

Groundwater and Soil Vapor Sampling Results

District Six C6

Facility ID 286487

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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 first quarter (Q1) 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 MW-2 (MW-2), 60666 MW-3 (MW-3), 60666 MW-4 (MW-4), 60666 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 up gradient of MW-5 and down gradient 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.

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 southwesterly direction.

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) exceedances for benzene. 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 two 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-feet 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 Wells

All Colorado Division of Water Resources (DWR) water wells 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. Laboratory data for the sample is accessible in the Colorado Environmental Database, Sample ID 615638. Laboratory analysis indicated no constituents exceeded the threshold limits for immediate COGCC or landowner notification as specified in the COGCC Model SAP.

QUARTERLY ACTIVITIES

Groundwater Development

During the late part of 2020 or 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 to confirm parameter stabilization. During redevelopment, all field parameters except turbidity stabilized. The turbidity was reported below 50 NTU and the well was considered developed.

Groundwater Well Elevation Survey

Surface elevations were re-surveyed at a point at the top of the well casings. Based on the updated groundwater elevation data, the flow direction is assumed to have shifted from the original surveyed southwesterly to a more southeasterly direction. This shift in flow direction confirmed the Q4 2020 groundwater flow direction change. Ground water depths appear to be fluctuating consistently across the monitoring well network and an additional survey will be completed during Q3 2021. See **Attachment E** for monitoring well gauging and inferred groundwater flow diagrams.

Groundwater Sampling Activities and Results

First quarter sampling of MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-8 was completed on February 23 and 24, 2021. MW-10 was sampled on March 18, 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 Q1 Groundwater Laboratory Reports, **Attachment G**. 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, Error! Reference source not found., includes both the DGS and RSK175 sampling methods results.

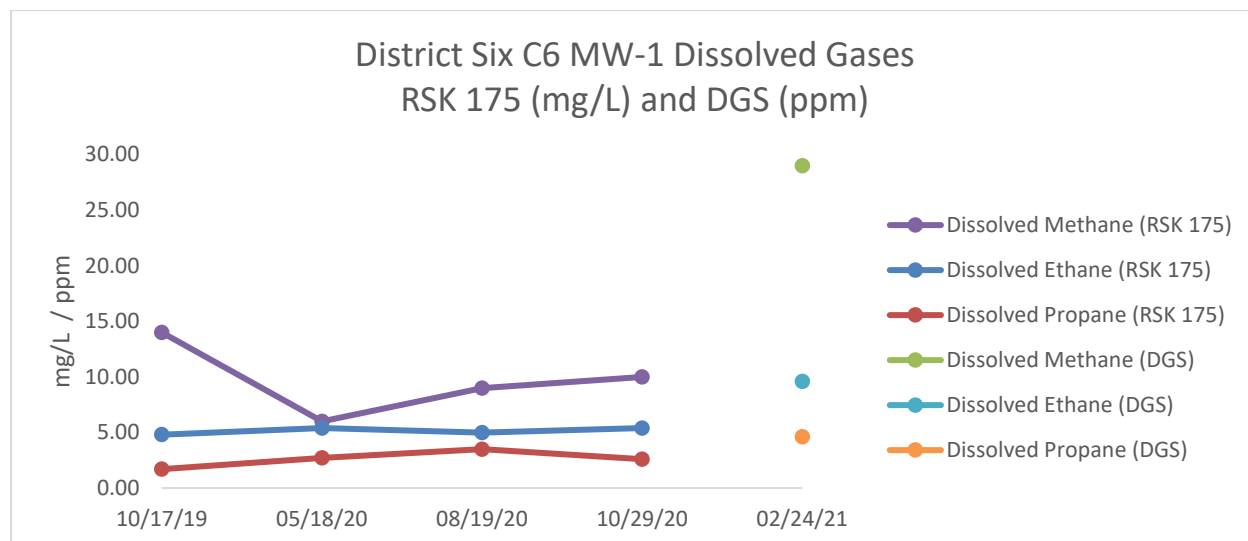


Figure 1 District Six C6 MW-1 Dissolved Gases – RSK 175 (mg/L) and DGS (ppm)

Dissolved methane was detected during Q1 2021 at monitoring wells MW-4 (24.00 ppm), MW-5 (3.60 ppm), and MW-6 (2.6 ppm) and additional isotopic analysis was requested. DGS analysis did not detect enough dissolved methane gas from MW-2 (0.00051 ppm), MW-3 (0.04 ppm), MW-8 (0.0079 ppm) or MW-10 (0.031 ppm) to run the additional isotopic analysis.

Laboratory results at MW-1 and MW-4 indicate benzene levels above the Table 915-1 thresholds.

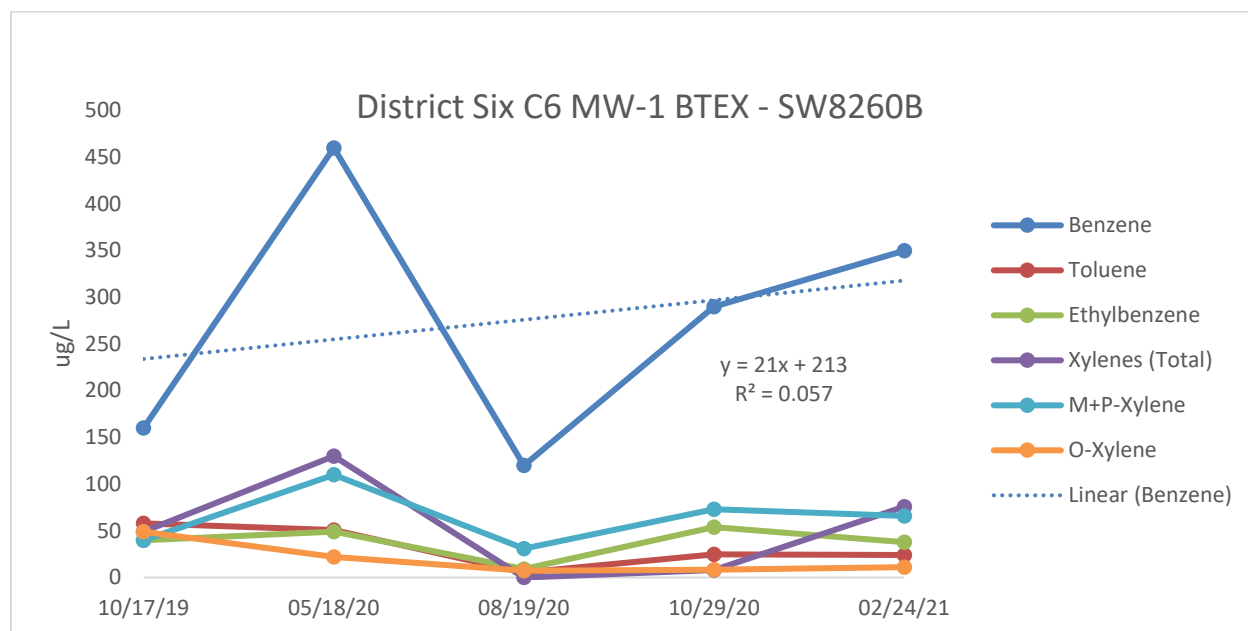


Figure 2 District Six C6 MW-1 BTEX (ug/L) detections

GRO was again detected in the MW-1 and MW-4 monitoring wells.

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 H** for the isotope ratio plots.

The Q1 isotopic gas data from MW-1, MW-4, MW-5, and MW-6 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. MW-5 and MW-6 gas samples are relatively diluted with air as compared with MW-1 and MW-4.

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 (CH₄), hydrogen sulfide (H₂S), carbon monoxide (CO), and O₂ sensors. The field reported results are listed in the attached Soil Vapor Monitoring Point Field Results Summary table, **Table 1-2**.

Systematic Review of Regional Groundwater Data

As a part of a systematic review of regional groundwater data prior to drilling any additional monitoring wells in an attempt to better understand any underlying sources or regional areas of concern, Apex is currently gathering and reviewing readily available historical groundwater data; including, as available 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.

The data review and potential recommendations will be presented in a report with the Q2 2021 sampling results.

Division of Water Resources Water Sources

All Colorado Division of Water Resources (DWR) water sources within a one-mile radius were identified and evaluated for inclusion in a one-time sampling event. The eight nearest available water sources were identified in a radial pattern surrounding District Six C6 and those water source owners will be contacted for permission to sample the water source during Q2 2021. See **Attachment I** Division of Water Sources (DWR) Water Source One-Mile Radius Identification.

RECOMMEDATIONS 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. In addition to the regional groundwater data review synopsis and DWR water source sampling, Extraction will continue to collect quarterly groundwater samples and complete soil vapor monitoring at the District Six C6 well site through the second quarter of 2021 before the plan is re-evaluated .

Table 1-1

Soil Vapor Monitoring Point Field Results Summary

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
Date Sampled	-	-	-	10/17/19	05/18/20	08/19/20	10/29/20	02/24/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B								
Total Alkalinity	mg/l	None	-	260	260	210	280	260
Bicarbonate	mg/l	None	-	260	260	210	280	260
Carbonate	mg/l	None	-	ND	ND	ND	ND	ND
BTEX - SW8260B								
Benzene	µg/l	5	915-1	160	460	120	290	350
Toluene	µg/l	560	915-1	58	51	5.4	25	24
Ethylbenzene	µg/l	700	915-1	40	49	9.2	54	38
Xylenes (Total)	µg/l	1,400	915-1	49	130	ND	8.2	76
M+P-Xylene	µg/l	None	-	40	110	31	73	66
O-Xylene	µg/l	None	-	49	22	7.3	8.3	11
TPH-DRO/GRO - SW8015M/SW8015								
TPH - DRO	mg/L	None	-	ND	0.227	ND	0.244	0.169
TPH - GRO	mg/L	None	-	0.67	1.3	0.94	1.5	2
DISSOLVED GASES								
Dissolved Methane (RSK 175)	mg/L	None	-	14.00	6.00	9.00	10.00	#N/A
Dissolved Ethane (RSK 175)	mg/L	None	-	4.80	5.40	5.00	5.40	#N/A
Dissolved Propane (RSK 175)	mg/L	None	-	1.70	2.70	3.50	2.60	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	29.00
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	9.60
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	4.60
IONS - EPA 300.0								
Bromide	mg/l	None	-	9.64	7.63	4.37	0.983	2.1
Chloride	mg/l	250	Reg 41	771	512	366	172	296
Fluoride	mg/l	4	Reg 41	0.899	0.603	0.358	0.321	0.452
Nitrate + Nitrite as N	mg/l	10	Reg 41	1.87	0.491	ND	0.102	ND
Nitrate as N	mg/l	10	Reg 41	1.87	0.491	ND	0.102	ND
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND	ND
Sulfate	mg/l	250	Reg 41	105	63.8	113	127	33.3
METALS EPA 200.8								
Dissolved Barium	mg/l	2	Reg 41	0.125	0.153	0.0853	0.0607	0.0563
Dissolved Boron	mg/l	0.4	RSL	0.0751	0.127	0.166	0.0961	0.14
Dissolved Calcium	mg/l	None	-	150	197	170	81.1	107
Dissolved Iron	mg/l	0.3	Reg 41	ND	0.0508	ND	0.0557	0.0287
Dissolved Magnesium	mg/l	None	-	88.5	107	91.4	38.4	50.9
Dissolved Manganese	mg/l	0.05	Reg 41	1.43	1.49	1.51	0.773	1.19
Dissolved Potassium	mg/l	None	-	3.88	4.91	6.69	2.78	3.83
Dissolved Selenium	mg/l	0.05	Reg 41	0.00131	ND	ND	ND	0.00576
Dissolved Sodium	mg/l	None	-	104	174	203	77	146
Dissolved Strontium	mg/l	1.2	RSL	1.9	2.53	2.47	0.959	1.5
WATER QUALITY								
pH	s.u.	6-9	915-1	7.25	8.09	7.39	7.92	7.94
Specific Conductivity	µmhos/cm	None	-	1,910	3,180	2,420	1,140	1390
Total Dissolved Solids	mg/l	1.25 X background	915-1	942	1,580	1,200	570	694
Total Phosphorous	mg/l	None	-	0.0940	0.222	ND	ND	0.0825

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
Aqueous								
Delta 13C DIC (d ¹³ C of DIC)	% per mil	None	-	NA	-17.6	NA	-18.6	-20
Delta 18O H2O (d ¹⁸ O of water)	% per mil	None	-	NA	-13.8	NA	-14.42	-13.63
Delta D H2O (dD of water)	% per mil	None	-	NA	-108.3	NA	-111.7	-107.2
Gaseous								
Argon (Ar)	MOL %	None	-	0.213	0.203	0.28	0.129	0.277
C ₆ + (hexanes +)	MOL %	None	-	0.0324	0.044	0.0344	0.0649	0.0102
Carbon Dioxide (CO ₂)	MOL %	None	-	2.37	1.63	1.91	1.66	1.16
Carbon Monoxide (CO)	MOL %	None	-	ND	ND	ND	ND	ND
Delta 13C C1 (d ¹³ C ₁)	% per mil	None	-	NA	NA	NA	NA	NA
Delta 13C C2 (d ¹³ C ₂)	% per mil	None	-	NA	NA	NA	NA	NA
Delta 13C C3 (d ¹³ C ₃)	% per mil	None	-	NA	NA	NA	NA	NA
Delta 13C CO2 (d ¹³ CO ₂)	per mil VPDB	None	-	NA	NA	NA	NA	NA
Delta 13C iC4 (d ¹³ iC ₄)	per mil VPDB	None	-	NA	NA	NA	NA	NA
Delta 13C nC4 (d ¹³ nC ₄)	per mil VPDB	None	-	NA	NA	NA	NA	NA
Delta D C1 (dDC ₁)	% per mil	None	-	NA	NA	NA	NA	NA
Ethane (C ₂)	MOL %	None	-	10.19	11.86	10.01	12.44	9.82
Ethane, Dissolved (C ₂ H ₆)	cc/L	None	-	8.4	7.5	7.6	7.5	8.1
Ethane, Dissolved (C ₂ H ₆)	mg/L	None	-	10	9.4	9.5	9.4	10
Ethylene (C ₂ H ₄)	MOL %	None	-	ND	ND	ND	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.5	0.67	0.62	0.59	0.38
Hydrogen (H ₂)	MOL %	None	-	ND	ND	ND	ND	ND
Isobutane (iC ₄)	MOL %	None	-	0.273	0.368	0.317	0.426	0.292
Isopentane (iC ₅)	MOL %	None	-	0.0667	0.0883	0.0785	0.128	0.0635
Methane (C ₁)	MOL %	None	-	65.45	70.18	58.57	73.99	56.93
Methane, Dissolved (CH ₄)	cc/L	None	-	50	42	42	41	43
Methane, Dissolved (CH ₄)	mg/L	None	-	33	28	28	27	28
n-Butane (nC ₄)	MOL %	None	-	0.326	0.647	0.518	0.808	0.408
Nitrogen (N ₂)	MOL %	None	-	15.63	10.79	22.64	5.73	22.19
n-Pentane (nC ₅)	MOL %	None	-	0.0404	0.0485	0.0428	0.0899	0.0214
Oxygen (O ₂)	MOL %	None	-	2.74	ND	2.16	0.12	5.46
Propane (C ₃)	MOL %	None	-	2.67	4.14	3.44	4.41	3.37
Propane, Dissolved (C ₃ H ₈)	cc/L	None	-	2.1	2.5	2.5	2.5	2.6
Propane, Dissolved (C ₃ H ₈)	mg/L	None	-	3.8	4.6	4.6	4.6	4.8
Propylene (C ₃ H ₆)	MOL %	None	-	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
Date Sampled	-	-	-	05/19/20	08/19/20	10/28/20	02/23/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B							
Total Alkalinity	mg/l	None	-	280	340	310	310
Bicarbonate	mg/l	None	-	280	340	310	310
Carbonate	mg/l	None	-	ND	ND	ND	ND
BTEX - SW8260B							
Benzene	µg/l	5	910-1	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	-	0.0038	ND	ND	ND
O-Xylene	µg/l	None	-	0.013	ND	ND	ND
TPH-DRO/GRO - SW8015M/SW8015							
TPH - DRO	mg/l	None	-	ND	ND	ND	ND
TPH - GRO	mg/l	None	-	0.17	ND	ND	ND
DISSOLVED GASES							
Dissolved Methane (RSK 175)	mg/l	None	-	2.30	ND	ND	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	1.40	ND	ND	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	ND	ND	ND	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.00051
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	<0.0002
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	<0.0002
IONS - EPA 300.0							
Bromide	mg/l	None	-	0.254	0.252	0.251	ND
Chloride	mg/l	250	Reg 41	26.4	26.6	71	36.4
Fluoride	mg/l	4	Reg 41	0.383	0.292	0.343	0.416
Nitrate + Nitrite as N	mg/l	10	Reg 41	ND	8.88	10.4	16.3
Nitrate as N	mg/l	10	Reg 41	ND	8.76	10.4	ND
Nitrite as N	mg/l	1	Reg 41	0.112	0.114	ND	16.3
Sulfate	mg/l	250	Reg 41	157	89.5	195	124
METALS EPA 200.8							
Dissolved Barium	mg/l	2	Reg 41	0.0388	0.0397	0.0307	0.0368
Dissolved Boron	mg/l	0.4	RSL	0.202	0.206	0.176	0.222
Dissolved Calcium	mg/l	None	-	92.3	94.500	89.900	98.8
Dissolved Iron	mg/l	0.3	Reg 41	ND	ND	0.0117	0.0365
Dissolved Magnesium	mg/l	None	-	38.9	45.1	39.4	43.2
Dissolved Manganese	mg/l	0.05	Reg 41	0.165	ND	6.26	ND
Dissolved Potassium	mg/l	None	-	4.58	3.97	2.97	2.76
Dissolved Selenium	mg/l	0.05	Reg 41	0.00409	0.00743	0.00562	0.00884
Dissolved Sodium	mg/l	None	-	97.5	82.4	71.7	75.7
Dissolved Strontium	mg/l	1.2	RSL	1.08	1.25	1.13	1.32
WATER QUALITY							
pH	s.u.	6-9	915-1	7.47	7.41	7.4	7.41
Specific Conductivity	µmhos/cm	None	-	1220	1,050	1,200	662
Total Dissolved Solids	mg/l	1.25 X background	915-1	602	517	591	478
Total Phosphorous	mg/l	None	-	ND	ND	ND	0.0564

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
Aqueous							
Delta 13C DIC (d ¹³ C of DIC)	% per mil	None	-	-13.4	NA	-11.3	-11.6
Delta 18O H2O (d ¹⁸ O of water)	% per mil	None	-	-13.43	NA	-13.08	-13.06
Delta D H2O (dD of water)	% per mil	None	-	-105.4	NA	-102.4	-102.5
Gaseous							
Argon (Ar)	MOL %	None	-	0.817	NA	NA	NA
C ₆ + (hexanes +)	MOL %	None	-	0.0122	NA	NA	NA
Carbon Dioxide (CO ₂)	MOL %	None	-	0.7	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	ND	NA	NA	NA
Delta 13C C1 (d ¹³ C ₁)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C2 (d ¹³ C ₂)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C3 (d ¹³ C ₃)	% per mil	None	-	NA	NA	NA	NA
Delta 13C CO2 (d ¹³ CO ₂)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C iC4 (d ¹³ iC ₄)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C nC4 (d ¹³ nC ₄)	per mil VPDB	None	-	NA	NA	NA	NA
Delta D C1 (dDC ₁)	% per mil	None	-	NA	NA	NA	NA
Ethane (C ₂)	MOL %	None	-	1.22	NA	NA	NA
Ethane, Dissolved (C ₂ H ₆)	cc/L	None	-	13	NA	NA	NA
Ethane, Dissolved (C ₂ H ₆)	mg/L	None	-	16	NA	NA	NA
Ethylene (C ₂ H ₄)	MOL %	None	-	ND	NA	NA	NA
Helium (He)	MOL %	None	-	0.0109	NA	NA	NA
Helium Dilution Factor	Other	None	-	-	NA	NA	NA
Hydrogen (H ₂)	MOL %	None	-	ND	NA	NA	NA
Isobutane (iC ₄)	MOL %	None	-	0.0561	NA	NA	NA
Isopentane (iC ₅)	MOL %	None	-	0.0212	NA	NA	NA
Methane (C ₁)	MOL %	None	-	9.1	NA	NA	NA
Methane, Dissolved (CH ₄)	cc/L	None	-	96	NA	NA	NA
Methane, Dissolved (CH ₄)	mg/L	None	-	64	NA	NA	NA
n-Butane (nC ₄)	MOL %	None	-	0.0984	NA	NA	NA
Nitrogen (N ₂)	MOL %	None	-	68.9	NA	NA	NA
n-Pentane (nC ₅)	MOL %	None	-	0.0134	NA	NA	NA
Oxygen (O ₂)	MOL %	None	-	18.59	NA	NA	NA
Propane (C ₃)	MOL %	None	-	0.457	NA	NA	NA
Propane, Dissolved (C ₃ H ₈)	cc/L	None	-	4.8	NA	NA	NA
Propane, Dissolved (C ₃ H ₈)	mg/L	None	-	8.9	NA	NA	NA
Propylene (C ₃ H ₆)	MOL %	None	-	ND	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
Date Sampled	-	-	-	05/15/20	08/17/20	10/20/20	02/23/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B							
Total Alkalinity	mg/l	None	-	340	330	320	320
Bicarbonate	mg/l	None	-	340	330	320	320
Carbonate	mg/l	None	-	ND	ND	ND	ND
BTEX - SW8260B							
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
TPH-DRO/GRO - SW8015M/SW8015							
TPH - DRO	mg/l	None	-	ND	ND	ND	ND
TPH - GRO	mg/l	None	-	ND	ND	ND	ND
DISSOLVED GASES							
Dissolved Methane (RSK 175)	mg/l	None	-	ND	1.400	0.028	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	ND	0.056	ND	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	ND	ND	ND	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.040
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.00029
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	<0.0002
IONS - EPA 300.0							
Bromide	mg/l	None	-	0.404	0.378	0.280	0.213
Chloride	mg/l	250	Reg 41	47.9	41.5	97.0	39.2
Fluoride	mg/l	4	Reg 41	0.637	0.485	0.270	0.325
Nitrate + Nitrite as N	mg/l	10	Reg 41	9.62	9.53	8.56	8.97
Nitrate as N	mg/l	10	Reg 41	9.62	9.53	8.56	8.97
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND
Sulfate	mg/l	250	Reg 41	98.7	84.5	197	110
METALS EPA 200.8							
Dissolved Barium	mg/l	2	Reg 41	0.0753	0.0867	0.0611	0.0642
Dissolved Boron	mg/l	0.4	RSL	0.167	0.216	0.157	0.183
Dissolved Calcium	mg/l	None	-	109	123	109	111
Dissolved Iron	mg/l	0.3	Reg 41	0.0316	0.225	ND	0.0318
Dissolved Magnesium	mg/l	None	-	45	52	44.8	44.2
Dissolved Manganese	mg/l	0.05	Reg 41	0.327	0.39	0.26	0.343
Dissolved Potassium	mg/l	None	-	4.92	5.31	3.84	4.51
Dissolved Selenium	mg/l	0.05	Reg 41	0.00246	0.0021	0.00181	0.00629
Dissolved Sodium	mg/l	None	-	69.3	82.8	70.7	91.9
Dissolved Strontium	mg/l	1.2	RSL	1.27	1.62	1.33	1.42
WATER QUALITY							
pH	s.u.	6-9	915-1	7.44	7.28	7.18	7.4
Specific Conductivity	µmhos/cm	None	-	1260	1110	1,310	1,010
Total Dissolved Solids	mg/l	1.25 X background	915-1	609	547	655	513
Total Phosphorous	mg/l	None	-	0.0620	ND	ND	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
Aqueous							
Delta 13C DIC (d ¹³ C of DIC)	% per mil	None	-	-13.1	NA	-12.8	-12
Delta 18O H2O (d ¹⁸ O of water)	% per mil	None	-	-13.21	NA	-13.34	-13.52
Delta D H2O (dD of water)	% per mil	None	-	-102.9	NA	-102.9	-105.6
Gaseous							
Argon (Ar)	MOL %	None	-	NA	NA	NA	NA
C ₆ + (hexanes +)	MOL %	None	-	NA	NA	NA	NA
Carbon Dioxide (CO ₂)	MOL %	None	-	NA	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	NA	NA	NA	NA
Delta 13C C1 (d ¹³ C ₁)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C2 (d ¹³ C ₂)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C3 (d ¹³ C ₃)	% per mil	None	-	NA	NA	NA	NA
Delta 13C CO2 (d ¹³ CO ₂)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C iC4 (d ¹³ iC ₄)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C nC4 (d ¹³ nC ₄)	per mil VPDB	None	-	NA	NA	NA	NA
Delta D C1 (dDC ₁)	% per mil	None	-	NA	NA	NA	NA
Ethane (C ₂)	MOL %	None	-	NA	NA	NA	NA
Ethane, Dissolved (C ₂ H ₆)	cc/L	None	-	NA	NA	NA	NA
Ethane, Dissolved (C ₂ H ₆)	mg/L	None	-	NA	NA	NA	NA
Ethylene (C ₂ H ₄)	MOL %	None	-	NA	NA	NA	NA
Helium (He)	MOL %	None	-	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	NA	NA	NA	NA
Hydrogen (H ₂)	MOL %	None	-	NA	NA	NA	NA
Isobutane (iC ₄)	MOL %	None	-	NA	NA	NA	NA
Isopentane (iC ₅)	MOL %	None	-	NA	NA	NA	NA
Methane (C ₁)	MOL %	None	-	NA	NA	NA	NA
Methane, Dissolved (CH ₄)	cc/L	None	-	NA	NA	NA	NA
Methane, Dissolved (CH ₄)	mg/L	None	-	NA	NA	NA	NA
n-Butane (nC ₄)	MOL %	None	-	NA	NA	NA	NA
Nitrogen (N ₂)	MOL %	None	-	NA	NA	NA	NA
n-Pentane (nC ₅)	MOL %	None	-	NA	NA	NA	NA
Oxygen (O ₂)	MOL %	None	-	NA	NA	NA	NA
Propane (C ₃)	MOL %	None	-	NA	NA	NA	NA
Propane, Dissolved (C ₃ H ₈)	cc/L	None	-	NA	NA	NA	NA
Propane, Dissolved (C ₃ H ₈)	mg/L	None	-	NA	NA	NA	NA
Propylene (C ₃ H ₆)	MOL %	None	-	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
Date Sampled	-	-	-	05/05/20	08/18/20	10/28/20	02/24/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B							
Total Alkalinity	mg/l	None	-	280	310	310	270
Bicarbonate	mg/l	None	-	280	310	310	270
Carbonate	mg/l	None	-	ND	ND	ND	ND
BTEX - SW8260B							
Benzene	µg/l	5	915-1	ND	ND	3.7	5.2
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	3.3	ND	ND	ND
M+P-Xylene	µg/l	None	-	ND	ND	ND	ND
O-Xylene	µg/l	None	-	3.3	ND	ND	ND
TPH-DRO/GRO - SW8015M/SW8015							
TPH - DRO	mg/l	None	-	ND	ND	ND	ND
TPH - GRO	mg/l	None	-	0.067	0.5	0.18	0.53
DISSOLVED GASES							
Dissolved Methane (RSK 175)	mg/l	None	-	5.60	6.30	7.80	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	7.60	3.20	3.90	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	0.03	2.00	2.20	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	24.00
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	7.20
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	1.80
IONS - EPA 300.0							
Bromide	mg/l	None	-	0.872	0.498	0.815	0.766
Chloride	mg/l	250	Reg 41	72.1	40	119	89.2
Fluoride	mg/l	4	Reg 41	0.9	0.335	0.395	0.475
Nitrate + Nitrite as N	mg/l	10	Reg 41	3.65	ND	ND	ND
Nitrate as N	mg/l	10	Reg 41	3.54	ND	ND	ND
Nitrite as N	mg/l	1	Reg 41	0.114	ND	ND	ND
Sulfate	mg/l	250	Reg 41	282	115	229	129
METALS EPA 200.8							
Dissolved Barium	mg/l	2	Reg 41	0.043	0.0418	0.0285	0.04
Dissolved Boron	mg/l	0.4	RSL	0.221	0.259	0.196	0.204
Dissolved Calcium	mg/l	None	-	93.2	104	93.9	101
Dissolved Iron	mg/l	0.3	Reg 41	0.017	0.0512	0.0476	0.0473
Dissolved Magnesium	mg/l	None	-	38.9	46.2	41.9	42.3
Dissolved Manganese	mg/l	0.05	Reg 41	0.253	0.795	0.748	1.09
Dissolved Potassium	mg/l	None	-	2.47	3.06	2.33	2.26
Dissolved Selenium	mg/l	0.05	Reg 41	ND	ND	ND	0.00438
Dissolved Sodium	mg/l	None	-	86.4	106	94.4	97.1
Dissolved Strontium	mg/l	1.2	RSL	1.19	1.41	1.17	1.4
WATER QUALITY							
pH	s.u.	6-9	915-1	7.69	7.26	7.39	7.63
Specific Conductivity	µmhos/cm	None	-	1220	1050	1,280	1,070
Total Dissolved Solids	mg/l	1.25 X background	915-1	608	518	951	538
Total Phosphorous	mg/l	None	-	ND	ND	ND	0.098

