A, Evans, CO 80620 Mailing: 505 31st St., Greeley, CO 80631-7445	5N	65W	20	NW	SE	40.382792	-104.68497	Domestic	43
Eliminated -- No water source owner response. Letters sent 4/30/21 and 6/22/21.	9065831	87460-	Well Constructed	Greeley-Evans Weld County School District 6 Fleet Maintenance School District No. 6 Physical: 155 E 27th St. Mailing: 811 15th St. Greeley, CO 80631-4403 970-348-6800	5N	65W	16	SW	SW	40.393655	-104.676612	Domestic	110
2 - Sampled 5/24/2021	0324245B	160051--A	Well Constructed	Dale G Doty 2964 1st Ave Greeley, CO 80631-7415 970-356-4220; 970-356-7550; 970-352-1210	5N	65W	21	SW	NW	40.388071	-104.67724	Domestic	
4 - Sampled 1/10/2020	9064923	60135-	Well Constructed	Stoudt, Fred & Tammara 519 35th St Evans, CO 80620 (970) 330-8960	5N	65W	20	SW	SE	40.379168	-104.684985	Domestic	29
Monitoring well, sampled quarterly by XOG	59993	59993-MH	Well Constructed	Extraction Oil and Gas Inc	5N	65W	20	NE	NE	40.391327	-104.681902	Monitoring/Sampling	85

Extraction Oil & Gas  
**DWR Water Sources**  
**District Six C6 286487**

Status	Receipt	Permit	Permit Status	Contact Name	Tw	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
Monitoring well, sampled quarterly by XOG	60666	60666-MH	Well Constructed	Extraction Oil and Gas Inc	5N	65W	20	NE	NE	40.391264	-104.681879	Monitoring/Sampling	85
Monitoring well, sampled quarterly by XOG	61256	61256-MH	Well Constructed	Extraction Oil and Gas Inc	5N	65W	20	NE	NE	40.391283	-104.682138	Monitoring/Sampling	85
Eliminated-- No well per landowner	9058787	1638-	Well Constructed	7N, LLC C/O Extraction Physical: 3312 1st Ave Mailing: 370 17th Stre Ste 5300 Denver, CO 80202-5653	5N	65W	21	NW	SW	40.38279	-104.675494	Stock	32
Eliminated-- No well per landowner	9061667	13602-R		7N, LLC C/O Extraction Physical: 3312 1st Ave Mailing: 370 17th Stre Ste 5300 Denver, CO 80202-5653	5N	65W	21	SW	SW	40.379165	-104.675501	Irrigation	
Eliminated-- No well per landowner	9061913	14302-R	Well Constructed	7N, LLC C/O Extraction Physical: 3312 1st Ave Mailing: 370 17th Stre Ste 5300 Denver, CO 80202-5653	5N	65W	21	NW	SW	40.38279	-104.675494	Irrigation	42
Eliminated -- Unable to identify landowner, possibly removed by Hwy 34/85	9062073	14852-	Well Constructed	State Dept of Highway	5N	65W	20	NW	NE	40.390032	-104.68494	Domestic	70
Eliminated -- Replaced by receipt 80250	9065905	90300-	Well Constructed	BROWN, JAMES	5N	65W	20	NW	SE	40.382386	-104.683782	Domestic	
Eliminated -- Replaced by 0349215B	0349215A	170076-	Well Constructed	HENNING, WARREN	5N	65W	20	SW	SE	40.37914	-104.682725	Stock	
Eliminated -- Permit Use	16991	16991-MH	Permit Issued	NORWEST, PUBLISHING	5N	65W	20	SE	NE	40.388214	-104.682577	Monitoring/Sampling	
Eliminated -- Permit Use	19713	19713-MH	Permit Issued	LUTHERAN GOOD SAMARITAN SOCIETY	5N	65W	17	NW	NW	40.402775	-104.692256	Monitoring/Sampling	
Eliminated -- Permit Use	20007	20007-MH	Permit Issued	NORWEST RR DONNELLEY	5N	65W	20	SE	NE	40.388214	-104.682577	Monitoring/Sampling	
Eliminated -- Permit Use	20196	20196-MH	Permit Issued	MINERAL RESOURCES INC	5N	65W	20	NW	SE	40.382792	-104.68497	Monitoring/Sampling	
Eliminated -- Permit Use	25549	25549-MH	Permit Issued	R R DONNELLY NORWEST INC	5N	65W	20	NE	NE	40.39002	-104.6802	Monitoring/Sampling	
Eliminated -- Permit Use	25574	25574-MH	Permit Issued	R R DONNELLY NORWEST INC	5N	65W	20	SE	NE	40.388214	-104.682577	Monitoring/Sampling	
Eliminated -- Permit Use	29184	29184-MH	Permit Issued	DIAMOND, SHAMROCK	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
Eliminated -- Permit Use	29193	29193-MH	Permit Issued	DIAMOND, SHAMROCK	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
Eliminated -- Permit Use	29533	29533-MH	Permit Issued	STATE FARM MUTUAL AUTOMOBILE INS	5N	65W	20	NE	NW	40.390044	-104.689681	Monitoring/Sampling	
Eliminated -- Permit Use	30532	30532-MH	Permit Issued	MID AMERICA HOLDING CO	5N	65W	17	SE	SE	40.393636	-104.680209	Monitoring/Sampling	
Eliminated -- Permit Use	30693	30693-MH	Permit Issued	MID AMERICAN HOLDING	5N	65W	17	SE	SE	40.393636	-104.680209	Monitoring/Sampling	
Eliminated -- Permit Use	31045	31045-MH	Permit Issued	DIAMOND, SHAMROCK	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
Eliminated -- Permit Use	32225	32225-MH	Permit Issued	GREELEY CITY OF	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
Eliminated -- Permit Use	32453	32453-MH	Permit Issued	BONELL GOOD SAMARITAN CENTER	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
Eliminated -- Permit Use	32688	32688-MH	Permit Issued	CO DIV OIL & PUBLIC SAFETY	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
Eliminated -- Permit Use	0033247E	210604-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397442	-104.691182	Monitoring/Sampling	58
Eliminated -- Permit Use	0033247F	210605-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397614	-104.691323	Monitoring/Sampling	58
Eliminated -- Permit Use	0033247G	210603-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397533	-104.691241	Monitoring/Sampling	60
Eliminated -- Permit Use	0033247H	215544-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397554	-104.689308	Monitoring/Sampling	54
Eliminated -- Permit Use	0033247I	210606-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397559	-104.691088	Monitoring/Sampling	58
Eliminated -- Permit Use	33499	33499-MH	Permit Issued	BORELL GOOD SAMARITAN CENTER	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
Eliminated -- Permit Use	37863	37863-MH	Permit Issued	CO DIV OIL & PUBLIC SAFETY	5N	65W	18	SE	SE	40.393672	-104.699364	Monitoring/Sampling	
Eliminated -- Permit Use	38610	38610-MH	Permit Issued	ROTHMAN OIL	5N	65W	18	SE	SE	40.393672	-104.699364	Monitoring/Sampling	

Extraction Oil & Gas  
**DWR Water Sources**  
**District Six C6 286487**

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
42	Eliminated -- Permit Use	39169	39169-MH	Permit Issued	GREELEY CITY OF	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
43	Eliminated -- Permit Use	39223	39223-MH	Permit Issued	FIRSTIER, BANK	5N	65W	20	SE	NW	40.386429	-104.689695	Monitoring/Sampling	
44	Eliminated -- Permit Use	0040960A	40960-MH	Permit Issued	GREELEY CITY OF	5N	65W	17	SW	NE	40.400897	-104.685019	Monitoring/Sampling	
45	Eliminated -- Permit Use	44669	44669-MH	Permit Issued	GREELEY CITY OF	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
46	Eliminated -- Permit Use	54701	54701-MH	Permit Issued	FLOUNDER LLC	5N	65W	20	NE	SW	40.382804	-104.68971	Monitoring/Sampling	
47	Eliminated -- Permit Use	56202	56202-MH	Well Constructed	FLOUNDER LLC	5N	65W	20	NE	SW	40.384266	-104.689475	Monitoring/Sampling	21
48	Eliminated -- Permit Use	57612	57612-MH	Permit Issued	CITY OF GREELEY (SCHOLZ, JUSTIN)	5N	65W	21	NE	SW	40.384578	-104.668392	Monitoring/Sampling	
49	Eliminated -- Permit Use	58613	58613-MH	Permit Issued	CITY OF GREELEY (SCHOLZ, JUSTIN)	5N	65W	21	SE	NW	40.385292	-104.669324	Monitoring/Sampling	
50	Eliminated -- Permit Use	58704	58704-MH	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.39561	-104.696611	Monitoring/Sampling	42
51	Eliminated -- Permit Use	58957	58957-MH	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.39561	-104.696611	Monitoring/Sampling	43
52	Eliminated -- Permit Use	59232	59232-MH	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.39561	-104.696611	Monitoring/Sampling	38
53	Eliminated -- Permit Use	60513	60513-MH	Permit Issued	CITY OF EVANS	5N	65W	20	SE	NW	40.384856	-104.687576	Monitoring/Sampling	
54	Eliminated -- Permit Use	60514	60514-MH	Permit Issued	CITY OF EVANS	5N	65W	20	NW	SW	40.381184	-104.69247	Monitoring/Sampling	
55	Eliminated -- Permit Use	60677	60677-MH	Permit Issued	CITY OF EVANS COLORADO	5N	65W	20	NE	SW	40.384601	-104.687397	Monitoring/Sampling	
56	Eliminated -- Permit Use	60762	60762-MH	Permit Issued	CITY OF EVANS COLORADO	5N	65W	20	NE	SW	40.384601	-104.687397	Monitoring/Sampling	
57	Eliminated -- Permit Use	60784	60784-MH	Permit Issued	INLAND TURCK PARTS COMPANY (SCHAEFER, DA	5N	65W	20	NE	NE	40.391335	-104.678167	Monitoring/Sampling	
58	Eliminated -- Permit Use	60875	60875-MH	Permit Issued	CITY OF EVANS	5N	65W	20	SW	SE	40.380056	-104.685171	Monitoring/Sampling	
59	Eliminated -- Permit Use	61545	61545-MH	Permit Issued	QUADRANT PROPERTIES	5N	65W	17	SW	SW	40.392785	-104.694845	Monitoring/Sampling	
60	Eliminated -- Permit Use	0374457A	181736-	Permit Issued	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.383787	-104.688653	Monitoring/Sampling	
61	Eliminated -- Permit Use	0374457B	181737-	Permit Issued	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.383407	-104.688254	Monitoring/Sampling	
62	Eliminated -- Permit Use	0374457I	181743-	Permit Issued	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.38392	-104.688063	Monitoring/Sampling	
63	Eliminated -- Permit Use	0374457N	44807-F	Permit Issued	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.383786	-104.68857	Other	
64	Eliminated -- Permit Use	386897	188581-	Permit Issued	RR DONNELLEY NORWEST INC	5N	65W	20	SE	NE	40.387408	-104.681991	Monitoring/Sampling	
65	Eliminated -- Permit Use	397190	194053-	Permit Issued	RR DONNELLEY NORWEST INC	5N	65W	20	SE	NE	40.387758	-104.681436	Monitoring/Sampling	
66	Eliminated -- Permit Use	397191	194054-	Permit Issued	RR DONNELLEY NORWEST INC	5N	65W	20	SE	NE	40.387992	-104.681435	Monitoring/Sampling	
67	Eliminated -- Permit Use	0406910A	47420-F	Well Constructed	STATE FARM MUTUAL AUTOMOBILE INS	5N	65W	20	NE	NW	40.389037	-104.69128	Other	1
68	Eliminated -- Permit Use	547764	63845-F	Well Constructed	NESS MARLIN & SHIRLEY	5N	65W	16	SE	SW	40.393424	-104.671441	Other	
69	Eliminated -- Permit Use	3648912	285048-	Permit Issued	JLC RENTAL CO	5N	65W	17	SE	NW	40.402093	-104.691868	Monitoring/Sampling	
70	Eliminated -- Permit Use	3691956A	313842-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395682	-104.696481	Monitoring/Sampling	42
71	Eliminated -- Permit Use	3691956B	313843-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395627	-104.696446	Monitoring/Sampling	41
72	Eliminated -- Permit Use	3691956C	313844-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395573	-104.696482	Monitoring/Sampling	43
73	Eliminated -- Permit Use	3691956D	313845-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395637	-104.696552	Monitoring/Sampling	38
74	Eliminated -- Permit Use	3691956E	313846-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395637	-104.696776	Monitoring/Sampling	43
75	Eliminated -- Permit Use	3691956F	313847-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395718	-104.69674	Monitoring/Sampling	43
76	Eliminated -- Permit Use	3691956G	313848-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.39551	-104.696494	Monitoring/Sampling	42
77	Eliminated -- Permit Use	3691956H	313849-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395554	-104.695963	Monitoring/Sampling	42
78	Eliminated -- Permit Use	3691956I	313850-	Well Constructed	STINKER STORES	5N	65W	17	SW	SW	40.395285	-104.696259	Monitoring/Sampling	42
79	Eliminated -- Permit Use	3691956J	313851-	Well Constructed	STINKER STORES	5N	65W	17	SW	SW	40.395285	-104.696424	Monitoring/Sampling	42
80	Eliminated -- Permit Use	3691956K	313852-	Well Constructed	STINKER STORES	5N	65W	17	SW	SW	40.395277	-104.69666	Monitoring/Sampling	42
81	Eliminated -- Permit Use	3691956L	313853-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395727	-104.696493	Monitoring/Sampling	42
82	Eliminated -- Permit Use	3691956M	313854-	Well Constructed	STINKER STORES	5N	65W	17	NW	SW	40.395618	-104.696375	Monitoring/Sampling	38
83	Eliminated -- Permit Use	9066578	148827-	Well Constructed	BREWER EDWARD A & RUTH	5N	65W	20	SE	SW	40.377604	-104.687857	Other	12
84	Eliminated -- Permit Status	0000337B	1995133-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.386385	-104.680229	Other	
85	Eliminated -- Permit Status	0000337C	1995197-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	NE	NE	40.388922	-104.682019	Other	

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
86	Eliminated -- Permit Status	0000337D	1995198-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388048	-104.681976	Other	
87	Eliminated -- Permit Status	0000337E	1995199-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387958	-104.681977	Other	
88	Eliminated -- Permit Status	0000337F	1995200-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387966	-104.681859	Other	
89	Eliminated -- Permit Status	0000337G	1995201-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388012	-104.68187	Other	
90	Eliminated -- Permit Status	0000337H	1995202-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388038	-104.681729	Other	
91	Eliminated -- Permit Status	0000337I	1995203-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387912	-104.6818	Other	
92	Eliminated -- Permit Status	0000337J	1995204-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387913	-104.681906	Other	
93	Eliminated -- Permit Status	0000337K	1995205-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387976	-104.682012	Other	
94	Eliminated -- Permit Status	0000337L	1995206-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.38803	-104.682012	Other	
95	Eliminated -- Permit Status	0000337M	1995207-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387966	-104.681824	Other	
96	Eliminated -- Permit Status	7695	15194-F	Permit Expired	ROYAL B ASSOCIATES	5N	65W	20	SW	SE	40.378045	-104.684156	Commercial	
97	Eliminated -- Permit Status	0008313A	128949-	Application Received	CLARK, CLEARANCE	5N	65W	17	SE	SE	40.39538	-104.678395	Domestic	
98	Eliminated -- Permit Status	17399	17399-MH	Well Abandoned	BRADY OIL	5N	65W	17	SW	SW	40.395477	-104.692179	Monitoring/Sampling	60
99	Eliminated -- Permit Status	35650	3206-AD	Application Denied	PADILLA, ANGEL	5N	65W	20	SW	NE	40.387579	-104.685113	Other	
100	Eliminated -- Permit Status	39877	39877-MH	Well Abandoned	KING SOOPERS/HILLSIDE MALL GREELEY	5N	65W	17	SW	SW	40.39367	-104.694529	Monitoring/Sampling	
101	Eliminated -- Permit Status	49450	4348-AD	Application Denied	HALSID INVESTMENT CORP	5N	65W	16	SE	NW	40.399727	-104.670173	Irrigation	
102	Eliminated -- Permit Status	57533	57533-DW	Well Abandoned	GARNEY CONSTRUCTION INC	5N	65W	20	SE	SE	40.377589	-104.679139	Dewatering	40
103	Eliminated -- Permit Status	62868	20144-F	Permit Expired	GREELEY CITY OF	5N	65W	16	NW	SW	40.397423	-104.677443	Irrigation	
104	Eliminated -- Permit Status	240889			GLOVER AARON W & EDNA G	5N	65W	20	NW	NE	40.390056	-104.685101	Domestic	
105	Eliminated -- Permit Status	245766	10500-AD	Application Denied	ECONOMY LUMBER&HARDWARE INC	5N	65W	17	SW	SE	40.394723	-104.684855	Commercial	
106	Eliminated -- Permit Status	263418		Application Information	BAROS, MARK M	5N	65W	20	SE	SW	40.379179	-104.689725	Household use only	
107	Eliminated -- Permit Status	280317	11458-AD	Application Denied	KOBEL R /MINER R	5N	65W	16	SW	SE	40.392009	-104.665002	Domestic, Stock	
108	Eliminated -- Permit Status	308137	11981-AD	Application Denied	MIKES PATRICK W & SUSAN E	5N	65W	20	SE	SW	40.379874	-104.687587	Irrigation	

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
109	Eliminated -- Permit Status	0313070A	157753-	Well Abandoned	QUICK, ROBERT	5N	65W	21	NW	NE	40.391516	-104.665723	Domestic	
110	Eliminated -- Permit Status	0330311A	40122-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387993	-104.681812	Other	
111	Eliminated -- Permit Status	0330311B	40123-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387688	-104.682025	Other	
112	Eliminated -- Permit Status	0330311C	40124-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387992	-104.681458	Other	
113	Eliminated -- Permit Status	0330311D	40125-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387758	-104.681459	Other	
114	Eliminated -- Permit Status	0330311E	40126-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388048	-104.681976	Other	
115	Eliminated -- Permit Status	0330311F	40127-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387958	-104.681977	Other	
116	Eliminated -- Permit Status	0330311G	40128-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387966	-104.681859	Other	
117	Eliminated -- Permit Status	0330311H	40129-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388038	-104.681729	Other	
118	Eliminated -- Permit Status	0330311I	40130-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387912	-104.6818	Other	
119	Eliminated -- Permit Status	0330311J	40131-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387913	-104.681906	Other	
120	Eliminated -- Permit Status	0330311K	40132-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387976	-104.682012	Other	
121	Eliminated -- Permit Status	0330311L	40133-F	Permit Expired	NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388012	-104.68187	Other	
122	Eliminated -- Permit Status	0374457C	181738-	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.384148	-104.689099	Monitoring/Sampling	
123	Eliminated -- Permit Status	0374457D	181739-	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.383761	-104.689336	Monitoring/Sampling	
124	Eliminated -- Permit Status	0374457E	181740-	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.38341	-104.689291	Monitoring/Sampling	
125	Eliminated -- Permit Status	0374457F	182303-	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.38358	-104.688901	Monitoring/Sampling	
126	Eliminated -- Permit Status	0374457G	181741-	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.383869	-104.689006	Monitoring/Sampling	
127	Eliminated -- Permit Status	0374457H	181742-	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.383922	-104.688782	Monitoring/Sampling	
128	Eliminated -- Permit Status	0374457J	44808-F	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.384137	-104.688321	Other	
129	Eliminated -- Permit Status	0374457K	44806-F	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.384138	-104.688545	Other	
130	Eliminated -- Permit Status	0374457L	44810-F	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.383832	-104.688841	Other	
131	Eliminated -- Permit Status	0374457M	44809-F	Well Abandoned	ROTHMAN OIL COMPANY	5N	65W	20	NE	SW	40.384184	-104.688816	Other	

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
132	Eliminated -- Permit Status	388034	48312-F	Well Abandoned	BOYS CLUB OF GREELEY	5N	65W	16	NW	SW	40.398666	-104.677342	Irrigation	77
133	Eliminated -- Permit Status	0406910B	47421-F	Well Abandoned	STATE FARM MUTUAL AUTOMOBILE INS	5N	65W	20	NE	NW	40.389037	-104.691362	Other	30
134	Eliminated -- Permit Status	0406910C	47422-F	Well Abandoned	STATE FARM MUTUAL AUTOMOBILE INS	5N	65W	20	NE	NW	40.389038	-104.691456	Other	30
135	Eliminated -- Permit Status	0406910D	47423-F	Well Abandoned	STATE FARM MUTUAL AUTOMOBILE INS	5N	65W	20	NE	NW	40.389038	-104.691551	Other	50
136	Eliminated -- Permit Status	0406910E	47424-F	Well Abandoned	STATE FARM MUTUAL AUTOMOBILE INS	5N	65W	20	NE	NW	40.389038	-104.691633	Other	30
137	Eliminated -- Permit Status	0430205A	209706-	Well Abandoned	COLORADO KENWORTH INC	5N	65W	17	SE	SE	40.395373	-104.682107	Monitoring/Sampling	
138	Eliminated -- Permit Status	0430205B	212360-	Well Abandoned	COLORADO KENWORTH INC	5N	65W	17	SE	SE	40.395444	-104.681659	Monitoring/Sampling	
139	Eliminated -- Permit Status	0430205C	209707-	Well Abandoned	COLORADO KENWORTH INC	5N	65W	17	SE	SE	40.395372	-104.681965	Monitoring/Sampling	
140	Eliminated -- Permit Status	0430205D	212361-	Well Abandoned	COLORADO KENWORTH INC	5N	65W	17	SE	SE	40.395327	-104.681954	Monitoring/Sampling	
141	Eliminated -- Permit Status	0430205E	212362-	Well Abandoned	COLORADO KENWORTH INC	5N	65W	17	SE	SE	40.395399	-104.681859	Monitoring/Sampling	
142	Eliminated -- Permit Status	0430205F	212363-	Well Abandoned	COLORADO KENWORTH INC	5N	65W	17	NE	SE	40.395453	-104.6818	Monitoring/Sampling	
143	Eliminated -- Permit Status	470923		Application Information	NESS, MARLIN	5N	65W	16	SE	SW	40.392739	-104.671444	Commercial	
144	Eliminated -- Permit Status	902798	33928-	Permit Expired	DUNCAN, LELA	5N	65W	20	NW	SW	40.382815	-104.694477	Domestic	
145	Eliminated -- Permit Status	3600441A		Application Information	COX OIL	5N	65W	17	SE	NW	40.402318	-104.691726	Other	
146	Eliminated -- Permit Status	3600441B		Application Information	COX OIL	5N	65W	17	SE	NW	40.402111	-104.691903	Other	
147	Eliminated -- Permit Status	3600441C		Application Information	COX OIL	5N	65W	17	SE	NW	40.402264	-104.691679	Other	
148	Eliminated -- Permit Status	3600441D		Application Information	COX OIL	5N	65W	17	SE	NW	40.402264	-104.691679	Other	
149	Eliminated -- Permit Status	3600441E		Application Information	COX OIL	5N	65W	17	SE	NW	40.402191	-104.691679	Other	
150	Eliminated -- Permit Status	3600441F		Application Information	COX OIL	5N	65W	17	SE	NW	40.402255	-104.691903	Other	
151	Eliminated -- Permit Status	3600441G		Application Information	COX OIL	5N	65W	17	SE	NW	40.402012	-104.691798	Other	
152	Eliminated -- Permit Status	3632509	67901-F	Permit Canceled	NESS MARLIN & SHIRLEY	5N	65W	21	NW	NE	40.390979	-104.666963	Other	72
153	Eliminated -- Permit Status	3632509A		Application Information	NESS MARLIN & SHIRLEY	5N	65W	21	NW	NE	40.391168	-104.667127	Municipal	
154	Eliminated -- Permit Status	3660493		Application Information	NESS MARLIN & SHIRLEY	5N	65W	21	NW	NE	40.391191	-104.665725	Domestic	

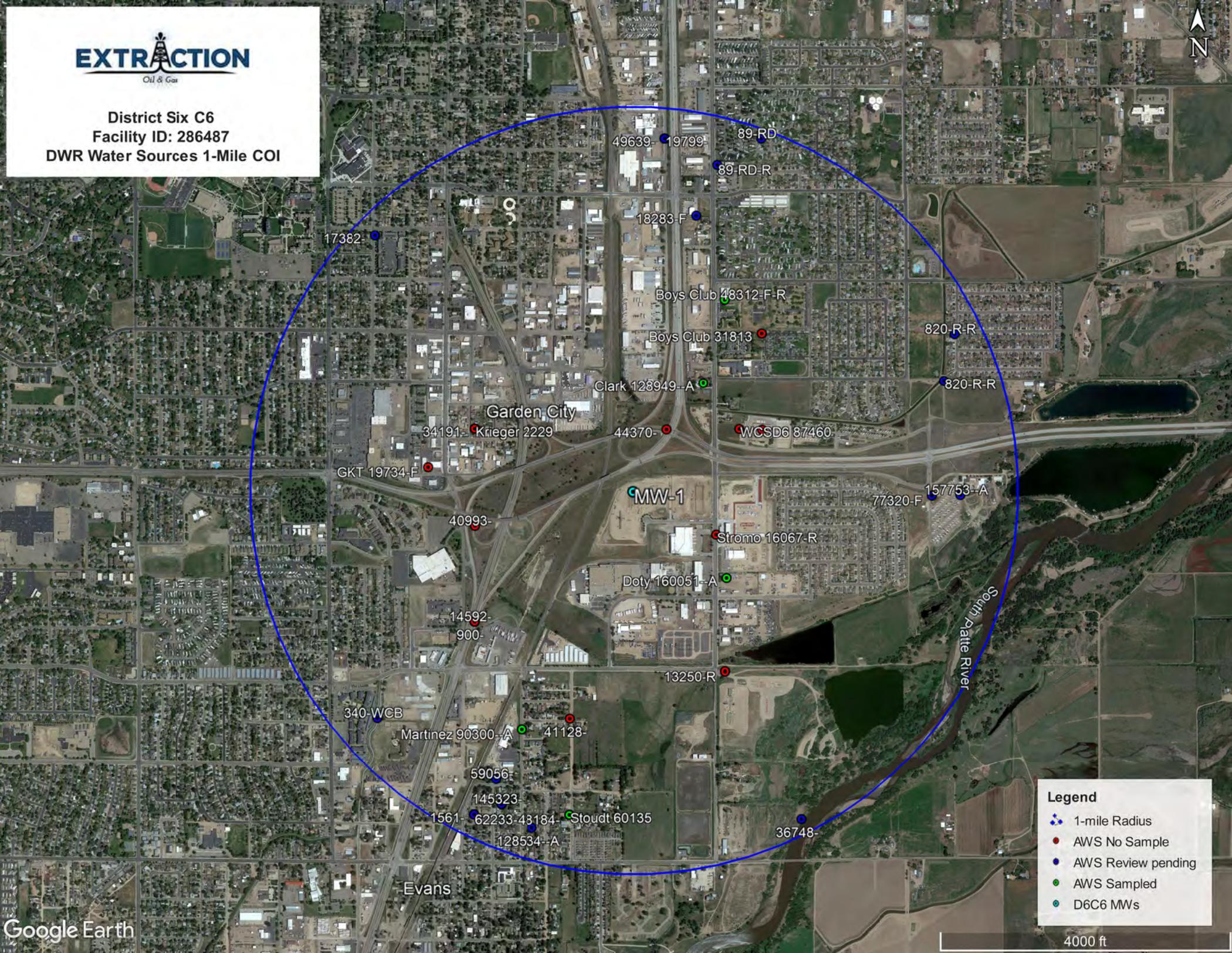
Extraction Oil & Gas  
**DWR Water Sources**  
**District Six C6 286487**

Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
155 Eliminated -- Permit Status	3678381	304857-	Well Abandoned	FLOUNDER LLC	5N	65W	20	NE	SW	40.384266	-104.689452	Monitoring/Sampling	
156 Eliminated -- Permit Status	9059104	3935-	Well Abandoned	BRAGG JOHN & PEARL	5N	65W	21	NW	SW	40.382026	-104.677481	Domestic	210
157 Eliminated -- Permit Status	9061666	13601-R		JRP PROPERTIES LTD	5N	65W	21	SW	SW	40.379165	-104.675501	Irrigation	
158 Eliminated -- Permit Status	9062069	14830-R		HAUN, C E	5N	65W	20	NW	NW	40.390055	-104.694508	Commercial	
159 Eliminated -- Permit Status	9062679	19878-R		GROSSAINT, K L	5N	65W	16	SW	SE	40.393602	-104.666009	Irrigation	
160 Eliminated -- Permit Status	9064087	38583-	Permit Canceled	NESS MARLIN & SHIRLEY	5N	65W	16	SE	SW	40.393424	-104.671441	Domestic	89
161 Eliminated -- Permit Status	9065216	70254-	Well Replaced	FRANKLIN, FRED	5N	65W	20	NE	NE	40.390509	-104.679172	Household use only	
162 Eliminated -- Permit review indicates Diversion of water prohibited, power disconnected	9059484	5999-R	Well Constructed	Rush Truck Centers of Colorado Mailing: 555 S Interstate 35 STE 500 New Braunfels, TX 78130-4889 Physical: 625 31st ST Evans, CO 80620 Phone: (970) 534-3900	5N	65W	20	NW	NE	40.390032	-104.68494	Irrigation	118
163 Eliminated -- no well at location	9058900	2433-	Well Constructed	CJBL Land Limited, LLC Physical: Sec 20 Twn 5N Rng 65W (Greeley Commerce Center) Mailing: 259 30th St Greeley, CO 80631-7425	5N	65W	20	SW	NE	40.386417	-104.684955	Domestic	44
164 Eliminated -- Field verification on 3/18/20 identified well is no longer present. Field has been graded and owner only uses City water, no well in are.	9059157	4253-	Well Constructed	BMC West Corporation Mailing: PO BOX 25178 Lehigh Valley, PA 18002-5178 Physical: 500 27th ST. Greeley, CO 80631 Phone: (844) 487-8625 Corporate Customer Service Phone: (970) 356-9000 Mike Floggette Greeley Store Manager Phone: Anna Mehue: (919) 431-1840 Corporate Real Estate	5N	65W	17	SW	SE	40.393647	-104.68495	Domestic	69
165 Eliminated -- Field verification on 3/18/20 identified a non-functioning, non-accessible casing. No sample will be collected.	203120	70254--A	Well Constructed	All-Well, LLC Mailing: C/O Scott Realty Co 1212 8th Ave. Greeley, CO 80631-4012 Physical: 2829 1st Ave. Greeley, CO 80631 Phone: (970) 352-1209 Scott Realty Co	5N	65W	20	NE	NE	40.390995	-104.679088	Household use only	120
166 Eliminated -- Field verification on 3/18/20 identified a non-functioning, non-accessible casing. No sample will be collected.	9060228	9989-	Well Constructed	1st Avenue Partners, LLC Mailing: PO Box 69 Windsor, CO 80550-0069 Phone: (970) 458-7196 (1st Ave. Storage) Note: 1st Ave. Storage on lot owned by 1st Ave Properties, LLC	5N	65W	21	NW	NW	40.391134	-104.677284	Domestic	120

Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
167 Eliminated -- desktop review indicates well is under highway	9059052	3553-F	Well Constructed	State Dept of Highway	5N	65W	17	SE	SE	40.393636	-104.680209	Commercial	79
168 Eliminated -- desktop review indicates well is under highway	9064216	40993-	Well Constructed	State Dept of Highway	5N	65W	20	NE	NW	40.390044	-104.689681	Domestic	82
169 Eliminated -- desktop review indicates well is under highway	9064393	44370-	Well Constructed	State Dept of Highway	5N	65W	17	SE	SE	40.393636	-104.680209	Domestic	82
170 Eliminated -- Field verification on 3/18/20 identified permit #9989, no other well on site.	94566	9989--A	Permit Issued	1st Avenue Partners, LLC Mailing: PO Box 69 Windsor, CO 80550-0069 Phone: (970) 458-7196 (1st Ave. Storage) Note: 1st Ave. Storage on lot owned by 1st Ave Properties, LLC	5N	65W	21	NW	NW	40.390015	-104.675479	Domestic	
171	231051	128534--A	Well Constructed	KNOX, C L	5N	65W	20	SW	SE	40.378683	-104.68685	Domestic	37
172	250367	89-RD-R	Well Constructed	ARC IV LLC	5N	65W	16	NW	NW	40.403586	-104.677696	Irrigation	115
173	0266505B	145323--A	Well Constructed	PITTS EARL M & PITTS SHIRLEY A	5N	65W	20	SE	SW	40.37957	-104.688378	Domestic	42
174	0313070B	157753--A	Well Constructed	NESS MARLIN & SHIRLEY	5N	65W	21	NW	NE	40.391191	-104.665725	Domestic	65
175 Eliminated -- replaced by 160051--A	0324245A	160051-	Well Constructed	Dale G Doty 2964 1st Ave Greeley, CO 80631-7415 970-356-4220; 970-356-7550; 970-352-1210	5N	65W	21	SW	NW	40.388071	-104.67724	Domestic	
176 Eliminated -- Permit Status	0324245C	91141-VE	Permit Issued	DOTY, GENE	5N	65W	21	SW	NW	40.388071	-104.67724	Domestic, Stock	
177	337537	820-R-R	Well Constructed	FIRESTIEN GERALD & ELLIS MELVIN MAX	5N	65W	16	NW	SE	40.395455	-104.666529	Irrigation	105
178	0349215B	170076--A	Permit Issued	HENNING, WARREN	5N	65W	20	SW	SE	40.379221	-104.682725	Stock	
179 5 - Water source is scheduled for sampling 8/18/21	438551	48312-F-R	Well Constructed	Boys Club of Greeley PO Box 812 Greeley, CO 80632 970-353-5190 527364/4472030 well and meter outside south west corner of gym	5N	65W	16	NW	SW	40.398523	-104.677779	Irrigation	90
180	903024	36149-	Permit Issued	STRASSER HERMAN A & MARIAN	5N	65W	20	SW	SE	40.379168	-104.684985	Domestic	
181	3660494	77320-F	Well Constructed	NESS MARLIN & SHIRLEY	5N	65W	21	NW	NE	40.391168	-104.667127	Commercial	
182	9058264	89-RD	Well Constructed	WERKHEISER, JOHN	5N	65W	16	NW	NW	40.404574	-104.675534	Irrigation	40
183	9058584	820-R-R	Well Constructed	HARRINGTON LAND CO	5N	65W	16	NW	SE	40.397227	-104.666006	Irrigation	105
184 Eliminated -- desktop review indicates well is under highway	9058603	900-	Well Constructed	State Dept of Highway	5N	65W	20	SE	NW	40.386429	-104.689695	Domestic	25
185	9058749	1561-	Well Constructed	MILLER, ROSCOE	5N	65W	20	SE	SW	40.379179	-104.689725	Domestic	27

Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
186 Eliminated -- Field verification on 4/29/19 identified a non-functioning, non-accessible casing. No sample will be collected.	9061522	13250-R	Well Constructed	GREELEY CITY OF	5N	65W	21	NW	SW	40.384566	-104.677315	Irrigation	39
187 Eliminated -- desktop review indicates well is under highway	9062021	14592-	Well Constructed	State Dept of Highway	5N	65W	20	SE	NW	40.386429	-104.689695	Domestic	25
188 Eliminated-- Desktop review, power disconnected, well non-functional	9062324	16067-R	Well Constructed	1st Avenue Partners, LLC Mailing: PO Box 69 Windsor, CO 80550-0069 Phone: (970) 458-7196 (1st Ave. Storage) Note: 1st Ave. Storage on lot owned by 1st Ave Properties, LLC	5N	65W	21	NE	NW	40.390025	-104.670751	Irrigation	111
189	9062443	17382-	Well Constructed	LITTLE, ROLAND	5N	65W	17	SW	NW	40.400919	-104.694605	Domestic	59
190	9062504	18283-F	Well Constructed	WISNEWSKI JERRELL & BETHEL	5N	65W	17	SE	NE	40.401661	-104.678754	Domestic, Irrigation	66
191 Eliminated -- Permit inspection indicates well does not exist	9062639	19503-F	Well Constructed	INDUSTRIAL, ACRES	5N	65W	16	SW	SW	40.393625	-104.675487	Irrigation	
192	9062669	19799-	Well Constructed	ELIFRITS, W W	5N	65W	17	NE	NE	40.404579	-104.680312	Domestic	62
193 Eliminated -- Replaced by 48312-F-R	9063591	31813-	Well Constructed	Boys Club of Greeley PO Box 812 Greeley, CO 80632 970-353-5190 527364/4472030 well and meter outside south west corner of gym	5N	65W	16	NW	SW	40.397249	-104.675503	Domestic	80
194	9063866	36748-	Well Constructed	JAY NELSON JR	5N	65W	21	SW	SW	40.379006	-104.67356	Domestic	70
195	9064578	48184-	Well Constructed	CLARK, J W	5N	65W	20	SW	SE	40.379168	-104.684985	Domestic	30
196	9064641	49639-	Well Constructed	LUNDVALL ENTERPRISES INC	5N	65W	17	NE	NE	40.404579	-104.680312	Domestic	102
197	9064894	59056-	Well Constructed	CRISP JOHN E & VIRGIE F	5N	65W	20	SE	SW	40.380516	-104.688644	Domestic	
198	9064965	62233-	Well Constructed	REWENTS, JAMES J	5N	65W	20	SE	SW	40.379179	-104.689725	Domestic	
199	9066559	145323-	Well Constructed	BROWN, JEAN M	5N	65W	20	SE	SW	40.37957	-104.688378	Domestic	42
200	C620340	340-WCB	Well Constructed	STROH, J J	5N	65W	20	NW	SW	40.382815	-104.694477	Stock	65

District Six C6  
Facility ID: 286487  
DWR Water Sources 1-Mile COI



**Legend**

-  1-mile Radius
-  AWS No Sample
-  AWS Review pending
-  AWS Sampled
-  D6C6 MWs

4000 ft

**Attachment H**

**2021 Q3 Groundwater Laboratory Reports**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA\_District\_Six\_C6

Work Order # 2109104

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176

Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_59993_MH_MW_1	2109104-01	Water	09/08/21 14:30	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

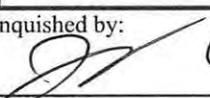
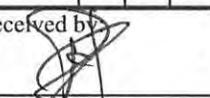
# Summit Scientific

S<sub>2</sub>

2109104

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

<b>Client:</b> Extraction Oil and Gas (XOG)	<b>Report to:</b> Apex Companies, LLC	<b>Project Manager:</b> Heather Shideman
<b>Address:</b> 2234 117th Ave, Ste 106		<b>E-Mail:</b> Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com
<b>City/State/Zip:</b> Greeley, CO 80634		<b>cc:</b> nbennett@extractionog.com
<b>Phone:</b> (970) 576-3446		<b>Project Name:</b> Ground Water/GWA_District_Six_C6
<b>Sampler Name:</b> Jeff Griggs	<b>Project No.:</b> Alloc-421 930, 88	<b>Facility ID:</b> 762176

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested			Special Instructions
					HCl	HNO3	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	
1	GW_59993_MH_MW_1 NENE_20_5N_65W	09/08/21	1430						X			X	X	X	Sample Frequency: Q3
	Temperature, field:	16.0	°C												
	pH, field:	7.71	s.u.												
	Conductivity, field:	1043	uS/cm												
	ORP, field:	-296.2	mV												
	Dissolved Oxygen, field:	1.35	mg/L												
	Turbidity, field:	621.5	NTU												
Relinquished by: 		Date/Time: 09/08/2021 1730		Received by: 		Date/Time: 09/08/2021 1750		Turn Around Time (Check)			Notes:				
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day <input type="checkbox"/> 72 hours			24 hours <input checked="" type="checkbox"/> Standard				
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours <input type="checkbox"/>			Sample Integrity:				
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt: 11.2			Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No				

2109104

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: GROUND-WATER/GWA DISTRICT SIX CG

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C)	11.2
-----------	------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C (1)? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Were all samples received intact (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact (1)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH
Is a chain-of-custody (COC) form present and filled out completely (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl HNO3
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH 1
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

(1) If NO, then contact the client before proceeding with analysis and note in case narrative.

[Signature]  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

09/08/2001  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

Reported:  
09/16/21 13:49

**GW\_59993.\_MH\_MW\_1**  
**NENE\_20\_5N\_65W**  
**2109104-01 (Water)**

Summit Scientific

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.32</b>	0.010	mg/L	10	BEI0225	09/10/21	09/13/21	EPA 8260B	
<b>Toluene</b>	<b>0.025</b>	0.0010	"	1	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.037</b>	0.0010	"	"	"	"	"	"	
<b>m,p-Xylene</b>	<b>0.087</b>	0.0020	"	"	"	"	"	"	
<b>o-Xylene</b>	<b>0.017</b>	0.0010	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.10</b>	0.0020	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>3.2</b>	0.050	"	"	"	"	"	"	

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		110 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.8 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>0.291</b>	0.100	mg/L	1	BEI0180	09/09/21	09/10/21	EPA 8015M	

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		82.0 %	44.8-129		"	"	"	"	

**Dissolved Metals by EPA Method 200.8**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>96700</b>	50.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**GW\_5993.\_MH\_MW\_1**  
**NENE\_20\_5N\_65W**  
**2109104-01 (Water)**

**Summit Scientific**

**Dissolved Metals by EPA Method 200.8**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Iron	52.7	10.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8	
Magnesium	45800	50.0	"	"	"	"	"	"	
Manganese	945	1.00	"	"	"	"	"	"	
Potassium	4100	50.0	"	"	"	"	"	"	
Sodium	168000	50.0	"	"	"	"	"	"	
Barium	73.3	1.00	"	"	"	"	"	"	
Boron	186	10.0	"	"	"	"	"	"	
Selenium	ND	1.00	"	"	"	"	"	"	
Strontium	1330	10.0	"	"	"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	1.74	0.200	mg/L	1	BEI0189	09/09/21	09/09/21	EPA 300.0	
Chloride	147	20.0	"	200	"	"	"	"	
Fluoride	0.505	0.200	"	1	"	"	"	"	
Sulfate	9.73	0.300	"	"	"	"	"	"	
Nitrate as N	ND	0.100	"	"	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	ND	0.200	"	"	"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	350	10.0	mg/L as CaCO3	1	BEI0177	09/09/21	09/10/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	350	10.0	"	"	"	"	"	"	

**Conventional Chemistry Parameters by APHA/EPA Methods**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**GW\_59993.\_MH\_MW\_1**  
**NENE\_20\_5N\_65W**  
**2109104-01 (Water)**

**Summit Scientific**

**Conventional Chemistry Parameters by APHA/EPA Methods**

<b>Phosphorus - Total</b>	<b>0.0785</b>	0.0500	mg/L	1	BEI0322	09/15/21	09/15/21	SM4500-P-E
---------------------------	---------------	--------	------	---	---------	----------	----------	------------

**Specific Conductance by SM2510B**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1270</b>	1.00	umhos/cm	1	BEI0174	09/09/21	09/09/21	SM2510B	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Total Dissolved Solids</b>	<b>602</b>	10.0	mg/L	1	BEI0256	09/13/21	09/13/21	SM2540C	

**pH by SM4500**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.84</b>	1.00	pH Units	1	BEI0259	09/08/21	09/13/21	SM4500-H+ B	

**Field Data**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1043</b>		uS/cm	1	BEI0169	09/08/21	09/08/21	Field Method	
<b>Turbidity</b>	<b>622</b>		NTU	"	"	"	"	"	
<b>Temperature</b>	<b>16.0</b>		Degrees C	"	"	"	"	"	
<b>Oxidation/Reduction Potential</b>	<b>-296.2</b>		mv	"	"	"	"	"	
<b>Dissolved Oxygen</b>	<b>1.35</b>		mg/L	"	"	"	"	"	
<b>pH</b>	<b>7.71</b>		SU	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BEI0225 - EPA 5030 Water MS

##### Blank (BEI0225-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	0.0010	mg/L							
Toluene	ND	0.0010	"							
Ethylbenzene	ND	0.0010	"							
m,p-Xylene	ND	0.0020	"							
o-Xylene	ND	0.0010	"							
Xylenes (total)	ND	0.0020	"							
Gasoline Range Hydrocarbons	ND	0.050	"							
Surrogate: 1,2-Dichloroethane-d4	0.0112		"	0.0133		84.1	23-173			
Surrogate: Toluene-d8	0.0121		"	0.0133		90.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0126		"	0.0133		94.7	21-167			

##### LCS (BEI0225-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0244	0.0010	mg/L	0.0250		97.4	51-132			
Toluene	0.0228	0.0010	"	0.0250		91.1	51-138			
Ethylbenzene	0.0265	0.0010	"	0.0250		106	58-146			
m,p-Xylene	0.0535	0.0020	"	0.0500		107	57-144			
o-Xylene	0.0269	0.0010	"	0.0250		108	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0106		"	0.0133		79.4	23-173			
Surrogate: Toluene-d8	0.0122		"	0.0133		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0124		"	0.0133		93.2	21-167			

##### Matrix Spike (BEI0225-MS1)

Source: 2109080-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0236	0.0010	mg/L	0.0250	ND	94.3	34-141			
Toluene	0.0241	0.0010	"	0.0250	ND	96.3	27-151			
Ethylbenzene	0.0296	0.0010	"	0.0250	ND	119	29-160			
m,p-Xylene	0.0601	0.0020	"	0.0500	ND	120	20-166			
o-Xylene	0.0303	0.0010	"	0.0250	ND	121	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.00705		"	0.0133		52.9	23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		93.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0125		"	0.0133		93.7	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0225 - EPA 5030 Water MS**

<b>Matrix Spike Dup (BEI0225-MSD1)</b>	<b>Source: 2109080-01</b>			Prepared: 09/10/21 Analyzed: 09/11/21						
Benzene	0.0240	0.0010	mg/L	0.0250	ND	96.2	34-141	1.97	32	
Toluene	0.0241	0.0010	"	0.0250	ND	96.5	27-151	0.207	25	
Ethylbenzene	0.0277	0.0010	"	0.0250	ND	111	29-160	6.73	50	
m,p-Xylene	0.0570	0.0020	"	0.0500	ND	114	20-166	5.18	36	
o-Xylene	0.0285	0.0010	"	0.0250	ND	114	33-159	6.05	26	
Surrogate: 1,2-Dichloroethane-d4	0.00965		"	0.0133		72.4	23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		94.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0121		"	0.0133		91.1	21-167			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0180 - EPA 3520B**

**Blank (BEI0180-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	ND	0.100	mg/L								
Surrogate: <i>o</i> -Terphenyl	0.0212		"	0.0250	84.8	44.8-129					

**LCS (BEI0180-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00	93.8	70-130					
Surrogate: <i>o</i> -Terphenyl	0.0274		"	0.0250	110	44.8-129					

**LCS Dup (BEI0180-BSD1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	1.03	0.100	mg/L	1.00	103	70-130	9.47	200			
Surrogate: <i>o</i> -Terphenyl	0.0260		"	0.0250	104	44.8-129					

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Blank (BEI0212-BLK1)**

Prepared & Analyzed: 09/10/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

**LCS (BEI0212-BS1)**

Prepared & Analyzed: 09/10/21

Calcium	5290	50.0	ug/l	5000	106	85-115		
Iron	4570	10.0	"	5000	91.4	85-115		
Magnesium	4950	50.0	"	5000	98.9	85-115		
Manganese	464	1.00	"	500	92.7	85-115		
Potassium	4800	50.0	"	5000	96.0	85-115		
Sodium	4770	50.0	"	5000	95.4	85-115		
Barium	452	1.00	"	500	90.3	85-115		
Boron	2370	10.0	"	2500	94.9	85-115		
Selenium	44.2	1.00	"	50.0	88.5	85-115		
Strontium	444	10.0	"	500	88.8	85-115		

**Duplicate (BEI0212-DUP1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	357000	50.0	ug/l		344000		3.78	20
Iron	10.0	10.0	"		9.16		9.23	20
Magnesium	118000	50.0	"		116000		1.24	20
Manganese	19.2	1.00	"		19.3		0.436	20
Potassium	13200	50.0	"		13400		1.56	20
Sodium	124000	50.0	"		122000		1.01	20
Barium	102	1.00	"		99.3		2.68	20
Boron	444	10.0	"		429		3.51	20
Selenium	12.1	1.00	"		13.0		6.42	20
Strontium	6260	10.0	"		6000		4.24	20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Matrix Spike (BEI0212-MS1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	350000	50.0	ug/l	5000	344000	128	70-130			
Iron	5040	10.0	"	5000	9.16	101	70-130			
Magnesium	120000	50.0	"	5000	116000	71.6	70-130			
Manganese	646	1.00	"	500	19.3	125	70-130			
Potassium	18900	50.0	"	5000	13400	111	70-130			
Sodium	126000	50.0	"	5000	122000	76.3	70-130			
Barium	686	1.00	"	500	99.3	117	70-130			
Boron	2650	10.0	"	2500	429	88.8	70-130			
Selenium	73.0	1.00	"	50.0	13.0	120	70-130			
Strontium	6380	10.0	"	500	6000	74.8	70-130			

**Matrix Spike Dup (BEI0212-MSD1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	347000	50.0	ug/l	5000	344000	70.4	70-130	0.832	25
Iron	4810	10.0	"	5000	9.16	95.9	70-130	4.67	25
Magnesium	120000	50.0	"	5000	116000	79.7	70-130	0.338	25
Manganese	508	1.00	"	500	19.3	97.8	70-130	23.8	25
Potassium	18700	50.0	"	5000	13400	107	70-130	1.23	25
Sodium	129000	50.0	"	5000	122000	129	70-130	2.08	25
Barium	573	1.00	"	500	99.3	94.8	70-130	17.9	25
Boron	2650	10.0	"	2500	429	88.9	70-130	0.0589	25
Selenium	59.9	1.00	"	50.0	13.0	93.9	70-130	19.7	25
Strontium	6550	10.0	"	500	6000	109	70-130	2.67	25

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source		%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BEI0189 - General Preparation**

**Blank (BEI0189-BLK1)**

Prepared & Analyzed: 09/09/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

**LCS (BEI0189-BS1)**

Prepared & Analyzed: 09/09/21

Bromide	9.43	0.200	mg/L	10.0	94.3	90-110		
Chloride	2.96	0.100	"	3.00	98.7	90-110		
Fluoride	1.92	0.200	"	2.00	96.2	90-110		
Sulfate	15.0	0.300	"	15.0	100	90-110		
Nitrate as N	2.88	0.100	"	3.00	95.8	90-110		
Nitrite as N	2.77	0.100	"	3.00	92.2	90-110		

**Duplicate (BEI0189-DUP1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	1.75	0.200	mg/L	1.74	0.287	20		
Chloride	175	0.100	"	147	17.4	20		
Fluoride	0.472	0.200	"	0.505	6.76	20		
Sulfate	9.78	0.300	"	9.73	0.554	20		
Nitrate as N	0.0120	0.100	"	0.0130	8.00	20		
Nitrite as N	ND	0.100	"	ND		20		
Nitrate/Nitrite as N	0.0120	0.200	"	0.0130	8.00	20		

**Matrix Spike (BEI0189-MS1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	10.3	0.200	mg/L	10.0	1.74	86.1	80-120	
Chloride	175	0.100	"	3.00	147	932	80-120	QM-02
Fluoride	2.48	0.200	"	2.00	0.505	98.6	80-120	
Sulfate	24.7	0.300	"	15.0	9.73	99.6	80-120	
Nitrate as N	2.68	0.100	"	3.00	0.0130	89.0	80-120	
Nitrite as N	3.13	0.100	"	3.00	ND	104	80-120	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0177 - General Preparation**