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
Aqueous							
Delta 13C DIC (d ¹³ C of DIC)	% per mil	None	-	-11.1	NA	-13.5	-15.2
Delta 18O H2O (d ¹⁸ O of water)	% per mil	None	-	-13.69	NA	-13.76	-13.71
Delta D H2O (dD of water)	% per mil	None	-	-107.4	NA	-108	-107.6
Gaseous							
Argon (Ar)	MOL %	None	-	0.392	0.429	0.19	0.207
C ₆ + (hexanes +)	MOL %	None	-	0.0168	0.0108	0.0195	0.0056
Carbon Dioxide (CO ₂)	MOL %	None	-	3.8	3.22	3.52	3.23
Carbon Monoxide (CO)	MOL %	None	-	ND	ND	ND	ND
Delta 13C C1 (d ¹³ C ₁)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C2 (d ¹³ C ₂)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C3 (d ¹³ C ₃)	% per mil	None	-	NA	NA	NA	NA
Delta 13C CO2 (d ¹³ CO ₂)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C iC4 (d ¹³ iC ₄)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C nC4 (d ¹³ nC ₄)	per mil VPDB	None	-	NA	NA	NA	NA
Delta D C1 (dDC ₁)	% per mil	None	-	NA	NA	NA	NA
Ethane (C ₂)	MOL %	None	-	8.79	6.3	10.97	10.32
Ethane, Dissolved (C ₂ H ₆)	cc/L	None	-	4.2	5.1	5.4	5.9
Ethane, Dissolved (C ₂ H ₆)	mg/L	None	-	5.3	6.5	6.7	7.4
Ethylene (C ₂ H ₄)	MOL %	None	-	ND	ND	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.72	0.6	0.64	0.57
Hydrogen (H ₂)	MOL %	None	-	ND	ND	ND	ND
Isobutane (iC ₄)	MOL %	None	-	0.297	0.203	0.351	0.206
Isopentane (iC ₅)	MOL %	None	-	0.0686	0.0507	0.0937	0.0452
Methane (C ₁)	MOL %	None	-	62.02	41.47	70.6	68.43
Methane, Dissolved (CH ₄)	cc/L	None	-	28	32	32	35
Methane, Dissolved (CH ₄)	mg/L	None	-	19	21	21	24
n-Butane (nC ₄)	MOL %	None	-	0.391	0.252	0.396	0.247
Nitrogen (N ₂)	MOL %	None	-	20.17	37.1	10.8	13.98
n-Pentane (nC ₅)	MOL %	None	-	0.0272	0.0141	0.031	0.0176
Oxygen (O ₂)	MOL %	None	-	1.49	9.05	0.19	1.49
Propane (C ₃)	MOL %	None	-	2.54	1.9	2.84	1.82
Propane, Dissolved (C ₃ H ₈)	cc/L	None	-	1.2	1.5	1.3	0.97
Propane, Dissolved (C ₃ H ₈)	mg/L	None	-	2.1	2.7	2.4	1.8
Propylene (C ₃ H ₆)	MOL %	None	-	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
Date Sampled	-	-	-	05/06/20	08/18/20	10/28/20	02/24/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B							
Total Alkalinity	mg/l	None	-	230	220	240	250
Bicarbonate	mg/l	None	-	230	220	240	250
Carbonate	mg/l	None	-	ND	ND	ND	ND
BTEX - SW8260B							
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
TPH-DRO/GRO - SW8015M/SW8015							
TPH - DRO	mg/l	None	-	ND	0.464	ND	ND
TPH - GRO	mg/l	None	-	ND	ND	ND	ND
DISSOLVED GASES							
Dissolved Methane (RSK 175)	mg/l	None	-	0.19	1.30	0.90	#N/A
Dissolved Ethane (RSK 175)	mg/l	None	-	ND	0.39	0.10	#N/A
Dissolved Propane (RSK 175)	mg/l	None	-	ND	ND	0.04	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	3.60
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.71
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	0.13
IONS - EPA 300.0							
Bromide	mg/l	None	-	8.38	3.71	314	2.27
Chloride	mg/l	250	Reg 41	740	330	4.95	308
Fluoride	mg/l	4	Reg 41	0.678	0.307	0.360	0.462
Nitrate + Nitrite as N	mg/l	10	Reg 41	8.47	4.87	5.35	6.55
Nitrate as N	mg/l	10	Reg 41	8.47	4.87	5.35	6.55
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND
Sulfate	mg/l	250	Reg 41	216	141	280	170
METALS EPA 200.8							
Dissolved Barium	mg/l	2	Reg 41	0.0641	0.0504	0.0409	0.0366
Dissolved Boron	mg/l	0.4	RSL	0.181	0.209	0.181	0.175
Dissolved Calcium	mg/l	None	-	227	230.000	187.000	153
Dissolved Iron	mg/l	0.3	Reg 41	ND	0.0443	0.024	ND
Dissolved Magnesium	mg/l	None	-	94.9	93.8	67.5	57.3
Dissolved Manganese	mg/l	0.05	Reg 41	0.252	0.341	0.236	0.206
Dissolved Potassium	mg/l	None	-	4.19	5.11	3.71	3.69
Dissolved Selenium	mg/l	0.05	Reg 41	0.0024	0.00266	0.00303	0.00442
Dissolved Sodium	mg/l	None	-	156	224	170	152
Dissolved Strontium	mg/l	1.2	RSL	2.96	3.24	2.46	2.13
WATER QUALITY							
pH	s.u.	6-9	915-1	7.41	7.31	7.30	7.46
Specific Conductivity	µmhos/cm	None	-	2960	2,390	2,350	1,680
Total Dissolved Solids	mg/l	1.25 X background	915-1	1460	1,170	1,180	827
Total Phosphorous	mg/l	None	-	0.0770	0.389	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
Date Sampled	-	-	-	05/06/20	08/18/20	10/28/20	02/24/21
Aqueous							
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	-9.8	NA	-10.7	-10.5
Delta 18O H ₂ O ($d^{18}O$ of water)	% per mil	None	-	-13.43	NA	-13.47	-13.43
Delta D H ₂ O (dD of water)	% per mil	None	-	-105.8	NA	-106	-105.9
Gaseous							
Argon (Ar)	MOL %	None	-	1.39	1.19	1.24	1.04
C ₆ + (hexanes +)	MOL %	None	-	0.0006	0.0012	0.0057	ND
Carbon Dioxide (CO ₂)	MOL %	None	-	6.66	6.02	5.88	2.41
Carbon Monoxide (CO)	MOL %	None	-	ND	ND	ND	ND
Delta 13C C ₁ ($d^{13}C_1$)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C ₂ ($d^{13}C_2$)	% per mil	None	-	NA	NA	NA	NA
Delta 13C C ₃ ($d^{13}C_3$)	% per mil	None	-	NA	NA	NA	NA
Delta 13C CO ₂ ($d^{13}CO_2$)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C iC ₄ ($d^{13}iC_4$)	per mil VPDB	None	-	NA	NA	NA	NA
Delta 13C nC ₄ ($d^{13}nC_4$)	per mil VPDB	None	-	NA	NA	NA	NA
Delta D C ₁ (dDC ₁)	% per mil	None	-	NA	NA	NA	NA
Ethane (C ₂)	MOL %	None	-	0.949	1.46	1.92	1.06
Ethane, Dissolved (C ₂ H ₆)	cc/L	None	-	0.25	0.38	0.57	0.63
Ethane, Dissolved (C ₂ H ₆)	mg/L	None	-	0.31	0.48	0.72	0.79
Ethylene (C ₂ H ₄)	MOL %	None	-	ND	ND	0.0005	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.83	0.83	0.81	0.51
Hydrogen (H ₂)	MOL %	None	-	ND	ND	ND	ND
Isobutane (iC ₄)	MOL %	None	-	0.0238	0.0184	0.0535	0.0104
Isopentane (iC ₅)	MOL %	None	-	0.0006	0.0083	0.001	0.0016
Methane (C ₁)	MOL %	None	-	11.83	17.38	18.73	11.6
Methane, Dissolved (CH ₄)	cc/L	None	-	2.8	4.2	5.2	6.2
Methane, Dissolved (CH ₄)	mg/L	None	-	1.9	2.8	3.5	4.1
n-Butane (nC ₄)	MOL %	None	-	0.0238	0.0154	0.101	0.0047
Nitrogen (N ₂)	MOL %	None	-	72.58	64.77	60.71	70.21
n-Pentane (nC ₅)	MOL %	None	-	0.0046	ND	0.0062	ND
Oxygen (O ₂)	MOL %	None	-	6.31	8.96	10.85	13.52
Propane (C ₃)	MOL %	None	-	0.232	0.18	0.506	0.14
Propane, Dissolved (C ₃ H ₈)	cc/L	None	-	0.056	0.044	0.14	0.077
Propane, Dissolved (C ₃ H ₈)	mg/L	None	-	0.1	0.081	0.26	0.14
Propylene (C ₃ H ₆)	MOL %	None	-	ND	ND	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
ALKALINITY AS CALCIUM CARBONATE - SM2320B					
Total Alkalinity	mg/l	None	-	210	200
Bicarbonate	mg/l	None	-	210	200
Carbonate	mg/l	None	-	ND	ND
BTEX - SW8260B					
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
TPH-DRO/GRO - SW8015M/SW8015					
TPH - DRO	mg/l	None	-	ND	ND
TPH - GRO	mg/l	None	-	ND	ND
DISSOLVED GASES					
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
IONS - EPA 300.0					
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
METALS EPA 200.8					
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	0.0546
Dissolved Magnesium	mg/l	None	-	23.4	30.5
Dissolved Manganese	mg/l	0.05	Reg 41	0.0719	0.0391
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
WATER QUALITY					
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
Aqueous					
Delta 13C DIC (d ¹³ C of DIC)	% per mil	None	-	-10.8	-11.1
Delta 18O H ₂ O (d ¹⁸ O of water)	% per mil	None	-	-14.48	14.4
Delta D H ₂ O (dD of water)	% per mil	None	-	-112.1	-111.4
Gaseous					
Argon (Ar)	MOL %	None	-	1.35	1.29
C ₆ + (hexanes +)	MOL %	None	-	0.0008	ND
Carbon Dioxide (CO ₂)	MOL %	None	-	2.34	2.5
Carbon Monoxide (CO)	MOL %	None	-	ND	ND
Delta 13C C ₁ (d ¹³ C ₁)	% per mil	None	-	NA	NA
Delta 13C C ₂ (d ¹³ C ₂)	% per mil	None	-	NA	NA
Delta 13C C ₃ (d ¹³ C ₃)	% per mil	None	-	NA	NA
Delta 13C CO ₂ (d ¹³ CO ₂)	per mil VPDB	None	-	NA	NA
Delta 13C iC ₄ (d ¹³ iC ₄)	per mil VPDB	None	-	NA	NA
Delta 13C nC ₄ (d ¹³ nC ₄)	per mil VPDB	None	-	NA	NA
Delta D C ₁ (dDC ₁)	% per mil	None	-	NA	NA
Ethane (C ₂)	MOL %	None	-	1.42	1.36
Ethane, Dissolved (C ₂ H ₆)	cc/L	None	-	0.44	0.46
Ethane, Dissolved (C ₂ H ₆)	mg/L	None	-	0.54	0.57
Ethylene (C ₂ H ₄)	MOL %	None	-	ND	ND
Helium (He)	MOL %	None	-	NA	NA
Helium Dilution Factor	Other	None	-	0.75	0.72
Hydrogen (H ₂)	MOL %	None	-	ND	ND
Isobutane (iC ₄)	MOL %	None	-	0.0432	0.0092
Isopentane (iC ₅)	MOL %	None	-	0.0067	0.0007
Methane (C ₁)	MOL %	None	-	15.27	14.85
Methane, Dissolved (CH ₄)	cc/L	None	-	4.2	4.5
Methane, Dissolved (CH ₄)	mg/L	None	-	2.8	3
n-Butane (nC ₄)	MOL %	None	-	0.0008	ND
Nitrogen (N ₂)	MOL %	None	-	72.37	74.45
n-Pentane (nC ₅)	MOL %	None	-	ND	ND
Oxygen (O ₂)	MOL %	None	-	7.03	5.49
Propane (C ₃)	MOL %	None	-	0.167	0.055
Propane, Dissolved (C ₃ H ₈)	cc/L	None	-	0.048	0.017
Propane, Dissolved (C ₃ H ₈)	mg/L	None	-	0.087	0.032
Propylene (C ₃ H ₆)	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
Date Sampled	-	-	-	11/23/20	02/23/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B					
Total Alkalinity	mg/l	None	-	290	290
Bicarbonate	mg/l	None	-	290	290
Carbonate	mg/l	None	-	ND	ND
BTEX - SW8260B					
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
TPH-DRO/GRO - SW8015M/SW8015					
TPH - DRO	mg/l	None	-	ND	ND
TPH - GRO	mg/l	None	-	ND	ND
DISSOLVED GASES					
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
Dissolved Ethane (DGS)	ppm	None	-	0.0013	0.0012
Dissolved Propane (DGS)	ppm	None	-	0.00040	<0.0002
IONS - EPA 300.0					
Bromide	mg/l	None	-	0.345	0.312
Chloride	mg/l	250	Reg 41	34.8	44.7
Fluoride	mg/l	4	Reg 41	0.220	0.320
Nitrate + Nitrite as N	mg/l	10	Reg 41	6.34	8.85
Nitrate as N	mg/l	10	Reg 41	6.34	8.85
Nitrite as N	mg/l	1	Reg 41	ND	ND
Sulfate	mg/l	250	Reg 41	70.2	224
METALS EPA 200.8					
Dissolved Barium	mg/l	2	Reg 41	0.0672	0.0451
Dissolved Boron	mg/l	0.4	RSL	0.193	0.161
Dissolved Calcium	mg/l	None	-	81.800	111.000
Dissolved Iron	mg/l	0.3	Reg 41	0.0201	30.1/1000
Dissolved Magnesium	mg/l	None	-	36.9	43.1
Dissolved Manganese	mg/l	0.05	Reg 41	0.215	0.0522
Dissolved Potassium	mg/l	None	-	3.42	3.15
Dissolved Selenium	mg/l	0.05	Reg 41	0.00268	0.0058
Dissolved Sodium	mg/l	None	-	80.8	95.1
Dissolved Strontium	mg/l	1.2	RSL	1.17	1.33
WATER QUALITY					
pH	s.u.	6-9	915-1	7.36	7.44
Specific Conductivity	µmhos/cm	None	-	1,350	1,080
Total Dissolved Solids	mg/l	1.25 X background	915-1	670	1,070
Total Phosphorous	mg/l	None	-	ND	ND

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

Parameter	Units	Standard	Source	61256-MH MW-8 Facility ID 766716	
				Initial	1
Date Sampled	-	-	-	11/23/20	02/23/21
Aqueous					
Delta 13C DIC (d ¹³ C of DIC)	% per mil	None	-	-11.3	.10.9
Delta 18O H ₂ O (d ¹⁸ O of water)	% per mil	None	-	-13.66	-13.71
Delta D H ₂ O (dD of water)	% per mil	None	-	-107.2	-107.5
Gaseous					
Argon (Ar)	MOL %	None	NA	NA	NA
C ₆ + (hexanes +)	MOL %	None	NA	NA	NA
Carbon Dioxide (CO ₂)	MOL %	None	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	NA	NA	NA
Delta 13C C ₁ (d ¹³ C ₁)	% per mil	None	NA	NA	NA
Delta 13C C ₂ (d ¹³ C ₂)	% per mil	None	NA	NA	NA
Delta 13C C ₃ (d ¹³ C ₃)	% per mil	None	NA	NA	NA
Delta 13C CO ₂ (d ¹³ CO ₂)	per mil VPDB	None	NA	NA	NA
Delta 13C iC ₄ (d ¹³ iC ₄)	per mil VPDB	None	NA	NA	NA
Delta 13C nC ₄ (d ¹³ nC ₄)	per mil VPDB	None	NA	NA	NA
Delta D C ₁ (dDC ₁)	% per mil	None	NA	NA	NA
Ethane (C ₂)	MOL %	None	NA	NA	NA
Ethane, Dissolved (C ₂ H ₆)	cc/L	None	NA	NA	NA
Ethane, Dissolved (C ₂ H ₆)	mg/L	None	NA	NA	NA
Ethylene (C ₂ H ₄)	MOL %	None	NA	NA	NA
Helium (He)	MOL %	None	NA	NA	NA
Helium Dilution Factor	Other	None	NA	NA	NA
Hydrogen (H ₂)	MOL %	None	NA	NA	NA
Isobutane (iC ₄)	MOL %	None	NA	NA	NA
Isopentane (iC ₅)	MOL %	None	NA	NA	NA
Methane (C ₁)	MOL %	None	NA	NA	NA
Methane, Dissolved (CH ₄)	cc/L	None	NA	NA	NA
Methane, Dissolved (CH ₄)	mg/L	None	NA	NA	NA
n-Butane (nC ₄)	MOL %	None	NA	NA	NA
Nitrogen (N ₂)	MOL %	None	NA	NA	NA
n-Pentane (nC ₅)	MOL %	None	NA	NA	NA
Oxygen (O ₂)	MOL %	None	NA	NA	NA
Propane (C ₃)	MOL %	None	NA	NA	NA
Propane, Dissolved (C ₃ H ₈)	cc/L	None	NA	NA	NA
Propane, Dissolved (C ₃ H ₈)	mg/L	None	NA	NA	NA
Propylene (C ₃ H ₆)	MOL %	None	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
Date Sampled	-	-	-	11/23/20	03/18/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B					
Total Alkalinity	mg/l	None	-	275	320
Bicarbonate	mg/l	None	-	275	320
Carbonate	mg/l	None	-	ND	ND
BTEX - SW8260B					
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
TPH-DRO/GRO - SW8015M/SW8015					
TPH - DRO	mg/l	None	-	ND	ND
TPH - GRO	mg/l	None	-	ND	ND
DISSOLVED GASES					
Dissolved Methane (RSK 175)	µg/l	None	-	#N/A	#N/A
Dissolved Ethane (RSK 175)	µg/l	None	-	#N/A	#N/A
Dissolved Propane (RSK 175)	µg/l	None	-	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	2.1	0.031
Dissolved Ethane (DGS)	ppm	None	-	0.52	0.0041
Dissolved Propane (DGS)	ppm	None	-	0.10	0.00057
IONS - EPA 300.0					
Bromide	mg/l	None	-	0.240	ND
Chloride	mg/l	250	Reg 41	31.3	37.5
Fluoride	mg/l	4	Reg 41	0.283	0.386
Nitrate + Nitrite as N	mg/l	10	Reg 41	5.59	9.3
Nitrate as N	mg/l	10	Reg 41	5.53	9.3
Nitrite as N	mg/l	1	Reg 41	ND	ND
Sulfate	mg/l	250	Reg 41	112	99.2
METALS EPA 200.8					
Dissolved Barium	mg/l	2	Reg 41	0.0523	0.05
Dissolved Boron	mg/l	0.4	RSL	0.185	ND
Dissolved Calcium	mg/l	None	-	70.300	108
Dissolved Iron	mg/l	0.3	Reg 41	ND	0.0187
Dissolved Magnesium	mg/l	None	-	29.7	42.7
Dissolved Manganese	mg/l	0.05	Reg 41	0.0244	0.00156
Dissolved Potassium	mg/l	None	-	3.19	3.53
Dissolved Selenium	mg/l	0.05	Reg 41	0.00225	0.0035
Dissolved Sodium	mg/l	None	-	64.7	83.6
Dissolved Strontium	mg/l	1.2	RSL	1.03	1.4
WATER QUALITY					
pH	s.u.	6-9	915-1	7.36	7.23
Specific Conductivity	µmhos/cm	None	-	1,150	1,170
Total Dissolved Solids	mg/l	1.25 X background	915-1	571	587
Total Phosphorous	mg/l	None	-	ND	0.053

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

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

910-1 - Regulatory comparison value taken from concentration levels as presented in COGCC Table 910-1

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

Soil Vapor Monitoring Point Field Results Summary

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

Probe ID	Sample Date	Units	Balance	CH ₄	CO ₂	O ₂	H ₂ 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 ¹		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
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
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 ¹		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
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
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 ¹		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
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

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

Probe ID	Sample Date	Units	Balance	CH ₄	CO ₂	O ₂	H ₂ S	CO	PID
			%	%	%	%	ppm	ppm	ppm
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 ¹		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
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

Notes:

¹Atmospheric 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
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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 DRTILLING OUT TIE 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 BHAAND 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 SURFACE 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 PRESSURES 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) PRESSING UP TO 600PSI PRESSURE BLEEDING BACK TO 140PSI AND HOLDING EACH TIME; CONTINUE 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 SECURE 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 PESSURE 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

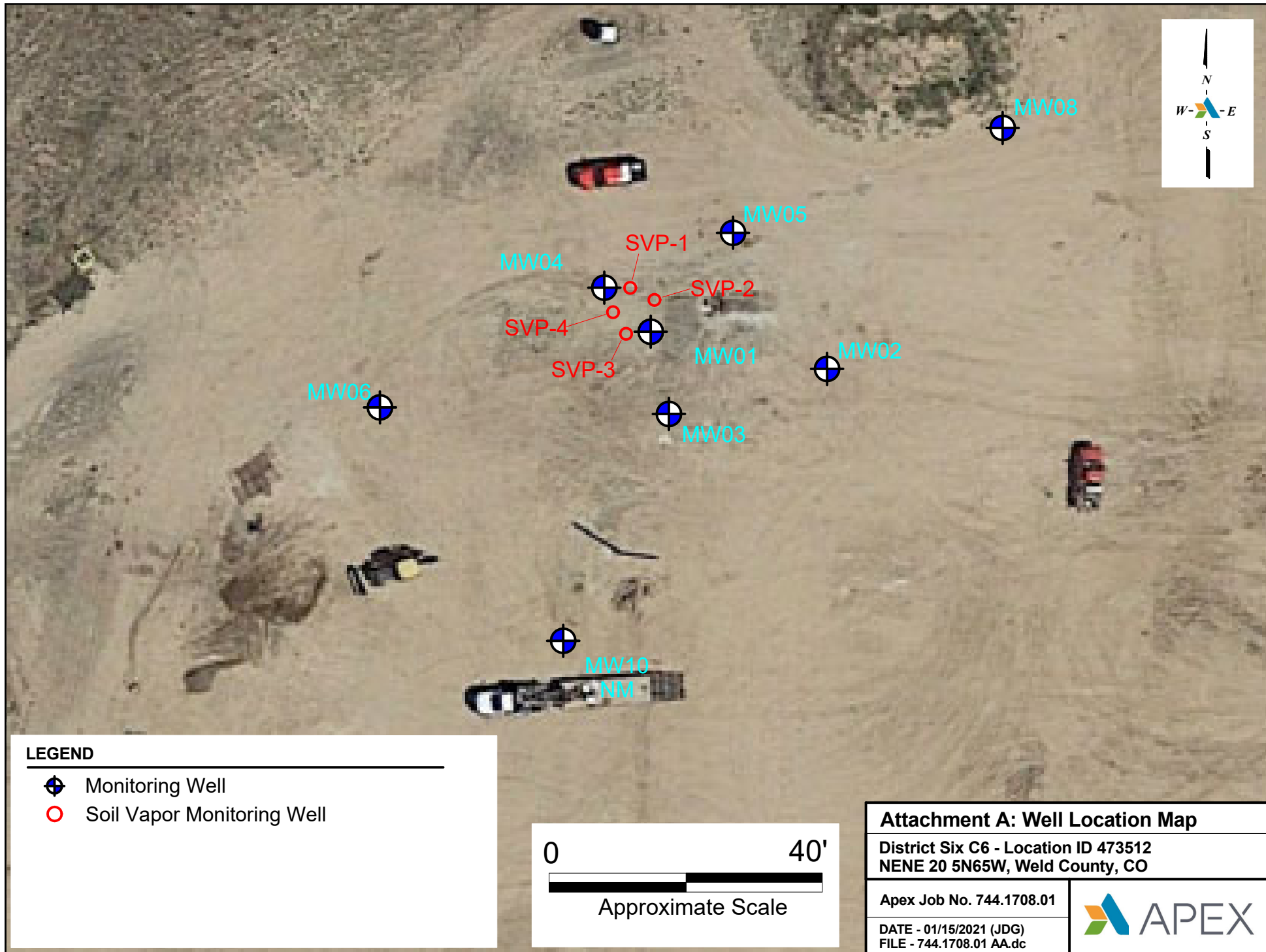
Well Name: DISTRICT SIX C06

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



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, dwpermitsonline@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

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@apexc.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

59993 - MH
Div. 1 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.