**Blank (BEI0177-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							

**LCS (BEI0177-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
------------------	------	------	---------------	-----	--	------	--------	--	--	--

**Duplicate (BEI0177-DUP1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	360	10.0	mg/L as CaCO3		350			2.82	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	360	10.0	"		350			2.82	20	

**Matrix Spike (BEI0177-MS1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130			
------------------	-----	------	---------------	-----	-----	------	--------	--	--	--

**Matrix Spike Dup (BEI0177-MSD1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130	0.00	20	
------------------	-----	------	---------------	-----	-----	------	--------	------	----	--

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0322 - General Preparation**

**Blank (BEI0322-BLK1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L

**LCS (BEI0322-BS1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.952      0.0500      mg/L      1.00      95.2      80-120

**Duplicate (BEI0322-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L      ND      20

**Matrix Spike (BEI0322-MS1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      1.02      0.0500      mg/L      1.00      ND      102      70-130

**Matrix Spike Dup (BEI0322-MSD1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.989      0.0500      mg/L      1.00      ND      98.9      70-130      3.18      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 13:49

**Specific Conductance by SM2510B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0174 - General Preparation**

**Blank (BEI0174-BLK1)**

Prepared & Analyzed: 09/09/21

Specific Conductance (EC)                      ND                      1.00    umhos/cm

**Duplicate (BEI0174-DUP1)**

**Source: 2109104-01**

Prepared & Analyzed: 09/09/21

Specific Conductance (EC)                      1270                      1.00    umhos/cm                      1270                      0.00                      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 13:49

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0256 - General Preparation**

**Blank (BEI0256-BLK1)**

Prepared & Analyzed: 09/13/21

Total Dissolved Solids      ND      10.0      mg/L

**Duplicate (BEI0256-DUP1)**

**Source: 2109104-01**

Prepared & Analyzed: 09/13/21

Total Dissolved Solids      607      10.0      mg/L      602      0.794      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 13:49

**pH by SM4500 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0259 - General Preparation**

**LCS (BEI0259-BS1)**

Prepared & Analyzed: 09/13/21

pH	9.10	1.00	pH Units	9.21	98.8	90-110
----	------	------	----------	------	------	--------

**Duplicate (BEI0259-DUP1)**

Source: 2109096-01

Prepared & Analyzed: 09/13/21

pH	6.79	1.00	pH Units	6.80	0.147	20
----	------	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:49

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Trip\_Blank/GWA\_District\_Six\_C6

Work Order # 2109103

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 762176

Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:44

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_59993_MH_MW_1_Trip_Blank	2109103-01	Water	09/08/21 14:30	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

S<sub>2</sub>

2109103

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933

Client: Extraction Oil and Gas (XOG) Report to: Apex Companies, LLC Project Manager: Heather Shideman  
 Address: 2234 117th Ave, Ste 106 E-Mail: Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com  
 City/State/Zip: Greeley, CO 80634 cc: nbennett@extractionog.com  
 Phone: (970) 576-3446 Project Name: Trip\_Blank/GWA\_District\_Six\_C6  
 Sampler Name: *Jef Griggs* Project No.: ALLOC-421 Facility ID 762176

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX					
1	GW_59993_MH_MW_1_Trip_Blank	09/08/20	1430	2					X					X				Sample Frequency: Q3
Relinquished by: <i>[Signature]</i>		Date/Time: 09/08/2021 1750		Received by: <i>[Signature]</i>		Date/Time: 09/08/2021		Turn Around Time (Check)				Notes:						
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day ___ 72 hours ___				24 hours ___ Standard <u>X</u>						
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours ___				Sample Integrity: Temperature Upon Receipt: <i>11.2</i>						
								Intact: <u>Yes</u> No										

2109103

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: Trip Blank/GWA District Six

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_ CL

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>11.2</u>
-----------	-------------

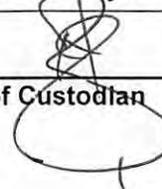
Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation <b>(excluding cooling)</b> <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

  
Custodian Printed Name or Initials

  
Signature of Custodian

09/08/2021  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:44

**GW\_59993\_MH\_MW\_1\_Trip\_Blank**

**2109103-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0221	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/08/21 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.2 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:44

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limit	RPD	Limit	RPD	

#### Batch BEI0221 - EPA 5030 Water MS

##### Blank (BEI0221-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		100		23-173		
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.5		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3		94.9		21-167		

##### LCS (BEI0221-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.3	1.0	ug/l	33.3		87.9		51-132		
Toluene	33.7	1.0	"	33.3		101		51-138		
Ethylbenzene	37.6	1.0	"	33.3		113		58-146		
m,p-Xylene	74.7	2.0	"	66.7		112		57-144		
o-Xylene	36.8	1.0	"	33.3		110		53-146		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.0		23-173		
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		100		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3		98.5		21-167		

##### Matrix Spike (BEI0221-MS1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.1	1.0	ug/l	33.3	ND	87.2		34-141		
Toluene	33.5	1.0	"	33.3	ND	100		27-151		
Ethylbenzene	37.1	1.0	"	33.3	ND	111		29-160		
m,p-Xylene	74.8	2.0	"	66.7	ND	112		20-166		
o-Xylene	35.9	1.0	"	33.3	ND	108		33-159		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		101		23-173		
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.9		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3		97.1		21-167		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:44

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BEI0221 - EPA 5030 Water MS

##### Matrix Spike Dup (BEI0221-MSD1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.2	1.0	ug/l	33.3	ND	87.5	34-141	0.240	32	
Toluene	34.3	1.0	"	33.3	ND	103	27-151	2.42	25	
Ethylbenzene	36.1	1.0	"	33.3	ND	108	29-160	2.65	50	
m,p-Xylene	72.3	2.0	"	66.7	ND	108	20-166	3.45	36	
o-Xylene	36.2	1.0	"	33.3	ND	108	33-159	0.638	26	
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 762176  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:44

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

Lab #: 803053 Job #: 48747 IS-99230 Co. Job#:  
Sample Name: GW\_59993\_MH\_MW\_1 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: IsoFlask  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 762176  
Date Sampled: 9/08/2021 14:30 Date Received: 9/10/2021 Date Reported: 9/15/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	32	21
Ethane -----	6.1	7.6
Propane -----	2.2	4.1

Lab #: 803053 Job #: 48747 IS-99230 Co. Job#:  
 Sample Name: GW\_59993\_MH\_MW\_1 Co. Lab#:  
 Company: Extraction Oil and Gas  
 API/Well:  
 Container: IsoFlask  
 Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
 Location: NENE\_20\_5N\_65W  
 Formation/Depth: Q3  
 Sampling Point: 762176  
 Date Sampled: 9/08/2021 14:30 Date Received: 9/10/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{18}\text{O}$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide -----	nd					
Helium -----	na					
Hydrogen -----	nd					
Argon -----	0.141					
Oxygen + Argon -----	na					
Nitrogen -----	9.00					
Carbon Dioxide -----	1.28					
Methane -----	69.68	-47.33	-229.5		31	21
Ethane -----	12.39	-31.96			6.2	7.8
Ethylene -----	nd					
Propane -----	4.75	-28.30			2.2	4.0
Propylene -----	nd					
Iso-butane -----	0.423	-30.8				
N-butane -----	0.807	-26.62				
Iso-pentane -----	0.105	-28.1				
N-pentane -----	0.0551	-25.6				
Hexanes + -----	0.0206					

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.54

\*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen. Isobutane and pentane carbon isotope data obtained online via GC-C-IRMS.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. All gas component carbon isotope values are reported on a scale defined by a two point calibration of LSVEC and NBS 19. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 803047 Job #: 48746 IS-99230 Co. Job#:  
Sample Name: GW\_59993\_MH\_MW\_1 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: 125ml bottle  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 762176  
Date Sampled: 9/08/2021 14:30 Date Received: 9/10/2021 Date Reported: 9/24/2021

$\delta D$  of water ----- -107.3 ‰ relative to VSMOW

$\delta^{18}O$  of water ----- -13.68 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$  of DIC ----- -19.9 ‰ relative to VPDB

$^{14}C$  content of DIC ----- na

$\delta^{15}N$  of nitrate ----- na

$\delta^{18}O$  of nitrate ----- na

$\delta^{34}S$  of sulfate ----- na

$\delta^{18}O$  of sulfate ----- na

Vacuum Distilled? \* ----- No

Remarks:

nd = not detected. na = not analyzed.

\*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 15, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

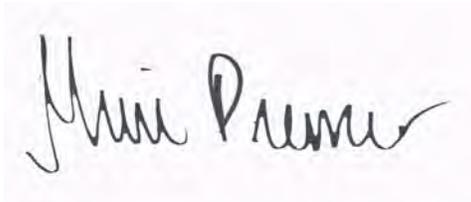
Denver, CO 80202

RE: Groundwater/GWA\_District\_Six\_C6

Work Order # 2109081

Enclosed are the results of analyses for samples received by Summit Scientific on 09/07/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284

Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_2	2109081-01	Water	09/07/21 13:35	09/07/21 18:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

2109081

# Summit Scientific

S<sub>2</sub>

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

<b>Client:</b>	Extraction Oil and Gas (XOG)	<b>Report to:</b>	Apex Companies, LLC	<b>Project Manager:</b>	Heather Shideman
<b>Address:</b>	2234 117th Ave, Ste 106	<b>E-Mail:</b>	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com		
<b>City/State/Zip:</b>	Greeley, CO 80634	<b>cc:</b>	nbennett@extractionog.com		
<b>Phone:</b>	(970) 576-3446	<b>Project Name:</b>	Ground Water/GWA District Six C6		
<b>Sampler Name:</b>	<i>JLF Griggs</i>	<b>Project No.:</b>	Alloc-421 930, 88		<b>Facility ID</b> 766284

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions			
					HCl	HNO3	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	No RSK175 <small>(ethane, methane, propane)</small>					
1	GW_60666_MH_MW_2 NENE_20_5N_65W	09/07/21	1335						X					X	X	X				Sample Frequency: Q3
	Temperature, field:	15.6	°C																	
	pH, field:	7.18	s.u.																	
	Conductivity, field:	1141	uS/cm																	
	ORP, field:	126.3	mV																	
	Dissolved Oxygen, field:	5.23	500 mg/L																	
	Turbidity, field:	—	NTU																	
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:								
<i>JLF</i>		9/7/21 1710		<i>Will Dal</i>		9/7/21 1800		Same Day — 72 hours												
								24 hours — <u>X</u> Standard												
								48 hours —												
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:				Temperature Upon Receipt: <u>12</u>								
								Intact: <input checked="" type="radio"/> Yes No												

2109081

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: XOG

Client Project ID: Ground Water/GWA District Six C6

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>12</u>
-----------	-----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

WG  
Custodian Printed Name or Initials

Will Gali  
Signature of Custodian

9/7/21  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**GW\_60666\_MH\_MW\_2**  
**NENE\_20\_5N\_65W**  
**2109081-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEI0225	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	0.0010	"	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	"	
m,p-Xylene	ND	0.0020	"	"	"	"	"	"	
o-Xylene	ND	0.0010	"	"	"	"	"	"	
Xylenes (total)	ND	0.0020	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.050	"	"	"	"	"	"	

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		54.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.3 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>0.193</b>	0.100	mg/L	1	BEI0180	09/09/21	09/10/21	EPA 8015M	

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		77.5 %	44.8-129		"	"	"	"	

**Dissolved Metals by EPA Method 200.8**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**GW\_60666\_MH\_MW\_2**  
**NENE\_20\_5N\_65W**  
**2109081-01 (Water)**

**Summit Scientific**

**Dissolved Metals by EPA Method 200.8**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Calcium	110000	50.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8
Iron	130	10.0	"	"	"	"	"	"
Magnesium	51800	50.0	"	"	"	"	"	"
Manganese	2.33	1.00	"	"	"	"	"	"
Potassium	3310	50.0	"	"	"	"	"	"
Sodium	87600	50.0	"	"	"	"	"	"
Barium	44.5	1.00	"	"	"	"	"	"
Boron	242	10.0	"	"	"	"	"	"
Selenium	5.31	1.00	"	"	"	"	"	"
Strontium	1420	10.0	"	"	"	"	"	"

**Anions by EPA Method 300.0**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.290	0.200	mg/L	1	BEI0145	09/08/21	09/08/21	EPA 300.0	
Chloride	31.0	20.0	"	200	"	"	"	"	
Fluoride	0.418	0.200	"	1	"	"	"	"	
Sulfate	64.1	30.0	"	100	"	"	"	"	
Nitrate as N	11.0	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	11.0	0.200	"	"	"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	350	10.0	mg/L as CaCO3	1	BEI0137	09/08/21	09/08/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	350	10.0	"	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**GW\_60666\_MH\_MW\_2**  
**NENE\_20\_5N\_65W**  
**2109081-01 (Water)**

**Summit Scientific**

**Conventional Chemistry Parameters by APHA/EPA Methods**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEI0322	09/15/21	09/15/21	SM4500-P-E	

**Specific Conductance by SM2510B**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1370</b>	1.00	umhos/cm	1	BEI0135	09/08/21	09/08/21	SM2510B	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	<b>673</b>	10.0	mg/L	1	BEI0158	09/08/21	09/09/21	SM2540C	

**pH by SM4500**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>7.34</b>	1.00	pH Units	1	BEI0164	09/07/21	09/08/21	SM4500-H+ B	

**Field Data**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1141</b>		uS/cm	1	BEI0131	09/07/21	09/07/21	Field Method	
Dissolved Oxygen	<b>5.23</b>		mg/L	"	"	"	"	"	
Temperature	<b>15.6</b>		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	<b>126.3</b>		mv	"	"	"	"	"	
pH	<b>7.18</b>		SU	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

Reported:  
09/15/21 17:52

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BEI0225 - EPA 5030 Water MS

##### Blank (BEI0225-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	0.0010	mg/L							
Toluene	ND	0.0010	"							
Ethylbenzene	ND	0.0010	"							
m,p-Xylene	ND	0.0020	"							
o-Xylene	ND	0.0010	"							
Xylenes (total)	ND	0.0020	"							
Gasoline Range Hydrocarbons	ND	0.050	"							
Surrogate: 1,2-Dichloroethane-d4	0.0112		"	0.0133		84.1	23-173			
Surrogate: Toluene-d8	0.0121		"	0.0133		90.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0126		"	0.0133		94.7	21-167			

##### LCS (BEI0225-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0244	0.0010	mg/L	0.0250		97.4	51-132			
Toluene	0.0228	0.0010	"	0.0250		91.1	51-138			
Ethylbenzene	0.0265	0.0010	"	0.0250		106	58-146			
m,p-Xylene	0.0535	0.0020	"	0.0500		107	57-144			
o-Xylene	0.0269	0.0010	"	0.0250		108	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0106		"	0.0133		79.4	23-173			
Surrogate: Toluene-d8	0.0122		"	0.0133		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0124		"	0.0133		93.2	21-167			

##### Matrix Spike (BEI0225-MS1)

Source: 2109080-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0236	0.0010	mg/L	0.0250	ND	94.3	34-141			
Toluene	0.0241	0.0010	"	0.0250	ND	96.3	27-151			
Ethylbenzene	0.0296	0.0010	"	0.0250	ND	119	29-160			
m,p-Xylene	0.0601	0.0020	"	0.0500	ND	120	20-166			
o-Xylene	0.0303	0.0010	"	0.0250	ND	121	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.00705		"	0.0133		52.9	23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		93.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0125		"	0.0133		93.7	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

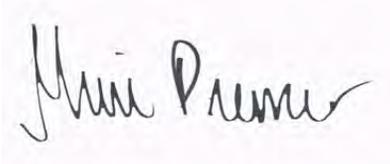
**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limit	RPD	Limit	RPD	

**Batch BEI0225 - EPA 5030 Water MS**

Matrix Spike Dup (BEI0225-MSD1)	Source: 2109080-01			Prepared: 09/10/21 Analyzed: 09/11/21					
Benzene	0.0240	0.0010	mg/L	0.0250	ND	96.2	34-141	1.97	32
Toluene	0.0241	0.0010	"	0.0250	ND	96.5	27-151	0.207	25
Ethylbenzene	0.0277	0.0010	"	0.0250	ND	111	29-160	6.73	50
m,p-Xylene	0.0570	0.0020	"	0.0500	ND	114	20-166	5.18	36
o-Xylene	0.0285	0.0010	"	0.0250	ND	114	33-159	6.05	26
Surrogate: 1,2-Dichloroethane-d4	0.00965		"	0.0133		72.4	23-173		
Surrogate: Toluene-d8	0.0125		"	0.0133		94.0	20-170		
Surrogate: 4-Bromofluorobenzene	0.0121		"	0.0133		91.1	21-167		

Summit Scientific



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0180 - EPA 3520B**

**Blank (BEI0180-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	ND	0.100	mg/L								
Surrogate: <i>o</i> -Terphenyl	0.0212		"	0.0250		84.8	44.8-129				

**LCS (BEI0180-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00		93.8	70-130				
Surrogate: <i>o</i> -Terphenyl	0.0274		"	0.0250		110	44.8-129				

**LCS Dup (BEI0180-BSD1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	1.03	0.100	mg/L	1.00		103	70-130	9.47	200		
Surrogate: <i>o</i> -Terphenyl	0.0260		"	0.0250		104	44.8-129				

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0212 - EPA 200.8**

**Blank (BEI0212-BLK1)**

Prepared & Analyzed: 09/10/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

**LCS (BEI0212-BS1)**

Prepared & Analyzed: 09/10/21

Calcium	5290	50.0	ug/l	5000	106	85-115				
Iron	4570	10.0	"	5000	91.4	85-115				
Magnesium	4950	50.0	"	5000	98.9	85-115				
Manganese	464	1.00	"	500	92.7	85-115				
Potassium	4800	50.0	"	5000	96.0	85-115				
Sodium	4770	50.0	"	5000	95.4	85-115				
Barium	452	1.00	"	500	90.3	85-115				
Boron	2370	10.0	"	2500	94.9	85-115				
Selenium	44.2	1.00	"	50.0	88.5	85-115				
Strontium	444	10.0	"	500	88.8	85-115				

**Duplicate (BEI0212-DUP1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	357000	50.0	ug/l		344000		3.78	20		
Iron	10.0	10.0	"		9.16		9.23	20		
Magnesium	118000	50.0	"		116000		1.24	20		
Manganese	19.2	1.00	"		19.3		0.436	20		
Potassium	13200	50.0	"		13400		1.56	20		
Sodium	124000	50.0	"		122000		1.01	20		
Barium	102	1.00	"		99.3		2.68	20		
Boron	444	10.0	"		429		3.51	20		
Selenium	12.1	1.00	"		13.0		6.42	20		
Strontium	6260	10.0	"		6000		4.24	20		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Matrix Spike (BEI0212-MS1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	350000	50.0	ug/l	5000	344000	128	70-130			
Iron	5040	10.0	"	5000	9.16	101	70-130			
Magnesium	120000	50.0	"	5000	116000	71.6	70-130			
Manganese	646	1.00	"	500	19.3	125	70-130			
Potassium	18900	50.0	"	5000	13400	111	70-130			
Sodium	126000	50.0	"	5000	122000	76.3	70-130			
Barium	686	1.00	"	500	99.3	117	70-130			
Boron	2650	10.0	"	2500	429	88.8	70-130			
Selenium	73.0	1.00	"	50.0	13.0	120	70-130			
Strontium	6380	10.0	"	500	6000	74.8	70-130			

**Matrix Spike Dup (BEI0212-MSD1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	347000	50.0	ug/l	5000	344000	70.4	70-130	0.832	25
Iron	4810	10.0	"	5000	9.16	95.9	70-130	4.67	25
Magnesium	120000	50.0	"	5000	116000	79.7	70-130	0.338	25
Manganese	508	1.00	"	500	19.3	97.8	70-130	23.8	25
Potassium	18700	50.0	"	5000	13400	107	70-130	1.23	25
Sodium	129000	50.0	"	5000	122000	129	70-130	2.08	25
Barium	573	1.00	"	500	99.3	94.8	70-130	17.9	25
Boron	2650	10.0	"	2500	429	88.9	70-130	0.0589	25
Selenium	59.9	1.00	"	50.0	13.0	93.9	70-130	19.7	25
Strontium	6550	10.0	"	500	6000	109	70-130	2.67	25

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0145 - General Preparation**

**Blank (BEI0145-BLK1)**

Prepared & Analyzed: 09/08/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

**LCS (BEI0145-BS1)**

Prepared & Analyzed: 09/08/21

Bromide	9.54	0.200	mg/L	10.0	95.4	90-110				
Chloride	2.81	0.100	"	3.00	93.6	90-110				
Fluoride	1.85	0.200	"	2.00	92.6	90-110				
Sulfate	15.2	0.300	"	15.0	101	90-110				
Nitrate as N	2.92	0.100	"	3.00	97.2	90-110				
Nitrite as N	2.78	0.100	"	3.00	92.8	90-110				

**Duplicate (BEI0145-DUP1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Bromide	0.311	0.200	mg/L	0.307			1.29	20		
Chloride	71.6	0.100	"	47.6			40.3	20		QM-02
Fluoride	0.224	0.200	"	0.223			0.447	20		
Sulfate	121	0.300	"	170			33.7	20		QM-02
Nitrate as N	8.30	0.100	"	8.24			0.713	20		
Nitrite as N	ND	0.100	"	ND				20		
Nitrate/Nitrite as N	8.30	0.200	"	8.24			0.713	20		

**Matrix Spike (BEI0145-MS1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Bromide	9.25	0.200	mg/L	10.0	0.307	89.4	80-120			
Chloride	73.1	0.100	"	3.00	47.6	849	80-120			QM-02
Fluoride	1.85	0.200	"	2.00	0.223	81.4	80-120			
Sulfate	120	0.300	"	15.0	170	NR	80-120			QM-02
Nitrate as N	11.3	0.100	"	3.00	8.24	103	80-120			
Nitrite as N	3.44	0.100	"	3.00	ND	115	80-120			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0137 - General Preparation**

**Blank (BEI0137-BLK1)**

Prepared & Analyzed: 09/08/21

Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							

**LCS (BEI0137-BS1)**

Prepared & Analyzed: 09/08/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
------------------	------	------	---------------	-----	--	------	--------	--	--	--

**Duplicate (BEI0137-DUP1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	340	10.0	mg/L as CaCO3		340			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	340	10.0	"		340			0.00	20	

**Matrix Spike (BEI0137-MS1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	410	10.0	mg/L as CaCO3	100	340	70.0	70-130			
------------------	-----	------	---------------	-----	-----	------	--------	--	--	--

**Matrix Spike Dup (BEI0137-MSD1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	410	10.0	mg/L as CaCO3	100	340	70.0	70-130	0.00	20	
------------------	-----	------	---------------	-----	-----	------	--------	------	----	--

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0322 - General Preparation**

**Blank (BEI0322-BLK1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      ND              0.0500      mg/L

**LCS (BEI0322-BS1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      0.952              0.0500      mg/L              1.00              95.2              80-120

**Duplicate (BEI0322-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      ND              0.0500      mg/L                                      ND                                      20

**Matrix Spike (BEI0322-MS1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      1.02              0.0500      mg/L              1.00              ND              102              70-130

**Matrix Spike Dup (BEI0322-MSD1)**

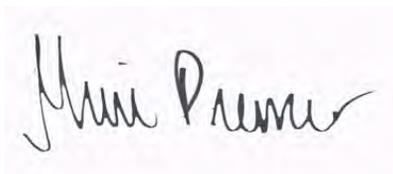
**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      0.989              0.0500      mg/L              1.00              ND              98.9              70-130              3.18              20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
 Project Manager: Heather Shideman

**Reported:**  
 09/15/21 17:52

**Specific Conductance by SM2510B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0135 - General Preparation**

**Blank (BEI0135-BLK1)**

Prepared & Analyzed: 09/08/21

Specific Conductance (EC)                      ND                      1.00    umhos/cm

**Duplicate (BEI0135-DUP1)**

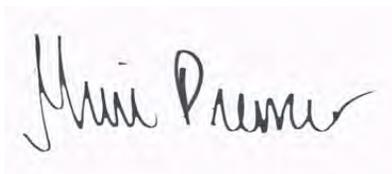
**Source: 2109078-01**

Prepared & Analyzed: 09/08/21

Specific Conductance (EC)                      1430                      1.00    umhos/cm                      1440                      0.209                      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
 Project Manager: Heather Shideman

**Reported:**  
 09/15/21 17:52

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0158 - General Preparation**

**Blank (BEI0158-BLK1)**

Prepared: 09/08/21 Analyzed: 09/09/21

Total Dissolved Solids ND 10.0 mg/L

**Duplicate (BEI0158-DUP1)**

Source: 2109077-01

Prepared: 09/08/21 Analyzed: 09/09/21

Total Dissolved Solids 1280 10.0 mg/L 1270 0.0785 20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
 Project Manager: Heather Shideman

**Reported:**  
 09/15/21 17:52

**pH by SM4500 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0164 - General Preparation**

**LCS (BEI0164-BS1)**

Prepared & Analyzed: 09/08/21

pH	9.13	1.00	pH Units	9.21	99.1	90-110
----	------	------	----------	------	------	--------

**Duplicate (BEI0164-DUP1)**

Source: 2109075-01

Prepared & Analyzed: 09/08/21

pH	6.75	1.00	pH Units	6.76	0.148	20
----	------	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766284  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:52

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Trip\_Blank/GWA\_District\_Six\_C6

Work Order # 2109082

Enclosed are the results of analyses for samples received by Summit Scientific on 09/07/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766284 Project Manager: Heather Shideman	<b>Reported:</b> 09/16/21 13:39
----------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	------------------------------------