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!

WorkSafe
Apex, Energy Safety, Water Safety Personnel

Form No. GWS-31 02/2017		WELL CONSTRUCTION AND YIELD ESTIMATE REPORT 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 dwrrpermitsonline@state.co.us		For Office Use Only RECEIVED OCT 18 2019 WATER RESOURCES STATE ENGINEER COLO	
1. Well Permit Number: 59993-MH		Receipt Number:			
2. Owner's Well Designation: MW-1					
3. Well Owner Name: Extraction Oil and Gas, LLC					
4. Well Location Street Address: 20 29th Street, Greeley, CO 80631					
5. As Built GPS Well Location (required): <input type="checkbox"/> Zone 12 <input checked="" type="checkbox"/> Zone 13 Easting: 526998.2 Northing: 4471240.51					
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: 08/28/2019 Drilling Method: Hollow Stem Auger					
8. Completed Aquifer Name : Unnamed Type III/II Total Depth: 85 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: 08/23/2019					
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.)
Depth	Type	Grain Size	Color	Water Loc.	From (ft)
0' - 3'	Silty Sand	fg	Bwn.		0
3' - 8'	Sandy Clay	vfg - fg	Bwn.		85
8' - 18'	Silty Sand	vfg - mg	Grey Bwn.		
18' - 30'	Sand	fg - cg	Yellow Bwn.	28' (Perch)	
30' - 39'	Clay	vfg	Grey		
39' - 48'	Sand	fg	Bwn.	40' (Stable)	
48' - 50'	Sandy Clay	vfg - fg	Bwn.		
50' - 70'	Sand	fg - mg	Bwn.		
70' - 80'	Sand	fg - cg	Bwn.		
80' - 85'	Clay	vfg - fg	Bwn.		
85'	NR/Bedrock				
13. Plain Casing					
OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)	
2.375	Sch40PVC	0.328	0	45	
14. Filter Pack:					
Material Sand					
Size 10-20					
Interval 43 - 85					
15. Packer Placement:					
Type					
Depth					
16. Grouting Record					
Material	Amount	Density	Interval	Method	
Cement Grout	800 lbs	Grout	0 - 40	Tremie Pipe	
Remarks:					
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: 38.51			Estimated Yield (gpm) N/A		
Date/Time measured: 10/15/19, 9:50 am			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	
Mailing Address: 1746 Cole Blvd, Suite 250, Lakewood, CO 80401		License Number: CA-PG# 9617			
Sign (or enter name if filing online) Kevin Ambrose					

[illegible]

[illegible]

[illegible]

[illegible]

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

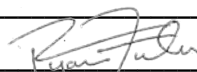
State of Colorado, Office of the State Engineer 1313 Sherman St, Room
821, Denver, CO 80203 Phone 303-866-3581 dwr.colorado.gov

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

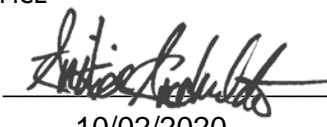
Purpose of Monitoring Hole(s) _____
Groundwater Monitoring

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

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- 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.
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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 | dwr.colorado.gov

On Wed, Jan 27, 2021 at 3:20 PM Mike Ruiz <Mike.Ruiz@apexcoss.com> wrote:

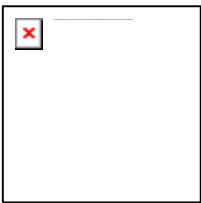
Hello DWR reviewer,

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   

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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.

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[illegible]

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Attachment D

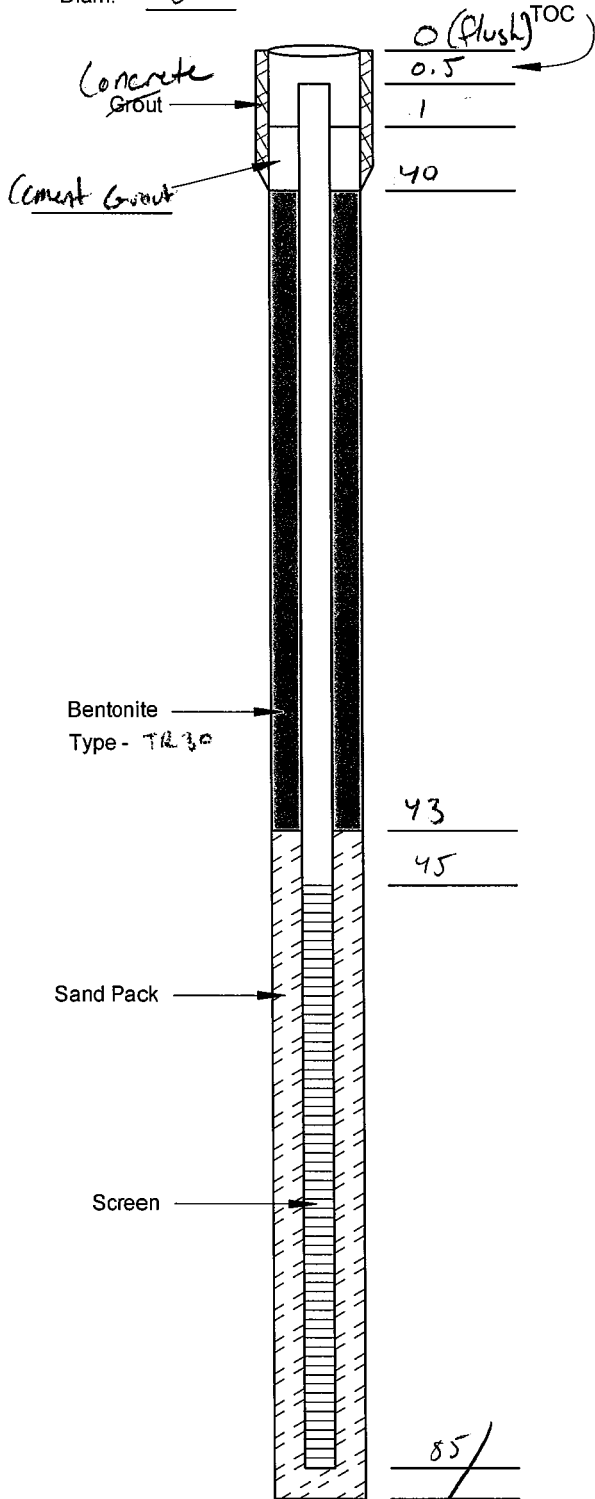
Groundwater Well Borehole and Completion Logs



Well Completion Detail

Street Box
Diam. = 8"

Surveyed Dif.
Btwn. GS and
TOC



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 85'

WELL CONSTRUCTION LOG

Project 744,1804.01
Number 332837A

Well
Number MW-1

Drilling Summary

Total Depth of Hole: 85'
Hole Diameter: 8"
Drilling Company: Site Services Drilling LLC
Driller: Jason A
Rig Type: CME-75
Bits: _____
Geologist: Kevin Ambrose

Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>8/26</u>		<u>8/27</u>	
Well Completion:	<u>8/27</u>		<u>8/27</u>	
Grouting:	<u>8/28</u>		<u>8/28</u>	

Depth to Water (Below TOC)

Depth: 38.51 Date: 10/15/19 Time: 9:50

Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>800 lbs</u>	<u>100 lbs</u>	<u>750 lbs</u>
Type:	<u>Portland</u>	<u>Bent. Pellets</u>	<u>10-20 Sand</u>

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

Comments

PROJECT NAME AND SITE ADDRESS: 40.391563, -104.681859		BORING/WELL ID:
BORING LOCATION (AT SITE): Greeley Directional, D6CG 7'SE		PROJECT NO.:
SUBCONTRACTOR AND EQUIPMENT: CASE		LOGGED BY: K Ambrose
SAMPLING METHOD: Split Spoon	MONITORING DEVICE: Mini Rae 3000 PID	
START DATE/ (TIME): 8/16/19	FINISH DATE/ (TIME):	
FIRST WATER (BGS):	STABILIZED WATER LEVEL (BGS):	
SURFACE ELEVATION:	CASING TOP ELEVATION:	
TOTAL WELL DEPTH(S):	BORING DIAMETER AND DEPTH: 8" HSA (60)	
CASING DIAMETER(S):	SCREEN INTERVAL(S): SLOT (IN):	
ANNULUS MATERIAL:		
REVIEWED BY:		

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.
				+2			
				0		Clear w/ air knife to 8' bgs (10" dia)	
				SM		compacted sand & gravel w/ silt brown, dry, dense	
				CL		Sandy clay w/ gravel brown, dry, hard	
				5			5
11:05		2		SM		50% fine sand, 30% silt, 20% clay, greyish brown, medium dense, moist, trace med-coarse sand, trace v fine gravel	10
		3					
		7	0.8				
		11		10			
				18	SP	90% fine-coarse sand, 10% fine gravel, yellowish brown, wet, (mostly coarse) med. dense	
		2					
		12					
		19					
		25		20		100% fine sand, wet, yellowish brown, dense	15
				18	SP	wet, fine-coarse sand, 5% gravel, greyish brown, dense w/ grey/black right before clay interface (2-3" thick) silt (right bc color)	
		9					
		24					
		21					
		11		20.50	CL	grey, hard clay, wet, medium plasticity	20



PROJECT NAME AND SITE ADDRESS:

Greeley Directional

BORING LOCATION (AT SITE):

PROJECT NO.:

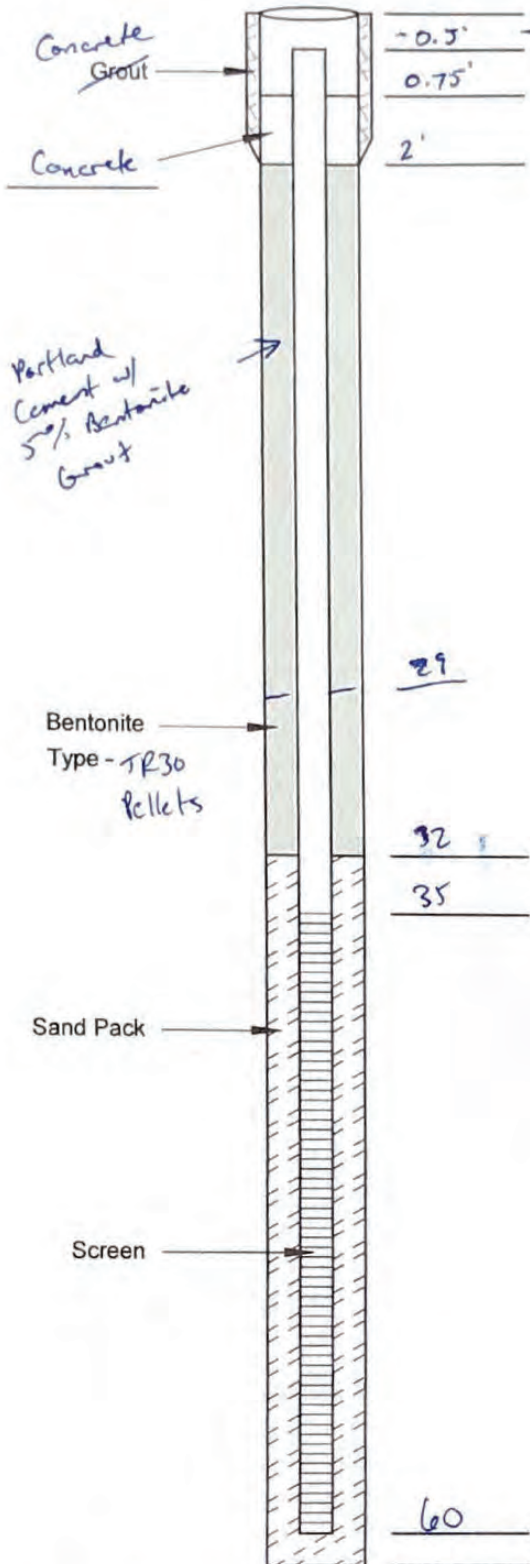
TIME	SAMPLE INTERVAL	BLOW COUNTS	PID (ppmV)	DEPTH	USCS LITHOLOGY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size/plasticity, other) ALL PERCENTAGES APPROXIMATE UNLESS STATED OTHERWISE	WELL CONST.
1230	2 5 6 7	3.5		38 38.5 40	CL SM	brown clay, stiff, medium plasticity, slight 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
1355	2 6 13 17	0.4		48 52 50	CL SM	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 c ~65' due to heaving sands	30
1540	6 12 14	2.7		70 72	SP	med-coarse sand w/ 20% coarse gravel, saturated, brown, m. dense fine sand (1/4") 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' - drillers encounter bedrock @ 85'. Stop drilling & call in to client & project managers. Wait for water to stabilize, to collect multiple readings c 59.5' bgs. Set well screen c 75 to 85' bgs (20' above & below assumed breach c 65')	45

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
220487

Well Number MW02

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		Finish	
	Date	Time	Date	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>
Area/Ft.:	<u>0.16 5' ft</u>
Inside Diam.:	<u>2"</u>
Config.:	<u>PVC</u>
Comp.:	<u>PVC</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'.

Total Depth from TOC = 60'



Boring Location Sketch

SOIL BORING LOG

Project Number Boring Number Sheet

MW02

1 of 1



Project District Six C6 Investigation

Location Greeley Directional Pad

Drilling Method & Equipment B-55 HSA Rig, 8" OD auger

Drilling Contractor Cascade, Robbie Gildea

Date 4/21/20, clear 6'

Start 4/20/20, 1300

Finish

Logger L. 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	(10, 90, 10, 0) brown, moist, fine sand, trace med sand, loose	SP-Sm	N	0	
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	
30	30-32	1415	50%	5/5/5	(5, 90, 5, 0) brown, damp, loose, fine-c sand trace # gravel	SP	N	0	
					(0, 20, 50, 30) greenish grey w/ brown mottling, moist, soft, fine sand, med. plasticity	ML	N	0	
40	40-42	1430	75%	4/7/9	SAP, wet	ML	N	0	
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, 6' fines from augers when drillers reach 60'. Stop work to collect gas readings & see if gas action dissipates.				
70									
80									
85									

push-mount box

gravel

29 bent.

32

10/20 Sand

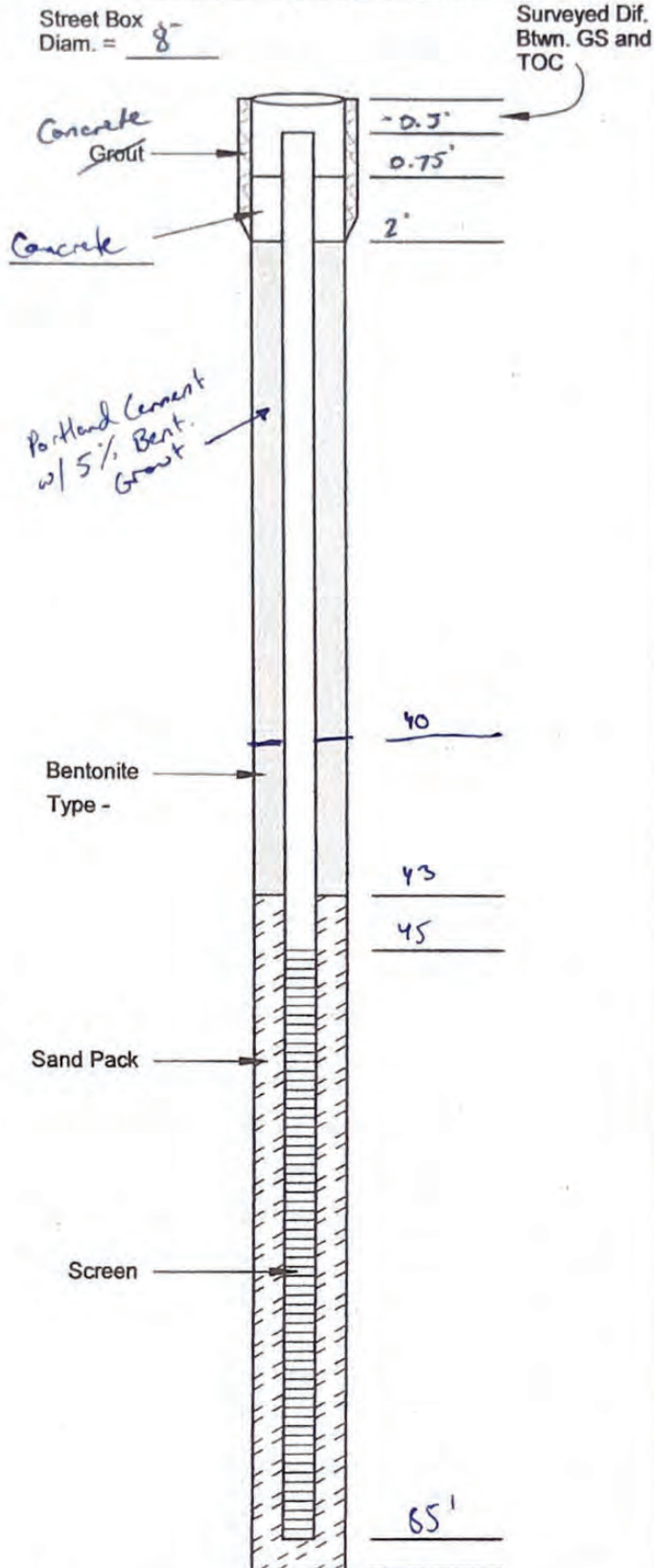
TD=60'

Reflected 2" Screen, 10-20 sand w/ 0.010" slot 35'-60'

Readings from auger
4-gas alarm,
20-25% LEL
PID ~15-20 ppm



Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 85'

WELL CONSTRUCTION LOG

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 flights
Geologist: Kevin Ambrose

Time Log

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

Depth to Water (Below TOC)

Stabilized
Depth: ~39' Date: Time:

Well Construction Materials

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

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

Comments

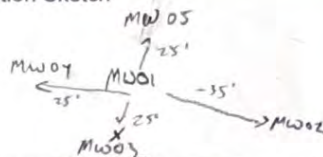
4/18 5:45



Boring Location Sketch

SOIL BORING LOG

Project Number Boring Number Sheet
MW003 1 of 1



Project District Six CG

Location Greeley Dir. Pad

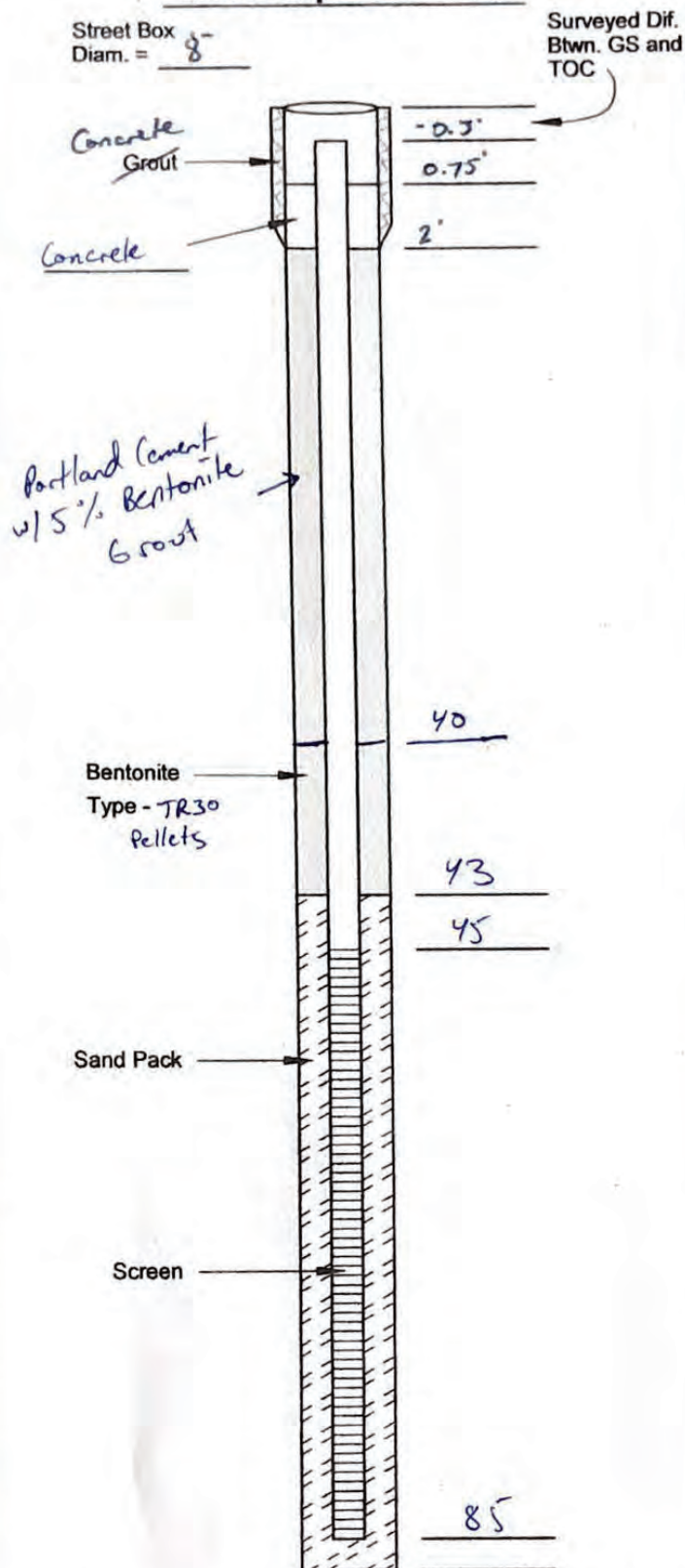
Drilling Method & Equipment HydroVac, B-59, HSA w/ 8" Drill Contractor Cascade Drilling, Robbie Gilden

Date 4/21/20 Water Level ~45-50' bgs Start 4/21/20, 000 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, Design, etc.
	Interval	Depth/Time	Recovery						
10	10-12	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	SP	N	10 : 0 10.5 : 0 11 : 0 11.5 : 0	
20	20-22	1205	50%	5/8/9	grades into fine sand (0, 40, 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	
30	30-32	1330	75%	8/8/8	(0, 70, 30, 0) fine sand, brown, wet, trace med. sand, med. dense, 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			
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	
50	50-52	1505	66%	10/11/10	(0, 40, 50, 10) fine sand, lt grey w/ brown mottling, damp, low plasticity	ML	N	50 : 0 50.5 : 0 51 : 0 51.5 : 0	
60	60-62	1616	80%	13/8/5	(0, 70, 30, 0) yellowish brown, saturated, fine sand, low plasticity, stiff	SM	N	60 : 0 60.5 : 0 61 : 0 61.5 : 0	
60	60-62	1616	80%	13/8/5	(10, 80, 10, 0) greenish grey, saturated, mostly fine to med sand, fine gravel, trace coarse sand	SM	N	60 : 0 60.5 : 0 61 : 0 61.5 : 0	
70	70-72	1020	66%	9/21/24	(0, 80, 20, 0) med. brown, saturated, fine gr sand, dense	SM	N	70 : 0 70.5 : 0 71 : 0 71.5 : 0	
80	80-82	1130	100%	7/11/13	(5, 65, 30, 0) brown, wet, fine med sand, trace fine gravel, m. dense	SM			
85	84-86	1230	100%		(0, 40, 50, 10) brown, stiff, fine sand, low plasticity, wet	ML			
85	84-86	1230	100%		SPA (brown, wet)				
85	84-86	1230	100%		(0, 70, 50, 30) greenish grey w/ black seam, hard, wet, no he odor, med plasticity	ML			
Total Depth(s) = 85'				Soil Sample(s): No soil samples retained for lab analysis		Rationale: No staining or elevated PID readings		Additional Information:	



Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

WELL CONSTRUCTION LOG

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 1/4</u>	Comp.: <u>VC</u>	
Inside Diam.:	<u>2"</u>	Outside Diam.: <u>2.3"</u>	

Comments

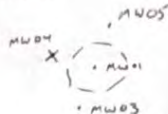
Total Depth from TOC = 85'



Boring Location Sketch

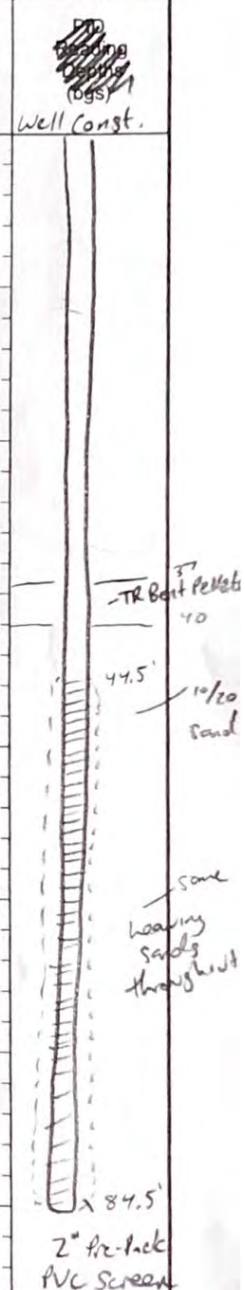
SOIL BORING LOG

Project Number MW04 Boring Number 1 of 1 Sheet



Project District Six C6 Location Greenley Directional Pad
 Drilling Method & Equipment HydroVac (G'), 359 173A w/ 8" auger flights Drilling Contractor Cascade - Robbie Gildca
 Date 4/21/20 ^{-cleaning} Water Level 6' Start 4/23/20, 1130 Finish 4/23/20, 1130 Finish 4/23/20, 1130 Logger K Ambrose

Depth Below Surface	Sample			Standard Penetration Test Results	Soil Description	Symbol of USCS Log	Staining	PID Readings (ppm)	Well Const.
	Interval	Depth/Time	Recovery						
10	10-12	1140	75%	4/7/9	Clear to ~5.5' bags using hydrovac & hand tools. Compacted gravelly sand & wood debris.	ML	N	0 E 10	
10	10-12	1140	75%	4/7/9	(0, 30, 70, 0) fine sand, brown w/ lt brown streaking, no plasticity, stiff, dry	SM	N	0 E 11	
20	20-22	1200	66%	6/13/14	(5, 70, 25, 0) fine sand w/ trace med/ coarse sand, trace fine gravel, brown, damp, m. dense	SP	N	0 E 20	
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 21	
30	30-32	1325	75%	12/7/4	↓ S&A above	SP	N	0 E 22	
30	30-32	1325	75%	12/7/4	(0, 30, 50, 20) greenish grey, low plasticity, fine gr. sand, wet	ML	N	0 E 30	
40	40-42	1350	100%	5/5/7	(0, 20, 50, 30) brown, wet, med plast. fine grain sand	ML	N	0 E 31	
40	40-42	1350	100%	5/5/7	(0, 20, 50, 30) brown, wet, med plast. fine grain sand	ML	N	0 E 32	
50	50-52	1420	100%	5/8/11	(0, 60, 40, 0) brown, saturated, m. dense, fine gr. sand	SM	N	0 E 40	
50	50-52	1420	100%	5/8/11	(0, 60, 40, 0) brown, saturated, m. dense, fine gr. sand	SM	N	0 E 41	
60	60-62	930	100%	6/29/37	(0, 60, 40, 0) brown, wet, fine-coarse sand, gravel, fine-coarse sand, denser	SM	N	0 E 42	
60	60-62	930	100%	6/29/37	2" layer of black silty sand, trace fine gravel, wet, no odor (organic?)	CL	N	0 E 50	
60	60-62	930	100%	6/29/37	(0, 20, 30, 50) brown, wet, high plasticity, hard, fine sand	CL	N	0 E 51	
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 52	
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 60	
80	80-82	1130	100%	5/1-20	(0, 40, 60, 0) brown, saturated, dense	SM	N	0 E 61	
80	80-82	1130	100%	5/1-20	(0, 40, 60, 0) brown, saturated, dense	SM	N	0 E 70	
85	85-87	1150	100%	7/11/13	(0, 40, 60, 0) brown, saturated, fine gr. sand	ML	N	0 E 71	
85	85-87	1150	100%	7/11/13	(0, 40, 60, 0) brown, saturated, fine gr. sand	ML	N	0 E 72	
85	85-87	1150	100%	7/11/13	(0, 0, 30, 70) greyish brown, hard, wet	CL	N	0 E 80	
85	85-87	1150	100%	7/11/13	(0, 0, 30, 70) greyish brown, hard, wet	CL	N	0 E 81	
85	85-87	1150	100%	7/11/13	(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")

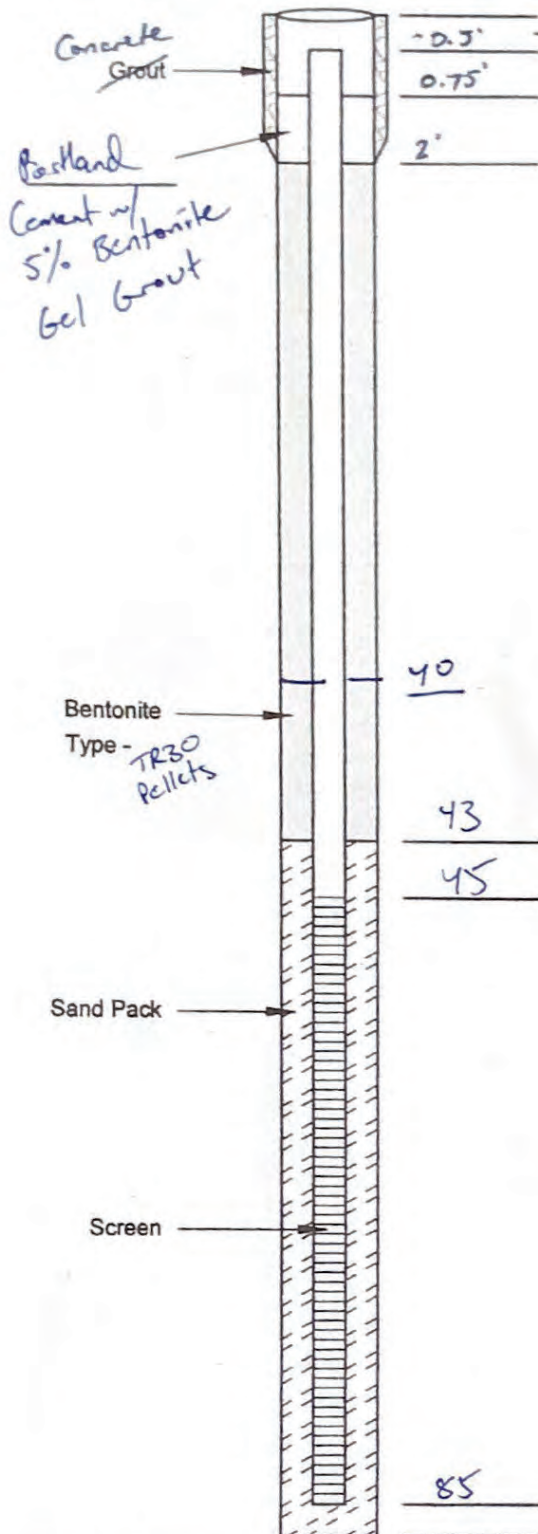




Well Completion Detail

Street Box
Diam. = 8"

Surveyed Dif.
Btwn. GS and
TOC



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 85'

WELL CONSTRUCTION LOG

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 Date	Start Time	Finish Date	Finish 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	resin Bent.	10-20 Sand

	Screen
Size:	2" Sch 40
Area/Ft.:	6.16 sq ft
Inside Diam.:	2"
Config.:	
Comp.:	PVC
Outside Diam.:	2.3"

Comments



Boring Location Sketch

SOIL BORING LOG

Project Number Boring Number Sheet
MW05 1 of 1

Project District Six C6

Location Greeley Directional Pad

Drilling Method & Equipment Hydraulic B-S9 HSA w/ 8" OD 6" auger flights

Drilling Contractor Cascade, Robbe Gildea

Date 4/21/20

Water Level

Start 4/27/20 12:00

Finish 4/30/20

Logger K Ambrose

Depth Below Surface	Sample			Standard Penetration Test Results	Soil Description	USCS Group Symbol	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	
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 in shoe, 2" - dark green low plasticity silt w/ fine gr sand, damp	SP	N	0	
40	40-42	1430	100%	3/6/8	(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	85-86	1200	100%	7/11/3	(0, 10, 40, 50) lt grey, wet, stiff, high plasticity	CL	N	0	

2" slot 40 prepack 0.075" slot screen 44-84

10-20 sand

8" borehole

Total Depth(s) =

85'

Soil Sample(s):

Rationale

Additional Information:

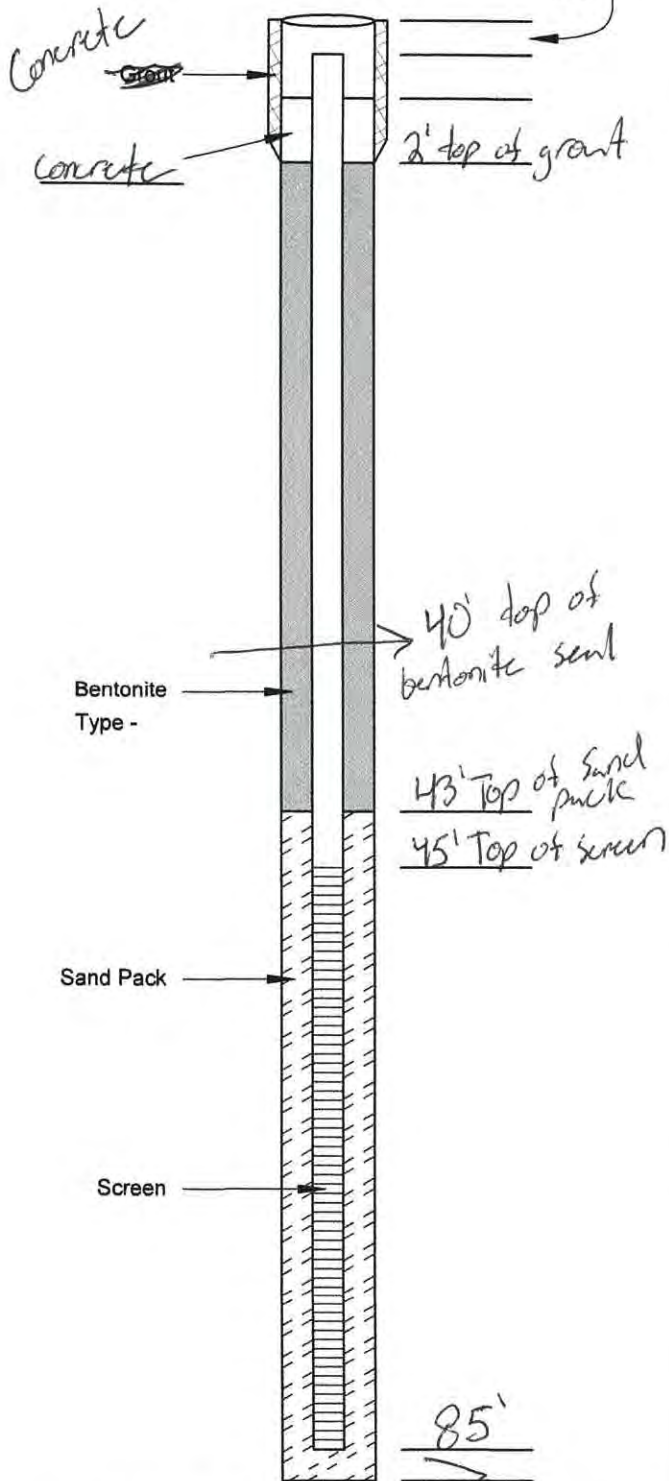
Flush mount well box (8") set in 2' x 2' concrete pad.



Well Completion Detail

Street Box
Diam. = _____

Surveyed Dif.
Btwn. GS and
TOC



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = _____

WELL CONSTRUCTION LOG

Project 744,1708.01
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 port.</u>	<u>1020 washed silica</u>
Screen	<u>40'</u>		
Size:		Config.:	
Area/Ft.:		Comp.:	<u>A/C</u>
Inside Diam.:	<u>2"</u>	Outside Diam.:	<u>2.3"</u>

Comments

40-ft pre-packed screen used
from 35-45'

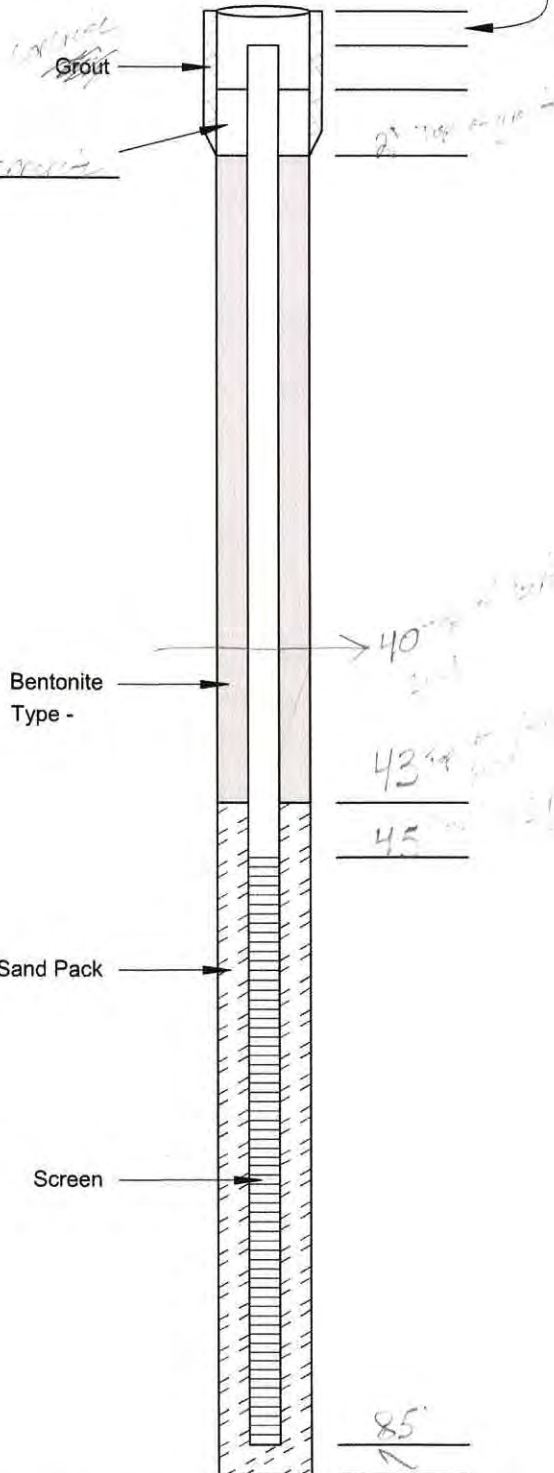


WELL CONSTRUCTION LOG

Well Completion Detail

Street Box
Diam. = _____

Surveyed Dif.
Btwn. GS and
TOC



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = _____

Project Number 744.1708.01
286487

Well Number MW-06

Drilling Summary

Total Depth of Hole: 85'
Hole Diameter: 8 1/2"
Drilling Company: Cascade Environmental
Driller: Robbie Gildea
Rig Type: 13-59 Hollow Stem Auger
Bits: 8 1/2" D, 5' high TS
Geologist: Kyle MacPangall

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" bentonite</u>	<u>10/20 washed s.s./12m</u>
Screen			
Size:	<u>1/10"</u>	Config.: _____	
Area/Ft.:	_____	Comp.: <u>PVC</u>	
Inside Diam.:	<u>2"</u>	Outside Diam.: <u>2.3"</u>	

Comments

40' grout placed screen and filter
25'-45'



Boring Location Sketch

SOIL BORING LOG

Project Number

Boring Number

Sheet

MW-06

1 of 2



Project District 6 CB

Location MW-06 Greeley District Road Pul, 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 Kerk Madrugall

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

Total Depth(s) =

85'

Soil Sample(s): No soil

Samples taken close

to no PID detect, color or staining

Rationale

Additional Information: Hydro-Vac

0-6' for utility clearance
Flaming ends 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 Directwood Pond, X06

Drilling Method & Equipment B59 ASA

Drilling Contractor Casenka, Robbie Gilchen

Date 20/11/09

Water Level

Start 0927

Finish 1258

Logger Kade MacLennan

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'
70-80'			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'
80-85'			NA	NA	80' / 85' light brown, highly saturated / flowing sands w/ U-C seds. Slick feel suggesting entrained clays.	SM/SC	no	0.0	80'
85-85'		1258	NA	NA		SM/SC	no	0.0	85'
Total Depth(s) =				Soil Sample(s): NO samples taken due to no PFD, staining or odor			Additional Information: No core spans after 50' due to flowing sands.		
85'				Rationale					



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

BS9 HSA, 8" D x 5' L

Drilling Contractor

Cascade, Robbie Carlson

Date 2/11/09

Water Level

Start

0927

Finish

1258

Logger

Karl M. Berger

Depth Below Surface	Sample			Standard Penetration Test Results	Soil Description	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
10	10-12	0937	20'	3/6/9	10-12. Light brown poorly sorted sand and silt w/ light amount of gravel. Silt matrix, V-C. Fine, dense w/ light clay interbedded @ 11.5'. No plasticity/crumbly.	SM		10-0.0 11-0.0 12-0.0	10' 11' 12'
20	20-22	0958	1.4'	1/3/8	20-22. Light brown-brown w/ poorly sorted subangular ranging from V-C. Light amount of clay present @ 20'-22'. Gravel 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 subangular ranging from M-Vc w/ fine gravel. Silt matrix, low plasticity. Low amount of swelling clay. Some sandy. Loose.	SW		30-0.0 31-0.0 32-0.0	30' 31' 32'
40	40-42	1053	1.8'	1/3/4	40-42. Moist soil must brought to surface by auger @ 1053. 40-42. Brown clayey, 40'-41' sediments fairly sandy. Silt w/ some fine gravel. No plasticity. Low swell. Sharp contact 40' to 41' w/ med. amount clay. med plasticity + dense. Plastic laminated w/ sand. Silt w/ coarse sand. Sub-rounded. Gravel. Moist.	SW ↓ SC		40-0.0 41-0.0 42-0.0	
50	50-52	1114	2.1'	9/5/6	50-52. Light brown-white. Poorly sorted silt and sand V-C-Med, sub-rounded w/ med amounts, clay. Med dense, laminated. Plasticity.	SC		50-0.0 51-0.0 52-0.0	
60					No Spoon Core following 52'. Long brown irregular sediment.				

Total Depth(s) =

854

Soil Sample(s): -NO

Soil samples taken.

Rationale

No staining, odor or PID readings were found.

Additional Information:

Hydro-vac at 61' for drilling. Unsuccessful.



Boring Location Sketch

SOIL BORING LOG

Project Number

Boring Number

Sheet

MW-06

2 of 2



Project District 6 C6

Location Greeley Directional pad

Drilling Method & Equipment B59 HSA 8"D x 5'L

Drilling Contractor Casco, Robbie Gilchrist

Date 20/11/09

Water Level

Start 0927

Finish 1258

Logger Kade McDougall

Depth Below Surface	Sample			Standard Penetration Test Results	Soil Description	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
				6"/6"/6"/6"	USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor				
to 60'	60'		NA	NA	No spoon core following 52', Lay from undrained sediment. 60' Brown, fine to medium sand, 1/4-1/2" light clay, silty, brownish, soil description per log.	SP/SC	no	60'-0.0	60'
70'	70'		NA	NA	70' Brown, fine to medium sand, 1/4-1/2" light clay, silty, brownish, soil description per log.			70'-0.0	70'
80'	80'		NA	NA	80' Brown, fine to medium sand, 1/4-1/2" light clay, silty, brownish, soil description per log.			80'-0.0	80'
85'	85'		NA	NA	85' Brown, fine to medium sand, 1/4-1/2" light clay, silty, brownish, soil description per log.			85'-0.0	85'
90'									
95'									
100'									
105'									
110'									
115'									
120'									
125'									
130'									
135'									
140'									
145'									
150'									
155'									
160'									
165'									
170'									
175'									
180'									
185'									
190'									
195'									
200'									

Total Depth(s) =

85ft

Soil Sample(s): No samples taken

No sampling

Rationale

No sampling was taken

Additional Information:

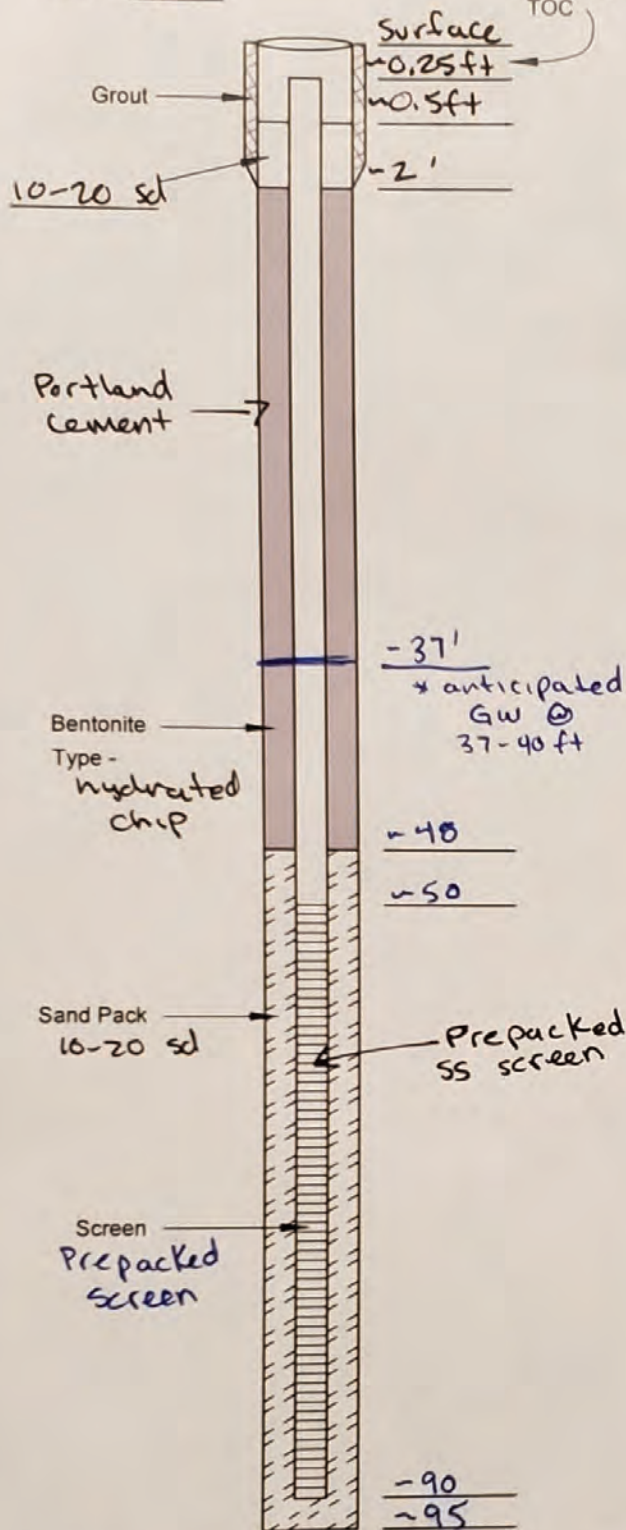
Soils 50-85' w/ no recovery to surface

WELL CONSTRUCTION LOG

Well Completion Detail

Street Box
Diam. = 6"

Surveyed Dif.
Btwn. GS and
TOC



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC =

Project District
Number SIX C6

Well Number MW08

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	11/19/20	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 bag	4 bag	28 bag
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 overnight on
10/20/20, casing dropped to 90ft
+ stayed. well set A 90ft



Boring Location Sketch

SOIL BORING LOG

Project Number Boring Number Sheet

286487 MW08 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	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				6" / 6" / 6" / 6"	Hydrovac potholing to 6ft	Gm	N		
6					BGS for utility clearance	Sm	N		
12					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 Gc	N	0.8	10
15					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.	Gm Gm	N	1.2	20
30					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	2.3	30
45					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	2.9	40
60					50ft. m. bwn - olive gr/grn silty sd. vfg-mg. low plastic Tr. clay. very loose. v. low dense saturated sh. No odor/stn	Sm Sc	N	2.7	50
75					60ft same as above very saturated-soupy	Sm Sc	N	3.1	60
90					70ft same as above flowing sd.	Sm Sc	N	2.6	70
					80ft same as above flowing sd	Sm Sc	N	3.9	80
					85ft same as above flowing sd	Sm Sc	N	2.2	85
					* 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

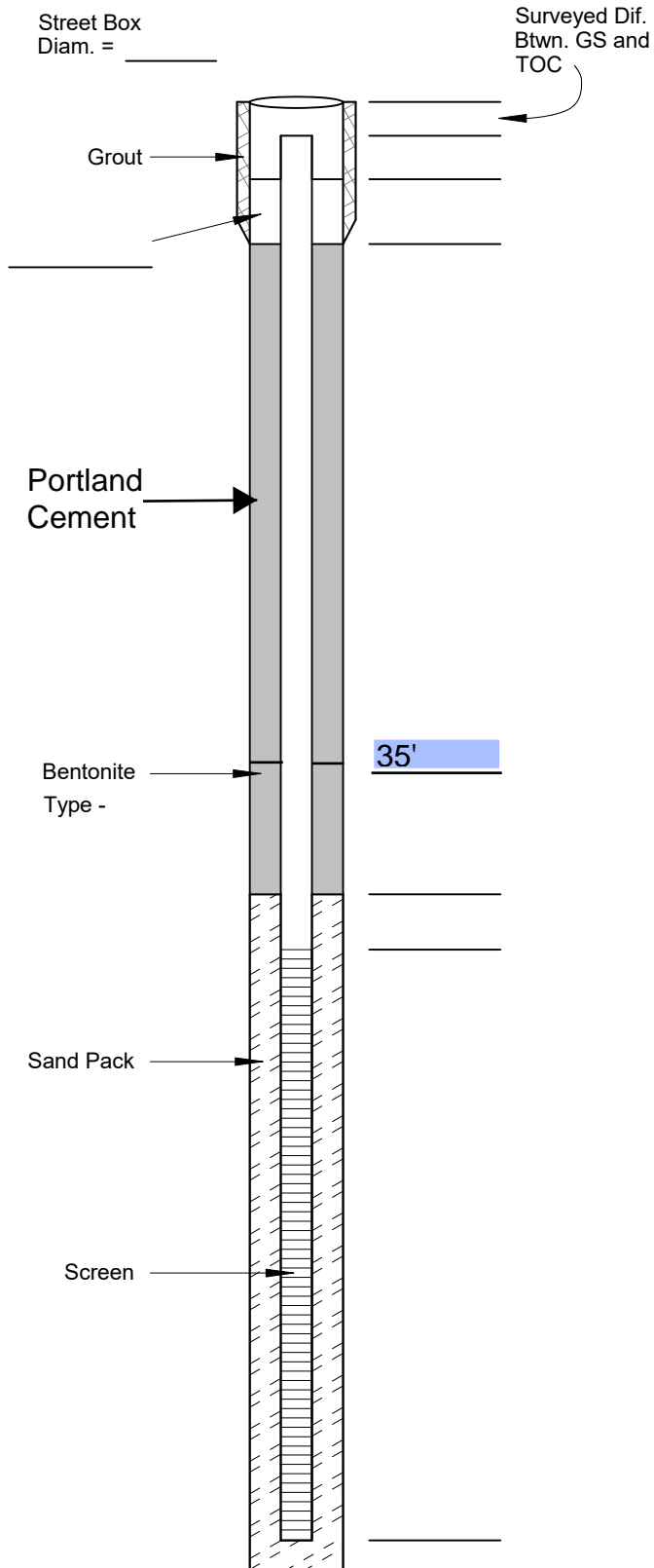


WELL CONSTRUCTION LOG

Project
Number

Well
Number

Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = _____

Drilling Summary

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

Time Log

	Start Date	Start Time	Finish Date	Finish 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