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_2_Trip_Blank	2109082-01	Water	09/07/21 13:35	09/07/21 18:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2109082

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

<b>Client:</b> Extraction Oil and Gas (XOG)	<b>Report to:</b> Apex Companies, LLC	<b>Project Manager:</b> Heather Shideman
<b>Address:</b> 2234 117th Ave, Ste 106	<b>E-Mail:</b> Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com	
<b>City/State/Zip:</b> Greeley, CO 80634	<b>cc:</b> nbennett@extractionog.com	
<b>Phone:</b> (970) 576-3446	<b>Project Name:</b> Trip_Blank/GWA_District_Six_C6	
<b>Sampler Name:</b> Jeff Griggs	<b>Project No.:</b> ALLOC-421	<b>Facility ID</b> 766284

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions		
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX						
1	GW_60666_MH_MW_2_Trip_Blank	09/07/21	1335	2					X					X					Sample Frequency: Q3
Relinquished by: <i>JW</i>		Date/Time: 9/7/21 1710		Received by: <i>Will Gahr</i>		Date/Time: 9/7/21 1800		Turn Around Time (Check)				Notes:							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day ___ 72 hours ___				24 hours ___ Standard <u>X</u>							
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours ___				Sample Integrity:							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt: <u>12</u>				Intact: <u>Yes</u> No							

2109082

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: XDG Client Project ID: Trip Blank / GWA District six CB

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>12</u>
-----------	-----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

WG  
Custodian Printed Name or Initials

Will Galin  
Signature of Custodian

9/7/21  
Date/Time



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766284  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 13:39

**GW\_60666\_MH\_MW\_2\_Trip\_Blank**

**2109082-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0221	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/07/21 13:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		94.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.1 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766284  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:39

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

#### Batch BEI0221 - EPA 5030 Water MS

##### Blank (BEI0221-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
m,p-Xylene	ND	2.0	"								
o-Xylene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		100		23-173			
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.5		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3		94.9		21-167			

##### LCS (BEI0221-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.3	1.0	ug/l	33.3		87.9		51-132			
Toluene	33.7	1.0	"	33.3		101		51-138			
Ethylbenzene	37.6	1.0	"	33.3		113		58-146			
m,p-Xylene	74.7	2.0	"	66.7		112		57-144			
o-Xylene	36.8	1.0	"	33.3		110		53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.0		23-173			
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		100		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3		98.5		21-167			

##### Matrix Spike (BEI0221-MS1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.1	1.0	ug/l	33.3	ND	87.2		34-141			
Toluene	33.5	1.0	"	33.3	ND	100		27-151			
Ethylbenzene	37.1	1.0	"	33.3	ND	111		29-160			
m,p-Xylene	74.8	2.0	"	66.7	ND	112		20-166			
o-Xylene	35.9	1.0	"	33.3	ND	108		33-159			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		101		23-173			
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.9		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3		97.1		21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766284  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:39

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0221 - EPA 5030 Water MS**

**Matrix Spike Dup (BEI0221-MSD1)**

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.2	1.0	ug/l	33.3	ND	87.5	34-141	0.240	32	
Toluene	34.3	1.0	"	33.3	ND	103	27-151	2.42	25	
Ethylbenzene	36.1	1.0	"	33.3	ND	108	29-160	2.65	50	
m,p-Xylene	72.3	2.0	"	66.7	ND	108	20-166	3.45	36	
o-Xylene	36.2	1.0	"	33.3	ND	108	33-159	0.638	26	
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766284  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:39

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

Lab #: 803049 Job #: 48747 IS-99230 Co. Job#:  
Sample Name: GW\_60666\_MH\_MW\_2 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: IsoFlask  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 766284  
Date Sampled: 9/07/2021 13:35 Date Received: 9/10/2021 Date Reported: 9/15/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	0.0012	0.00079
Ethane -----	0.00033	0.00042
Propane -----	< 0.0001	< 0.0002

Lab #: 803043 Job #: 48746 IS-99230 Co. Job#:  
Sample Name: GW\_60666\_MH\_MW\_2 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: 125ml bottle  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 766284  
Date Sampled: 9/07/2021 13:35 Date Received: 9/10/2021 Date Reported: 9/24/2021

$\delta$ D of water ----- -102.1 ‰ relative to VSMOW

$\delta^{18}$ O of water ----- -13.05 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}$ C of DIC ----- -12.7 ‰ relative to VPDB

$^{14}$ C content of DIC ----- na

$\delta^{15}$ N of nitrate ----- na

$\delta^{18}$ O of nitrate ----- na

$\delta^{34}$ S of sulfate ----- na

$\delta^{18}$ O of sulfate ----- na

Vacuum Distilled? \* ----- No

Remarks:

nd = not detected. na = not analyzed.

\*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 15, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

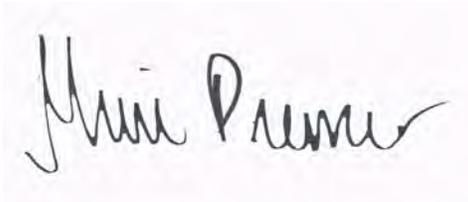
Denver, CO 80202

RE: Groundwater/GWA\_District\_Six\_C6

Work Order # 2109078

Enclosed are the results of analyses for samples received by Summit Scientific on 09/07/21 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M".

Muri Premer For Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_3	2109078-01	Water	09/07/21 15:15	09/07/21 17:15

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

S<sub>2</sub>

2109078

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

<b>Client:</b> Extraction Oil and Gas (XOG)	<b>Report to:</b> Apex Companies, LLC	<b>Project Manager:</b> Heather Shideman
<b>Address:</b> 2234 117th Ave, Ste 106		<b>E-Mail:</b> Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com
<b>City/State/Zip:</b> Greeley, CO 80634		<b>cc:</b> nbennett@extractionog.com
<b>Phone:</b> (970) 576-3446		<b>Project Name:</b> Ground Water/GWA_District Six_C6
<b>Sampler Name:</b> Jeff Griggs	<b>Project No.:</b> Alloc-421 930, 88	<b>Facility ID</b> 766285

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested			Special Instructions
					HCl	HNO3	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	
1	GW_60666_MH_MW_3 NENE_20_5N_65W	09/07/21	1515						X			X	X	X	Sample Frequency: Q3
	Temperature, field:	16.0	°C												
	pH, field:	7.17	s.u.												
	Conductivity, field:	1182	uS/cm												
	ORP, field:	105.3	mV												
	Dissolved Oxygen, field:	2.06	mg/L												
	Turbidity, field:		NTU												
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)			Notes:				
		9/7/21 1710				9/7/21 1715		Same Day <input type="checkbox"/> 72 hours							
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours <input type="checkbox"/> Standard							
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours <input type="checkbox"/>							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:			Temperature Upon Receipt: 12				
Relinquished by:		Date/Time:		Received by:		Date/Time:		Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No							

2109078

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: XOG Client Project ID: Ground Water GWA District Six CG

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>12</u>
-----------	-----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

WG  
Custodian Printed Name or Initials

Will Sahin  
Signature of Custodian

9/7/21  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**GW\_60666\_MH\_MW\_3**  
**NENE\_20\_5N\_65W**  
**2109078-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEI0155	09/08/21	09/10/21	EPA 8260B	
Toluene	ND	0.0010	"	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	"	
m,p-Xylene	ND	0.0020	"	"	"	"	"	"	
o-Xylene	ND	0.0010	"	"	"	"	"	"	
Xylenes (total)	ND	0.0020	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.050	"	"	"	"	"	"	

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>0.143</b>	0.100	mg/L	1	BEI0180	09/09/21	09/10/21	EPA 8015M	

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	44.8-129		"	"	"	"	

**Dissolved Metals by EPA Method 200.8**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**GW\_60666\_MH\_MW\_3**  
**NENE\_20\_5N\_65W**  
**2109078-01 (Water)**

**Summit Scientific**

**Dissolved Metals by EPA Method 200.8**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Calcium	139000	50.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8
Iron	99.1	10.0	"	"	"	"	"	"
Magnesium	57700	50.0	"	"	"	"	"	"
Manganese	205	1.00	"	"	"	"	"	"
Potassium	4850	50.0	"	"	"	"	"	"
Sodium	108000	50.0	"	"	"	"	"	"
Barium	70.5	1.00	"	"	"	"	"	"
Boron	243	10.0	"	"	"	"	"	"
Selenium	2.71	1.00	"	"	"	"	"	"
Strontium	1760	10.0	"	"	"	"	"	"

**Anions by EPA Method 300.0**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.307	0.200	mg/L	1	BEI0145	09/08/21	09/08/21	EPA 300.0	
Chloride	47.6	20.0	"	200	"	"	"	"	
Fluoride	0.223	0.200	"	1	"	"	"	"	
Sulfate	170	60.0	"	200	"	"	"	"	
Nitrate as N	8.24	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	8.24	0.200	"	"	"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	340	10.0	mg/L as CaCO3	1	BEI0137	09/08/21	09/08/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	340	10.0	"	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**GW\_60666\_MH\_MW\_3**  
**NENE\_20\_5N\_65W**  
**2109078-01 (Water)**

**Summit Scientific**

**Conventional Chemistry Parameters by APHA/EPA Methods**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEI0322	09/15/21	09/15/21	SM4500-P-E	

**Specific Conductance by SM2510B**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1440</b>	1.00	umhos/cm	1	BEI0135	09/08/21	09/08/21	SM2510B	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	<b>706</b>	10.0	mg/L	1	BEI0158	09/08/21	09/09/21	SM2540C	

**pH by SM4500**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>7.25</b>	1.00	pH Units	1	BEI0164	09/07/21	09/08/21	SM4500-H+ B	

**Field Data**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1182</b>		uS/cm	1	BEI0129	09/07/21	09/07/21	Field Method	
Dissolved Oxygen	<b>2.06</b>		mg/L	"	"	"	"	"	
Temperature	<b>16.0</b>		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	<b>105.3</b>		mv	"	"	"	"	"	
pH	<b>7.17</b>		SU	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

Reported:  
09/15/21 16:04

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

#### Batch BEI0155 - EPA 5030 Water MS

##### Blank (BEI0155-BLK1)

Prepared: 09/08/21 Analyzed: 09/09/21

Benzene	ND	0.0010	mg/L								
Toluene	ND	0.0010	"								
Ethylbenzene	ND	0.0010	"								
m,p-Xylene	ND	0.0020	"								
o-Xylene	ND	0.0010	"								
Xylenes (total)	ND	0.0020	"								
Gasoline Range Hydrocarbons	ND	0.050	"								
Surrogate: 1,2-Dichloroethane-d4	0.0128		"	0.0133		96.2		23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		98.9		20-170			
Surrogate: 4-Bromofluorobenzene	0.0129		"	0.0133		96.6		21-167			

##### LCS (BEI0155-BS1)

Prepared: 09/08/21 Analyzed: 09/09/21

Benzene	0.0302	0.0010	mg/L	0.0333		90.8		51-132			
Toluene	0.0340	0.0010	"	0.0333		102		51-138			
Ethylbenzene	0.0369	0.0010	"	0.0333		111		58-146			
m,p-Xylene	0.0741	0.0020	"	0.0667		111		57-144			
o-Xylene	0.0360	0.0010	"	0.0333		108		53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0137		"	0.0133		103		23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		99.0		20-170			
Surrogate: 4-Bromofluorobenzene	0.0132		"	0.0133		99.1		21-167			

##### Matrix Spike (BEI0155-MS1)

Source: 2109074-01

Prepared: 09/08/21 Analyzed: 09/09/21

Benzene	0.0302	0.0010	mg/L	0.0333	ND	90.5		34-141			
Toluene	0.0345	0.0010	"	0.0333	ND	104		27-151			
Ethylbenzene	0.0370	0.0010	"	0.0333	ND	111		29-160			
m,p-Xylene	0.0741	0.0020	"	0.0667	ND	111		20-166			
o-Xylene	0.0364	0.0010	"	0.0333	ND	109		33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0132		"	0.0133		99.3		23-173			
Surrogate: Toluene-d8	0.0133		"	0.0133		99.5		20-170			
Surrogate: 4-Bromofluorobenzene	0.0131		"	0.0133		98.5		21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

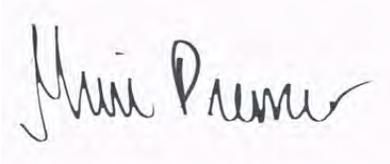
**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0155 - EPA 5030 Water MS**

<b>Matrix Spike Dup (BEI0155-MSD1)</b>	<b>Source: 2109074-01</b>			Prepared: 09/08/21		Analyzed: 09/09/21				
Benzene	0.0292	0.0010	mg/L	0.0333	ND	87.8	34-141	3.13	32	
Toluene	0.0332	0.0010	"	0.0333	ND	99.7	27-151	3.81	25	
Ethylbenzene	0.0366	0.0010	"	0.0333	ND	110	29-160	0.979	50	
m,p-Xylene	0.0742	0.0020	"	0.0667	ND	111	20-166	0.135	36	
o-Xylene	0.0362	0.0010	"	0.0333	ND	109	33-159	0.634	26	
Surrogate: 1,2-Dichloroethane-d4	0.0135		"	0.0133		101	23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0132		"	0.0133		98.6	21-167			

Summit Scientific



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0180 - EPA 3520B**

**Blank (BEI0180-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	ND	0.100	mg/L								
Surrogate: <i>o</i> -Terphenyl	0.0212		"	0.0250	84.8	44.8-129					

**LCS (BEI0180-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00	93.8	70-130					
Surrogate: <i>o</i> -Terphenyl	0.0274		"	0.0250	110	44.8-129					

**LCS Dup (BEI0180-BSD1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	1.03	0.100	mg/L	1.00	103	70-130	9.47	200			
Surrogate: <i>o</i> -Terphenyl	0.0260		"	0.0250	104	44.8-129					

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Blank (BEI0212-BLK1)**

Prepared & Analyzed: 09/10/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

**LCS (BEI0212-BS1)**

Prepared & Analyzed: 09/10/21

Calcium	5290	50.0	ug/l	5000	106	85-115				
Iron	4570	10.0	"	5000	91.4	85-115				
Magnesium	4950	50.0	"	5000	98.9	85-115				
Manganese	464	1.00	"	500	92.7	85-115				
Potassium	4800	50.0	"	5000	96.0	85-115				
Sodium	4770	50.0	"	5000	95.4	85-115				
Barium	452	1.00	"	500	90.3	85-115				
Boron	2370	10.0	"	2500	94.9	85-115				
Selenium	44.2	1.00	"	50.0	88.5	85-115				
Strontium	444	10.0	"	500	88.8	85-115				

**Duplicate (BEI0212-DUP1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	357000	50.0	ug/l		344000		3.78	20		
Iron	10.0	10.0	"		9.16		9.23	20		
Magnesium	118000	50.0	"		116000		1.24	20		
Manganese	19.2	1.00	"		19.3		0.436	20		
Potassium	13200	50.0	"		13400		1.56	20		
Sodium	124000	50.0	"		122000		1.01	20		
Barium	102	1.00	"		99.3		2.68	20		
Boron	444	10.0	"		429		3.51	20		
Selenium	12.1	1.00	"		13.0		6.42	20		
Strontium	6260	10.0	"		6000		4.24	20		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Matrix Spike (BEI0212-MS1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	350000	50.0	ug/l	5000	344000	128	70-130			
Iron	5040	10.0	"	5000	9.16	101	70-130			
Magnesium	120000	50.0	"	5000	116000	71.6	70-130			
Manganese	646	1.00	"	500	19.3	125	70-130			
Potassium	18900	50.0	"	5000	13400	111	70-130			
Sodium	126000	50.0	"	5000	122000	76.3	70-130			
Barium	686	1.00	"	500	99.3	117	70-130			
Boron	2650	10.0	"	2500	429	88.8	70-130			
Selenium	73.0	1.00	"	50.0	13.0	120	70-130			
Strontium	6380	10.0	"	500	6000	74.8	70-130			

**Matrix Spike Dup (BEI0212-MSD1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	347000	50.0	ug/l	5000	344000	70.4	70-130	0.832	25
Iron	4810	10.0	"	5000	9.16	95.9	70-130	4.67	25
Magnesium	120000	50.0	"	5000	116000	79.7	70-130	0.338	25
Manganese	508	1.00	"	500	19.3	97.8	70-130	23.8	25
Potassium	18700	50.0	"	5000	13400	107	70-130	1.23	25
Sodium	129000	50.0	"	5000	122000	129	70-130	2.08	25
Barium	573	1.00	"	500	99.3	94.8	70-130	17.9	25
Boron	2650	10.0	"	2500	429	88.9	70-130	0.0589	25
Selenium	59.9	1.00	"	50.0	13.0	93.9	70-130	19.7	25
Strontium	6550	10.0	"	500	6000	109	70-130	2.67	25

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

Reported:  
09/15/21 16:04

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limits	RPD	Limit		

**Batch BEI0145 - General Preparation**

**Blank (BEI0145-BLK1)**

Prepared & Analyzed: 09/08/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

**LCS (BEI0145-BS1)**

Prepared & Analyzed: 09/08/21

Bromide	9.54	0.200	mg/L	10.0	95.4	90-110				
Chloride	2.81	0.100	"	3.00	93.6	90-110				
Fluoride	1.85	0.200	"	2.00	92.6	90-110				
Sulfate	15.2	0.300	"	15.0	101	90-110				
Nitrate as N	2.92	0.100	"	3.00	97.2	90-110				
Nitrite as N	2.78	0.100	"	3.00	92.8	90-110				

**Duplicate (BEI0145-DUP1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Bromide	0.311	0.200	mg/L	0.307			1.29	20		
Chloride	71.6	0.100	"	47.6			40.3	20		QM-02
Fluoride	0.224	0.200	"	0.223			0.447	20		
Sulfate	121	0.300	"	170			33.7	20		QM-02
Nitrate as N	8.30	0.100	"	8.24			0.713	20		
Nitrite as N	ND	0.100	"	ND				20		
Nitrate/Nitrite as N	8.30	0.200	"	8.24			0.713	20		

**Matrix Spike (BEI0145-MS1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Bromide	9.25	0.200	mg/L	10.0	0.307	89.4	80-120			
Chloride	73.1	0.100	"	3.00	47.6	849	80-120			QM-02
Fluoride	1.85	0.200	"	2.00	0.223	81.4	80-120			
Sulfate	120	0.300	"	15.0	170	NR	80-120			QM-02
Nitrate as N	11.3	0.100	"	3.00	8.24	103	80-120			
Nitrite as N	3.44	0.100	"	3.00	ND	115	80-120			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0137 - General Preparation**

**Blank (BEI0137-BLK1)**

Prepared & Analyzed: 09/08/21

Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							

**LCS (BEI0137-BS1)**

Prepared & Analyzed: 09/08/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
------------------	------	------	---------------	-----	--	------	--------	--	--	--

**Duplicate (BEI0137-DUP1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	340	10.0	mg/L as CaCO3		340			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	340	10.0	"		340			0.00	20	

**Matrix Spike (BEI0137-MS1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	410	10.0	mg/L as CaCO3	100	340	70.0	70-130			
------------------	-----	------	---------------	-----	-----	------	--------	--	--	--

**Matrix Spike Dup (BEI0137-MSD1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	410	10.0	mg/L as CaCO3	100	340	70.0	70-130	0.00	20	
------------------	-----	------	---------------	-----	-----	------	--------	------	----	--

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0322 - General Preparation**

**Blank (BEI0322-BLK1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L

**LCS (BEI0322-BS1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.952      0.0500      mg/L      1.00      95.2      80-120

**Duplicate (BEI0322-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L      ND      20

**Matrix Spike (BEI0322-MS1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      1.02      0.0500      mg/L      1.00      ND      102      70-130

**Matrix Spike Dup (BEI0322-MSD1)**

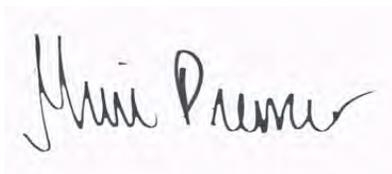
**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.989      0.0500      mg/L      1.00      ND      98.9      70-130      3.18      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
 Project Manager: Heather Shideman

**Reported:**  
 09/15/21 16:04

**Specific Conductance by SM2510B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0135 - General Preparation**

**Blank (BEI0135-BLK1)**

Prepared & Analyzed: 09/08/21

Specific Conductance (EC)                      ND                      1.00    umhos/cm

**Duplicate (BEI0135-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/08/21

Specific Conductance (EC)                      1430                      1.00    umhos/cm                      1440                      0.209                      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
 Project Manager: Heather Shideman

**Reported:**  
 09/15/21 16:04

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0158 - General Preparation**

**Blank (BEI0158-BLK1)**

Prepared: 09/08/21 Analyzed: 09/09/21

Total Dissolved Solids ND 10.0 mg/L

**Duplicate (BEI0158-DUP1)**

Source: 2109077-01

Prepared: 09/08/21 Analyzed: 09/09/21

Total Dissolved Solids 1280 10.0 mg/L 1270 0.0785 20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
 Project Manager: Heather Shideman

**Reported:**  
 09/15/21 16:04

**pH by SM4500 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0164 - General Preparation**

**LCS (BEI0164-BS1)**

Prepared & Analyzed: 09/08/21

pH	9.13	1.00	pH Units	9.21	99.1	90-110
----	------	------	----------	------	------	--------

**Duplicate (BEI0164-DUP1)**

Source: 2109075-01

Prepared & Analyzed: 09/08/21

pH	6.75	1.00	pH Units	6.76	0.148	20
----	------	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766285  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 16:04

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Trip\_Blank/GWA\_District\_Six\_C6

Work Order # 2109083

Enclosed are the results of analyses for samples received by Summit Scientific on 09/07/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', written in a cursive style.

Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766285

Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:41

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_3_Trip_Blank	2109083-01	Water	09/07/21 15:15	09/07/21 18:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



2109083

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: XCS Client Project ID: Trip Blank KWA District Six CG

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>12</u>
-----------	-----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

W/G  
Custodian Printed Name or Initials

Will Gal  
Signature of Custodian

9/7/21  
Date/Time



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766285  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 13:41

**GW\_60666\_MH\_MW\_3\_Trip\_Blank**

**2109083-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0221	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/07/21 15:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766285  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:41

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

#### Batch BEI0221 - EPA 5030 Water MS

##### Blank (BEI0221-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
m,p-Xylene	ND	2.0	"								
o-Xylene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		100		23-173			
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.5		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3		94.9		21-167			

##### LCS (BEI0221-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.3	1.0	ug/l	33.3		87.9		51-132			
Toluene	33.7	1.0	"	33.3		101		51-138			
Ethylbenzene	37.6	1.0	"	33.3		113		58-146			
m,p-Xylene	74.7	2.0	"	66.7		112		57-144			
o-Xylene	36.8	1.0	"	33.3		110		53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.0		23-173			
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		100		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3		98.5		21-167			

##### Matrix Spike (BEI0221-MS1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.1	1.0	ug/l	33.3	ND	87.2		34-141			
Toluene	33.5	1.0	"	33.3	ND	100		27-151			
Ethylbenzene	37.1	1.0	"	33.3	ND	111		29-160			
m,p-Xylene	74.8	2.0	"	66.7	ND	112		20-166			
o-Xylene	35.9	1.0	"	33.3	ND	108		33-159			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		101		23-173			
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.9		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3		97.1		21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766285  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:41

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0221 - EPA 5030 Water MS**

<b>Matrix Spike Dup (BEI0221-MSD1)</b>	<b>Source: 2109079-01</b>			Prepared: 09/10/21 Analyzed: 09/11/21					
Benzene	29.2	1.0	ug/l	33.3	ND	87.5	34-141	0.240	32
Toluene	34.3	1.0	"	33.3	ND	103	27-151	2.42	25
Ethylbenzene	36.1	1.0	"	33.3	ND	108	29-160	2.65	50
m,p-Xylene	72.3	2.0	"	66.7	ND	108	20-166	3.45	36
o-Xylene	36.2	1.0	"	33.3	ND	108	33-159	0.638	26
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.7</i>		<i>"</i>	<i>13.3</i>		<i>110</i>	<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>13.5</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>98.9</i>	<i>21-167</i>		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766285

Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:41

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

Lab #: 803050 Job #: 48747 IS-99230 Co. Job#:  
Sample Name: GW\_60666\_MH\_MW\_3 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: IsoFlask  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 766285  
Date Sampled: 9/07/2021 15:15 Date Received: 9/10/2021 Date Reported: 9/15/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	0.066	0.044
Ethane -----	0.0024	0.0030
Propane -----	< 0.0001	< 0.0002

Lab #: 803044 Job #: 48746 IS-99230 Co. Job#:  
Sample Name: GW\_60666\_MH\_MW\_3 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: 125ml bottle  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 766285  
Date Sampled: 9/07/2021 15:15 Date Received: 9/10/2021 Date Reported: 9/24/2021

$\delta$ D of water ----- -104.8 ‰ relative to VSMOW

$\delta^{18}$ O of water ----- -13.44 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}$ C of DIC ----- -12.1 ‰ relative to VPDB

$^{14}$ C content of DIC ----- na

$\delta^{15}$ N of nitrate ----- na

$\delta^{18}$ O of nitrate ----- na

$\delta^{34}$ S of sulfate ----- na

$\delta^{18}$ O of sulfate ----- na

Vacuum Distilled? \* ----- No

Remarks:

nd = not detected. na = not analyzed.