Boring Location Sketch

SOIL BORING LOG

Project Number

Boring Number

Sheet

MW 07

1 of 2



MW-10

Project

District 6

Location

Greely, 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		Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery		USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor					
					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. At 45' the center rod sunk to 48' and became stuck. Removed auger and rod and used plug to advance boring for well placement. Cuttings consisted of very fine sands with silt.	ML/CL		0.0	42'	
50										
60										
70										
Total Depth(s) =				Soil Sample(s):	Rationale	Additional Information:				
85'						Stepped out from original location of MW07				

SOIL BORING LOG

Project Number

Boring Number

Sheet

MW07

2 of 2

MW-10

Project District 6

Location Greeley, CO

Drilling Method & Equipment HSADrilling 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) =

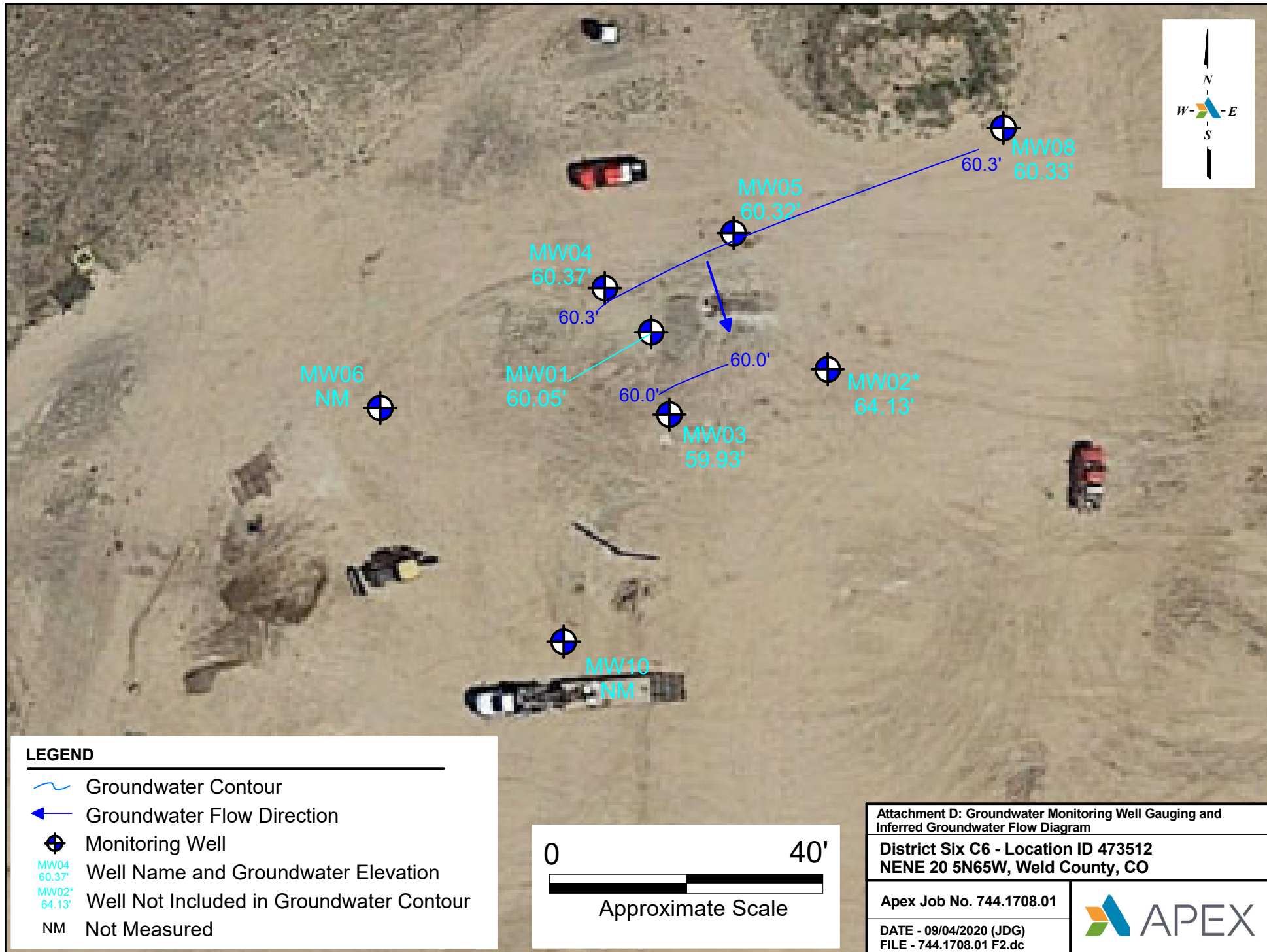
Soil Sample(s):

Rationale

Additional Information:

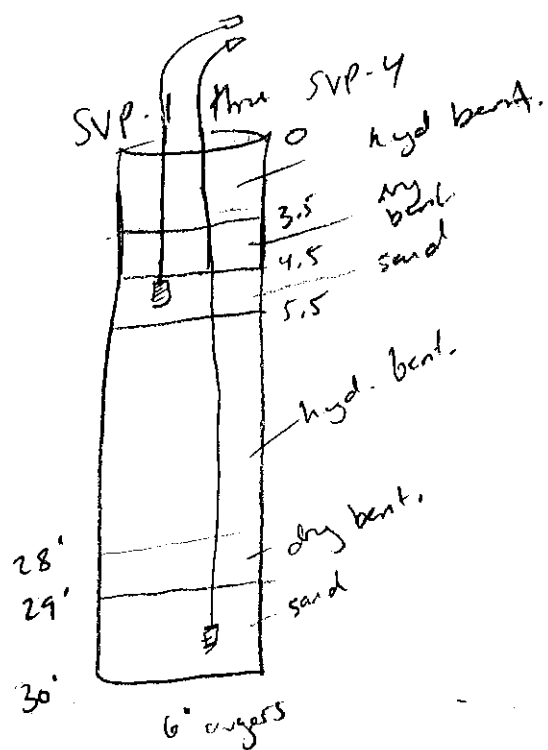
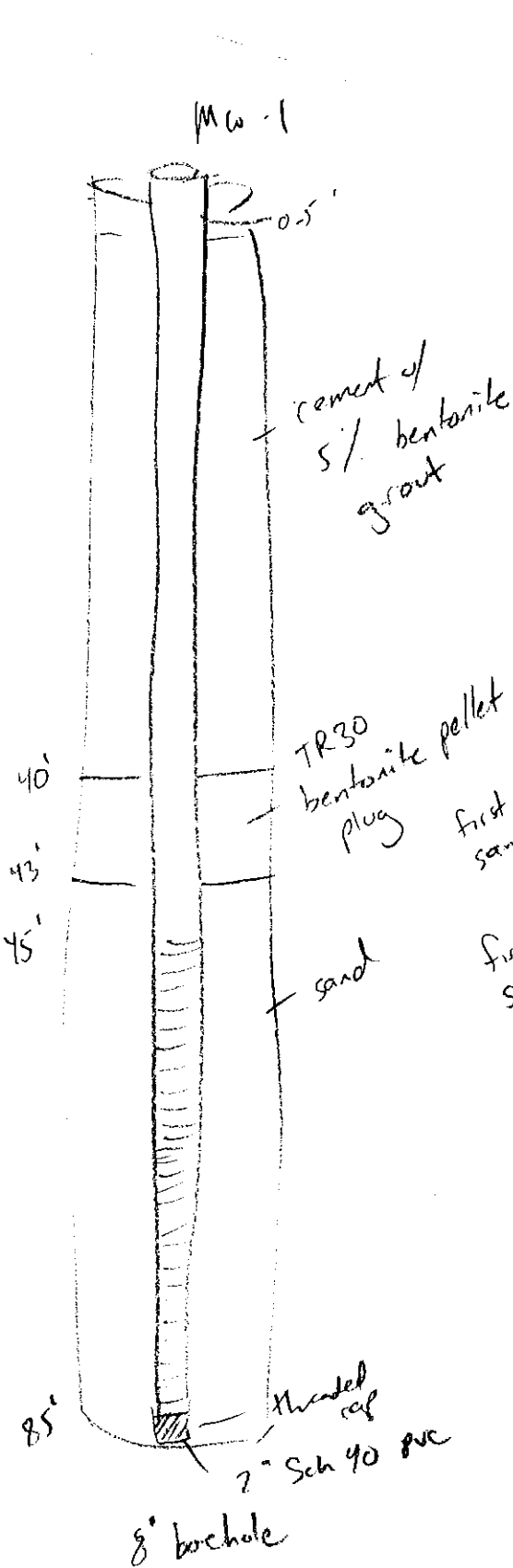
Attachment E

Groundwater Monitoring Well Gauging and Inferred Groundwater Flow Diagrams



Attachment F

Soil Vapor Monitoring Probe Construction Diagram



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

first saturated
sample = 48'-50' run

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

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

stabilized water in
well

9/30 @ 900 = 37.64

Attachment G

2021 Q1 Groundwater Laboratory Reports

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 05, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

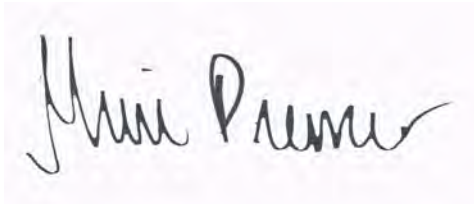
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2102341

Enclosed are the results of analyses for samples received by Summit Scientific on 02/24/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", on a light pink background.

Muri Premier 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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_59993_MH_MW_1	2102341-01	Water	02/24/21 15:33	02/24/21 17:00

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.

2102341

Summit Scientific

S₂

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

Page 1 of 1

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@apexc.com, Heather.Shideman@apexc.com
City/State/Zip: Greeley, CO 80634 **cc:** nbennett@extractionog.com
Phone: (970) 576-3446 **Project Name:** Ground Water/GWA_District_Six_C6
Sampler Name: Kade MacDougall **Project No.:** Alloc-421 930, 88 **Facility ID** 762176

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions				
					HCl	HNO ₃	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	No RSK175 (ethane, methane, propane)						
1	GW_59993_MH_MW_1 NENE_20_5N_65W	02/24/2021	1523	8		X	X		X					X	X	X					Sample Frequency: Q1
	Temperature, field:		13.0 °C																		
	pH, field:		7.81 s.u.																		
	Conductivity, field:		1377 uS/cm																		
	ORP, field:		-347.9 mV																		
	Dissolved Oxygen, field:		0.22 mg/L																		
	Turbidity, field:		18.9 NTU																		
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:									
[Signature]		2/24/1700		[Signature]		02/24/2021 1700		Same Day _____ 72 hours													
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours _____ X Standard													
								48 hours _____													
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:													
								Temperature Upon Receipt: 2.9													
								Intact: Yes No													

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2102341

Client: Apex/XOG

Client Project ID: 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)	2.9
-----------	-----

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"/>	
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. anions
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"/>	HNO3 H2SO4
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"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/24/21

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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

GW_59993_MH_MW_1
NENE_20_5N_65W
2102341-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.35	0.010	mg/L	10	BEB0414	02/26/21	02/27/21	EPA 8260B	
Toluene	0.024	0.0010	"	1	"	"	"	"	
Ethylbenzene	0.038	0.0010	"	"	"	"	"	"	
m,p-Xylene	0.066	0.0020	"	"	"	"	"	"	
o-Xylene	0.011	0.0010	"	"	"	"	"	"	
Xylenes (total)	0.076	0.0020	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.0	0.050	"	"	"	"	"	"	

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	0.169	0.100	mg/L	1	BEC0057	03/02/21	03/03/21	EPA 8015M	

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		82.4 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	107000	50.0	ug/l	1	BEB0384	02/25/21	02/25/21	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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

GW_59993_MH_MW_1
NENE_20_5N_65W
2102341-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Iron	28.7	10.0	ug/l	1	BEB0384	02/25/21	02/25/21	EPA 200.8	
Magnesium	50900	50.0	"	"	"	"	"	"	
Manganese	1190	1.00	"	"	"	"	"	"	
Potassium	3830	50.0	"	"	"	"	"	"	
Sodium	146000	50.0	"	"	"	"	"	"	
Barium	56.3	1.00	"	"	"	"	"	"	
Boron	140	10.0	"	"	"	"	"	"	
Selenium	5.76	1.00	"	"	"	"	"	"	
Strontium	1500	10.0	"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	2.10	0.200	mg/L	1	BEB0369	02/24/21	02/26/21	EPA 300.0	
Chloride	296	20.0	"	200	"	"	"	"	
Fluoride	0.452	0.200	"	1	"	"	"	"	
Sulfate	33.3	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: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	260	10.0	mg/L as CaCO3	1	BEB0403	02/26/21	03/04/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	260	10.0	"	"	"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **02/24/21 15:33**

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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

GW_59993_MH_MW_1
NENE_20_5N_65W
2102341-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Phosphorus - Total	0.0825	0.0500	mg/L	1	BEC0072	03/03/21	03/03/21	SM4500-P-E
--------------------	--------	--------	------	---	---------	----------	----------	------------

Specific Conductance by SM2510B

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1390	1.00	umhos/cm	1	BEB0400	02/26/21	02/26/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	694	10.0	mg/L	1	BEC0065	03/03/21	03/03/21	SM2540C	

pH by SM4500

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94	1.00	pH Units	1	BEC0013	02/24/21	03/01/21	SM4500-H+ B	

Field Data

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1377		uS/cm	1	BEB0379	02/24/21	02/24/21	Field Method	
Turbidity	18.9		NTU	"	"	"	"	"	
Temperature	13.0		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	-347.9		mv	"	"	"	"	"	
Dissolved Oxygen	0.22		mg/L	"	"	"	"	"	
pH	7.81		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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0135		"	0.0133		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0134		"	0.0133		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0274	0.0010	mg/L	0.0333		82.2	51-132			
Toluene	0.0353	0.0010	"	0.0333		106	51-138			
Ethylbenzene	0.0341	0.0010	"	0.0333		102	58-146			
m,p-Xylene	0.0669	0.0020	"	0.0667		100	57-144			
o-Xylene	0.0341	0.0010	"	0.0333		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0144		"	0.0133		108	23-173			
Surrogate: Toluene-d8	0.0136		"	0.0133		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0284	0.0010	mg/L	0.0333	ND	85.1	34-141			
Toluene	0.0368	0.0010	"	0.0333	ND	110	27-151			
Ethylbenzene	0.0351	0.0010	"	0.0333	ND	105	29-160			
m,p-Xylene	0.0691	0.0020	"	0.0667	ND	104	20-166			
o-Xylene	0.0351	0.0010	"	0.0333	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

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

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)		Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21					
Benzene	0.0275	0.0010	mg/L	0.0333	ND	82.5	34-141	3.12	32	
Toluene	0.0360	0.0010	"	0.0333	ND	108	27-151	2.31	25	
Ethylbenzene	0.0335	0.0010	"	0.0333	ND	101	29-160	4.55	50	
m,p-Xylene	0.0664	0.0020	"	0.0667	ND	99.5	20-166	4.09	36	
o-Xylene	0.0338	0.0010	"	0.0333	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	0.0151		"	0.0133		113	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0057 - EPA 3520B

Blank (BEC0057-BLK1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	0.0226		"	0.0250		90.5	44.8-129			

LCS (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.849	0.100	mg/L	1.00		84.9	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250		101	44.8-129			

LCS Dup (BEC0057-BSD1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.801	0.100	mg/L	1.00		80.1	70-130	5.81	200	
Surrogate: o-Terphenyl	0.0221		"	0.0250		88.4	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
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Blank (BEB0384-BLK1)

Prepared & Analyzed: 02/25/21

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 (BEB0384-BS1)

Prepared & Analyzed: 02/25/21

Calcium	5350	50.0	ug/l	5000	107	85-115
Iron	5130	10.0	"	5000	103	85-115
Magnesium	5460	50.0	"	5000	109	85-115
Manganese	552	1.00	"	500	110	85-115
Potassium	5250	50.0	"	5000	105	85-115
Sodium	5280	50.0	"	5000	106	85-115
Barium	537	1.00	"	500	107	85-115
Boron	2650	10.0	"	2500	106	85-115
Selenium	53.5	1.00	"	50.0	107	85-115
Strontium	555	10.0	"	500	111	85-115

Duplicate (BEB0384-DUP1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	89800	50.0	ug/l	88200	1.82	20
Iron	9.31	10.0	"	8.45	9.69	20
Magnesium	31000	50.0	"	31600	1.88	20
Manganese	677	1.00	"	650	4.16	20
Potassium	4260	50.0	"	4330	1.64	20
Sodium	77700	50.0	"	77800	0.202	20
Barium	103	1.00	"	99.9	3.16	20
Boron	114	10.0	"	125	9.27	20
Selenium	3.02	1.00	"	2.51	18.4	20
Strontium	1140	10.0	"	1130	0.554	20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Matrix Spike (BEB0384-MS1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	93500	50.0	ug/l	5000	88200	106	70-130
Iron	5320	10.0	"	5000	8.45	106	70-130
Magnesium	36400	50.0	"	5000	31600	96.2	70-130
Manganese	1130	1.00	"	500	650	97.0	70-130
Potassium	9770	50.0	"	5000	4330	109	70-130
Sodium	83900	50.0	"	5000	77800	122	70-130
Barium	649	1.00	"	500	99.9	110	70-130
Boron	2600	10.0	"	2500	125	99.2	70-130
Selenium	59.2	1.00	"	50.0	2.51	113	70-130
Strontium	1700	10.0	"	500	1130	114	70-130

Matrix Spike Dup (BEB0384-MSD1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	92600	50.0	ug/l	5000	88200	88.3	70-130	0.963	25
Iron	5230	10.0	"	5000	8.45	104	70-130	1.62	25
Magnesium	35900	50.0	"	5000	31600	87.1	70-130	1.26	25
Manganese	1200	1.00	"	500	650	109	70-130	5.20	25
Potassium	9570	50.0	"	5000	4330	105	70-130	2.06	25
Sodium	81500	50.0	"	5000	77800	74.6	70-130	2.86	25
Barium	632	1.00	"	500	99.9	106	70-130	2.68	25
Boron	2610	10.0	"	2500	125	99.3	70-130	0.154	25
Selenium	63.3	1.00	"	50.0	2.51	122	70-130	6.59	25
Strontium	1670	10.0	"	500	1130	108	70-130	1.76	25

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88

Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BEB0369 - General Preparation

Blank (BEB0369-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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 (BEB0369-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	9.26	0.200	mg/L	10.0	92.6	90-110
Chloride	2.78	0.100	"	3.00	92.8	90-110
Fluoride	1.99	0.200	"	2.00	99.3	90-110
Sulfate	14.6	0.300	"	15.0	97.0	90-110
Nitrate as N	2.79	0.100	"	3.00	93.0	90-110
Nitrite as N	2.84	0.100	"	3.00	94.5	90-110

Duplicate (BEB0369-DUP1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	0.312	0.200	mg/L	0.312	0.00	20	
Chloride	178	0.100	"	44.7	120	20	QM-02
Fluoride	0.310	0.200	"	0.320	3.17	20	
Sulfate	501	0.300	"	224	76.2	20	QM-02
Nitrate as N	8.87	0.100	"	8.85	0.169	20	
Nitrite as N	ND	0.100	"	ND		20	
Nitrate/Nitrite as N	ND	0.200	"	8.85		20	

Matrix Spike (BEB0369-MS1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/26/21

Bromide	8.32	0.200	mg/L	10.0	0.312	80.1	80-120	
Chloride	181	0.100	"	3.00	44.7	NR	80-120	QM-02
Fluoride	2.23	0.200	"	2.00	0.320	95.3	80-120	
Sulfate	518	0.300	"	15.0	224	NR	80-120	QM-02
Nitrate as N	11.5	0.100	"	3.00	8.85	89.4	80-120	
Nitrite as N	3.15	0.100	"	3.00	ND	105	80-120	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

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

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

Batch BEB0403 - General Preparation

Blank (BEB0403-BLK1)

Prepared: 02/26/21 Analyzed: 03/03/21

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

LCS (BEB0403-BS1)

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	105	10.0	mg/L as CaCO3	100	105	80-120
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Duplicate (BEB0403-DUP1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	290	10.0	mg/L as CaCO3	290	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	290	10.0	"	290	0.00	20

Matrix Spike (BEB0403-MS1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130
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Matrix Spike Dup (BEB0403-MSD1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130	0.00	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

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

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

Batch BEC0072 - General Preparation

Blank (BEC0072-BLK1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0072-BS1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 104 80-120

Duplicate (BEC0072-DUP1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 0.0110 0.0500 mg/L 0.0107 2.76 20

Matrix Spike (BEC0072-MS1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130

Matrix Spike Dup (BEC0072-MSD1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130 0.186 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Specific Conductance by SM2510B - Quality Control
Summit Scientific

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

Batch BEB0400 - General Preparation

Blank (BEB0400-BLK1)

Prepared & Analyzed: 02/26/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEB0400-DUP1)

Source: 2102341-01

Prepared & Analyzed: 02/26/21

Specific Conductance (EC) 1400 1.00 umhos/cm 1390 0.287 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BEC0065 - General Preparation

Blank (BEC0065-BLK1)

Prepared & Analyzed: 03/03/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0065-DUP1)

Source: 2102339-01

Prepared & Analyzed: 03/03/21

Total Dissolved Solids 2610 10.0 mg/L 2620 0.650 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

pH by SM4500 - Quality Control
Summit Scientific

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

Batch BEC0013 - General Preparation

LCS (BEC0013-BS1)

Prepared: 02/24/21 Analyzed: 03/01/21

pH	9.20	1.00	pH Units	9.21	99.9	90-110
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Duplicate (BEC0013-DUP1)

Source: 2102341-01

Prepared: 02/24/21 Analyzed: 03/01/21

pH	7.37	1.00	pH Units	7.94	7.45	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:22

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike 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

March 05, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

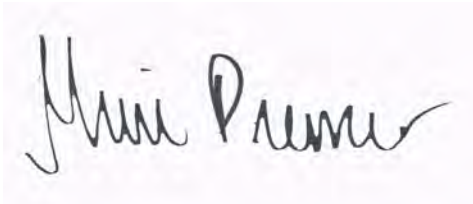
Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order #2102344

Enclosed are the results of analyses for samples received by Summit Scientific on 02/24/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is shown on a light pink background.

Muri Premier 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
Project Manager: Heather Shideman

Reported:
03/05/21 11:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_59993_MH_MW_1_Trip_Blank	2102344-01	Water	02/24/21 15:33	02/24/21 17:00

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.

2102344

Summit Scientific

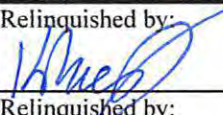
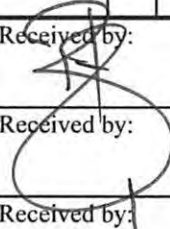
S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

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: Kade MacDougall **Project No.:** ALLOC-421 **Facility ID:** 762176

				Preservative				Matrix				Analysis Requested				Special Instructions		
ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX					
1	GW_59993_MH_MW_1_Trip_Blank	02/24/2021	1533	2					X				X					Sample Frequency: Q1
Relinquished by: 		Date/Time: 2/24/2021 1700		Received by: 		Date/Time: 02/24/2021 1700		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: <u>2.9</u>				Intact: <u>Yes</u> No						

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2102344

Client: Apex/XOG

Client Project ID: TRIP BLANK 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>29</u>
-----------	-----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
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

Signature of Custodian

Date/Time

02/24/2021



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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 11:40

GW_59993_MH_MW_1_Trip_Blank
2102344-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/24/21 15:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEB0414	02/26/21	02/27/21	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: **02/24/21 15:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		110 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 11:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	27.4	1.0	ug/l	33.3		82.2	51-132			
Toluene	35.3	1.0	"	33.3		106	51-138			
Ethylbenzene	34.1	1.0	"	33.3		102	58-146			
m,p-Xylene	66.9	2.0	"	66.7		100	57-144			
o-Xylene	34.1	1.0	"	33.3		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	28.4	1.0	ug/l	33.3	ND	85.1	34-141			
Toluene	36.8	1.0	"	33.3	ND	110	27-151			
Ethylbenzene	35.1	1.0	"	33.3	ND	105	29-160			
m,p-Xylene	69.1	2.0	"	66.7	ND	104	20-166			
o-Xylene	35.1	1.0	"	33.3	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	21-167			

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 11:40

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

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)	Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21						
Benzene	27.5	1.0	ug/l	33.3	ND	82.5	34-141	3.12	32	
Toluene	36.0	1.0	"	33.3	ND	108	27-151	2.31	25	
Ethylbenzene	33.5	1.0	"	33.3	ND	101	29-160	4.55	50	
m,p-Xylene	66.4	2.0	"	66.7	ND	99.5	20-166	4.09	36	
o-Xylene	33.8	1.0	"	33.3	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	15.1		"	13.3		113	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	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
Project Manager: Heather Shideman

Reported:
03/05/21 11:40

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 #: 785421 Job #: 47105 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: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 762176
Date Sampled: 2/24/2021 15:33 Date Received: 2/25/2021 Date Reported: 3/11/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane -----	44	29
Ethane -----	7.6	9.6
Propane -----	2.5	4.6

Alloc-421

nd = not detected; na = not analyzed.

Lab #: 784214 Job #: 47006 IS-99230 Co. Job#:
Sample Name: GW_59993_MH_MW_1 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 762176
Date Sampled: 2/24/2021 15:33 Date Received: 2/25/2021 Date Reported: 3/09/2021

δD of water ----- -107.2 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -13.63 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- -20.0 ‰ 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: Alloc-421

nd = not detected. na = not analyzed.

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

Lab #: 785421 Job #: 47105 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: Ground_Water/GWA_District_Six_C6

Location: NENE_20_5N_65W

Formation/Depth: Q1

Sampling Point: 762176

Date Sampled: 2/24/2021 15:33 Date Received: 2/25/2021 Date Reported: 4/15/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide -----	nd					
Helium -----	na					
Hydrogen -----	nd					
Argon -----	0.277					
Oxygen -----	5.46					
Nitrogen -----	22.19					
Carbon Dioxide -----	1.16					
Methane -----	56.93	-43.40	-228.6		43	28
Ethane -----	9.82	-30.69			8.1	10
Ethylene -----	nd					
Propane -----	3.37	-26.97			2.6	4.8
Propylene -----	nd					
Iso-butane -----	0.292	-30.7				
N-butane -----	0.408	-26.0				
Iso-pentane -----	0.0635	-27.5				
N-pentane -----	0.0214	-24.3				
Hexanes + -----	0.0102					

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.38

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

Alloc-421

Butane 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. %.

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

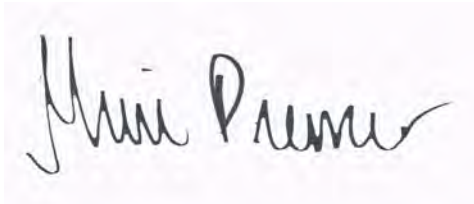
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2102313

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", on a light pink background.

Muri Premier 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:
03/03/21 16:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_2	2102313-01	Water	02/23/21 12:58	02/23/21 16:10

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.

S_2

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401
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.Carlsle@apexcos.com, Heather.Shideman@apexcos.com
City/State/Zip:	Greeley, CO 80634		cc:	nbennett@extractionog.com
Phone:	(970) 576-3446		Project Name:	Ground_Water/GWA_District_Six_C6
Sampler Name:	Kade MacDougall		Project No.: Alloc-421 930, 88	Facility ID 766284

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions					
					HCl	HNO ₃	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	02/23/2021	12:58	X		X	X		X				X	X	X											Sample Frequency: Q1
	NENE_20_5N_65W																									
	Temperature, field:	13.5 °C																								
	pH, field:	7.47 s.u.																								
	Conductivity, field:	978 uS/cm																								
	ORP, field:	207.8 mV																								
	Dissolved Oxygen, field:	6.59 mg/L																								
	Turbidity, field:	1.29 NTU																								
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time		(Check)		Notes:														
		2/10/23/1610				02/23/2021/1610		Same Day _____		72 hours _____																
Relinquished by:		Date/Time:		Received by:		Date/Time:		____ 24 hours ____ X ____		Standard																
								____ 48 hours ____																		
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:																		
								Temperature Upon Receipt:		2.9																
								Intact: Yes No																		

2102313

Sample Receipt Checklist

S2 Work Order _____

Client: APEX COMPANIESClient Project ID: GWA DISTRICT SIX C6Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Temp (°C)	2.9
-----------	-----

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"/>	
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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"/>	pH1
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.				

RZ

Custodian Printed Name or Initials



Signature of Custodian

2/23/21

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:
03/03/21 16:19

GW_60666_MH_MW_2
NENE_20_5N_65W
2102313-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEB0413	02/26/21	02/27/21	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: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEC0057	03/02/21	03/03/21	EPA 8015M	

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.4 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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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:
03/03/21 16:19

GW_60666_MH_MW_2
NENE_20_5N_65W
2102313-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Calcium	98800	50.0	ug/l	1	BEB0384	02/25/21	02/25/21	EPA 200.8
Iron	36.5	10.0	"	"	"	"	"	"
Magnesium	43200	50.0	"	"	"	"	"	"
Manganese	ND	1.00	"	"	"	"	"	"
Potassium	2760	50.0	"	"	"	"	"	"
Sodium	75700	50.0	"	"	"	"	"	"
Barium	36.8	1.00	"	"	"	"	"	"
Boron	222	10.0	"	"	"	"	"	"
Selenium	8.84	1.00	"	"	"	"	"	"
Strontium	1320	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	ND	0.200	mg/L	1	BEB0369	02/24/21	02/26/21	EPA 300.0	
Chloride	36.4	10.0	"	100	"	"	"	"	
Fluoride	0.416	0.200	"	1	"	"	"	"	
Sulfate	124	30.0	"	100	"	"	"	"	
Nitrate as N	16.3	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	16.3	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	310	10.0	mg/L as CaCO3	1	BEB0403	02/26/21	03/03/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	310	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:
03/03/21 16:19

GW_60666_MH_MW_2
NENE_20_5N_65W
2102313-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	0.0564	0.0500	mg/L	1	BEC0072	03/03/21	03/03/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	662	1.00	umhos/cm	1	BEB0359	02/24/21	02/24/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	478	10.0	mg/L	1	BEC0010	03/01/21	03/01/21	SM2540C	

pH by SM4500

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.41	1.00	pH Units	1	BEC0012	02/23/21	03/01/21	SM4500-H+ B	

Field Data

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	978		uS/cm	1	BEB0355	02/23/21	02/23/21	Field Method	
Turbidity	129		NTU	"	"	"	"	"	
Temperature	13.5		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	202.8		mv	"	"	"	"	"	
Dissolved Oxygen	6.59		mg/L	"	"	"	"	"	
pH	7.47		SU	"	"	"	"	"	

Summit Scientific

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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:
03/03/21 16:19

GW_60666_MH_MW_2
NENE_20_5N_65W
2102313-01 (Water)

Summit Scientific

Field Data

Summit Scientific

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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:
03/03/21 16:19

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0413 - EPA 5030 Water MS

Blank (BEB0413-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	0.0165		"	0.0133		124	23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0134		"	0.0133		100	21-167			

LCS (BEB0413-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0418	0.0010	mg/L	0.0333		125	51-132			
Toluene	0.0393	0.0010	"	0.0333		118	51-138			
Ethylbenzene	0.0412	0.0010	"	0.0333		124	58-146			
m,p-Xylene	0.0780	0.0020	"	0.0667		117	57-144			
o-Xylene	0.0401	0.0010	"	0.0333		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0154		"	0.0133		115	23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0136		"	0.0133		102	21-167			

Matrix Spike (BEB0413-MS1)

Source: 2102376-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0418	0.0010	mg/L	0.0333	ND	125	34-141			
Toluene	0.0390	0.0010	"	0.0333	ND	117	27-151			
Ethylbenzene	0.0414	0.0010	"	0.0333	ND	124	29-160			
m,p-Xylene	0.0778	0.0020	"	0.0667	ND	117	20-166			
o-Xylene	0.0407	0.0010	"	0.0333	ND	122	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0154		"	0.0133		115	23-173			
Surrogate: Toluene-d8	0.0130		"	0.0133		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0135		"	0.0133		102	21-167			

Summit Scientific

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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:
03/03/21 16:19

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0413 - EPA 5030 Water MS

Matrix Spike Dup (BEB0413-MSD1)		Source: 2102376-01			Prepared: 02/26/21 Analyzed: 02/27/21						
Benzene	0.0417	0.0010	mg/L	0.0333	ND	125	34-141	0.144	32		
Toluene	0.0394	0.0010	"	0.0333	ND	118	27-151	0.842	25		
Ethylbenzene	0.0413	0.0010	"	0.0333	ND	124	29-160	0.0967	50		
m,p-Xylene	0.0779	0.0020	"	0.0667	ND	117	20-166	0.141	36		
o-Xylene	0.0405	0.0010	"	0.0333	ND	122	33-159	0.443	26		
Surrogate: 1,2-Dichloroethane-d4	0.0157		"	0.0133		118	23-173				
Surrogate: Toluene-d8	0.0132		"	0.0133		98.9	20-170				
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		100	21-167				

Summit Scientific

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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:
03/03/21 16:19

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0057 - EPA 3520B

Blank (BEC0057-BLK1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	0.0226		"	0.0250		90.5	44.8-129			

LCS (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.849	0.100	mg/L	1.00		84.9	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250		101	44.8-129			

LCS Dup (BEC0057-BSD1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.801	0.100	mg/L	1.00		80.1	70-130	5.81	200	
Surrogate: o-Terphenyl	0.0221		"	0.0250		88.4	44.8-129			

Summit Scientific

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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:
03/03/21 16:19

Dissolved Metals by EPA Method 200.8 - Quality Control
Summit Scientific

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

Batch BEB0384 - EPA 200.8

Blank (BEB0384-BLK1)

Prepared & Analyzed: 02/25/21

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 (BEB0384-BS1)

Prepared & Analyzed: 02/25/21

Calcium	5350	50.0	ug/l	5000	107	85-115
Iron	5130	10.0	"	5000	103	85-115
Magnesium	5460	50.0	"	5000	109	85-115
Manganese	552	1.00	"	500	110	85-115
Potassium	5250	50.0	"	5000	105	85-115
Sodium	5280	50.0	"	5000	106	85-115
Barium	537	1.00	"	500	107	85-115
Boron	2650	10.0	"	2500	106	85-115
Selenium	53.5	1.00	"	50.0	107	85-115
Strontium	555	10.0	"	500	111	85-115

Duplicate (BEB0384-DUP1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	89800	50.0	ug/l	88200	1.82	20
Iron	9.31	10.0	"	8.45	9.69	20
Magnesium	31000	50.0	"	31600	1.88	20
Manganese	677	1.00	"	650	4.16	20
Potassium	4260	50.0	"	4330	1.64	20
Sodium	77700	50.0	"	77800	0.202	20
Barium	103	1.00	"	99.9	3.16	20
Boron	114	10.0	"	125	9.27	20
Selenium	3.02	1.00	"	2.51	18.4	20
Strontium	1140	10.0	"	1130	0.554	20

Summit Scientific

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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:
03/03/21 16:19

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Matrix Spike (BEB0384-MS1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	93500	50.0	ug/l	5000	88200	106	70-130
Iron	5320	10.0	"	5000	8.45	106	70-130
Magnesium	36400	50.0	"	5000	31600	96.2	70-130
Manganese	1130	1.00	"	500	650	97.0	70-130
Potassium	9770	50.0	"	5000	4330	109	70-130
Sodium	83900	50.0	"	5000	77800	122	70-130
Barium	649	1.00	"	500	99.9	110	70-130
Boron	2600	10.0	"	2500	125	99.2	70-130
Selenium	59.2	1.00	"	50.0	2.51	113	70-130
Strontium	1700	10.0	"	500	1130	114	70-130

Matrix Spike Dup (BEB0384-MSD1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	92600	50.0	ug/l	5000	88200	88.3	70-130	0.963	25
Iron	5230	10.0	"	5000	8.45	104	70-130	1.62	25
Magnesium	35900	50.0	"	5000	31600	87.1	70-130	1.26	25
Manganese	1200	1.00	"	500	650	109	70-130	5.20	25
Potassium	9570	50.0	"	5000	4330	105	70-130	2.06	25
Sodium	81500	50.0	"	5000	77800	74.6	70-130	2.86	25
Barium	632	1.00	"	500	99.9	106	70-130	2.68	25
Boron	2610	10.0	"	2500	125	99.3	70-130	0.154	25
Selenium	63.3	1.00	"	50.0	2.51	122	70-130	6.59	25
Strontium	1670	10.0	"	500	1130	108	70-130	1.76	25

Summit Scientific

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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:
03/03/21 16:19

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BEB0369 - General Preparation

Blank (BEB0369-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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 (BEB0369-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	9.26	0.200	mg/L	10.0	92.6	90-110
Chloride	2.78	0.100	"	3.00	92.8	90-110
Fluoride	1.99	0.200	"	2.00	99.3	90-110
Sulfate	14.6	0.300	"	15.0	97.0	90-110
Nitrate as N	2.79	0.100	"	3.00	93.0	90-110
Nitrite as N	2.84	0.100	"	3.00	94.5	90-110

Duplicate (BEB0369-DUP1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	0.312	0.200	mg/L	0.312	0.00	20	
Chloride	178	0.100	"	44.7	120	20	QM-02
Fluoride	0.310	0.200	"	0.320	3.17	20	
Sulfate	501	0.300	"	224	76.2	20	QM-02
Nitrate as N	8.87	0.100	"	8.85	0.169	20	
Nitrite as N	ND	0.100	"	ND		20	
Nitrate/Nitrite as N	ND	0.200	"	8.85		20	

Matrix Spike (BEB0369-MS1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/26/21

Bromide	8.32	0.200	mg/L	10.0	0.312	80.1	80-120	
Chloride	181	0.100	"	3.00	44.7	NR	80-120	QM-02
Fluoride	2.23	0.200	"	2.00	0.320	95.3	80-120	
Sulfate	518	0.300	"	15.0	224	NR	80-120	QM-02
Nitrate as N	11.5	0.100	"	3.00	8.85	89.4	80-120	
Nitrite as N	3.15	0.100	"	3.00	ND	105	80-120	

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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:
03/03/21 16:19

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

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

Batch BEB0403 - General Preparation

Blank (BEB0403-BLK1)

Prepared: 02/26/21 Analyzed: 03/03/21

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

LCS (BEB0403-BS1)

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	105	10.0	mg/L as CaCO3	100	105	80-120
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Duplicate (BEB0403-DUP1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	290	10.0	mg/L as CaCO3	290	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	290	10.0	"	290	0.00	20

Matrix Spike (BEB0403-MS1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130
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Matrix Spike Dup (BEB0403-MSD1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130	0.00	20
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Summit Scientific

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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:
03/03/21 16:19

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

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

Batch BEC0072 - General Preparation

Blank (BEC0072-BLK1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0072-BS1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 104 80-120

Duplicate (BEC0072-DUP1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 0.0110 0.0500 mg/L 0.0107 2.76 20

Matrix Spike (BEC0072-MS1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130

Matrix Spike Dup (BEC0072-MSD1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130 0.186 20

Summit Scientific

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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:
03/03/21 16:19

Specific Conductance by SM2510B - Quality Control

Summit Scientific

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

Batch BEB0359 - General Preparation

Blank (BEB0359-BLK1)

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEB0359-DUP1)

Source: 2102311-01

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) 1080 1.00 umhos/cm 1080 0.186 20

Summit Scientific

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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:
03/03/21 16:19

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

Batch BEC0010 - General Preparation

Blank (BEC0010-BLK1)

Prepared & Analyzed: 03/01/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0010-DUP1)

Source: 2102289-01

Prepared & Analyzed: 03/01/21

Total Dissolved Solids 1000 10.0 mg/L 998 0.160 20

Summit Scientific

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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:
03/03/21 16:19

pH by SM4500 - Quality Control

Summit Scientific

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

Batch BEC0012 - General Preparation

LCS (BEC0012-BS1)

Prepared: 02/23/21 Analyzed: 03/01/21

pH	9.21	1.00	pH Units	9.21	100	90-110
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Duplicate (BEC0012-DUP1)

Source: 2102304-01

Prepared: 02/23/21 Analyzed: 03/01/21

pH	7.10	1.00	pH Units	7.09	0.141	20
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Summit Scientific

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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:
03/03/21 16:19

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike 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

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

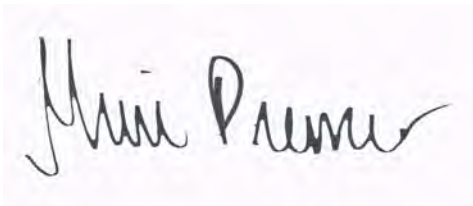
Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order #2102317

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premer", is shown on a light pink background.

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 Fac ID 766284
Project Manager: Heather Shideman

Reported:
03/03/21 17:25

ANALYTICAL REPORT FOR SAMPLES

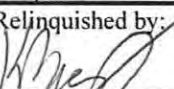
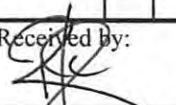
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_2_Trip_Blank	2102317-01	Water	02/23/21 12:58	02/23/21 16:10

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.

2102317

Page 1 of 1

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	02/23/2001	1258	2					X				X						Sample Frequency: Q1
Relinquished by: 		Date/Time: 2/12/23/1610		Received by: 		Date/Time: 02/23/2001/1610		Turn Around Time (Check) Same Day ___ 72 hours ___ 24 hours ___ Standard <u>X</u> 48 hours ___										Notes:	
Relinquished by:		Date/Time:		Received by:		Date/Time:													
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity: Temperature Upon Receipt: <u>29</u> Intact: <u>Yes</u> No											

2102317

Sample Receipt Checklist

S2 Work Order _____

Client: APEX COMPANIESClient Project ID: TRIP BLANK DISTRICT SIX C6Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Temp (°C)	2.9
-----------	-----

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"/>	
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 checked="" type="checkbox"/>	<input 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.				

RZ

Custodian Printed Name or Initials

RZ

Signature of Custodian

2/23/21

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:
03/03/21 17:25

GW_60666_MH_MW_2_Trip_Blank
2102317-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 12:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEB0413	02/26/21	02/27/21	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: **02/23/21 12:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		125 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	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:
03/03/21 17:25

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0413 - EPA 5030 Water MS

Blank (BEB0413-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	16.5		"	13.3		124	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (BEB0413-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3		125	51-132			
Toluene	39.3	1.0	"	33.3		118	51-138			
Ethylbenzene	41.2	1.0	"	33.3		124	58-146			
m,p-Xylene	78.0	2.0	"	66.7		117	57-144			
o-Xylene	40.1	1.0	"	33.3		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

Matrix Spike (BEB0413-MS1)

Source: 2102376-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3	ND	125	34-141			
Toluene	39.0	1.0	"	33.3	ND	117	27-151			
Ethylbenzene	41.4	1.0	"	33.3	ND	124	29-160			
m,p-Xylene	77.8	2.0	"	66.7	ND	117	20-166			
o-Xylene	40.7	1.0	"	33.3	ND	122	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	21-167			

Summit Scientific

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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:
03/03/21 17:25

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

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

Batch BEB0413 - EPA 5030 Water MS

Matrix Spike Dup (BEB0413-MSD1)	Source: 2102376-01			Prepared: 02/26/21 Analyzed: 02/27/21						
Benzene	41.7	1.0	ug/l	33.3	ND	125	34-141	0.144	32	
Toluene	39.4	1.0	"	33.3	ND	118	27-151	0.842	25	
Ethylbenzene	41.3	1.0	"	33.3	ND	124	29-160	0.0967	50	
m,p-Xylene	77.9	2.0	"	66.7	ND	117	20-166	0.141	36	
o-Xylene	40.5	1.0	"	33.3	ND	122	33-159	0.443	26	
Surrogate: 1,2-Dichloroethane-d4	15.7		"	13.3		118	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	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:
03/03/21 17:25

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 #: 785417 Job #: 47105 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: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766284
Date Sampled: 2/23/2021 12:58 Date Received: 2/25/2021 Date Reported: 3/11/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane -----	0.00076	0.00051
Ethane -----	< 0.0001	< 0.0002
Propane -----	< 0.0001	< 0.0002

Alloc-421 L

nd = not detected; na = not analyzed.

Lab #: 784210 Job #: 47006 IS-99230 Co. Job#:
Sample Name: GW_60666_MH_MW_2 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766284
Date Sampled: 2/23/2021 12:58 Date Received: 2/25/2021 Date Reported: 3/09/2021

δD of water ----- -102.5 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -13.06 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- -11.6 ‰ 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: Alloc-421 L

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

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

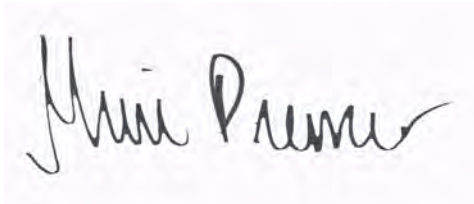
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2102312

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive style with a large, stylized "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 ID766285

Project Manager: Heather Shideman

Reported:
03/03/21 15:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_3	2102312-01	Water	02/23/21 11:32	02/23/21 16:10

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.

S_2

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401
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.Carlsle@apexcos.com, Heather.Shideman@apexcos.com
City/State/Zip:	Greeley, CO 80634		cc:	nbennett@extractionog.com
Phone:	(970) 576-3446		Project Name:	Ground Water/GWA_District_Six_C6
Sampler Name:	Kade MacDougall		Project No.: Alloc-421 930, 88	Facility ID 766285

www.s2scientific.com

2102312

Sample Receipt Checklist

S2 Work Order _____

Client: APEX COMPANIES

Client Project ID: 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)	2.9
-----------	-----

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"/>	
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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"/>	pH1
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.

RZ

Custodian Printed Name or Initials

RZ

Signature of Custodian

2/23/21

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:
03/03/21 15:03

GW_60666_MH_MW_3
NENE_20_5N_65W
2102312-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEB0414	02/26/21	02/27/21	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: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEC0057	03/02/21	03/03/21	EPA 8015M	

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		87.8 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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:
03/03/21 15:03

GW_60666_MH_MW_3
NENE_20_5N_65W
2102312-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	111000	50.0	ug/l	1	BEB0384	02/25/21	02/25/21	EPA 200.8	
Iron	31.8	10.0	"	"	"	"	"	"	
Magnesium	44200	50.0	"	"	"	"	"	"	
Manganese	343	1.00	"	"	"	"	"	"	
Potassium	4510	50.0	"	"	"	"	"	"	
Sodium	91900	50.0	"	"	"	"	"	"	
Barium	64.2	1.00	"	"	"	"	"	"	
Boron	183	10.0	"	"	"	"	"	"	
Selenium	6.29	1.00	"	"	"	"	"	"	
Strontium	1420	10.0	"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.213	0.200	mg/L	1	BEB0369	02/24/21	02/26/21	EPA 300.0	
Chloride	39.2	10.0	"	100	"	"	"	"	
Fluoride	0.325	0.200	"	1	"	"	"	"	
Sulfate	110	30.0	"	100	"	"	"	"	
Nitrate as N	8.97	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	8.97	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	320	10.0	mg/L as CaCO3	1	BEB0403	02/26/21	03/03/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	320	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:
03/03/21 15:03

GW_60666_MH_MW_3
NENE_20_5N_65W
2102312-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEC0072	03/03/21	03/03/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1010	1.00	umhos/cm	1	BEB0359	02/24/21	02/24/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	513	10.0	mg/L	1	BEC0010	03/01/21	03/01/21	SM2540C	

pH by SM4500

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.40	1.00	pH Units	1	BEC0012	02/23/21	03/01/21	SM4500-H+ B	

Field Data

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	640.8		uS/cm	1	BEB0353	02/23/21	02/23/21	Field Method	
Turbidity	22.1		NTU	"	"	"	"	"	
Temperature	13.7		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	141.5		mv	"	"	"	"	"	
Dissolved Oxygen	1.81		mg/L	"	"	"	"	"	
pH	7.48		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:
03/03/21 15:03

GW_60666_MH_MW_3
NENE_20_5N_65W
2102312-01 (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 ID766285

Project Manager: Heather Shideman

Reported:
03/03/21 15:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0135		"	0.0133		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0134		"	0.0133		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0274	0.0010	mg/L	0.0333		82.2	51-132			
Toluene	0.0353	0.0010	"	0.0333		106	51-138			
Ethylbenzene	0.0341	0.0010	"	0.0333		102	58-146			
m,p-Xylene	0.0669	0.0020	"	0.0667		100	57-144			
o-Xylene	0.0341	0.0010	"	0.0333		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0144		"	0.0133		108	23-173			
Surrogate: Toluene-d8	0.0136		"	0.0133		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0284	0.0010	mg/L	0.0333	ND	85.1	34-141			
Toluene	0.0368	0.0010	"	0.0333	ND	110	27-151			
Ethylbenzene	0.0351	0.0010	"	0.0333	ND	105	29-160			
m,p-Xylene	0.0691	0.0020	"	0.0667	ND	104	20-166			
o-Xylene	0.0351	0.0010	"	0.0333	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	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:
03/03/21 15:03

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

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)		Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21					
Benzene	0.0275	0.0010	mg/L	0.0333	ND	82.5	34-141	3.12	32	
Toluene	0.0360	0.0010	"	0.0333	ND	108	27-151	2.31	25	
Ethylbenzene	0.0335	0.0010	"	0.0333	ND	101	29-160	4.55	50	
m,p-Xylene	0.0664	0.0020	"	0.0667	ND	99.5	20-166	4.09	36	
o-Xylene	0.0338	0.0010	"	0.0333	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	0.0151		"	0.0133		113	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	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:
03/03/21 15:03

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0057 - EPA 3520B

Blank (BEC0057-BLK1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	ND	0.100	mg/L						
Surrogate: o-Terphenyl	0.0226		"	0.0250	90.5	44.8-129			

LCS (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.849	0.100	mg/L	1.00	84.9	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250	101	44.8-129			

LCS Dup (BEC0057-BSD1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.801	0.100	mg/L	1.00	80.1	70-130	5.81	200	
Surrogate: o-Terphenyl	0.0221		"	0.0250	88.4	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:
03/03/21 15:03

Dissolved Metals by EPA Method 200.8 - Quality Control
Summit Scientific

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

Batch BEB0384 - EPA 200.8

Blank (BEB0384-BLK1)

Prepared & Analyzed: 02/25/21

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 (BEB0384-BS1)