\*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA\_District\_Six\_C6

Work Order # 2109106

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286

Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_4	2109106-01	Water	09/08/21 12:50	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

S<sub>2</sub>

2109106

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

<b>Client:</b> Extraction Oil and Gas (XOG)	<b>Report to:</b> Apex Companies, LLC	<b>Project Manager:</b> Heather Shideman
<b>Address:</b> 2234 117th Ave, Ste 106		<b>E-Mail:</b> Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com
<b>City/State/Zip:</b> Greeley, CO 80634		<b>cc:</b> nbennett@extractionog.com
<b>Phone:</b> (970) 576-3446		<b>Project Name:</b> Ground Water/GWA_District Six_C6
<b>Sampler Name:</b> <i>Jeff Griggs</i>	<b>Project No.:</b> Alloc-421 930, 88	<b>Facility ID</b> 766286

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions		
					HCl	HNO3	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	No RSK175 <small>(ethane, methane, propane)</small>			
1	GW_60666_MH_MW_4 NENE_20_5N_65W	09/08/21	1250						X				X	X	X			Sample Frequency: Q3
	Temperature, field:	15.9	°C															
	pH, field:	7.53	s.u.															
	Conductivity, field:	1060	uS/cm															
	ORP, field:	-291.6	mV															
	Dissolved Oxygen, field:	3.46	mg/L															
	Turbidity, field:	883.5	NTU															
Relinquished by: <i>[Signature]</i>		Date/Time: 09/08/2021 1750		Received by: <i>[Signature]</i>		Date/Time: 09/08/2021 1750		Turn Around Time (Check)				Notes:						
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day <input type="checkbox"/> 72 hours										
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours <input checked="" type="checkbox"/> Standard										
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours <input type="checkbox"/>				Sample Integrity: Temperature Upon Receipt: 11.2						
Relinquished by:		Date/Time:		Received by:		Date/Time:		Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										

2109106

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: GROUND-WATER/GWA DISTRICT SIX CA

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C) 11.2

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C (1)? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Were all samples received intact (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact (1)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH
Is a chain-of-custody (COC) form present and filled out completely (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl HNO3
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH 1
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

(1) If NO, then contact the client before proceeding with analysis and note in case narrative.

[Signature]  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

09/08/2001  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**GW\_60666.\_MH\_MW\_4**  
**NENE\_20\_5N\_65W**  
**2109106-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEI0225	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	0.0010	"	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	"	
m,p-Xylene	ND	0.0020	"	"	"	"	"	"	
o-Xylene	ND	0.0010	"	"	"	"	"	"	
Xylenes (total)	ND	0.0020	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.050	"	"	"	"	"	"	

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		81.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.7 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>0.193</b>	0.100	mg/L	1	BEI0180	09/09/21	09/10/21	EPA 8015M	

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		83.3 %	44.8-129		"	"	"	"	

**Dissolved Metals by EPA Method 200.8**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**GW\_60666.\_MH\_MW\_4**  
**NENE\_20\_5N\_65W**  
**2109106-01 (Water)**

**Summit Scientific**

**Dissolved Metals by EPA Method 200.8**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Calcium	114000	50.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8
Iron	18.9	10.0	"	"	"	"	"	"
Magnesium	51700	50.0	"	"	"	"	"	"
Manganese	1080	1.00	"	"	"	"	"	"
Potassium	2810	50.0	"	"	"	"	"	"
Sodium	116000	50.0	"	"	"	"	"	"
Barium	49.7	1.00	"	"	"	"	"	"
Boron	264	10.0	"	"	"	"	"	"
Selenium	ND	1.00	"	"	"	"	"	"
Strontium	1520	10.0	"	"	"	"	"	"

**Anions by EPA Method 300.0**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	1.01	0.200	mg/L	1	BEI0189	09/09/21	09/09/21	EPA 300.0	
Chloride	68.4	20.0	"	200	"	"	"	"	
Fluoride	0.461	0.200	"	1	"	"	"	"	
Sulfate	85.0	60.0	"	200	"	"	"	"	
Nitrate as N	ND	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	ND	0.200	"	"	"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	380	10.0	mg/L as CaCO3	1	BEI0177	09/09/21	09/10/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	380	10.0	"	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**GW\_60666\_MH\_MW\_4**  
**NENE\_20\_5N\_65W**  
**2109106-01 (Water)**

**Summit Scientific**

**Conventional Chemistry Parameters by APHA/EPA Methods**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEI0322	09/15/21	09/15/21	SM4500-P-E	

**Specific Conductance by SM2510B**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1180</b>	1.00	umhos/cm	1	BEI0174	09/09/21	09/09/21	SM2510B	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	<b>582</b>	10.0	mg/L	1	BEI0205	09/10/21	09/10/21	SM2540C	

**pH by SM4500**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>7.77</b>	1.00	pH Units	1	BEI0259	09/08/21	09/13/21	SM4500-H+ B	

**Field Data**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1060</b>		uS/cm	1	BEI0171	09/08/21	09/08/21	Field Method	
Turbidity	<b>884</b>		NTU	"	"	"	"	"	
Temperature	<b>15.9</b>		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	<b>-291.6</b>		mv	"	"	"	"	"	
Dissolved Oxygen	<b>3.46</b>		mg/L	"	"	"	"	"	
pH	<b>7.53</b>		SU	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6  
Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**GW\_60666.\_MH\_MW\_4**  
**NENE\_20\_5N\_65W**  
**2109106-01 (Water)**

**Summit Scientific**

**Field Data**

---

---

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

Reported:  
09/16/21 14:10

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BEI0225 - EPA 5030 Water MS

##### Blank (BEI0225-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	0.0010	mg/L							
Toluene	ND	0.0010	"							
Ethylbenzene	ND	0.0010	"							
m,p-Xylene	ND	0.0020	"							
o-Xylene	ND	0.0010	"							
Xylenes (total)	ND	0.0020	"							
Gasoline Range Hydrocarbons	ND	0.050	"							
Surrogate: 1,2-Dichloroethane-d4	0.0112		"	0.0133		84.1	23-173			
Surrogate: Toluene-d8	0.0121		"	0.0133		90.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0126		"	0.0133		94.7	21-167			

##### LCS (BEI0225-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0244	0.0010	mg/L	0.0250		97.4	51-132			
Toluene	0.0228	0.0010	"	0.0250		91.1	51-138			
Ethylbenzene	0.0265	0.0010	"	0.0250		106	58-146			
m,p-Xylene	0.0535	0.0020	"	0.0500		107	57-144			
o-Xylene	0.0269	0.0010	"	0.0250		108	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0106		"	0.0133		79.4	23-173			
Surrogate: Toluene-d8	0.0122		"	0.0133		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0124		"	0.0133		93.2	21-167			

##### Matrix Spike (BEI0225-MS1)

Source: 2109080-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0236	0.0010	mg/L	0.0250	ND	94.3	34-141			
Toluene	0.0241	0.0010	"	0.0250	ND	96.3	27-151			
Ethylbenzene	0.0296	0.0010	"	0.0250	ND	119	29-160			
m,p-Xylene	0.0601	0.0020	"	0.0500	ND	120	20-166			
o-Xylene	0.0303	0.0010	"	0.0250	ND	121	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.00705		"	0.0133		52.9	23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		93.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0125		"	0.0133		93.7	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0225 - EPA 5030 Water MS**

Matrix Spike Dup (BEI0225-MSD1)	Source: 2109080-01			Prepared: 09/10/21 Analyzed: 09/11/21					
Benzene	0.0240	0.0010	mg/L	0.0250	ND	96.2	34-141	1.97	32
Toluene	0.0241	0.0010	"	0.0250	ND	96.5	27-151	0.207	25
Ethylbenzene	0.0277	0.0010	"	0.0250	ND	111	29-160	6.73	50
m,p-Xylene	0.0570	0.0020	"	0.0500	ND	114	20-166	5.18	36
o-Xylene	0.0285	0.0010	"	0.0250	ND	114	33-159	6.05	26
Surrogate: 1,2-Dichloroethane-d4	0.00965		"	0.0133		72.4	23-173		
Surrogate: Toluene-d8	0.0125		"	0.0133		94.0	20-170		
Surrogate: 4-Bromofluorobenzene	0.0121		"	0.0133		91.1	21-167		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0180 - EPA 3520B**

**Blank (BEI0180-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	ND	0.100	mg/L								
Surrogate: <i>o</i> -Terphenyl	0.0212		"	0.0250		84.8	44.8-129				

**LCS (BEI0180-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00		93.8	70-130				
Surrogate: <i>o</i> -Terphenyl	0.0274		"	0.0250		110	44.8-129				

**LCS Dup (BEI0180-BSD1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	1.03	0.100	mg/L	1.00		103	70-130	9.47	200		
Surrogate: <i>o</i> -Terphenyl	0.0260		"	0.0250		104	44.8-129				

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0212 - EPA 200.8**

**Blank (BEI0212-BLK1)**

Prepared & Analyzed: 09/10/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

**LCS (BEI0212-BS1)**

Prepared & Analyzed: 09/10/21

Calcium	5290	50.0	ug/l	5000	106	85-115				
Iron	4570	10.0	"	5000	91.4	85-115				
Magnesium	4950	50.0	"	5000	98.9	85-115				
Manganese	464	1.00	"	500	92.7	85-115				
Potassium	4800	50.0	"	5000	96.0	85-115				
Sodium	4770	50.0	"	5000	95.4	85-115				
Barium	452	1.00	"	500	90.3	85-115				
Boron	2370	10.0	"	2500	94.9	85-115				
Selenium	44.2	1.00	"	50.0	88.5	85-115				
Strontium	444	10.0	"	500	88.8	85-115				

**Duplicate (BEI0212-DUP1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	357000	50.0	ug/l		344000		3.78	20		
Iron	10.0	10.0	"		9.16		9.23	20		
Magnesium	118000	50.0	"		116000		1.24	20		
Manganese	19.2	1.00	"		19.3		0.436	20		
Potassium	13200	50.0	"		13400		1.56	20		
Sodium	124000	50.0	"		122000		1.01	20		
Barium	102	1.00	"		99.3		2.68	20		
Boron	444	10.0	"		429		3.51	20		
Selenium	12.1	1.00	"		13.0		6.42	20		
Strontium	6260	10.0	"		6000		4.24	20		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Matrix Spike (BEI0212-MS1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	350000	50.0	ug/l	5000	344000	128	70-130			
Iron	5040	10.0	"	5000	9.16	101	70-130			
Magnesium	120000	50.0	"	5000	116000	71.6	70-130			
Manganese	646	1.00	"	500	19.3	125	70-130			
Potassium	18900	50.0	"	5000	13400	111	70-130			
Sodium	126000	50.0	"	5000	122000	76.3	70-130			
Barium	686	1.00	"	500	99.3	117	70-130			
Boron	2650	10.0	"	2500	429	88.8	70-130			
Selenium	73.0	1.00	"	50.0	13.0	120	70-130			
Strontium	6380	10.0	"	500	6000	74.8	70-130			

**Matrix Spike Dup (BEI0212-MSD1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	347000	50.0	ug/l	5000	344000	70.4	70-130	0.832	25
Iron	4810	10.0	"	5000	9.16	95.9	70-130	4.67	25
Magnesium	120000	50.0	"	5000	116000	79.7	70-130	0.338	25
Manganese	508	1.00	"	500	19.3	97.8	70-130	23.8	25
Potassium	18700	50.0	"	5000	13400	107	70-130	1.23	25
Sodium	129000	50.0	"	5000	122000	129	70-130	2.08	25
Barium	573	1.00	"	500	99.3	94.8	70-130	17.9	25
Boron	2650	10.0	"	2500	429	88.9	70-130	0.0589	25
Selenium	59.9	1.00	"	50.0	13.0	93.9	70-130	19.7	25
Strontium	6550	10.0	"	500	6000	109	70-130	2.67	25

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0189 - General Preparation**

**Blank (BEI0189-BLK1)**

Prepared & Analyzed: 09/09/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

**LCS (BEI0189-BS1)**

Prepared & Analyzed: 09/09/21

Bromide	9.43	0.200	mg/L	10.0	94.3	90-110				
Chloride	2.96	0.100	"	3.00	98.7	90-110				
Fluoride	1.92	0.200	"	2.00	96.2	90-110				
Sulfate	15.0	0.300	"	15.0	100	90-110				
Nitrate as N	2.88	0.100	"	3.00	95.8	90-110				
Nitrite as N	2.77	0.100	"	3.00	92.2	90-110				

**Duplicate (BEI0189-DUP1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	1.75	0.200	mg/L	1.74	0.287	20				
Chloride	175	0.100	"	147	17.4	20				
Fluoride	0.472	0.200	"	0.505	6.76	20				
Sulfate	9.78	0.300	"	9.73	0.554	20				
Nitrate as N	0.0120	0.100	"	0.0130	8.00	20				
Nitrite as N	ND	0.100	"	ND		20				
Nitrate/Nitrite as N	0.0120	0.200	"	0.0130	8.00	20				

**Matrix Spike (BEI0189-MS1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	10.3	0.200	mg/L	10.0	1.74	86.1	80-120			
Chloride	175	0.100	"	3.00	147	932	80-120			QM-02
Fluoride	2.48	0.200	"	2.00	0.505	98.6	80-120			
Sulfate	24.7	0.300	"	15.0	9.73	99.6	80-120			
Nitrate as N	2.68	0.100	"	3.00	0.0130	89.0	80-120			
Nitrite as N	3.13	0.100	"	3.00	ND	104	80-120			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0177 - General Preparation**

**Blank (BEI0177-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							

**LCS (BEI0177-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
------------------	------	------	---------------	-----	--	------	--------	--	--	--

**Duplicate (BEI0177-DUP1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	360	10.0	mg/L as CaCO3		350			2.82	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	360	10.0	"		350			2.82	20	

**Matrix Spike (BEI0177-MS1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130			
------------------	-----	------	---------------	-----	-----	------	--------	--	--	--

**Matrix Spike Dup (BEI0177-MSD1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130	0.00	20	
------------------	-----	------	---------------	-----	-----	------	--------	------	----	--

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0322 - General Preparation**

**Blank (BEI0322-BLK1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L

**LCS (BEI0322-BS1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.952      0.0500      mg/L      1.00      95.2      80-120

**Duplicate (BEI0322-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L      ND      20

**Matrix Spike (BEI0322-MS1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      1.02      0.0500      mg/L      1.00      ND      102      70-130

**Matrix Spike Dup (BEI0322-MSD1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.989      0.0500      mg/L      1.00      ND      98.9      70-130      3.18      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID766286 Project Manager: Heather Shideman	<b>Reported:</b> 09/16/21 14:10
----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------------

**Specific Conductance by SM2510B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0174 - General Preparation**

<b>Blank (BEI0174-BLK1)</b>	Prepared & Analyzed: 09/09/21									
Specific Conductance (EC)	ND	1.00	umhos/cm							
<b>Duplicate (BEI0174-DUP1)</b>	Source: 2109104-01 Prepared & Analyzed: 09/09/21									
Specific Conductance (EC)	1270	1.00	umhos/cm		1270			0.00	20	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID766286 Project Manager: Heather Shideman	<b>Reported:</b> 09/16/21 14:10
----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------------

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0205 - General Preparation**

<b>Blank (BEI0205-BLK1)</b>				Prepared & Analyzed: 09/10/21							
Total Dissolved Solids	ND	10.0	mg/L								
<b>Duplicate (BEI0205-DUP1)</b>				Source: 2109101-01 Prepared & Analyzed: 09/10/21							
Total Dissolved Solids	1610	10.0	mg/L		1610			0.124		20	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 14:10

**pH by SM4500 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0259 - General Preparation**

**LCS (BEI0259-BS1)**

Prepared & Analyzed: 09/13/21

pH	9.10	1.00	pH Units	9.21	98.8	90-110
----	------	------	----------	------	------	--------

**Duplicate (BEI0259-DUP1)**

Source: 2109096-01

Prepared & Analyzed: 09/13/21

pH	6.79	1.00	pH Units	6.80	0.147	20
----	------	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:10

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Trip\_Blank/GWA\_District\_Six\_C6

Work Order # 2109105

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766286

Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:51

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_4_Trip_Blank	2109105-01	Water	09/08/21 12:50	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2109105

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933

Client: Extraction Oil and Gas (XOG) Report to: Apex Companies, LLC Project Manager: Heather Shideman  
 Address: 2234 117th Ave, Ste 106 E-Mail: Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com  
 City/State/Zip: Greeley, CO 80634 cc: nbennett@extractionog.com  
 Phone: (970) 576-3446 Project Name: Trip\_Blank/GWA\_District\_Six\_C6  
 Sampler Name: Jeff Griggs Project No.: ALLOC-421 Facility ID 766286

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX					
1	GW_60666_MH_MW_4_Trip_Blank	09/08/21	1250	2					X					X				Sample Frequency: Q3
Relinquished by: <u>[Signature]</u>		Date/Time: <u>09/08/2021 1750</u>		Received by: <u>[Signature]</u>		Date/Time: <u>09/08/2021 1750</u>		Turn Around Time (Check)				Notes:						
								Same Day <input type="checkbox"/>				72 hours <input type="checkbox"/>						
								24 hours <input type="checkbox"/>				Standard <input checked="" type="checkbox"/>						
								48 hours <input type="checkbox"/>										
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:				Temperature Upon Receipt: <u>11-2</u>						
								Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										

2109105

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: Trip Blank/GWA District S13

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_ CL

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C) 11.2

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

RB  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

09/08/2021  
Date/Time



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766286  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 13:51

**GW\_60666\_MH\_MW\_4\_Trip\_Blank**

**2109105-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0221	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/08/21 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.7 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:51

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limits	RPD	Limit		

#### Batch BEI0221 - EPA 5030 Water MS

##### Blank (BEI0221-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		100		23-173		
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.5		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3		94.9		21-167		

##### LCS (BEI0221-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.3	1.0	ug/l	33.3		87.9		51-132		
Toluene	33.7	1.0	"	33.3		101		51-138		
Ethylbenzene	37.6	1.0	"	33.3		113		58-146		
m,p-Xylene	74.7	2.0	"	66.7		112		57-144		
o-Xylene	36.8	1.0	"	33.3		110		53-146		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.0		23-173		
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		100		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3		98.5		21-167		

##### Matrix Spike (BEI0221-MS1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.1	1.0	ug/l	33.3	ND	87.2		34-141		
Toluene	33.5	1.0	"	33.3	ND	100		27-151		
Ethylbenzene	37.1	1.0	"	33.3	ND	111		29-160		
m,p-Xylene	74.8	2.0	"	66.7	ND	112		20-166		
o-Xylene	35.9	1.0	"	33.3	ND	108		33-159		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		101		23-173		
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.9		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3		97.1		21-167		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:51

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0221 - EPA 5030 Water MS**

**Matrix Spike Dup (BEI0221-MSD1)**

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.2	1.0	ug/l	33.3	ND	87.5	34-141	0.240	32	
Toluene	34.3	1.0	"	33.3	ND	103	27-151	2.42	25	
Ethylbenzene	36.1	1.0	"	33.3	ND	108	29-160	2.65	50	
m,p-Xylene	72.3	2.0	"	66.7	ND	108	20-166	3.45	36	
o-Xylene	36.2	1.0	"	33.3	ND	108	33-159	0.638	26	
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766286  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 13:51

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

Lab #: 803052 Job #: 48747 IS-99230 Co. Job#:  
Sample Name: GW\_60666\_MH\_MW\_4 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: IsoFlask  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 766286  
Date Sampled: 9/08/2021 12:50 Date Received: 9/10/2021 Date Reported: 9/15/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	28	19
Ethane -----	4.3	5.4
Propane -----	0.40	0.74

Lab #: 803052      Job #: 48747      IS-99230      Co. Job#:   
 Sample Name: GW\_60666\_MH\_MW\_4      Co. Lab#:   
 Company: Extraction Oil and Gas   
 API/Well:   
 Container: IsoFlask   
 Field/Site Name: Groundwater/GWA\_District\_Six\_C6   
 Location: NENE\_20\_5N\_65W   
 Formation/Depth: Q3   
 Sampling Point: 766286   
 Date Sampled: 9/08/2021 12:50      Date Received: 9/10/2021      Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{18}\text{O}$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide -----	nd					
Helium -----	na					
Hydrogen -----	nd					
Argon -----	0.300					
Oxygen + Argon -----	na					
Nitrogen -----	18.43					
Carbon Dioxide -----	2.81					
Methane -----	65.14	-47.37	-226.1		28	18
Ethane -----	9.35	-30.88			4.5	5.6
Ethylene -----	nd					
Propane -----	0.909	-26.25			0.40	0.73
Propylene -----	nd					
Iso-butane -----	0.116	-30.0				
N-butane -----	0.149	-26.0				
Iso-pentane -----	0.0298	-27.6				
N-pentane -----	0.0126					
Hexanes + -----	0.0071					

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.58

\*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

Butane and isopentane carbon isotope data obtained online via GC-C-IRMS.

Insufficient n-pentane concentration for isotopic analysis.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. All gas component carbon isotope values are reported on a scale defined by a two point calibration of LSVEC and NBS 19. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 803046 Job #: 48746 IS-99230 Co. Job#:   
Sample Name: GW\_60666\_MH\_MW\_4 Co. Lab#:   
Company: Extraction Oil and Gas   
API/Well:   
Container: 125ml bottle   
Field/Site Name: Groundwater/GWA\_District\_Six\_C6   
Location: NENE\_20\_5N\_65W   
Formation/Depth: Q3   
Sampling Point: 766286   
Date Sampled: 9/08/2021 12:50 Date Received: 9/10/2021 Date Reported: 9/24/2021

$\delta$ D of water ----- -107.0 ‰ relative to VSMOW

$\delta$ <sup>18</sup>O of water ----- -13.64 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta$ <sup>13</sup>C of DIC ----- -15.8 ‰ relative to VPDB

<sup>14</sup>C content of DIC ----- na

$\delta$ <sup>15</sup>N of nitrate ----- na

$\delta$ <sup>18</sup>O of nitrate ----- na

$\delta$ <sup>34</sup>S of sulfate ----- na

$\delta$ <sup>18</sup>O of sulfate ----- na

Vacuum Distilled? \* ----- No

Remarks:

nd = not detected. na = not analyzed.

\*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA\_District\_Six\_C6

Work Order # 2109107

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287

Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_5	2109107-01	Water	09/08/21 10:40	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

2109107

# Summit Scientific

S<sub>2</sub>

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

<b>Client:</b> Extraction Oil and Gas (XOG)	<b>Report to:</b> Apex Companies, LLC	<b>Project Manager:</b> Heather Shideman
<b>Address:</b> 2234 117th Ave, Ste 106		<b>E-Mail:</b> Rochelle.Carliste@apexcos.com, Heather.Shideman@apexcos.com
<b>City/State/Zip:</b> Greeley, CO 80634		<b>cc:</b> nbennett@extractionog.com
<b>Phone:</b> (970) 576-3446		<b>Project Name:</b> Ground_Water/GWA_District Six_C6
<b>Sampler Name:</b> Jeff Griggs		<b>Project No.:</b> Alloc-421 930, 88
		<b>Facility ID</b> 766287

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions
					HCl	HNO3	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	No RSK175 <small>(ethane, methane, propane)</small>	
1	GW_60666_MH_MW_5 NENE_20_5N_65W	09/08/2021	1040						X				X	X	X	Sample Frequency: Q3
	Temperature, field:		15.8 °C													
	pH, field:		7.33 s.u.													
	Conductivity, field:		1655 uS/cm													
	ORP, field:		-139.5 mV													
	Dissolved Oxygen, field:		0.72 mg/L													
	Turbidity, field:		401.1 NTU													
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:				
[Signature]		09/08/2021 1750		[Signature]		09/08/2021 1750		Same Day <input type="checkbox"/> 72 hours								
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours <input checked="" type="checkbox"/> Standard								
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours <input type="checkbox"/>								
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:				Temperature Upon Receipt: 11.2				
Relinquished by:		Date/Time:		Received by:		Date/Time:		Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								

2109107

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: GROUND-WATER/GWA DISTRICT SIX CA

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C) 11.2

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl HNO3
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH 1
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name or Initials

Signature of Custodian

Date/Time

09/08/2001



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**GW\_60666.\_MH\_MW\_5**  
**NENE\_20\_5N\_65W**  
**2109107-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0010		mg/L	1	BEI0225	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	0.0010		"	"	"	"	"	"	
Ethylbenzene	ND	0.0010		"	"	"	"	"	"	
m,p-Xylene	ND	0.0020		"	"	"	"	"	"	
o-Xylene	ND	0.0010		"	"	"	"	"	"	
Xylenes (total)	ND	0.0020		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.050		"	"	"	"	"	"	

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		53.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		95.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.3 %		21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>C10-C28 (DRO)</b>	<b>0.142</b>	0.100		mg/L	1	BEI0180	09/09/21	09/10/21	EPA 8015M	

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		78.4 %		44.8-129		"	"	"	"	

**Dissolved Metals by EPA Method 200.8**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**GW\_60666.\_MH\_MW\_5**  
**NENE\_20\_5N\_65W**  
**2109107-01 (Water)**

**Summit Scientific**

**Dissolved Metals by EPA Method 200.8**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Calcium	173000	50.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8
Iron	21.6	10.0	"	"	"	"	"	"
Magnesium	68900	50.0	"	"	"	"	"	"
Manganese	420	1.00	"	"	"	"	"	"
Potassium	4310	50.0	"	"	"	"	"	"
Sodium	177000	50.0	"	"	"	"	"	"
Barium	49.1	1.00	"	"	"	"	"	"
Boron	242	10.0	"	"	"	"	"	"
Selenium	2.62	1.00	"	"	"	"	"	"
Strontium	2410	10.0	"	"	"	"	"	"

**Anions by EPA Method 300.0**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	2.24	0.200	mg/L	1	BEI0189	09/09/21	09/09/21	EPA 300.0	
Chloride	187	20.0	"	200	"	"	"	"	
Fluoride	0.445	0.200	"	1	"	"	"	"	
Sulfate	187	60.0	"	200	"	"	"	"	
Nitrate as N	6.77	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	6.77	0.200	"	"	"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	250	10.0	mg/L as CaCO3	1	BEI0177	09/09/21	09/10/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	250	10.0	"	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**GW\_60666\_MH\_MW\_5**  
**NENE\_20\_5N\_65W**  
**2109107-01 (Water)**

**Summit Scientific**

**Conventional Chemistry Parameters by APHA/EPA Methods**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEI0322	09/15/21	09/15/21	SM4500-P-E	

**Specific Conductance by SM2510B**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1670</b>	1.00	umhos/cm	1	BEI0174	09/09/21	09/09/21	SM2510B	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	<b>834</b>	10.0	mg/L	1	BEI0205	09/10/21	09/10/21	SM2540C	

**pH by SM4500**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>7.57</b>	1.00	pH Units	1	BEI0259	09/08/21	09/13/21	SM4500-H+ B	

**Field Data**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1655</b>		uS/cm	1	BEI0170	09/08/21	09/08/21	Field Method	
Turbidity	<b>401</b>		NTU	"	"	"	"	"	
Temperature	<b>15.8</b>		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	<b>-139.5</b>		mv	"	"	"	"	"	
Dissolved Oxygen	<b>0.72</b>		mg/L	"	"	"	"	"	
pH	<b>7.33</b>		SU	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**GW\_60666.\_MH\_MW\_5**  
**NENE\_20\_5N\_65W**  
**2109107-01 (Water)**

**Summit Scientific**

**Field Data**

---

---

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

Reported:  
09/16/21 14:11

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BEI0225 - EPA 5030 Water MS

##### Blank (BEI0225-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	0.0010	mg/L							
Toluene	ND	0.0010	"							
Ethylbenzene	ND	0.0010	"							
m,p-Xylene	ND	0.0020	"							
o-Xylene	ND	0.0010	"							
Xylenes (total)	ND	0.0020	"							
Gasoline Range Hydrocarbons	ND	0.050	"							
Surrogate: 1,2-Dichloroethane-d4	0.0112		"	0.0133		84.1	23-173			
Surrogate: Toluene-d8	0.0121		"	0.0133		90.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0126		"	0.0133		94.7	21-167			

##### LCS (BEI0225-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0244	0.0010	mg/L	0.0250		97.4	51-132			
Toluene	0.0228	0.0010	"	0.0250		91.1	51-138			
Ethylbenzene	0.0265	0.0010	"	0.0250		106	58-146			
m,p-Xylene	0.0535	0.0020	"	0.0500		107	57-144			
o-Xylene	0.0269	0.0010	"	0.0250		108	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0106		"	0.0133		79.4	23-173			
Surrogate: Toluene-d8	0.0122		"	0.0133		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0124		"	0.0133		93.2	21-167			

##### Matrix Spike (BEI0225-MS1)

Source: 2109080-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0236	0.0010	mg/L	0.0250	ND	94.3	34-141			
Toluene	0.0241	0.0010	"	0.0250	ND	96.3	27-151			
Ethylbenzene	0.0296	0.0010	"	0.0250	ND	119	29-160			
m,p-Xylene	0.0601	0.0020	"	0.0500	ND	120	20-166			
o-Xylene	0.0303	0.0010	"	0.0250	ND	121	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.00705		"	0.0133		52.9	23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		93.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0125		"	0.0133		93.7	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0225 - EPA 5030 Water MS**

Matrix Spike Dup (BEI0225-MSD1)	Source: 2109080-01			Prepared: 09/10/21 Analyzed: 09/11/21					
Benzene	0.0240	0.0010	mg/L	0.0250	ND	96.2	34-141	1.97	32
Toluene	0.0241	0.0010	"	0.0250	ND	96.5	27-151	0.207	25
Ethylbenzene	0.0277	0.0010	"	0.0250	ND	111	29-160	6.73	50
m,p-Xylene	0.0570	0.0020	"	0.0500	ND	114	20-166	5.18	36
o-Xylene	0.0285	0.0010	"	0.0250	ND	114	33-159	6.05	26
Surrogate: 1,2-Dichloroethane-d4	0.00965		"	0.0133		72.4	23-173		
Surrogate: Toluene-d8	0.0125		"	0.0133		94.0	20-170		
Surrogate: 4-Bromofluorobenzene	0.0121		"	0.0133		91.1	21-167		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0180 - EPA 3520B**

**Blank (BEI0180-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	ND	0.100	mg/L								
Surrogate: <i>o</i> -Terphenyl	0.0212		"	0.0250		84.8	44.8-129				

**LCS (BEI0180-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00		93.8	70-130				
Surrogate: <i>o</i> -Terphenyl	0.0274		"	0.0250		110	44.8-129				

**LCS Dup (BEI0180-BSD1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	1.03	0.100	mg/L	1.00		103	70-130	9.47	200		
Surrogate: <i>o</i> -Terphenyl	0.0260		"	0.0250		104	44.8-129				

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0212 - EPA 200.8**

**Blank (BEI0212-BLK1)**

Prepared & Analyzed: 09/10/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

**LCS (BEI0212-BS1)**

Prepared & Analyzed: 09/10/21

Calcium	5290	50.0	ug/l	5000	106	85-115				
Iron	4570	10.0	"	5000	91.4	85-115				
Magnesium	4950	50.0	"	5000	98.9	85-115				
Manganese	464	1.00	"	500	92.7	85-115				
Potassium	4800	50.0	"	5000	96.0	85-115				
Sodium	4770	50.0	"	5000	95.4	85-115				
Barium	452	1.00	"	500	90.3	85-115				
Boron	2370	10.0	"	2500	94.9	85-115				
Selenium	44.2	1.00	"	50.0	88.5	85-115				
Strontium	444	10.0	"	500	88.8	85-115				

**Duplicate (BEI0212-DUP1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	357000	50.0	ug/l		344000		3.78	20		
Iron	10.0	10.0	"		9.16		9.23	20		
Magnesium	118000	50.0	"		116000		1.24	20		
Manganese	19.2	1.00	"		19.3		0.436	20		
Potassium	13200	50.0	"		13400		1.56	20		
Sodium	124000	50.0	"		122000		1.01	20		
Barium	102	1.00	"		99.3		2.68	20		
Boron	444	10.0	"		429		3.51	20		
Selenium	12.1	1.00	"		13.0		6.42	20		
Strontium	6260	10.0	"		6000		4.24	20		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**Dissolved Metals by EPA Method 200.8 - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Matrix Spike (BEI0212-MS1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	350000	50.0	ug/l	5000	344000	128	70-130			
Iron	5040	10.0	"	5000	9.16	101	70-130			
Magnesium	120000	50.0	"	5000	116000	71.6	70-130			
Manganese	646	1.00	"	500	19.3	125	70-130			
Potassium	18900	50.0	"	5000	13400	111	70-130			
Sodium	126000	50.0	"	5000	122000	76.3	70-130			
Barium	686	1.00	"	500	99.3	117	70-130			
Boron	2650	10.0	"	2500	429	88.8	70-130			
Selenium	73.0	1.00	"	50.0	13.0	120	70-130			
Strontium	6380	10.0	"	500	6000	74.8	70-130			

**Matrix Spike Dup (BEI0212-MSD1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	347000	50.0	ug/l	5000	344000	70.4	70-130	0.832	25
Iron	4810	10.0	"	5000	9.16	95.9	70-130	4.67	25
Magnesium	120000	50.0	"	5000	116000	79.7	70-130	0.338	25
Manganese	508	1.00	"	500	19.3	97.8	70-130	23.8	25
Potassium	18700	50.0	"	5000	13400	107	70-130	1.23	25
Sodium	129000	50.0	"	5000	122000	129	70-130	2.08	25
Barium	573	1.00	"	500	99.3	94.8	70-130	17.9	25
Boron	2650	10.0	"	2500	429	88.9	70-130	0.0589	25
Selenium	59.9	1.00	"	50.0	13.0	93.9	70-130	19.7	25
Strontium	6550	10.0	"	500	6000	109	70-130	2.67	25

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0189 - General Preparation**

**Blank (BEI0189-BLK1)**

Prepared & Analyzed: 09/09/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

**LCS (BEI0189-BS1)**

Prepared & Analyzed: 09/09/21

Bromide	9.43	0.200	mg/L	10.0	94.3	90-110				
Chloride	2.96	0.100	"	3.00	98.7	90-110				
Fluoride	1.92	0.200	"	2.00	96.2	90-110				
Sulfate	15.0	0.300	"	15.0	100	90-110				
Nitrate as N	2.88	0.100	"	3.00	95.8	90-110				
Nitrite as N	2.77	0.100	"	3.00	92.2	90-110				

**Duplicate (BEI0189-DUP1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	1.75	0.200	mg/L	1.74	0.287	20				
Chloride	175	0.100	"	147	17.4	20				
Fluoride	0.472	0.200	"	0.505	6.76	20				
Sulfate	9.78	0.300	"	9.73	0.554	20				
Nitrate as N	0.0120	0.100	"	0.0130	8.00	20				
Nitrite as N	ND	0.100	"	ND		20				
Nitrate/Nitrite as N	0.0120	0.200	"	0.0130	8.00	20				

**Matrix Spike (BEI0189-MS1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	10.3	0.200	mg/L	10.0	1.74	86.1	80-120			
Chloride	175	0.100	"	3.00	147	932	80-120			QM-02
Fluoride	2.48	0.200	"	2.00	0.505	98.6	80-120			
Sulfate	24.7	0.300	"	15.0	9.73	99.6	80-120			
Nitrate as N	2.68	0.100	"	3.00	0.0130	89.0	80-120			
Nitrite as N	3.13	0.100	"	3.00	ND	104	80-120			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0177 - General Preparation**

**Blank (BEI0177-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							

**LCS (BEI0177-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
------------------	------	------	---------------	-----	--	------	--------	--	--	--

**Duplicate (BEI0177-DUP1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	360	10.0	mg/L as CaCO3		350			2.82	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	360	10.0	"		350			2.82	20	

**Matrix Spike (BEI0177-MS1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130			
------------------	-----	------	---------------	-----	-----	------	--------	--	--	--

**Matrix Spike Dup (BEI0177-MSD1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130	0.00	20	
------------------	-----	------	---------------	-----	-----	------	--------	------	----	--

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0322 - General Preparation**

**Blank (BEI0322-BLK1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      ND              0.0500      mg/L

**LCS (BEI0322-BS1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      0.952              0.0500      mg/L              1.00              95.2              80-120

**Duplicate (BEI0322-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      ND              0.0500      mg/L                                      ND                                      20

**Matrix Spike (BEI0322-MS1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      1.02              0.0500      mg/L              1.00              ND              102              70-130

**Matrix Spike Dup (BEI0322-MSD1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total                      0.989              0.0500      mg/L              1.00              ND              98.9              70-130              3.18              20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID766287 Project Manager: Heather Shideman	<b>Reported:</b> 09/16/21 14:11
----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------------

**Specific Conductance by SM2510B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limits	RPD	Limit		

**Batch BEI0174 - General Preparation**

<b>Blank (BEI0174-BLK1)</b>	Prepared & Analyzed: 09/09/21									
Specific Conductance (EC)	ND	1.00	umhos/cm							
<b>Duplicate (BEI0174-DUP1)</b>	Source: 2109104-01 Prepared & Analyzed: 09/09/21									
Specific Conductance (EC)	1270	1.00	umhos/cm		1270			0.00	20	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 14:11

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0205 - General Preparation**

**Blank (BEI0205-BLK1)**

Prepared & Analyzed: 09/10/21

Total Dissolved Solids                      ND                      10.0                      mg/L

**Duplicate (BEI0205-DUP1)**

**Source: 2109101-01**

Prepared & Analyzed: 09/10/21

Total Dissolved Solids                      1610                      10.0                      mg/L                      1610                      0.124                      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 14:11

**pH by SM4500 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0259 - General Preparation**

**LCS (BEI0259-BS1)**

Prepared & Analyzed: 09/13/21

pH	9.10	1.00	pH Units	9.21	98.8	90-110
----	------	------	----------	------	------	--------

**Duplicate (BEI0259-DUP1)**

Source: 2109096-01

Prepared & Analyzed: 09/13/21

pH	6.79	1.00	pH Units	6.80	0.147	20
----	------	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:11

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Trip\_Blank/GWA\_District\_Six\_C6

Work Order # 2109108

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', written in a cursive style.

Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766287

Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:12

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_5_Trip_Blank	2109108-01	Water	09/08/21 10:40	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific 2109108

*S<sub>2</sub>*

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933

<b>Client:</b> Extraction Oil and Gas (XOG)	<b>Report to:</b> Apex Companies, LLC	<b>Project Manager:</b> Heather Shideman	
<b>Address:</b> 2234 117th Ave, Ste 106		<b>E-Mail:</b> Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com	
<b>City/State/Zip:</b> Greeley, CO 80634		<b>cc:</b> nbennett@extractionog.com	
<b>Phone:</b> (970) 576-3446		<b>Project Name:</b> Trip_Blank/GWA_District_Six_C6	
<b>Sampler Name:</b> <i>Jeff Griggs</i>		<b>Project No.:</b> ALLOC-421	<b>Facility ID</b> 766287

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions		
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX						
1	GW_60666_MH_MW_5_Trip_Blank	09/08/21	1040	2					X					X					Sample Frequency: Q3
Relinquished by: <i>[Signature]</i>		Date/Time: 09/08/21 1750		Received by: <i>[Signature]</i>		Date/Time: 09/08/21 1750		Turn Around Time (Check)				Notes:							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day ___ 72 hours ___											
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours ___ Standard <u>X</u>											
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours ___											
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:				Temperature Upon Receipt: 11.2							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Intact: Yes <u>X</u> No											

2109108

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: Trip Blank/GWA District S13

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_ CL6

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C) 11.2

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C (1)? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
Were all samples received intact (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
(1) If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name or Initials

BB

Signature of Custodian

[Signature]

09/08/2021  
Date/Time



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766287  
 Project Manager: Heather Shideman

**Reported:**  
 09/16/21 14:12

**GW\_60666\_MH\_MW\_5\_Trip\_Blank**

**2109108-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0221	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/08/21 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.9 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:12

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

#### Batch BEI0221 - EPA 5030 Water MS

##### Blank (BEI0221-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		100	23-173			
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.5	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3		94.9	21-167			

##### LCS (BEI0221-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.3	1.0	ug/l	33.3		87.9	51-132			
Toluene	33.7	1.0	"	33.3		101	51-138			
Ethylbenzene	37.6	1.0	"	33.3		113	58-146			
m,p-Xylene	74.7	2.0	"	66.7		112	57-144			
o-Xylene	36.8	1.0	"	33.3		110	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.0	23-173			
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		100	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3		98.5	21-167			

##### Matrix Spike (BEI0221-MS1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.1	1.0	ug/l	33.3	ND	87.2	34-141			
Toluene	33.5	1.0	"	33.3	ND	100	27-151			
Ethylbenzene	37.1	1.0	"	33.3	ND	111	29-160			
m,p-Xylene	74.8	2.0	"	66.7	ND	112	20-166			
o-Xylene	35.9	1.0	"	33.3	ND	108	33-159			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		101	23-173			
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.9	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3		97.1	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:12

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0221 - EPA 5030 Water MS**

**Matrix Spike Dup (BEI0221-MSD1)**

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.2	1.0	ug/l	33.3	ND	87.5	34-141	0.240	32	
Toluene	34.3	1.0	"	33.3	ND	103	27-151	2.42	25	
Ethylbenzene	36.1	1.0	"	33.3	ND	108	29-160	2.65	50	
m,p-Xylene	72.3	2.0	"	66.7	ND	108	20-166	3.45	36	
o-Xylene	36.2	1.0	"	33.3	ND	108	33-159	0.638	26	
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766287  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:12

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

Lab #: 803051 Job #: 48747 IS-99230 Co. Job#:  
Sample Name: GW\_60666\_MH\_MW\_5 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: IsoFlask  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 766287  
Date Sampled: 9/08/2021 10:40 Date Received: 9/10/2021 Date Reported: 9/15/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	3.9	2.6
Ethane -----	0.41	0.51
Propane -----	0.026	0.048

Lab #: 803051 Job #: 48747 IS-99230 Co. Job#:  
 Sample Name: GW\_60666\_MH\_MW\_5 Co. Lab#:  
 Company: Extraction Oil and Gas  
 API/Well:  
 Container: IsoFlask  
 Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
 Location: NENE\_20\_5N\_65W  
 Formation/Depth: Q3  
 Sampling Point: 766287  
 Date Sampled: 9/08/2021 10:40 Date Received: 9/10/2021 Date Reported: 10/28/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	$\delta\text{D}$ ‰	$\delta^{18}\text{O}$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide -----	nd					
Helium -----	na					
Hydrogen -----	nd					
Argon -----	1.23					
Oxygen + Argon -----	na					
Nitrogen -----	67.85					
Carbon Dioxide -----	4.41					
Methane -----	16.80	-46.57	-224.3		4.2	2.8
Ethane -----	1.48	-26.0			0.41	0.52
Ethylene -----	nd					
Propane -----	0.102	-28.3			0.026	0.048
Propylene -----	nd					
Iso-butane -----	0.0203					
N-butane -----	0.0406	-26.2				
Iso-pentane -----	0.0143					
N-pentane -----	0.0052					
Hexanes + -----	0.0048					

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.75

\*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

Ethane, propane, and n-butane carbon isotope data obtained online via GC-C-IRMS.

Insufficient isobutane and pentane concentrations for isotopic analysis.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. All gas component carbon isotope values are reported on a scale defined by a two point calibration of LSVEC and NBS 19. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 803045 Job #: 48746 IS-99230 Co. Job#:   
Sample Name: GW\_60666\_MH\_MW\_5 Co. Lab#:   
Company: Extraction Oil and Gas   
API/Well:   
Container: 125ml bottle   
Field/Site Name: Groundwater/GWA\_District\_Six\_C6   
Location: NENE\_20\_5N\_65W   
Formation/Depth: Q3   
Sampling Point: 766287   
Date Sampled: 9/08/2021 10:40 Date Received: 9/10/2021 Date Reported: 9/24/2021

$\delta$ D of water ----- -105.5 ‰ relative to VSMOW

$\delta^{18}$ O of water ----- -13.40 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}$ C of DIC ----- -10.9 ‰ relative to VPDB

$^{14}$ C content of DIC ----- na

$\delta^{15}$ N of nitrate ----- na

$\delta^{18}$ O of nitrate ----- na

$\delta^{34}$ S of sulfate ----- na

$\delta^{18}$ O of sulfate ----- na

Vacuum Distilled? \* ----- No

Remarks:

nd = not detected. na = not analyzed.

\*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 15, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

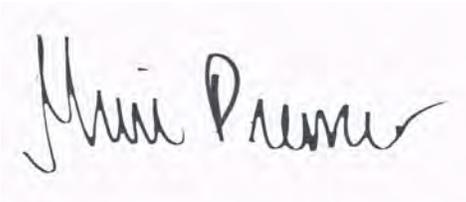
Denver, CO 80202

RE: Groundwater/GWA\_District\_Six\_C6

Work Order # 2109080

Enclosed are the results of analyses for samples received by Summit Scientific on 09/07/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716

Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_8	2109080-01	Water	09/07/21 12:00	09/07/21 18:00

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific 2109080

*S<sub>2</sub>*

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933

Client:	Extraction Oil and Gas (XOG)	Report to: Apex Companies, LLC	Project Manager: Heather Shideman
Address:	2234 117th Ave, Ste 106	E-Mail:	Rochelle.Carlisle@apexcoss.com, Heather.Shideman@apexcoss.com, Kolbi.Condos@apexcoss.com
City/State/Zip:	Greeley, CO 80634	cc:	nbennett@extractionog.com
Phone:	(970) 576-3446	Project Name:	Groundwater/GWA_District_Six_C6
Sampler Name:	<i>Jeff Griggs</i>	Project No.:	Alloc-421 930, 88
		Facility ID	766716

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions			
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	COGCC 609	No BART	No RSK175 <small>(ethane, methane, propane)</small>					
1	GW_61256_MH_MW_8 NENE_20_5N_65W	09/07/21	1200						X					X	X	X				Sample Frequency: Q3
	Temperature, field:		16.4	°C																
	pH, field:		7.23	s.u.																
	Conductivity, field:		1213	uS/cm																
	ORP, field:		159.2	mV																
	Dissolved Oxygen, field:		7.33	mg/L																
	Turbidity, field:		—	NTU																
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:								
<i>JW</i>		9/7/21 1710		<i>Will Griggs</i>		9/7/21 1800		Same Day ___ 72 hours ___ 24 hours ___ Standard <u>X</u> 48 hours ___												
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:												
								Temperature Upon Receipt: <u>12</u> Intact: <u>Yes</u> No												

2109080

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: X069

Client Project ID: Ground / Water / GWA District six C6

Shipped Via:  H.D.  P.U.  FedEx  UPS  USPS  Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C)	<u>10</u>
-----------	-----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

WG  
Custodian Printed Name or Initials

Will Rubin  
Signature of Custodian

9/7/21  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**GW\_61256\_MH\_MW\_8**  
**NENE\_20\_5N\_65W**  
**2109080-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEI0225	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	0.0010	"	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	"	
m,p-Xylene	ND	0.0020	"	"	"	"	"	"	
o-Xylene	ND	0.0010	"	"	"	"	"	"	
Xylenes (total)	ND	0.0020	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.050	"	"	"	"	"	"	

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		49.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEI0180	09/09/21	09/10/21	EPA 8015M	

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		87.0 %	44.8-129		"	"	"	"	

**Dissolved Metals by EPA Method 200.8**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**GW\_61256\_MH\_MW\_8**  
**NENE\_20\_5N\_65W**  
**2109080-01 (Water)**

**Summit Scientific**

**Dissolved Metals by EPA Method 200.8**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	134000	50.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8	
Iron	40.7	10.0	"	"	"	"	"	"	
Magnesium	53500	50.0	"	"	"	"	"	"	
Manganese	2.14	1.00	"	"	"	"	"	"	
Potassium	3640	50.0	"	"	"	"	"	"	
Sodium	115000	50.0	"	"	"	"	"	"	
Barium	40.9	1.00	"	"	"	"	"	"	
Boron	213	10.0	"	"	"	"	"	"	
Selenium	2.90	1.00	"	"	"	"	"	"	
Strontium	1570	10.0	"	"	"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.407	0.200	mg/L	1	BEI0145	09/08/21	09/08/21	EPA 300.0	
Chloride	44.6	20.0	"	200	"	"	"	"	
Fluoride	0.252	0.200	"	1	"	"	"	"	
Sulfate	228	60.0	"	200	"	"	"	"	
Nitrate as N	8.71	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	8.71	0.200	"	"	"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	300	10.0	mg/L as CaCO3	1	BEI0137	09/08/21	09/08/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	300	10.0	"	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**GW\_61256\_MH\_MW\_8**  
**NENE\_20\_5N\_65W**  
**2109080-01 (Water)**

**Summit Scientific**

**Conventional Chemistry Parameters by APHA/EPA Methods**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEI0322	09/15/21	09/15/21	SM4500-P-E	

**Specific Conductance by SM2510B**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1520</b>	1.00	umhos/cm	1	BEI0135	09/08/21	09/08/21	SM2510B	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	<b>750</b>	10.0	mg/L	1	BEI0158	09/08/21	09/09/21	SM2540C	

**pH by SM4500**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>7.54</b>	1.00	pH Units	1	BEI0164	09/07/21	09/08/21	SM4500-H+ B	

**Field Data**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>1213</b>		uS/cm	1	BEI0130	09/07/21	09/07/21	Field Method	
Dissolved Oxygen	<b>7.33</b>		mg/L	"	"	"	"	"	
Temperature	<b>16.4</b>		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	<b>159.2</b>		mv	"	"	"	"	"	
pH	<b>7.23</b>		SU	"	"	"	"	"	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

Reported:  
09/15/21 17:39

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

#### Batch BEI0225 - EPA 5030 Water MS

##### Blank (BEI0225-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	0.0010	mg/L								
Toluene	ND	0.0010	"								
Ethylbenzene	ND	0.0010	"								
m,p-Xylene	ND	0.0020	"								
o-Xylene	ND	0.0010	"								
Xylenes (total)	ND	0.0020	"								
Gasoline Range Hydrocarbons	ND	0.050	"								
Surrogate: 1,2-Dichloroethane-d4	0.0112		"	0.0133		84.1		23-173			
Surrogate: Toluene-d8	0.0121		"	0.0133		90.8		20-170			
Surrogate: 4-Bromofluorobenzene	0.0126		"	0.0133		94.7		21-167			

##### LCS (BEI0225-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0244	0.0010	mg/L	0.0250		97.4		51-132			
Toluene	0.0228	0.0010	"	0.0250		91.1		51-138			
Ethylbenzene	0.0265	0.0010	"	0.0250		106		58-146			
m,p-Xylene	0.0535	0.0020	"	0.0500		107		57-144			
o-Xylene	0.0269	0.0010	"	0.0250		108		53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0106		"	0.0133		79.4		23-173			
Surrogate: Toluene-d8	0.0122		"	0.0133		91.6		20-170			
Surrogate: 4-Bromofluorobenzene	0.0124		"	0.0133		93.2		21-167			

##### Matrix Spike (BEI0225-MS1)

Source: 2109080-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0236	0.0010	mg/L	0.0250	ND	94.3		34-141			
Toluene	0.0241	0.0010	"	0.0250	ND	96.3		27-151			
Ethylbenzene	0.0296	0.0010	"	0.0250	ND	119		29-160			
m,p-Xylene	0.0601	0.0020	"	0.0500	ND	120		20-166			
o-Xylene	0.0303	0.0010	"	0.0250	ND	121		33-159			
Surrogate: 1,2-Dichloroethane-d4	0.00705		"	0.0133		52.9		23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		93.9		20-170			
Surrogate: 4-Bromofluorobenzene	0.0125		"	0.0133		93.7		21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BEI0225 - EPA 5030 Water MS