Prepared & Analyzed: 02/25/21

Calcium	5350	50.0	ug/l	5000	107	85-115
Iron	5130	10.0	"	5000	103	85-115
Magnesium	5460	50.0	"	5000	109	85-115
Manganese	552	1.00	"	500	110	85-115
Potassium	5250	50.0	"	5000	105	85-115
Sodium	5280	50.0	"	5000	106	85-115
Barium	537	1.00	"	500	107	85-115
Boron	2650	10.0	"	2500	106	85-115
Selenium	53.5	1.00	"	50.0	107	85-115
Strontium	555	10.0	"	500	111	85-115

Duplicate (BEB0384-DUP1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	89800	50.0	ug/l	88200	1.82	20
Iron	9.31	10.0	"	8.45	9.69	20
Magnesium	31000	50.0	"	31600	1.88	20
Manganese	677	1.00	"	650	4.16	20
Potassium	4260	50.0	"	4330	1.64	20
Sodium	77700	50.0	"	77800	0.202	20
Barium	103	1.00	"	99.9	3.16	20
Boron	114	10.0	"	125	9.27	20
Selenium	3.02	1.00	"	2.51	18.4	20
Strontium	1140	10.0	"	1130	0.554	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:
03/03/21 15:03

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Matrix Spike (BEB0384-MS1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	93500	50.0	ug/l	5000	88200	106	70-130
Iron	5320	10.0	"	5000	8.45	106	70-130
Magnesium	36400	50.0	"	5000	31600	96.2	70-130
Manganese	1130	1.00	"	500	650	97.0	70-130
Potassium	9770	50.0	"	5000	4330	109	70-130
Sodium	83900	50.0	"	5000	77800	122	70-130
Barium	649	1.00	"	500	99.9	110	70-130
Boron	2600	10.0	"	2500	125	99.2	70-130
Selenium	59.2	1.00	"	50.0	2.51	113	70-130
Strontium	1700	10.0	"	500	1130	114	70-130

Matrix Spike Dup (BEB0384-MSD1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	92600	50.0	ug/l	5000	88200	88.3	70-130	0.963	25
Iron	5230	10.0	"	5000	8.45	104	70-130	1.62	25
Magnesium	35900	50.0	"	5000	31600	87.1	70-130	1.26	25
Manganese	1200	1.00	"	500	650	109	70-130	5.20	25
Potassium	9570	50.0	"	5000	4330	105	70-130	2.06	25
Sodium	81500	50.0	"	5000	77800	74.6	70-130	2.86	25
Barium	632	1.00	"	500	99.9	106	70-130	2.68	25
Boron	2610	10.0	"	2500	125	99.3	70-130	0.154	25
Selenium	63.3	1.00	"	50.0	2.51	122	70-130	6.59	25
Strontium	1670	10.0	"	500	1130	108	70-130	1.76	25

Summit Scientific

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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:
03/03/21 15:03

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BEB0369 - General Preparation

Blank (BEB0369-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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 (BEB0369-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	9.26	0.200	mg/L	10.0	92.6	90-110
Chloride	2.78	0.100	"	3.00	92.8	90-110
Fluoride	1.99	0.200	"	2.00	99.3	90-110
Sulfate	14.6	0.300	"	15.0	97.0	90-110
Nitrate as N	2.79	0.100	"	3.00	93.0	90-110
Nitrite as N	2.84	0.100	"	3.00	94.5	90-110

Duplicate (BEB0369-DUP1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	0.312	0.200	mg/L	0.312	0.00	20	
Chloride	178	0.100	"	44.7	120	20	QM-02
Fluoride	0.310	0.200	"	0.320	3.17	20	
Sulfate	501	0.300	"	224	76.2	20	QM-02
Nitrate as N	8.87	0.100	"	8.85	0.169	20	
Nitrite as N	ND	0.100	"	ND		20	
Nitrate/Nitrite as N	ND	0.200	"	8.85		20	

Matrix Spike (BEB0369-MS1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/26/21

Bromide	8.32	0.200	mg/L	10.0	0.312	80.1	80-120	
Chloride	181	0.100	"	3.00	44.7	NR	80-120	QM-02
Fluoride	2.23	0.200	"	2.00	0.320	95.3	80-120	
Sulfate	518	0.300	"	15.0	224	NR	80-120	QM-02
Nitrate as N	11.5	0.100	"	3.00	8.85	89.4	80-120	
Nitrite as N	3.15	0.100	"	3.00	ND	105	80-120	

Summit Scientific

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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:
03/03/21 15:03

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

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

Batch BEB0403 - General Preparation

Blank (BEB0403-BLK1)

Prepared: 02/26/21 Analyzed: 03/03/21

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

LCS (BEB0403-BS1)

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	105	10.0	mg/L as CaCO3	100	105	80-120
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Duplicate (BEB0403-DUP1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	290	10.0	mg/L as CaCO3	290	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	290	10.0	"	290	0.00	20

Matrix Spike (BEB0403-MS1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130
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Matrix Spike Dup (BEB0403-MSD1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130	0.00	20
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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:
03/03/21 15:03

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

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

Batch BEC0072 - General Preparation

Blank (BEC0072-BLK1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0072-BS1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 104 80-120

Duplicate (BEC0072-DUP1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 0.0110 0.0500 mg/L 0.0107 2.76 20

Matrix Spike (BEC0072-MS1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130

Matrix Spike Dup (BEC0072-MSD1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130 0.186 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:
03/03/21 15:03

Specific Conductance by SM2510B - Quality Control

Summit Scientific

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

Batch BEB0359 - General Preparation

Blank (BEB0359-BLK1)

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEB0359-DUP1)

Source: 2102311-01

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) 1080 1.00 umhos/cm 1080 0.186 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:
03/03/21 15:03

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

Batch BEC0010 - General Preparation

Blank (BEC0010-BLK1)

Prepared & Analyzed: 03/01/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0010-DUP1)

Source: 2102289-01

Prepared & Analyzed: 03/01/21

Total Dissolved Solids 1000 10.0 mg/L 998 0.160 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:
03/03/21 15:03

pH by SM4500 - Quality Control

Summit Scientific

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

Batch BEC0012 - General Preparation

LCS (BEC0012-BS1)

Prepared: 02/23/21 Analyzed: 03/01/21

pH	9.21	1.00	pH Units	9.21	100	90-110
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Duplicate (BEC0012-DUP1)

Source: 2102304-01

Prepared: 02/23/21 Analyzed: 03/01/21

pH	7.10	1.00	pH Units	7.09	0.141	20
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Summit Scientific

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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:
03/03/21 15:03

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike 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

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

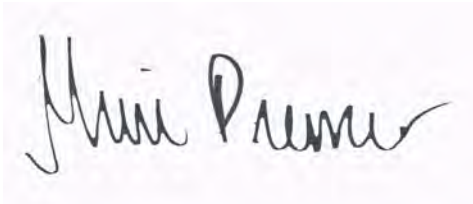
Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order #2102319

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is shown on a light pink background.

Muri Premier 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 Fac ID 766285
Project Manager: Heather Shideman

Reported:
03/03/21 17:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_3_Trip_Blank	2102319-01	Water	02/23/21 11:32	02/23/21 16:10

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.

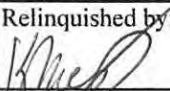

Summit Scientific 2102319

S₂

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

Page 1 of 1

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: Kade MacDougall **Project No.:** ALLOC-421 **Facility ID** 766285

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions	
					HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX					
1	GW_60666_MH_MW_3_Trip_Blank	02/23/2021	11:32	2					X					X				Sample Frequency: Q1
Relinquished by: 		Date/Time: 2/23/2021 16:10		Received by: 		Date/Time: 02/23/2021 16:10		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: 2.8						
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt: 2.8				Intact: <u>Yes</u> No						

2102319

Sample Receipt Checklist

S2 Work Order _____

Client: APEX COMPANIESClient Project ID: TRIP BLANK DISTRICT SIX C6Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Temp (°C)	2.9
-----------	-----

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"/>	
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 checked="" type="checkbox"/>	<input 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.				

RZ

Custodian Printed Name or Initials

Signature of Custodian *RZ*

2/23/21

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:
03/03/21 17:48

GW_60666_MH_MW_3_Trip_Blank
2102319-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEB0413	02/26/21	02/27/21	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: **02/23/21 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	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:
03/03/21 17:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0413 - EPA 5030 Water MS

Blank (BEB0413-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	16.5		"	13.3		124	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (BEB0413-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3		125	51-132			
Toluene	39.3	1.0	"	33.3		118	51-138			
Ethylbenzene	41.2	1.0	"	33.3		124	58-146			
m,p-Xylene	78.0	2.0	"	66.7		117	57-144			
o-Xylene	40.1	1.0	"	33.3		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

Matrix Spike (BEB0413-MS1)

Source: 2102376-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3	ND	125	34-141			
Toluene	39.0	1.0	"	33.3	ND	117	27-151			
Ethylbenzene	41.4	1.0	"	33.3	ND	124	29-160			
m,p-Xylene	77.8	2.0	"	66.7	ND	117	20-166			
o-Xylene	40.7	1.0	"	33.3	ND	122	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	21-167			

Summit Scientific

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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:
03/03/21 17:48

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

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

Batch BEB0413 - EPA 5030 Water MS

Matrix Spike Dup (BEB0413-MSD1)	Source: 2102376-01			Prepared: 02/26/21 Analyzed: 02/27/21						
Benzene	41.7	1.0	ug/l	33.3	ND	125	34-141	0.144	32	
Toluene	39.4	1.0	"	33.3	ND	118	27-151	0.842	25	
Ethylbenzene	41.3	1.0	"	33.3	ND	124	29-160	0.0967	50	
m,p-Xylene	77.9	2.0	"	66.7	ND	117	20-166	0.141	36	
o-Xylene	40.5	1.0	"	33.3	ND	122	33-159	0.443	26	
Surrogate: 1,2-Dichloroethane-d4	15.7		"	13.3		118	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	21-167			

Summit Scientific

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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:
03/03/21 17:48

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 #: 785416 Job #: 47105 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: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766285
Date Sampled: 2/23/2021 11:32 Date Received: 2/25/2021 Date Reported: 3/11/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	0.059	0.040
Ethane -----	0.00023	0.00029
Propane -----	< 0.0001	< 0.0002

Alloc-421

nd = not detected; na = not analyzed.

Lab #: 784209 Job #: 47006 IS-99230 Co. Job#:
Sample Name: GW_60666_MH_MW_3 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766285
Date Sampled: 2/23/2021 11:32 Date Received: 2/25/2021 Date Reported: 3/09/2021

δD of water ----- -105.6 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -13.52 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- -12.0 ‰ 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: Alloc-421

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

March 05, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

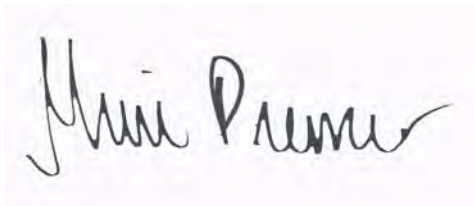
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2102343

Enclosed are the results of analyses for samples received by Summit Scientific on 02/24/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", on a light pink background.

Muri Premier 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
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_4	2102343-01	Water	02/24/21 14:03	02/24/21 17:00

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.

2102343

Summit Scientific

S₂

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

Page 1 of 1

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: Ground Water/GWA District Six C6
Sampler Name: Kade MacDougall Project No.: Alloc-421 930, 88 Facility ID 766286

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions		
					HCl	HNO ₃	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	No RSK175 (ethane, methane, propane)			
1	GW_60666_MH_MW_4 NENE_20_5N_65W	02/24/2021	1403	5		X	X		X				X	X	X			Sample Frequency: Q1
	Temperature, field:	13.2	°C															
	pH, field:	7.64	s.u.															
	Conductivity, field:	1051	uS/cm															
	ORP, field:	-248.6	mV															
	0.25 Dissolved Oxygen, field:	0.25	mg/L															
	Turbidity, field:	148	NTU															
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:						
[Signature]		02/24/2021 1700		[Signature]		02/24/2021 1700		Same Day _____ 72 hours										
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours _____ X Standard										
								48 hours _____										
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:										
								Temperature Upon Receipt: 5.7										
								Intact: Yes No										

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2102343

Client: Apex/XOG

Client Project ID: 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)

5.7

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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. anions
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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HNO3 H2SO4
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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

Signature of Custodian

Date/Time

02/24/2021



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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

GW_60666_MH_MW_4
NENE_20_5N_65W
2102343-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0052	0.0010	mg/L	1	BEB0414	02/26/21	02/27/21	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	0.53	0.050	"	"	"	"	"	"	

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEC0057	03/02/21	03/03/21	EPA 8015M	

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		79.9 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

GW_60666_MH_MW_4
NENE_20_5N_65W
2102343-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	101000	50.0	ug/l	1	BEB0384	02/25/21	02/25/21	EPA 200.8	
Iron	47.3	10.0	"	"	"	"	"	"	
Magnesium	42300	50.0	"	"	"	"	"	"	
Manganese	1090	1.00	"	"	"	"	"	"	
Potassium	2260	50.0	"	"	"	"	"	"	
Sodium	97100	50.0	"	"	"	"	"	"	
Barium	40.0	1.00	"	"	"	"	"	"	
Boron	204	10.0	"	"	"	"	"	"	
Selenium	4.38	1.00	"	"	"	"	"	"	
Strontium	1400	10.0	"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/24/21 14:03**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.766	0.200	mg/L	1	BEB0369	02/24/21	02/26/21	EPA 300.0	
Chloride	89.2	20.0	"	200	"	"	"	"	
Fluoride	0.475	0.200	"	1	"	"	"	"	
Sulfate	129	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: **02/24/21 14:03**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	270	10.0	mg/L as CaCO3	1	BEB0403	02/26/21	03/04/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	270	10.0	"	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

GW_60666_MH_MW_4
NENE_20_5N_65W
2102343-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	0.0980	0.0500	mg/L	1	BEC0072	03/03/21	03/03/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1070	1.00	umhos/cm	1	BEB0400	02/26/21	02/26/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	538	10.0	mg/L	1	BEC0065	03/03/21	03/03/21	SM2540C	

pH by SM4500

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.63	1.00	pH Units	1	BEC0013	02/24/21	03/01/21	SM4500-H+ B	

Field Data

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1051		uS/cm	1	BEB0381	02/24/21	02/24/21	Field Method	
Turbidity	148		NTU	"	"	"	"	"	
Temperature	13.2		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	-288.6		mv	"	"	"	"	"	
Dissolved Oxygen	0.25		mg/L	"	"	"	"	"	
pH	7.64		SU	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

GW_60666_MH_MW_4
NENE_20_5N_65W
2102343-01 (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

Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0135		"	0.0133		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0134		"	0.0133		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0274	0.0010	mg/L	0.0333		82.2	51-132			
Toluene	0.0353	0.0010	"	0.0333		106	51-138			
Ethylbenzene	0.0341	0.0010	"	0.0333		102	58-146			
m,p-Xylene	0.0669	0.0020	"	0.0667		100	57-144			
o-Xylene	0.0341	0.0010	"	0.0333		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0144		"	0.0133		108	23-173			
Surrogate: Toluene-d8	0.0136		"	0.0133		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0284	0.0010	mg/L	0.0333	ND	85.1	34-141			
Toluene	0.0368	0.0010	"	0.0333	ND	110	27-151			
Ethylbenzene	0.0351	0.0010	"	0.0333	ND	105	29-160			
m,p-Xylene	0.0691	0.0020	"	0.0667	ND	104	20-166			
o-Xylene	0.0351	0.0010	"	0.0333	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	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
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

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

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)		Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21					
Benzene	0.0275	0.0010	mg/L	0.0333	ND	82.5	34-141	3.12	32	
Toluene	0.0360	0.0010	"	0.0333	ND	108	27-151	2.31	25	
Ethylbenzene	0.0335	0.0010	"	0.0333	ND	101	29-160	4.55	50	
m,p-Xylene	0.0664	0.0020	"	0.0667	ND	99.5	20-166	4.09	36	
o-Xylene	0.0338	0.0010	"	0.0333	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	0.0151		"	0.0133		113	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	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
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0057 - EPA 3520B

Blank (BEC0057-BLK1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	0.0226		"	0.0250		90.5	44.8-129			

LCS (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.849	0.100	mg/L	1.00		84.9	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250		101	44.8-129			

LCS Dup (BEC0057-BSD1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.801	0.100	mg/L	1.00		80.1	70-130	5.81	200	
Surrogate: o-Terphenyl	0.0221		"	0.0250		88.4	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

Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Blank (BEB0384-BLK1)

Prepared & Analyzed: 02/25/21

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 (BEB0384-BS1)

Prepared & Analyzed: 02/25/21

Calcium	5350	50.0	ug/l	5000	107	85-115
Iron	5130	10.0	"	5000	103	85-115
Magnesium	5460	50.0	"	5000	109	85-115
Manganese	552	1.00	"	500	110	85-115
Potassium	5250	50.0	"	5000	105	85-115
Sodium	5280	50.0	"	5000	106	85-115
Barium	537	1.00	"	500	107	85-115
Boron	2650	10.0	"	2500	106	85-115
Selenium	53.5	1.00	"	50.0	107	85-115
Strontium	555	10.0	"	500	111	85-115

Duplicate (BEB0384-DUP1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	89800	50.0	ug/l	88200	1.82	20
Iron	9.31	10.0	"	8.45	9.69	20
Magnesium	31000	50.0	"	31600	1.88	20
Manganese	677	1.00	"	650	4.16	20
Potassium	4260	50.0	"	4330	1.64	20
Sodium	77700	50.0	"	77800	0.202	20
Barium	103	1.00	"	99.9	3.16	20
Boron	114	10.0	"	125	9.27	20
Selenium	3.02	1.00	"	2.51	18.4	20
Strontium	1140	10.0	"	1130	0.554	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

Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Matrix Spike (BEB0384-MS1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	93500	50.0	ug/l	5000	88200	106	70-130
Iron	5320	10.0	"	5000	8.45	106	70-130
Magnesium	36400	50.0	"	5000	31600	96.2	70-130
Manganese	1130	1.00	"	500	650	97.0	70-130
Potassium	9770	50.0	"	5000	4330	109	70-130
Sodium	83900	50.0	"	5000	77800	122	70-130
Barium	649	1.00	"	500	99.9	110	70-130
Boron	2600	10.0	"	2500	125	99.2	70-130
Selenium	59.2	1.00	"	50.0	2.51	113	70-130
Strontium	1700	10.0	"	500	1130	114	70-130

Matrix Spike Dup (BEB0384-MSD1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	92600	50.0	ug/l	5000	88200	88.3	70-130	0.963	25
Iron	5230	10.0	"	5000	8.45	104	70-130	1.62	25
Magnesium	35900	50.0	"	5000	31600	87.1	70-130	1.26	25
Manganese	1200	1.00	"	500	650	109	70-130	5.20	25
Potassium	9570	50.0	"	5000	4330	105	70-130	2.06	25
Sodium	81500	50.0	"	5000	77800	74.6	70-130	2.86	25
Barium	632	1.00	"	500	99.9	106	70-130	2.68	25
Boron	2610	10.0	"	2500	125	99.3	70-130	0.154	25
Selenium	63.3	1.00	"	50.0	2.51	122	70-130	6.59	25
Strontium	1670	10.0	"	500	1130	108	70-130	1.76	25

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88

Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BEB0369 - General Preparation

Blank (BEB0369-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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 (BEB0369-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	9.26	0.200	mg/L	10.0	92.6	90-110
Chloride	2.78	0.100	"	3.00	92.8	90-110
Fluoride	1.99	0.200	"	2.00	99.3	90-110
Sulfate	14.6	0.300	"	15.0	97.0	90-110
Nitrate as N	2.79	0.100	"	3.00	93.0	90-110
Nitrite as N	2.84	0.100	"	3.00	94.5	90-110

Duplicate (BEB0369-DUP1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	0.312	0.200	mg/L	0.312	0.00	20	
Chloride	178	0.100	"	44.7	120	20	QM-02
Fluoride	0.310	0.200	"	0.320	3.17	20	
Sulfate	501	0.300	"	224	76.2	20	QM-02
Nitrate as N	8.87	0.100	"	8.85	0.169	20	
Nitrite as N	ND	0.100	"	ND		20	
Nitrate/Nitrite as N	ND	0.200	"	8.85		20	

Matrix Spike (BEB0369-MS1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/26/21

Bromide	8.32	0.200	mg/L	10.0	0.312	80.1	80-120	
Chloride	181	0.100	"	3.00	44.7	NR	80-120	QM-02
Fluoride	2.23	0.200	"	2.00	0.320	95.3	80-120	
Sulfate	518	0.300	"	15.0	224	NR	80-120	QM-02
Nitrate as N	11.5	0.100	"	3.00	8.85	89.4	80-120	
Nitrite as N	3.15	0.100	"	3.00	ND	105	80-120	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

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

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

Batch BEB0403 - General Preparation

Blank (BEB0403-BLK1)

Prepared: 02/26/21 Analyzed: 03/03/21

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

LCS (BEB0403-BS1)

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	105	10.0	mg/L as CaCO3	100	105	80-120
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Duplicate (BEB0403-DUP1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	290	10.0	mg/L as CaCO3	290	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	290	10.0	"	290	0.00	20

Matrix Spike (BEB0403-MS1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130
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Matrix Spike Dup (BEB0403-MSD1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130	0.00	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

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

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

Batch BEC0072 - General Preparation

Blank (BEC0072-BLK1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0072-BS1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 104 80-120

Duplicate (BEC0072-DUP1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 0.0110 0.0500 mg/L 0.0107 2.76 20

Matrix Spike (BEC0072-MS1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130

Matrix Spike Dup (BEC0072-MSD1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130 0.186 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Specific Conductance by SM2510B - Quality Control
Summit Scientific

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

Batch BEB0400 - General Preparation

Blank (BEB0400-BLK1)

Prepared & Analyzed: 02/26/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEB0400-DUP1)

Source: 2102341-01

Prepared & Analyzed: 02/26/21

Specific Conductance (EC) 1400 1.00 umhos/cm 1390 0.287 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BEC0065 - General Preparation

Blank (BEC0065-BLK1)

Prepared & Analyzed: 03/03/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0065-DUP1)

Source: 2102339-01

Prepared & Analyzed: 03/03/21

Total Dissolved Solids 2610 10.0 mg/L 2620 0.650 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

pH by SM4500 - Quality Control
Summit Scientific

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

Batch BEC0013 - General Preparation

LCS (BEC0013-BS1)

Prepared: 02/24/21 Analyzed: 03/01/21

pH	9.20	1.00	pH Units	9.21	99.9	90-110
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Duplicate (BEC0013-DUP1)

Source: 2102341-01

Prepared: 02/24/21 Analyzed: 03/01/21

pH	7.37	1.00	pH Units	7.94	7.45	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 10:03

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike 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

March 05, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

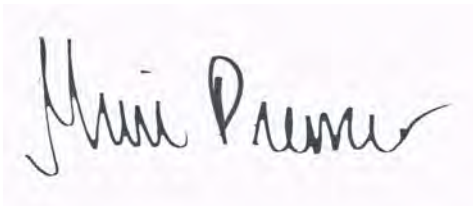
Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order #2102346

Enclosed are the results of analyses for samples received by Summit Scientific on 02/24/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is shown on a light pink background.

Muri Premier 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
Project Manager: Heather Shideman

Reported:
03/05/21 12:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_4_Trip_Blank	2102346-01	Water	02/24/21 14:03	02/24/21 17:00

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.

2102346

Summit Scientific

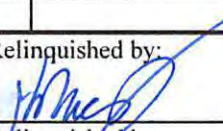
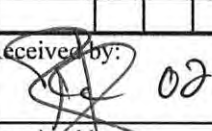
S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

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: Kade MacDougall **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	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX					
1	GW_60666_MH_MW_4_Trip_Blank	02/24/2021	1403	2					X					X				Sample Frequency: Q1
Relinquished by: 		Date/Time: 2/24/21 1700		Received by: 		Date/Time: 02/24/2021 1400		Turn Around Time (Check) Same Day ___ 72 hours ___ 24 hours ___ Standard <u>X</u> 48 hours ___				Notes:						
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity: Temperature Upon Receipt: <u>5.7</u> Intact: <u>Yes</u> No										
Relinquished by:		Date/Time:		Received by:		Date/Time:												

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2102346

Client: Apex/XOG

Client Project ID: TRIP BLANK 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)	5.7
-----------	-----

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"/>	
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

Signature of Custodian

Date/Time

05/24/2021



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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 12:02

GW_60666_MH_MW_4_Trip_Blank
2102346-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/24/21 14:03**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEB0414	02/26/21	02/27/21	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: **02/24/21 14:03**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	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
Project Manager: Heather Shideman

Reported:
03/05/21 12:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	27.4	1.0	ug/l	33.3		82.2	51-132			
Toluene	35.3	1.0	"	33.3		106	51-138			
Ethylbenzene	34.1	1.0	"	33.3		102	58-146			
m,p-Xylene	66.9	2.0	"	66.7		100	57-144			
o-Xylene	34.1	1.0	"	33.3		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	28.4	1.0	ug/l	33.3	ND	85.1	34-141			
Toluene	36.8	1.0	"	33.3	ND	110	27-151			
Ethylbenzene	35.1	1.0	"	33.3	ND	105	29-160			
m,p-Xylene	69.1	2.0	"	66.7	ND	104	20-166			
o-Xylene	35.1	1.0	"	33.3	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	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
Project Manager: Heather Shideman

Reported:
03/05/21 12:02

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

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)	Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21						
Benzene	27.5	1.0	ug/l	33.3	ND	82.5	34-141	3.12	32	
Toluene	36.0	1.0	"	33.3	ND	108	27-151	2.31	25	
Ethylbenzene	33.5	1.0	"	33.3	ND	101	29-160	4.55	50	
m,p-Xylene	66.4	2.0	"	66.7	ND	99.5	20-166	4.09	36	
o-Xylene	33.8	1.0	"	33.3	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	15.1		"	13.3		113	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	21-167			

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6

Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 12:02

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 #: 785420 Job #: 47105 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: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766286
Date Sampled: 2/24/2021 14:03 Date Received: 2/25/2021 Date Reported: 3/11/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	36	24
Ethane -----	5.7	7.2
Propane -----	0.98	1.8

Alloc-421

nd = not detected; na = not analyzed.