##### Matrix Spike Dup (BEI0225-MSD1)

Source: 2109080-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0240	0.0010	mg/L	0.0250	ND	96.2	34-141	1.97	32	
Toluene	0.0241	0.0010	"	0.0250	ND	96.5	27-151	0.207	25	
Ethylbenzene	0.0277	0.0010	"	0.0250	ND	111	29-160	6.73	50	
m,p-Xylene	0.0570	0.0020	"	0.0500	ND	114	20-166	5.18	36	
o-Xylene	0.0285	0.0010	"	0.0250	ND	114	33-159	6.05	26	
Surrogate: 1,2-Dichloroethane-d4	0.00965		"	0.0133		72.4	23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		94.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0121		"	0.0133		91.1	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0180 - EPA 3520B**

**Blank (BEI0180-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	ND	0.100	mg/L								
Surrogate: <i>o</i> -Terphenyl	0.0212		"	0.0250		84.8	44.8-129				

**LCS (BEI0180-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00		93.8	70-130				
Surrogate: <i>o</i> -Terphenyl	0.0274		"	0.0250		110	44.8-129				

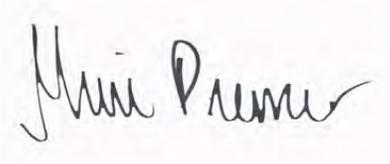
**LCS Dup (BEI0180-BSD1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	1.03	0.100	mg/L	1.00		103	70-130	9.47	200		
Surrogate: <i>o</i> -Terphenyl	0.0260		"	0.0250		104	44.8-129				

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Blank (BEI0212-BLK1)**

Prepared & Analyzed: 09/10/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

**LCS (BEI0212-BS1)**

Prepared & Analyzed: 09/10/21

Calcium	5290	50.0	ug/l	5000	106	85-115
Iron	4570	10.0	"	5000	91.4	85-115
Magnesium	4950	50.0	"	5000	98.9	85-115
Manganese	464	1.00	"	500	92.7	85-115
Potassium	4800	50.0	"	5000	96.0	85-115
Sodium	4770	50.0	"	5000	95.4	85-115
Barium	452	1.00	"	500	90.3	85-115
Boron	2370	10.0	"	2500	94.9	85-115
Selenium	44.2	1.00	"	50.0	88.5	85-115
Strontium	444	10.0	"	500	88.8	85-115

**Duplicate (BEI0212-DUP1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	357000	50.0	ug/l	344000	3.78	20
Iron	10.0	10.0	"	9.16	9.23	20
Magnesium	118000	50.0	"	116000	1.24	20
Manganese	19.2	1.00	"	19.3	0.436	20
Potassium	13200	50.0	"	13400	1.56	20
Sodium	124000	50.0	"	122000	1.01	20
Barium	102	1.00	"	99.3	2.68	20
Boron	444	10.0	"	429	3.51	20
Selenium	12.1	1.00	"	13.0	6.42	20
Strontium	6260	10.0	"	6000	4.24	20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0212 - EPA 200.8**

**Matrix Spike (BEI0212-MS1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	350000	50.0	ug/l	5000	344000	128	70-130			
Iron	5040	10.0	"	5000	9.16	101	70-130			
Magnesium	120000	50.0	"	5000	116000	71.6	70-130			
Manganese	646	1.00	"	500	19.3	125	70-130			
Potassium	18900	50.0	"	5000	13400	111	70-130			
Sodium	126000	50.0	"	5000	122000	76.3	70-130			
Barium	686	1.00	"	500	99.3	117	70-130			
Boron	2650	10.0	"	2500	429	88.8	70-130			
Selenium	73.0	1.00	"	50.0	13.0	120	70-130			
Strontium	6380	10.0	"	500	6000	74.8	70-130			

**Matrix Spike Dup (BEI0212-MSD1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	347000	50.0	ug/l	5000	344000	70.4	70-130	0.832	25	
Iron	4810	10.0	"	5000	9.16	95.9	70-130	4.67	25	
Magnesium	120000	50.0	"	5000	116000	79.7	70-130	0.338	25	
Manganese	508	1.00	"	500	19.3	97.8	70-130	23.8	25	
Potassium	18700	50.0	"	5000	13400	107	70-130	1.23	25	
Sodium	129000	50.0	"	5000	122000	129	70-130	2.08	25	
Barium	573	1.00	"	500	99.3	94.8	70-130	17.9	25	
Boron	2650	10.0	"	2500	429	88.9	70-130	0.0589	25	
Selenium	59.9	1.00	"	50.0	13.0	93.9	70-130	19.7	25	
Strontium	6550	10.0	"	500	6000	109	70-130	2.67	25	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

Reported:  
09/15/21 17:39

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0145 - General Preparation**

**Blank (BEI0145-BLK1)**

Prepared & Analyzed: 09/08/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

**LCS (BEI0145-BS1)**

Prepared & Analyzed: 09/08/21

Bromide	9.54	0.200	mg/L	10.0	95.4	90-110				
Chloride	2.81	0.100	"	3.00	93.6	90-110				
Fluoride	1.85	0.200	"	2.00	92.6	90-110				
Sulfate	15.2	0.300	"	15.0	101	90-110				
Nitrate as N	2.92	0.100	"	3.00	97.2	90-110				
Nitrite as N	2.78	0.100	"	3.00	92.8	90-110				

**Duplicate (BEI0145-DUP1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Bromide	0.311	0.200	mg/L	0.307			1.29	20		
Chloride	71.6	0.100	"	47.6			40.3	20		QM-02
Fluoride	0.224	0.200	"	0.223			0.447	20		
Sulfate	121	0.300	"	170			33.7	20		QM-02
Nitrate as N	8.30	0.100	"	8.24			0.713	20		
Nitrite as N	ND	0.100	"	ND				20		
Nitrate/Nitrite as N	8.30	0.200	"	8.24			0.713	20		

**Matrix Spike (BEI0145-MS1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Bromide	9.25	0.200	mg/L	10.0	0.307	89.4	80-120			
Chloride	73.1	0.100	"	3.00	47.6	849	80-120			QM-02
Fluoride	1.85	0.200	"	2.00	0.223	81.4	80-120			
Sulfate	120	0.300	"	15.0	170	NR	80-120			QM-02
Nitrate as N	11.3	0.100	"	3.00	8.24	103	80-120			
Nitrite as N	3.44	0.100	"	3.00	ND	115	80-120			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0137 - General Preparation**

**Blank (BEI0137-BLK1)**

Prepared & Analyzed: 09/08/21

Total Alkalinity	ND	10.0	mg/L as CaCO3
Carbonate	ND	10.0	"
Bicarbonate	ND	10.0	"

**LCS (BEI0137-BS1)**

Prepared & Analyzed: 09/08/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100	90.0	80-120
------------------	------	------	---------------	-----	------	--------

**Duplicate (BEI0137-DUP1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	340	10.0	mg/L as CaCO3	340	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	340	10.0	"	340	0.00	20

**Matrix Spike (BEI0137-MS1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	410	10.0	mg/L as CaCO3	100	340	70.0	70-130
------------------	-----	------	---------------	-----	-----	------	--------

**Matrix Spike Dup (BEI0137-MSD1)**

Source: 2109078-01

Prepared & Analyzed: 09/08/21

Total Alkalinity	410	10.0	mg/L as CaCO3	100	340	70.0	70-130	0.00	20
------------------	-----	------	---------------	-----	-----	------	--------	------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0322 - General Preparation**

**Blank (BEI0322-BLK1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L

**LCS (BEI0322-BS1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.952      0.0500      mg/L      1.00      95.2      80-120

**Duplicate (BEI0322-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L      ND      20

**Matrix Spike (BEI0322-MS1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      1.02      0.0500      mg/L      1.00      ND      102      70-130

**Matrix Spike Dup (BEI0322-MSD1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.989      0.0500      mg/L      1.00      ND      98.9      70-130      3.18      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
 Project Manager: Heather Shideman

**Reported:**  
 09/15/21 17:39

**Specific Conductance by SM2510B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0135 - General Preparation**

**Blank (BEI0135-BLK1)**

Prepared & Analyzed: 09/08/21

Specific Conductance (EC)                      ND                      1.00    umhos/cm

**Duplicate (BEI0135-DUP1)**

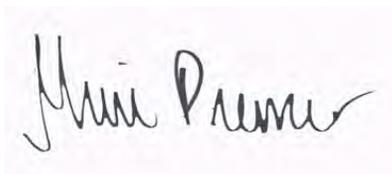
**Source: 2109078-01**

Prepared & Analyzed: 09/08/21

Specific Conductance (EC)                      1430                      1.00    umhos/cm                      1440                      0.209                      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID766716 Project Manager: Heather Shideman	<b>Reported:</b> 09/15/21 17:39
----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------------

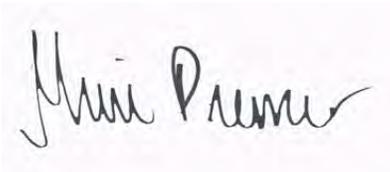
**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0158 - General Preparation**

<b>Blank (BEI0158-BLK1)</b>			Prepared: 09/08/21 Analyzed: 09/09/21								
Total Dissolved Solids	ND	10.0	mg/L								
<b>Duplicate (BEI0158-DUP1)</b>			Source: 2109077-01 Prepared: 09/08/21 Analyzed: 09/09/21								
Total Dissolved Solids	1280	10.0	mg/L	1270	0.0785	20					

Summit Scientific



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID766716 Project Manager: Heather Shideman	<b>Reported:</b> 09/15/21 17:39
----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------------

**pH by SM4500 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0164 - General Preparation**

<b>LCS (BEI0164-BS1)</b>				Prepared & Analyzed: 09/08/21						
pH	9.13	1.00	pH Units	9.21		99.1	90-110			
<b>Duplicate (BEI0164-DUP1)</b>				<b>Source: 2109075-01</b>		Prepared & Analyzed: 09/08/21				
pH	6.75	1.00	pH Units		6.76			0.148	20	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:39

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 15, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

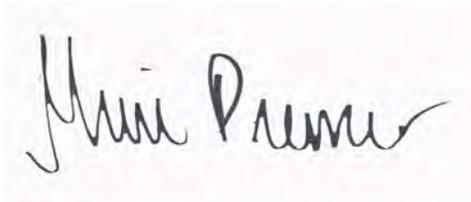
Denver, CO 80202

RE: Trip\_Blank/GWA\_District\_Six\_C6

Work Order #2109079

Enclosed are the results of analyses for samples received by Summit Scientific on 09/07/21 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M".

Muri Premer For Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID 766716

Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:18

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_8_Trip_Blank	2109079-01	Water	09/07/21 12:00	09/07/21 17:15

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2109079

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Client: Extraction Oil and Gas (XOG) Report to: Apex Companies, LLC Project Manager: Heather Shideman  
 Address: 2234 117th Ave, Ste 106 E-Mail: Rochelle.Carisle@apexcos.com, Heather.Shideman@apexcos.com, Kolbi.Condos@apexcos.com  
 City/State/Zip: Greeley, CO 80634 cc: nbennett@extractionog.com  
 Phone: (970) 576-3446 Project Name: Trip\_Blank/GWA\_District\_Six\_C6  
 Sampler Name: *Jeff Griggs* Project No.: Alloc-421 930, 88 Facility ID 766716

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions		
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX						
1	GW_61256_MH_MW_8_Trip_Blank	09/07/21	1200	2					X					X					Sample Frequency: Q3
Relinquished by: <i>[Signature]</i>		Date/Time: 9/7/21 1710		Received by: <i>Will Sahi</i>		Date/Time: 9/7/21 1715		Turn Around Time (Check)				Notes:							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day ___ 72 hours ___											
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours ___ Standard <u>X</u>											
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 hours ___											
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:				Temperature Upon Receipt: <u>12</u>							
Relinquished by:		Date/Time:		Received by:		Date/Time:		Intact: <u>(Yes)</u> No											

2109079

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: XOCL Client Project ID: Trip Blank/GWA District six CG

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>12</u>
-----------	-----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

WJ  
Custodian Printed Name or Initials

Will Don  
Signature of Custodian

9/7/21  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID 766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:18

**GW\_61256\_MH\_MW\_8\_Trip\_Blank**  
**2109079-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0221	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/07/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.3 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6  
Project Number: Alloc 421 930.88 Fac ID 766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:18

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limits	RPD	Limit		

#### Batch BEI0221 - EPA 5030 Water MS

##### Blank (BEI0221-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		100		23-173		
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.5		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	12.6		"	13.3		94.9		21-167		

##### LCS (BEI0221-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.3	1.0	ug/l	33.3		87.9		51-132		
Toluene	33.7	1.0	"	33.3		101		51-138		
Ethylbenzene	37.6	1.0	"	33.3		113		58-146		
m,p-Xylene	74.7	2.0	"	66.7		112		57-144		
o-Xylene	36.8	1.0	"	33.3		110		53-146		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.1		"	13.3		98.0		23-173		
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		100		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3		98.5		21-167		

##### Matrix Spike (BEI0221-MS1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.1	1.0	ug/l	33.3	ND	87.2		34-141		
Toluene	33.5	1.0	"	33.3	ND	100		27-151		
Ethylbenzene	37.1	1.0	"	33.3	ND	111		29-160		
m,p-Xylene	74.8	2.0	"	66.7	ND	112		20-166		
o-Xylene	35.9	1.0	"	33.3	ND	108		33-159		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.4		"	13.3		101		23-173		
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.9		20-170		
<i>Surrogate: 4-Bromofluorobenzene</i>	12.9		"	13.3		97.1		21-167		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID 766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:18

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limit	RPD	Limit	RPD	

**Batch BEI0221 - EPA 5030 Water MS**

Matrix Spike Dup (BEI0221-MSD1)	Source: 2109079-01			Prepared: 09/10/21 Analyzed: 09/11/21					
Benzene	29.2	1.0	ug/l	33.3	ND	87.5	34-141	0.240	32
Toluene	34.3	1.0	"	33.3	ND	103	27-151	2.42	25
Ethylbenzene	36.1	1.0	"	33.3	ND	108	29-160	2.65	50
m,p-Xylene	72.3	2.0	"	66.7	ND	108	20-166	3.45	36
o-Xylene	36.2	1.0	"	33.3	ND	108	33-159	0.638	26
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173		
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170		
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6  
Project Number: Alloc 421 930.88 Fac ID 766716  
Project Manager: Heather Shideman

**Reported:**  
09/15/21 17:18

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

Lab #: 803048 Job #: 48747 IS-99230 Co. Job#:  
Sample Name: GW\_61256\_MH\_MW\_8 Co. Lab#:  
Company: Extraction Oil and Gas  
API/Well:  
Container: IsoFlask  
Field/Site Name: Groundwater/GWA\_District\_Six\_C6  
Location: NENE\_20\_5N\_65W  
Formation/Depth: Q3  
Sampling Point: 766716  
Date Sampled: 9/07/2021 12:00 Date Received: 9/10/2021 Date Reported: 9/15/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	0.0040	0.0027
Ethane -----	0.00033	0.00041
Propane -----	< 0.0001	< 0.0002

Lab #: 803042 Job #: 48746 IS-99230 Co. Job#:   
Sample Name: GW\_61256\_MH\_MW\_8 Co. Lab#:   
Company: Extraction Oil and Gas   
API/Well:   
Container: 125ml bottle   
Field/Site Name: Groundwater/GWA\_District\_Six\_C6   
Location: NENE\_20\_5N\_65W   
Formation/Depth: Q3   
Sampling Point: 766716   
Date Sampled: 9/07/2021 12:00 Date Received: 9/10/2021 Date Reported: 9/24/2021

$\delta$ D of water ----- -106.5 ‰ relative to VSMOW

$\delta^{18}$ O of water ----- -13.64 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}$ C of DIC ----- -11.3 ‰ relative to VPDB

$^{14}$ C content of DIC ----- na

$\delta^{15}$ N of nitrate ----- na

$\delta^{18}$ O of nitrate ----- na

$\delta^{34}$ S of sulfate ----- na

$\delta^{18}$ O of sulfate ----- na

Vacuum Distilled? \* ----- No

Remarks:

nd = not detected. na = not analyzed.

\*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 17, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

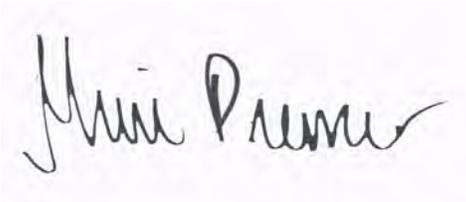
Denver, CO 80202

RE: Groundwater/GWA\_District\_Six\_C6

Work Order # 2109110

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury

President



Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID766717 Project Manager: Heather Shideman	<b>Reported:</b> 09/17/21 16:26
----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------------

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_10	2109110-01	Water	09/08/21 15:55	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

2109110

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933

**Client:** Extraction Oil and Gas (XOG)    **Report to:** Apex Companies, LLC    **Project Manager:** Heather Shideman  
**Address:** 2234 117th Ave, Ste 106    **E-Mail:** Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com, Kolbi.Condos@apexcos.com  
**City/State/Zip:** Greeley, CO 80634    **cc:** nbennett@extractionog.com  
**Phone:** (970) 576-3446    **Project Name:** Groundwater/GWA\_District\_Six\_C6  
**Sampler Name:** Jeff Grigg    **Project No.:** Alloc-421 930, 88    **Facility ID:** 766717

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions			
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	COGCC 609	No BART	No RSK175 (ethane, methane, propane)					
1	GW_61256_MH_MW_10 NENE_20_5N_65W	09/08/21	1555						X					X	X	X				Sample Frequency: Q3
	Temperature, field:		15.4 °C																	
	pH, field:		7.19 s.u.																	
	Conductivity, field:		1216 uS/cm																	
	ORP, field:		55.5 mV																	
	Dissolved Oxygen, field:		2.41 mg/L																	
	Turbidity, field:		— NTU																	
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:								
[Signature]		09/08/2021		[Signature]		09/08/2021		Same Day ___ 72 hours ___ 24 hours ___ Standard <u>X</u> 48 hours ___												
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:												
								Temperature Upon Receipt: 11.2 Intact: <u>Yes</u> No												

2109110

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: GROUND-WATER/GWA DISTRICT SIX CA

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C) 11.2

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl HNO3
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH 1
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

[Signature]  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

09/08/2001  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

Reported:  
09/17/21 16:26

**GW\_61256\_MH\_MW\_10**  
**NENE\_20\_5N\_65W**  
**2109110-01 (Water)**

Summit Scientific

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEI0225	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	0.0010	"	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	"	
m,p-Xylene	ND	0.0020	"	"	"	"	"	"	
o-Xylene	ND	0.0010	"	"	"	"	"	"	
Xylenes (total)	ND	0.0020	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.050	"	"	"	"	"	"	

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		58.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.5 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEI0180	09/09/21	09/10/21	EPA 8015M	

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		78.6 %	44.8-129		"	"	"	"	

**Dissolved Gases by RSK-175**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

Reported:  
09/17/21 16:26

**GW\_61256\_MH\_MW\_10**  
**NENE\_20\_5N\_65W**  
**2109110-01 (Water)**

**Summit Scientific**

**Dissolved Gases by RSK-175**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methane	ND	0.010	mg/L	1	BEI0260	09/13/21	09/14/21	RSK-175 mod	
Ethane	ND	0.010	"	"	"	"	"	"	
Propane	ND	0.010	"	"	"	"	"	"	

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Ethene		129 %	70-130		"	"	"	"	

**Dissolved Metals by EPA Method 200.8**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	116000	50.0	ug/l	1	BEI0212	09/10/21	09/10/21	EPA 200.8	
Iron	23.3	10.0	"	"	"	"	"	"	
Magnesium	54200	50.0	"	"	"	"	"	"	
Manganese	1100	1.00	"	"	"	"	"	"	
Potassium	2950	50.0	"	"	"	"	"	"	
Sodium	123000	50.0	"	"	"	"	"	"	
Barium	51.3	1.00	"	"	"	"	"	"	
Boron	267	10.0	"	"	"	"	"	"	
Selenium	ND	1.00	"	"	"	"	"	"	
Strontium	1580	10.0	"	"	"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.305	0.200	mg/L	1	BEI0189	09/09/21	09/09/21	EPA 300.0	
Chloride	52.4	20.0	"	200	"	"	"	"	
Fluoride	0.418	0.200	"	1	"	"	"	"	
Sulfate	162	60.0	"	200	"	"	"	"	
Nitrate as N	8.35	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	8.35	0.200	"	"	"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**GW\_61256\_MH\_MW\_10**  
**NENE\_20\_5N\_65W**  
**2109110-01 (Water)**

**Summit Scientific**

**Anions by EPA Method 300.0**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Total Alkalinity</b>	<b>360</b>	10.0	mg/L as CaCO3	1	BEI0177	09/09/21	09/10/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
<b>Bicarbonate</b>	<b>360</b>	10.0	"	"	"	"	"	"	

**Conventional Chemistry Parameters by APHA/EPA Methods**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEI0322	09/15/21	09/15/21	SM4500-P-E	

**Specific Conductance by SM2510B**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1160</b>	1.00	umhos/cm	1	BEI0174	09/09/21	09/09/21	SM2510B	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Total Dissolved Solids</b>	<b>569</b>	10.0	mg/L	1	BEI0256	09/13/21	09/13/21	SM2540C	

**pH by SM4500**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
 Project Manager: Heather Shideman

**Reported:**  
 09/17/21 16:26

**GW\_61256\_MH\_MW\_10**  
**NENE\_20\_5N\_65W**  
**2109110-01 (Water)**

**Summit Scientific**

**pH by SM4500**

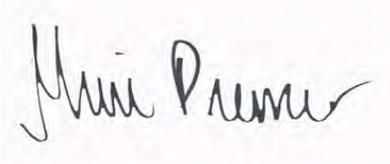
**pH**                      **7.48**                      1.00    pH Units                      1                      BEI0259                      09/08/21                      09/13/21                      SM4500-H+ B

**Field Data**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	<b>1216</b>		uS/cm	1	BEI0172	09/08/21	09/08/21	Field Method	
Temperature	<b>15.4</b>		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	<b>55.5</b>		mv	"	"	"	"	"	
Dissolved Oxygen	<b>2.41</b>		mg/L	"	"	"	"	"	
<b>pH</b>	<b>7.19</b>		SU	"	"	"	"	"	

Summit Scientific



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

Reported:  
09/17/21 16:26

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

#### Batch BEI0225 - EPA 5030 Water MS

##### Blank (BEI0225-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	0.0010	mg/L								
Toluene	ND	0.0010	"								
Ethylbenzene	ND	0.0010	"								
m,p-Xylene	ND	0.0020	"								
o-Xylene	ND	0.0010	"								
Xylenes (total)	ND	0.0020	"								
Gasoline Range Hydrocarbons	ND	0.050	"								
Surrogate: 1,2-Dichloroethane-d4	0.0112		"	0.0133		84.1		23-173			
Surrogate: Toluene-d8	0.0121		"	0.0133		90.8		20-170			
Surrogate: 4-Bromofluorobenzene	0.0126		"	0.0133		94.7		21-167			

##### LCS (BEI0225-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0244	0.0010	mg/L	0.0250		97.4		51-132			
Toluene	0.0228	0.0010	"	0.0250		91.1		51-138			
Ethylbenzene	0.0265	0.0010	"	0.0250		106		58-146			
m,p-Xylene	0.0535	0.0020	"	0.0500		107		57-144			
o-Xylene	0.0269	0.0010	"	0.0250		108		53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0106		"	0.0133		79.4		23-173			
Surrogate: Toluene-d8	0.0122		"	0.0133		91.6		20-170			
Surrogate: 4-Bromofluorobenzene	0.0124		"	0.0133		93.2		21-167			

##### Matrix Spike (BEI0225-MS1)

Source: 2109080-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	0.0236	0.0010	mg/L	0.0250	ND	94.3		34-141			
Toluene	0.0241	0.0010	"	0.0250	ND	96.3		27-151			
Ethylbenzene	0.0296	0.0010	"	0.0250	ND	119		29-160			
m,p-Xylene	0.0601	0.0020	"	0.0500	ND	120		20-166			
o-Xylene	0.0303	0.0010	"	0.0250	ND	121		33-159			
Surrogate: 1,2-Dichloroethane-d4	0.00705		"	0.0133		52.9		23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		93.9		20-170			
Surrogate: 4-Bromofluorobenzene	0.0125		"	0.0133		93.7		21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0225 - EPA 5030 Water MS**

<b>Matrix Spike Dup (BEI0225-MSD1)</b>	<b>Source: 2109080-01</b>			Prepared: 09/10/21 Analyzed: 09/11/21						
Benzene	0.0240	0.0010	mg/L	0.0250	ND	96.2	34-141	1.97	32	
Toluene	0.0241	0.0010	"	0.0250	ND	96.5	27-151	0.207	25	
Ethylbenzene	0.0277	0.0010	"	0.0250	ND	111	29-160	6.73	50	
m,p-Xylene	0.0570	0.0020	"	0.0500	ND	114	20-166	5.18	36	
o-Xylene	0.0285	0.0010	"	0.0250	ND	114	33-159	6.05	26	
Surrogate: 1,2-Dichloroethane-d4	0.00965		"	0.0133		72.4	23-173			
Surrogate: Toluene-d8	0.0125		"	0.0133		94.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0121		"	0.0133		91.1	21-167			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0180 - EPA 3520B**

**Blank (BEI0180-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	ND	0.100	mg/L								
Surrogate: <i>o</i> -Terphenyl	0.0212		"	0.0250		84.8	44.8-129				

**LCS (BEI0180-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00		93.8	70-130				
Surrogate: <i>o</i> -Terphenyl	0.0274		"	0.0250		110	44.8-129				

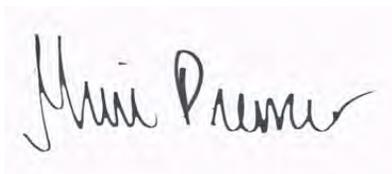
**LCS Dup (BEI0180-BSD1)**

Prepared: 09/09/21 Analyzed: 09/10/21

C10-C28 (DRO)	1.03	0.100	mg/L	1.00		103	70-130	9.47	200		
Surrogate: <i>o</i> -Terphenyl	0.0260		"	0.0250		104	44.8-129				

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**Dissolved Gases by RSK-175 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0260 - GC**

**Blank (BEI0260-BLK1)**

Prepared: 09/13/21 Analyzed: 09/14/21

Methane	ND	0.010	mg/L							
Ethane	ND	0.010	"							
Propane	ND	0.010	"							
<i>Surrogate: Ethene</i>	<i>0.0448</i>		<i>"</i>	<i>0.0364</i>		<i>123</i>	<i>70-130</i>			

**LCS (BEI0260-BS1)**

Prepared: 09/13/21 Analyzed: 09/14/21

Methane	0.039	0.010	mg/L	0.0428		90.7	70-130			
Ethane	0.094	0.010	"	0.0798		118	70-130			
Propane	0.16	0.010	"	0.139		112	70-130			
<i>Surrogate: Ethene</i>	<i>0.0920</i>		<i>"</i>	<i>0.0728</i>		<i>126</i>	<i>70-130</i>			

**Duplicate (BEI0260-DUP1)**

Source: 2109160-01

Prepared: 09/13/21 Analyzed: 09/14/21

Methane	ND	0.010	mg/L		ND				30	
Ethane	ND	0.010	"		ND				30	
Propane	ND	0.010	"		ND				30	
<i>Surrogate: Ethene</i>	<i>0.0416</i>		<i>"</i>	<i>0.0364</i>		<i>114</i>	<i>70-130</i>			

**Matrix Spike (BEI0260-MS1)**

Source: 2109160-01

Prepared: 09/13/21 Analyzed: 09/14/21

Methane	0.042	0.010	mg/L	0.0428	ND	97.5	70-130			
Ethane	0.092	0.010	"	0.0798	ND	115	70-130			
Propane	0.17	0.010	"	0.139	ND	123	70-130			
<i>Surrogate: Ethene</i>	<i>0.0931</i>		<i>"</i>	<i>0.0728</i>		<i>128</i>	<i>70-130</i>			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Blank (BEI0212-BLK1)**

Prepared & Analyzed: 09/10/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

**LCS (BEI0212-BS1)**

Prepared & Analyzed: 09/10/21

Calcium	5290	50.0	ug/l	5000	106	85-115
Iron	4570	10.0	"	5000	91.4	85-115
Magnesium	4950	50.0	"	5000	98.9	85-115
Manganese	464	1.00	"	500	92.7	85-115
Potassium	4800	50.0	"	5000	96.0	85-115
Sodium	4770	50.0	"	5000	95.4	85-115
Barium	452	1.00	"	500	90.3	85-115
Boron	2370	10.0	"	2500	94.9	85-115
Selenium	44.2	1.00	"	50.0	88.5	85-115
Strontium	444	10.0	"	500	88.8	85-115

**Duplicate (BEI0212-DUP1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	357000	50.0	ug/l	344000	3.78	20
Iron	10.0	10.0	"	9.16	9.23	20
Magnesium	118000	50.0	"	116000	1.24	20
Manganese	19.2	1.00	"	19.3	0.436	20
Potassium	13200	50.0	"	13400	1.56	20
Sodium	124000	50.0	"	122000	1.01	20
Barium	102	1.00	"	99.3	2.68	20
Boron	444	10.0	"	429	3.51	20
Selenium	12.1	1.00	"	13.0	6.42	20
Strontium	6260	10.0	"	6000	4.24	20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**Dissolved Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BEI0212 - EPA 200.8**

**Matrix Spike (BEI0212-MS1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	350000	50.0	ug/l	5000	344000	128	70-130			
Iron	5040	10.0	"	5000	9.16	101	70-130			
Magnesium	120000	50.0	"	5000	116000	71.6	70-130			
Manganese	646	1.00	"	500	19.3	125	70-130			
Potassium	18900	50.0	"	5000	13400	111	70-130			
Sodium	126000	50.0	"	5000	122000	76.3	70-130			
Barium	686	1.00	"	500	99.3	117	70-130			
Boron	2650	10.0	"	2500	429	88.8	70-130			
Selenium	73.0	1.00	"	50.0	13.0	120	70-130			
Strontium	6380	10.0	"	500	6000	74.8	70-130			

**Matrix Spike Dup (BEI0212-MSD1)**

Source: 2109068-01

Prepared & Analyzed: 09/10/21

Calcium	347000	50.0	ug/l	5000	344000	70.4	70-130	0.832	25
Iron	4810	10.0	"	5000	9.16	95.9	70-130	4.67	25
Magnesium	120000	50.0	"	5000	116000	79.7	70-130	0.338	25
Manganese	508	1.00	"	500	19.3	97.8	70-130	23.8	25
Potassium	18700	50.0	"	5000	13400	107	70-130	1.23	25
Sodium	129000	50.0	"	5000	122000	129	70-130	2.08	25
Barium	573	1.00	"	500	99.3	94.8	70-130	17.9	25
Boron	2650	10.0	"	2500	429	88.9	70-130	0.0589	25
Selenium	59.9	1.00	"	50.0	13.0	93.9	70-130	19.7	25
Strontium	6550	10.0	"	500	6000	109	70-130	2.67	25

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

Reported:  
09/17/21 16:26

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limits	RPD	Limit		

**Batch BEI0189 - General Preparation**

**Blank (BEI0189-BLK1)**

Prepared & Analyzed: 09/09/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

**LCS (BEI0189-BS1)**

Prepared & Analyzed: 09/09/21

Bromide	9.43	0.200	mg/L	10.0	94.3	90-110				
Chloride	2.96	0.100	"	3.00	98.7	90-110				
Fluoride	1.92	0.200	"	2.00	96.2	90-110				
Sulfate	15.0	0.300	"	15.0	100	90-110				
Nitrate as N	2.88	0.100	"	3.00	95.8	90-110				
Nitrite as N	2.77	0.100	"	3.00	92.2	90-110				

**Duplicate (BEI0189-DUP1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	1.75	0.200	mg/L	1.74	0.287	20				
Chloride	175	0.100	"	147	17.4	20				
Fluoride	0.472	0.200	"	0.505	6.76	20				
Sulfate	9.78	0.300	"	9.73	0.554	20				
Nitrate as N	0.0120	0.100	"	0.0130	8.00	20				
Nitrite as N	ND	0.100	"	ND		20				
Nitrate/Nitrite as N	0.0120	0.200	"	0.0130	8.00	20				

**Matrix Spike (BEI0189-MS1)**

Source: 2109104-01

Prepared & Analyzed: 09/09/21

Bromide	10.3	0.200	mg/L	10.0	1.74	86.1	80-120			
Chloride	175	0.100	"	3.00	147	932	80-120			QM-02
Fluoride	2.48	0.200	"	2.00	0.505	98.6	80-120			
Sulfate	24.7	0.300	"	15.0	9.73	99.6	80-120			
Nitrate as N	2.68	0.100	"	3.00	0.0130	89.0	80-120			
Nitrite as N	3.13	0.100	"	3.00	ND	104	80-120			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

**Batch BEI0177 - General Preparation**

**Blank (BEI0177-BLK1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							

**LCS (BEI0177-BS1)**

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
------------------	------	------	---------------	-----	--	------	--------	--	--	--

**Duplicate (BEI0177-DUP1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	360	10.0	mg/L as CaCO3		350			2.82	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	360	10.0	"		350			2.82	20	

**Matrix Spike (BEI0177-MS1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130			
------------------	-----	------	---------------	-----	-----	------	--------	--	--	--

**Matrix Spike Dup (BEI0177-MSD1)**

Source: 2109104-01

Prepared: 09/09/21 Analyzed: 09/10/21

Total Alkalinity	430	10.0	mg/L as CaCO3	100	350	80.0	70-130	0.00	20	
------------------	-----	------	---------------	-----	-----	------	--------	------	----	--

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0322 - General Preparation**

**Blank (BEI0322-BLK1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L

**LCS (BEI0322-BS1)**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.952      0.0500      mg/L      1.00      95.2      80-120

**Duplicate (BEI0322-DUP1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      ND      0.0500      mg/L      ND      20

**Matrix Spike (BEI0322-MS1)**

**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      1.02      0.0500      mg/L      1.00      ND      102      70-130

**Matrix Spike Dup (BEI0322-MSD1)**

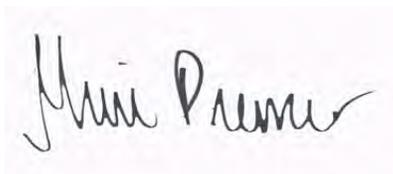
**Source: 2109078-01**

Prepared & Analyzed: 09/15/21

Phosphorus - Total      0.989      0.0500      mg/L      1.00      ND      98.9      70-130      3.18      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID766717 Project Manager: Heather Shideman	<b>Reported:</b> 09/17/21 16:26
----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------	------------------------------------

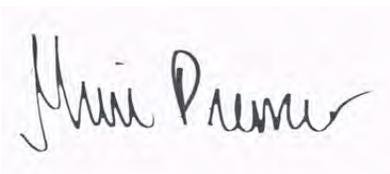
**Specific Conductance by SM2510B - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			Limits	RPD	Limit		

**Batch BEI0174 - General Preparation**

<b>Blank (BEI0174-BLK1)</b>										Prepared & Analyzed: 09/09/21
Specific Conductance (EC)	ND	1.00	umhos/cm							
<b>Duplicate (BEI0174-DUP1)</b>										Prepared & Analyzed: 09/09/21
Specific Conductance (EC)	1270	1.00	umhos/cm		1270			0.00	20	

Summit Scientific



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
 Project Manager: Heather Shideman

**Reported:**  
 09/17/21 16:26

**Total Dissolved Solids by SM2540C - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BEI0256 - General Preparation**

**Blank (BEI0256-BLK1)**

Prepared & Analyzed: 09/13/21

Total Dissolved Solids      ND      10.0      mg/L

**Duplicate (BEI0256-DUP1)**

**Source: 2109104-01**

Prepared & Analyzed: 09/13/21

Total Dissolved Solids      607      10.0      mg/L      602      0.794      20

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
 370 17th Street Suite 5300  
 Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
 Project Manager: Heather Shideman

**Reported:**  
 09/17/21 16:26

**pH by SM4500 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0259 - General Preparation**

**LCS (BEI0259-BS1)**

Prepared & Analyzed: 09/13/21

pH	9.10	1.00	pH Units	9.21	98.8	90-110
----	------	------	----------	------	------	--------

**Duplicate (BEI0259-DUP1)**

Source: 2109096-01

Prepared & Analyzed: 09/13/21

pH	6.79	1.00	pH Units	6.80	0.147	20
----	------	------	----------	------	-------	----

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Groundwater/GWA\_District\_Six\_C6

Project Number: Alloc 421 930.88 Fac ID766717  
Project Manager: Heather Shideman

**Reported:**  
09/17/21 16:26

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Trip\_Blank/GWA\_District\_Six\_C6

Work Order # 2109109

Enclosed are the results of analyses for samples received by Summit Scientific on 09/08/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766717

Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:14

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_10_Trip_Blank	2109109-01	Water	09/08/21 15:55	09/08/21 17:50

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



2109109

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: EXTRACTION OIL & GAS Client Project ID: Trip Blank/GWA District S1

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_ CL

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_ (Describe)

Temp (°C) 11.2

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C (1)? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
Were all samples received intact (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded (1)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

(1) If NO, then contact the client before proceeding with analysis and note in case narrative.

[Signature]  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

09/08/2021  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766717

Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:14

**GW\_61256\_MH\_MW\_10\_Trip\_Blank**

**2109109-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEI0221	09/10/21	09/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/08/21 15:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.7 %		21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766717  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:14

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

#### Batch BEI0221 - EPA 5030 Water MS

##### Blank (BEI0221-BLK1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		100	23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.5	20-170			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.9	21-167			

##### LCS (BEI0221-BS1)

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.3	1.0	ug/l	33.3		87.9	51-132			
Toluene	33.7	1.0	"	33.3		101	51-138			
Ethylbenzene	37.6	1.0	"	33.3		113	58-146			
m,p-Xylene	74.7	2.0	"	66.7		112	57-144			
o-Xylene	36.8	1.0	"	33.3		110	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.0	23-173			
Surrogate: Toluene-d8	13.4		"	13.3		100	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.5	21-167			

##### Matrix Spike (BEI0221-MS1)

Source: 2109079-01

Prepared: 09/10/21 Analyzed: 09/11/21

Benzene	29.1	1.0	ug/l	33.3	ND	87.2	34-141			
Toluene	33.5	1.0	"	33.3	ND	100	27-151			
Ethylbenzene	37.1	1.0	"	33.3	ND	111	29-160			
m,p-Xylene	74.8	2.0	"	66.7	ND	112	20-166			
o-Xylene	35.9	1.0	"	33.3	ND	108	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		101	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.1	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766717  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:14

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BEI0221 - EPA 5030 Water MS**

<b>Matrix Spike Dup (BEI0221-MSD1)</b>	<b>Source: 2109079-01</b>			<b>Prepared: 09/10/21 Analyzed: 09/11/21</b>					
Benzene	29.2	1.0	ug/l	33.3	ND	87.5	34-141	0.240	32
Toluene	34.3	1.0	"	33.3	ND	103	27-151	2.42	25
Ethylbenzene	36.1	1.0	"	33.3	ND	108	29-160	2.65	50
m,p-Xylene	72.3	2.0	"	66.7	ND	108	20-166	3.45	36
o-Xylene	36.2	1.0	"	33.3	ND	108	33-159	0.638	26
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.7</i>		<i>"</i>	<i>13.3</i>		<i>110</i>	<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>13.5</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>98.9</i>	<i>21-167</i>		

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Trip\_Blank/GWA\_District\_Six\_C6

Project Number: Alloc 421 Fac ID 766717  
Project Manager: Heather Shideman

**Reported:**  
09/16/21 14:14

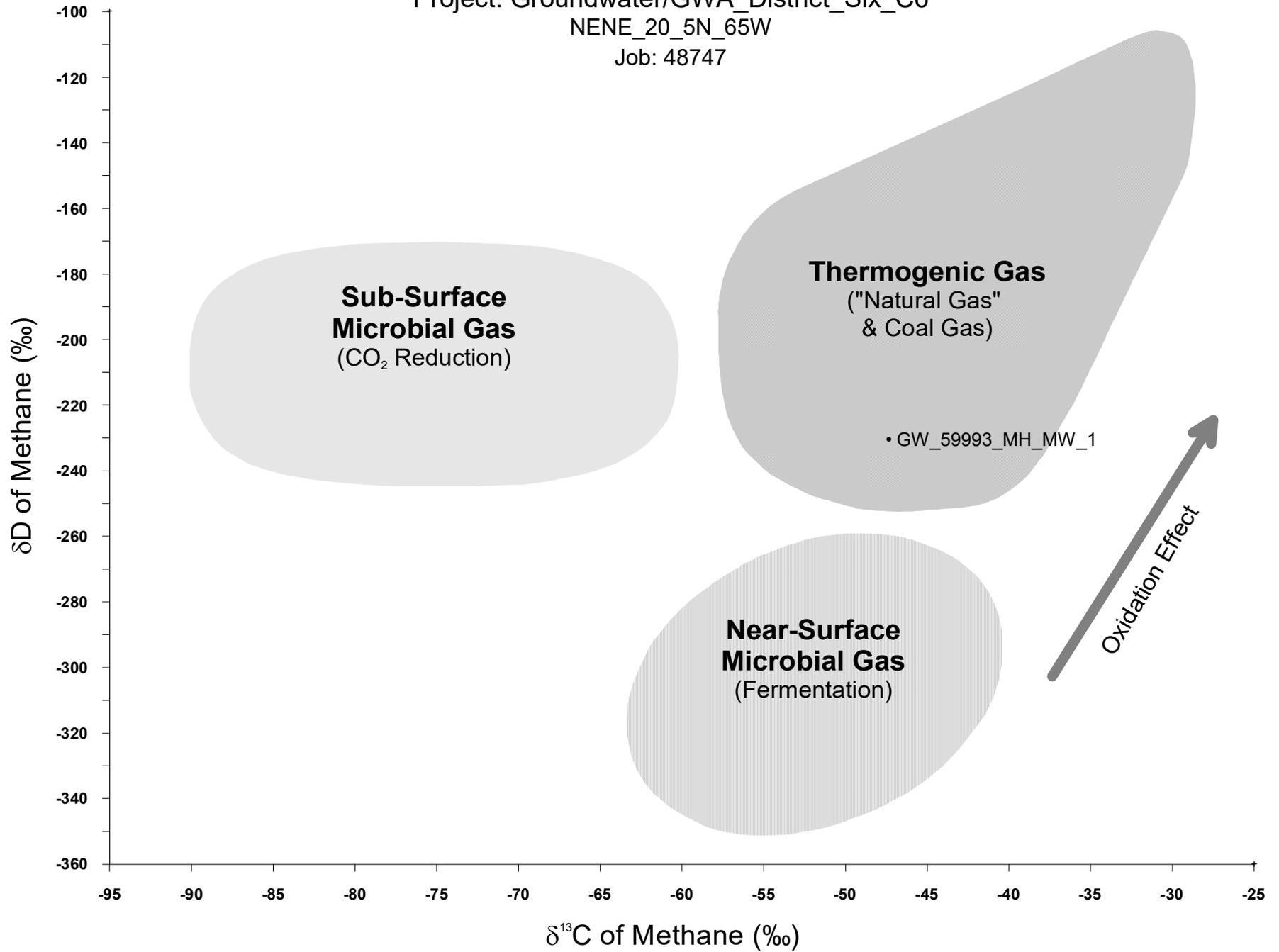
### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

## **Attachment I**

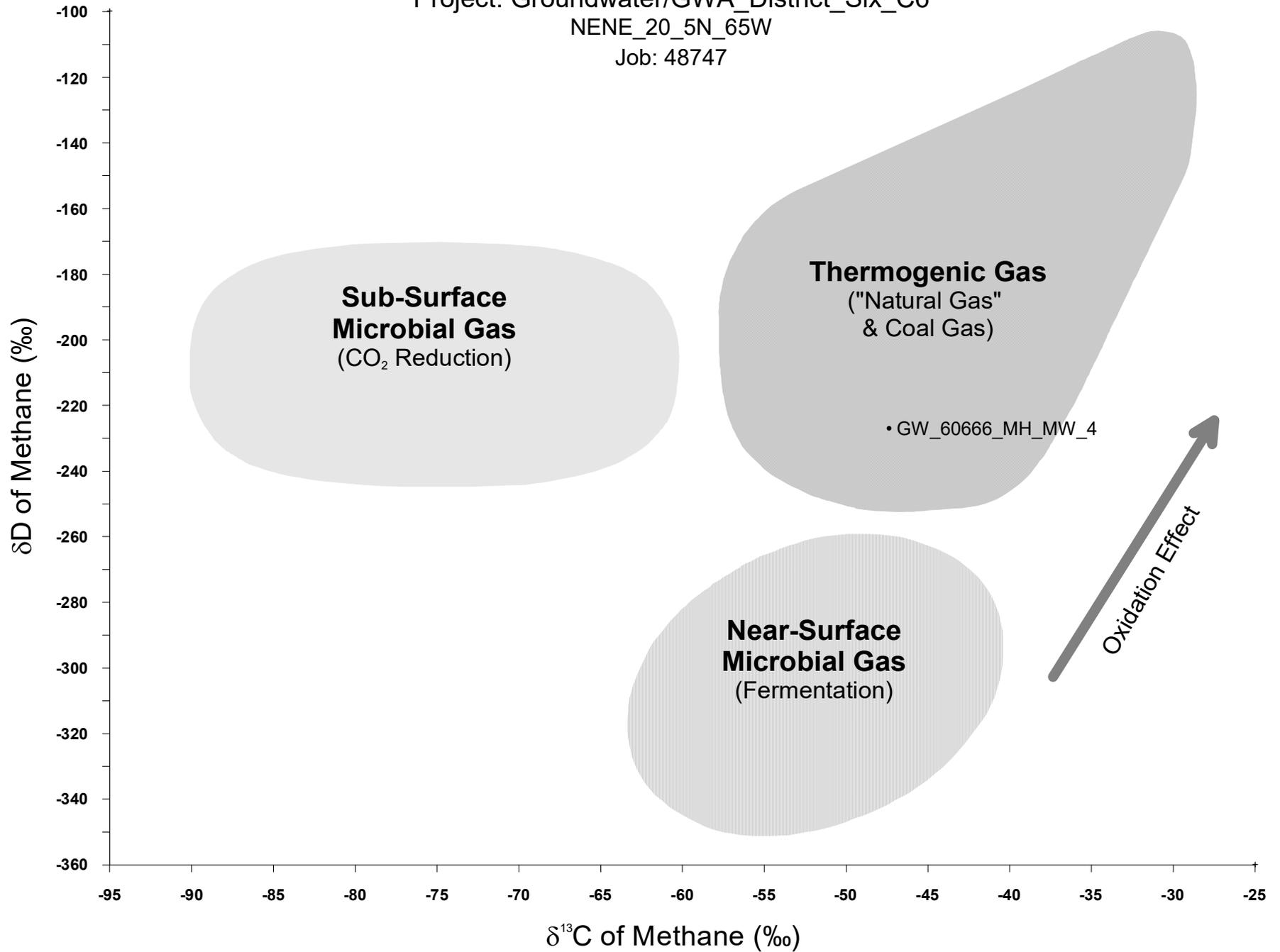
### **2021 Q3 Groundwater Isotope Ratio Plots**

Project: Groundwater/GWA\_District\_Six\_C6  
NENE\_20\_5N\_65W  
Job: 48747



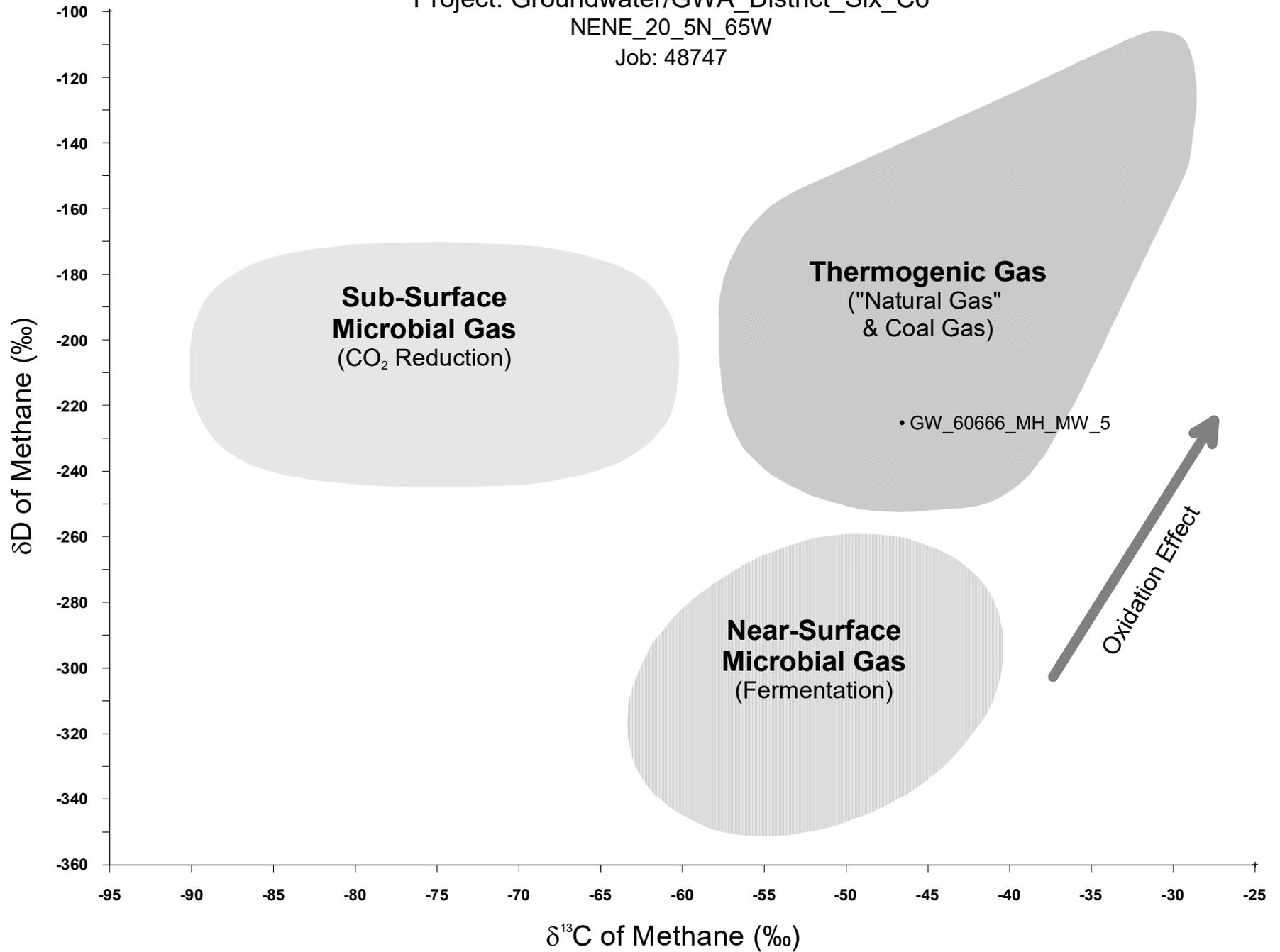
This plot is a visual representation of data and not intended to be an interpretation of results.

Project: Groundwater/GWA\_District\_Six\_C6  
NENE\_20\_5N\_65W  
Job: 48747



This plot is a visual representation of data and not intended to be an interpretation of results.

Project: Groundwater/GWA\_District\_Six\_C6  
NENE\_20\_5N\_65W  
Job: 48747



This plot is a visual representation of data and not intended to be an interpretation of results.