Lab #: 784213 Job #: 47006 IS-99230 Co. Job#:
Sample Name: GW_60666_MH_MW_4 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766286
Date Sampled: 2/24/2021 14:03 Date Received: 2/25/2021 Date Reported: 3/09/2021

δD of water ----- -107.6 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -13.71 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- -15.2 ‰ 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: Alloc-421

nd = not detected. na = not analyzed.

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

Lab #: 785420 Job #: 47105 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: Ground_Water/GWA_District_Six_C6

Location: NENE_20_5N_65W

Formation/Depth: Q1

Sampling Point: 766286

Date Sampled: 2/24/2021 14:03 Date Received: 2/25/2021 Date Reported: 4/15/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide -----	nd					
Helium -----	na					
Hydrogen -----	nd					
Argon -----	0.207					
Oxygen -----	1.49					
Nitrogen -----	13.98					
Carbon Dioxide -----	3.23					
Methane -----	68.43	-47.22	-224.9		35	24
Ethane -----	10.32	-31.06			5.9	7.4
Ethylene -----	nd					
Propane -----	1.82	-26.37			0.97	1.8
Propylene -----	nd					
Iso-butane -----	0.206	-30.1				
N-butane -----	0.247	-26.7				
Iso-pentane -----	0.0452	-27.2				
N-pentane -----	0.0176					
Hexanes + -----	0.0056					

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.57

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

Alloc-421

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. %.

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 05, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

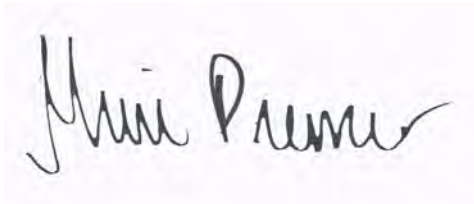
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2102342

Enclosed are the results of analyses for samples received by Summit Scientific on 02/24/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", on a light pink background.

Muri Premier 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
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_5	2102342-01	Water	02/24/21 12:08	02/24/21 17:00

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.

2102342

Summit Scientific

S₂

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

Page 1 of 1

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:	Ground Water/GWA_District_Six_C6		
Sampler Name:	Kade MacDougall	Project No.:	Alloc-421 930, 88	Facility ID	766287

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions		
					HCl	HNO ₃	None	Other (Specify)	Ground Water	Soil	Air-Canister #	Other (Specify)	COGCC 609	No BART	No RSK175 (ethane, methane, propane)			
1	GW_60666_MH_MW_5 NENE_20_5N_65W	02/24/2009	1208	8		X	X			X				X	X	X		Sample Frequency: Q1
	Temperature, field:	13.0	°C															
	pH, field:	7.49	s.u.															
	Conductivity, field:	1634	uS/cm															
	ORP, field:	105.6	mV															
	Dissolved Oxygen, field:	1.26	mg/L															
	Turbidity, field:	21.8	NTU															
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:						
1/11/09		2/10/24/1700		[Signature]		02/24/2009 1700		Same Day _____ 72 hours										
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours _____ X Standard										
								48 hours _____										
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:										
								Temperature Upon Receipt: 3.8										
								Intact: Yes No										

Sample Receipt Checklist

S2 Work Order 2102342

Client: Apex/XOG

Client Project ID: 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)

3.8

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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. anions
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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HNO3 H2SO4
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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

Signature of Custodian

Date/Time

02/24/2001



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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

GW_60666_MH_MW_5
NENE_20_5N_65W
2102342-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0010	mg/L	1	BEB0414	02/26/21	02/27/21	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: **02/24/21 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	0.100	mg/L	1	BEC0057	03/02/21	03/03/21	EPA 8015M	

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		77.9 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88

Project Manager: Heather Shideman

Reported:
03/05/21 09:40

GW_60666_MH_MW_5
NENE_20_5N_65W
2102342-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Calcium	153000	50.0	ug/l	1	BEB0384	02/25/21	02/25/21	EPA 200.8
Iron	ND	10.0	"	"	"	"	"	"
Magnesium	57300	50.0	"	"	"	"	"	"
Manganese	206	1.00	"	"	"	"	"	"
Potassium	3690	50.0	"	"	"	"	"	"
Sodium	152000	50.0	"	"	"	"	"	"
Barium	36.6	1.00	"	"	"	"	"	"
Boron	175	10.0	"	"	"	"	"	"
Selenium	4.42	1.00	"	"	"	"	"	"
Strontium	2130	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	2.27	0.200	mg/L	1	BEB0369	02/24/21	02/26/21	EPA 300.0	
Chloride	308	20.0	"	200	"	"	"	"	
Fluoride	0.462	0.200	"	1	"	"	"	"	
Sulfate	170	60.0	"	200	"	"	"	"	
Nitrate as N	6.55	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	6.55	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	250	10.0	mg/L as CaCO3	1	BEB0403	02/26/21	03/04/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	250	10.0	"	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

GW_60666_MH_MW_5
NENE_20_5N_65W
2102342-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEC0072	03/03/21	03/03/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1680	1.00	umhos/cm	1	BEB0400	02/26/21	02/26/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	827	10.0	mg/L	1	BEC0065	03/03/21	03/03/21	SM2540C	

pH by SM4500

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.46	1.00	pH Units	1	BEC0013	02/24/21	03/01/21	SM4500-H+ B	

Field Data

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1634		uS/cm	1	BEB0380	02/24/21	02/24/21	Field Method	
Turbidity	21.8		NTU	"	"	"	"	"	
Temperature	13.0		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	105.6		mv	"	"	"	"	"	
Dissolved Oxygen	1.26		mg/L	"	"	"	"	"	
pH	7.49		SU	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

GW_60666_MH_MW_5
NENE_20_5N_65W
2102342-01 (Water)

Summit Scientific

Field Data

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0135		"	0.0133		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0134		"	0.0133		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0274	0.0010	mg/L	0.0333		82.2	51-132			
Toluene	0.0353	0.0010	"	0.0333		106	51-138			
Ethylbenzene	0.0341	0.0010	"	0.0333		102	58-146			
m,p-Xylene	0.0669	0.0020	"	0.0667		100	57-144			
o-Xylene	0.0341	0.0010	"	0.0333		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0144		"	0.0133		108	23-173			
Surrogate: Toluene-d8	0.0136		"	0.0133		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0284	0.0010	mg/L	0.0333	ND	85.1	34-141			
Toluene	0.0368	0.0010	"	0.0333	ND	110	27-151			
Ethylbenzene	0.0351	0.0010	"	0.0333	ND	105	29-160			
m,p-Xylene	0.0691	0.0020	"	0.0667	ND	104	20-166			
o-Xylene	0.0351	0.0010	"	0.0333	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	21-167			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

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

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)		Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21					
Benzene	0.0275	0.0010	mg/L	0.0333	ND	82.5	34-141	3.12	32	
Toluene	0.0360	0.0010	"	0.0333	ND	108	27-151	2.31	25	
Ethylbenzene	0.0335	0.0010	"	0.0333	ND	101	29-160	4.55	50	
m,p-Xylene	0.0664	0.0020	"	0.0667	ND	99.5	20-166	4.09	36	
o-Xylene	0.0338	0.0010	"	0.0333	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	0.0151		"	0.0133		113	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	21-167			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0057 - EPA 3520B

Blank (BEC0057-BLK1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	0.0226		"	0.0250		90.5	44.8-129			

LCS (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.849	0.100	mg/L	1.00		84.9	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250		101	44.8-129			

LCS Dup (BEC0057-BSD1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.801	0.100	mg/L	1.00		80.1	70-130	5.81	200	
Surrogate: o-Terphenyl	0.0221		"	0.0250		88.4	44.8-129			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Dissolved Metals by EPA Method 200.8 - Quality Control
Summit Scientific

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

Batch BEB0384 - EPA 200.8

Blank (BEB0384-BLK1)

Prepared & Analyzed: 02/25/21

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 (BEB0384-BS1)

Prepared & Analyzed: 02/25/21

Calcium	5350	50.0	ug/l	5000	107	85-115
Iron	5130	10.0	"	5000	103	85-115
Magnesium	5460	50.0	"	5000	109	85-115
Manganese	552	1.00	"	500	110	85-115
Potassium	5250	50.0	"	5000	105	85-115
Sodium	5280	50.0	"	5000	106	85-115
Barium	537	1.00	"	500	107	85-115
Boron	2650	10.0	"	2500	106	85-115
Selenium	53.5	1.00	"	50.0	107	85-115
Strontium	555	10.0	"	500	111	85-115

Duplicate (BEB0384-DUP1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	89800	50.0	ug/l	88200	1.82	20
Iron	9.31	10.0	"	8.45	9.69	20
Magnesium	31000	50.0	"	31600	1.88	20
Manganese	677	1.00	"	650	4.16	20
Potassium	4260	50.0	"	4330	1.64	20
Sodium	77700	50.0	"	77800	0.202	20
Barium	103	1.00	"	99.9	3.16	20
Boron	114	10.0	"	125	9.27	20
Selenium	3.02	1.00	"	2.51	18.4	20
Strontium	1140	10.0	"	1130	0.554	20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Matrix Spike (BEB0384-MS1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	93500	50.0	ug/l	5000	88200	106	70-130
Iron	5320	10.0	"	5000	8.45	106	70-130
Magnesium	36400	50.0	"	5000	31600	96.2	70-130
Manganese	1130	1.00	"	500	650	97.0	70-130
Potassium	9770	50.0	"	5000	4330	109	70-130
Sodium	83900	50.0	"	5000	77800	122	70-130
Barium	649	1.00	"	500	99.9	110	70-130
Boron	2600	10.0	"	2500	125	99.2	70-130
Selenium	59.2	1.00	"	50.0	2.51	113	70-130
Strontium	1700	10.0	"	500	1130	114	70-130

Matrix Spike Dup (BEB0384-MSD1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	92600	50.0	ug/l	5000	88200	88.3	70-130	0.963	25
Iron	5230	10.0	"	5000	8.45	104	70-130	1.62	25
Magnesium	35900	50.0	"	5000	31600	87.1	70-130	1.26	25
Manganese	1200	1.00	"	500	650	109	70-130	5.20	25
Potassium	9570	50.0	"	5000	4330	105	70-130	2.06	25
Sodium	81500	50.0	"	5000	77800	74.6	70-130	2.86	25
Barium	632	1.00	"	500	99.9	106	70-130	2.68	25
Boron	2610	10.0	"	2500	125	99.3	70-130	0.154	25
Selenium	63.3	1.00	"	50.0	2.51	122	70-130	6.59	25
Strontium	1670	10.0	"	500	1130	108	70-130	1.76	25

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88

Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BEB0369 - General Preparation

Blank (BEB0369-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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 (BEB0369-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	9.26	0.200	mg/L	10.0	92.6	90-110
Chloride	2.78	0.100	"	3.00	92.8	90-110
Fluoride	1.99	0.200	"	2.00	99.3	90-110
Sulfate	14.6	0.300	"	15.0	97.0	90-110
Nitrate as N	2.79	0.100	"	3.00	93.0	90-110
Nitrite as N	2.84	0.100	"	3.00	94.5	90-110

Duplicate (BEB0369-DUP1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	0.312	0.200	mg/L	0.312	0.00	20	
Chloride	178	0.100	"	44.7	120	20	QM-02
Fluoride	0.310	0.200	"	0.320	3.17	20	
Sulfate	501	0.300	"	224	76.2	20	QM-02
Nitrate as N	8.87	0.100	"	8.85	0.169	20	
Nitrite as N	ND	0.100	"	ND		20	
Nitrate/Nitrite as N	ND	0.200	"	8.85		20	

Matrix Spike (BEB0369-MS1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/26/21

Bromide	8.32	0.200	mg/L	10.0	0.312	80.1	80-120	
Chloride	181	0.100	"	3.00	44.7	NR	80-120	QM-02
Fluoride	2.23	0.200	"	2.00	0.320	95.3	80-120	
Sulfate	518	0.300	"	15.0	224	NR	80-120	QM-02
Nitrate as N	11.5	0.100	"	3.00	8.85	89.4	80-120	
Nitrite as N	3.15	0.100	"	3.00	ND	105	80-120	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88

Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BEB0403 - General Preparation

Blank (BEB0403-BLK1)

Prepared: 02/26/21 Analyzed: 03/03/21

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

LCS (BEB0403-BS1)

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	105	10.0	mg/L as CaCO3	100	105	80-120
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Duplicate (BEB0403-DUP1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	290	10.0	mg/L as CaCO3	290	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	290	10.0	"	290	0.00	20

Matrix Spike (BEB0403-MS1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130
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Matrix Spike Dup (BEB0403-MSD1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130	0.00	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

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

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

Batch BEC0072 - General Preparation

Blank (BEC0072-BLK1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0072-BS1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 104 80-120

Duplicate (BEC0072-DUP1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 0.0110 0.0500 mg/L 0.0107 2.76 20

Matrix Spike (BEC0072-MS1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130

Matrix Spike Dup (BEC0072-MSD1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130 0.186 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Specific Conductance by SM2510B - Quality Control
Summit Scientific

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

Batch BEB0400 - General Preparation

Blank (BEB0400-BLK1)

Prepared & Analyzed: 02/26/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEB0400-DUP1)

Source: 2102341-01

Prepared & Analyzed: 02/26/21

Specific Conductance (EC) 1400 1.00 umhos/cm 1390 0.287 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BEC0065 - General Preparation

Blank (BEC0065-BLK1)

Prepared & Analyzed: 03/03/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0065-DUP1)

Source: 2102339-01

Prepared & Analyzed: 03/03/21

Total Dissolved Solids 2610 10.0 mg/L 2620 0.650 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

pH by SM4500 - Quality Control
Summit Scientific

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

Batch BEC0013 - General Preparation

LCS (BEC0013-BS1)

Prepared: 02/24/21 Analyzed: 03/01/21

pH	9.20	1.00	pH Units	9.21	99.9	90-110
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Duplicate (BEC0013-DUP1)

Source: 2102341-01

Prepared: 02/24/21 Analyzed: 03/01/21

pH	7.37	1.00	pH Units	7.94	7.45	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/05/21 09:40

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike 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

March 05, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

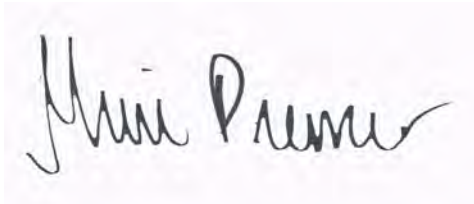
Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order #2102345

Enclosed are the results of analyses for samples received by Summit Scientific on 02/24/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is shown on a light pink background.

Muri Premier 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
Project Manager: Heather Shideman

Reported:
03/05/21 11:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_5_Trip_Blank	2102345-01	Water	02/24/21 12:08	02/24/21 17:00

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
S₂

Page 1 of 1

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX							Special Instructions
1	GW_60666_MH_MW_5_Trip_Blank	02/24/2021	1208	2					X				X							Sample Frequency: Q1
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____							Notes:					
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity: Temperature Upon Receipt: <u>3.8</u> Intact: Yes No												

Sample Receipt Checklist

S2 Work Order 2102345

Client: Apex/XOG

Client Project ID: TRIP BLANK 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>3.8</u>
-----------	------------

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"/>	
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

Signature of Custodian

Date/Time

02/24/2021



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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 11:50

GW_60666_MH_MW_5_Trip_Blank
2102345-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/24/21 12:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEB0414	02/26/21	02/27/21	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: **02/24/21 12:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		109 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 11:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	27.4	1.0	ug/l	33.3		82.2	51-132			
Toluene	35.3	1.0	"	33.3		106	51-138			
Ethylbenzene	34.1	1.0	"	33.3		102	58-146			
m,p-Xylene	66.9	2.0	"	66.7		100	57-144			
o-Xylene	34.1	1.0	"	33.3		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	28.4	1.0	ug/l	33.3	ND	85.1	34-141			
Toluene	36.8	1.0	"	33.3	ND	110	27-151			
Ethylbenzene	35.1	1.0	"	33.3	ND	105	29-160			
m,p-Xylene	69.1	2.0	"	66.7	ND	104	20-166			
o-Xylene	35.1	1.0	"	33.3	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	21-167			

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 11:50

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

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)		Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21					
Benzene	27.5	1.0	ug/l	33.3	ND	82.5	34-141	3.12	32	
Toluene	36.0	1.0	"	33.3	ND	108	27-151	2.31	25	
Ethylbenzene	33.5	1.0	"	33.3	ND	101	29-160	4.55	50	
m,p-Xylene	66.4	2.0	"	66.7	ND	99.5	20-166	4.09	36	
o-Xylene	33.8	1.0	"	33.3	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	15.1		"	13.3		113	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	21-167			

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6

Project Number: Alloc 421
Project Manager: Heather Shideman

Reported:
03/05/21 11:50

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 #: 785419 Job #: 47105 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: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766287
Date Sampled: 2/24/2021 12:08 Date Received: 2/25/2021 Date Reported: 3/11/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane -----	5.3	3.6
Ethane -----	0.56	0.71
Propane -----	0.070	0.13

Alloc-421

nd = not detected; na = not analyzed.

Lab #: 784212 Job #: 47006 IS-99230 Co. Job#:
Sample Name: GW_60666_MH_MW_5 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766287
Date Sampled: 2/24/2021 12:08 Date Received: 2/25/2021 Date Reported: 3/09/2021

δD of water ----- -105.9 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -13.43 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- -10.5 ‰ 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: Alloc-421

nd = not detected. na = not analyzed.

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

Lab #: 785419 Job #: 47105 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: Ground_Water/GWA_District_Six_C6

Location: NENE_20_5N_65W

Formation/Depth: Q1

Sampling Point: 766287

Date Sampled: 2/24/2021 12:08 Date Received: 2/25/2021 Date Reported: 4/15/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide -----	nd					
Helium -----	na					
Hydrogen -----	nd					
Argon -----	1.04					
Oxygen -----	13.52					
Nitrogen -----	70.21					
Carbon Dioxide -----	2.41					
Methane -----	11.60	-40.91	-229.6		6.2	4.1
Ethane -----	1.06	-25.2			0.63	0.79
Ethylene -----	nd					
Propane -----	0.140	-26.4			0.077	0.14
Propylene -----	nd					
Iso-butane -----	0.0104					
N-butane -----	0.0047					
Iso-pentane -----	0.0016					
N-pentane -----	nd					
Hexanes + -----	nd					

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.51

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

Alloc-421

Ethane and propane carbon isotope data obtained online via GC-C-IRMS.

Insufficient butane 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. %.

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

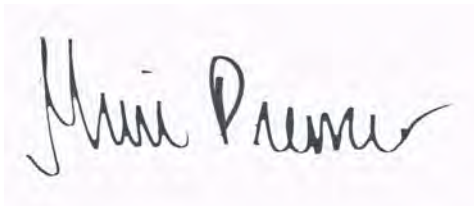
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2102314

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive style with a large, stylized "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 ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_6	2102314-01	Water	02/23/21 14:35	02/23/21 16:10

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

S₂

2102314

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

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 Griggs **Project No.:** Alloc-421 930, 88 **Facility ID** 766715

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_6 NENE_20_5N_65W	02/23/2021	1435	8		X	X		X					X	X	X					Sample Frequency: Q1
	Temperature, field:	13.2	°C																		
	pH, field:	7.68	s.u.																		
	Conductivity, field:	694	uS/cm																		
	ORP, field:	152.4	mV																		
	Dissolved Oxygen, field:	0.25	mg/L																		
	Turbidity, field:	47.3	NTU																		
Relinquished by: <u>[Signature]</u>		Date/Time: <u>2/16/23 1610</u>		Received by: <u>[Signature]</u>		Date/Time: <u>02/23/2021 1610</u>		Turn Around Time (Check) 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"/>										Notes:			
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity: Temperature Upon Receipt: <u>29</u> Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No													
Relinquished by:		Date/Time:		Received by:		Date/Time:															

2102314

Sample Receipt Checklist

S2 Work Order _____

Client: APEX COMPANIESClient Project ID: GWA DISTRICT SIX C6Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Temp (°C)	2.9
-----------	-----

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"/>	
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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"/>	pH1
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.				

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/23/21

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 ID766715
Project Manager: Heather Shideman

Reported:
03/03/21 16:55

GW_61256_MH_MW_6
NENE_20_5N_65W
2102314-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0010	mg/L	1	BEB0413	02/26/21	02/27/21	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: **02/23/21 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		120 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	0.100	mg/L	1	BEC0057	03/02/21	03/03/21	EPA 8015M	

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		102 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88 FAC ID766715
Project Manager: Heather Shideman

Reported:
03/03/21 16:55

GW_61256_MH_MW_6
NENE_20_5N_65W
2102314-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	77700	50.0	ug/l	1	BEB0384	02/25/21	02/25/21	EPA 200.8	
Iron	54.6	10.0	"	"	"	"	"	"	
Magnesium	30500	50.0	"	"	"	"	"	"	
Manganese	39.1	1.00	"	"	"	"	"	"	
Potassium	2400	50.0	"	"	"	"	"	"	
Sodium	51000	50.0	"	"	"	"	"	"	
Barium	83.0	1.00	"	"	"	"	"	"	
Boron	104	10.0	"	"	"	"	"	"	
Selenium	2.38	1.00	"	"	"	"	"	"	
Strontium	943	10.0	"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	ND	0.200	mg/L	1	BEB0369	02/24/21	02/26/21	EPA 300.0	
Chloride	14.3	10.0	"	100	"	"	"	"	
Fluoride	0.387	0.200	"	1	"	"	"	"	
Sulfate	119	30.0	"	100	"	"	"	"	
Nitrate as N	3.72	0.100	"	1	"	"	"	"	
Nitrite as N	0.807	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	4.53	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	200	10.0	mg/L as CaCO3	1	BEB0403	02/26/21	03/03/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	200	10.0	"	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88 FAC ID766715
Project Manager: Heather Shideman

Reported:
03/03/21 16:55

GW_61256_MH_MW_6
NENE_20_5N_65W
2102314-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEC0072	03/03/21	03/03/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	926	1.00	umhos/cm	1	BEB0359	02/24/21	02/24/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	333	10.0	mg/L	1	BEC0010	03/01/21	03/01/21	SM2540C	

pH by SM4500

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.63	1.00	pH Units	1	BEC0012	02/23/21	03/01/21	SM4500-H+ B	

Field Data

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	694		uS/cm	1	BEB0354	02/23/21	02/23/21	Field Method	
Turbidity	47.3		NTU	"	"	"	"	"	
Temperature	13.2		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	152.4		mv	"	"	"	"	"	
Dissolved Oxygen	0.25		mg/L	"	"	"	"	"	
pH	7.68		SU	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88 FAC ID766715
Project Manager: Heather Shideman

Reported:
03/03/21 16:55

GW_61256_MH_MW_6
NENE_20_5N_65W
2102314-01 (Water)

Summit Scientific

Field Data

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0413 - EPA 5030 Water MS

Blank (BEB0413-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	0.0165		"	0.0133		124	23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0134		"	0.0133		100	21-167			

LCS (BEB0413-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0418	0.0010	mg/L	0.0333		125	51-132			
Toluene	0.0393	0.0010	"	0.0333		118	51-138			
Ethylbenzene	0.0412	0.0010	"	0.0333		124	58-146			
m,p-Xylene	0.0780	0.0020	"	0.0667		117	57-144			
o-Xylene	0.0401	0.0010	"	0.0333		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0154		"	0.0133		115	23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0136		"	0.0133		102	21-167			

Matrix Spike (BEB0413-MS1)

Source: 2102376-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0418	0.0010	mg/L	0.0333	ND	125	34-141			
Toluene	0.0390	0.0010	"	0.0333	ND	117	27-151			
Ethylbenzene	0.0414	0.0010	"	0.0333	ND	124	29-160			
m,p-Xylene	0.0778	0.0020	"	0.0667	ND	117	20-166			
o-Xylene	0.0407	0.0010	"	0.0333	ND	122	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0154		"	0.0133		115	23-173			
Surrogate: Toluene-d8	0.0130		"	0.0133		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0135		"	0.0133		102	21-167			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88 FAC ID766715
Project Manager: Heather Shideman

Reported:
03/03/21 16:55

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

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

Batch BEB0413 - EPA 5030 Water MS

Matrix Spike Dup (BEB0413-MSD1)		Source: 2102376-01			Prepared: 02/26/21 Analyzed: 02/27/21					
Benzene	0.0417	0.0010	mg/L	0.0333	ND	125	34-141	0.144	32	
Toluene	0.0394	0.0010	"	0.0333	ND	118	27-151	0.842	25	
Ethylbenzene	0.0413	0.0010	"	0.0333	ND	124	29-160	0.0967	50	
m,p-Xylene	0.0779	0.0020	"	0.0667	ND	117	20-166	0.141	36	
o-Xylene	0.0405	0.0010	"	0.0333	ND	122	33-159	0.443	26	
Surrogate: 1,2-Dichloroethane-d4	0.0157		"	0.0133		118	23-173			
Surrogate: Toluene-d8	0.0132		"	0.0133		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		100	21-167			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88 FAC ID766715
Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0057 - EPA 3520B

Blank (BEC0057-BLK1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	ND	0.100	mg/L						
Surrogate: o-Terphenyl	0.0226		"	0.0250	90.5	44.8-129			

LCS (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.849	0.100	mg/L	1.00	84.9	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250	101	44.8-129			

LCS Dup (BEC0057-BSD1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.801	0.100	mg/L	1.00	80.1	70-130	5.81	200	
Surrogate: o-Terphenyl	0.0221		"	0.0250	88.4	44.8-129			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Blank (BEB0384-BLK1)

Prepared & Analyzed: 02/25/21

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 (BEB0384-BS1)

Prepared & Analyzed: 02/25/21

Calcium	5350	50.0	ug/l	5000	107	85-115
Iron	5130	10.0	"	5000	103	85-115
Magnesium	5460	50.0	"	5000	109	85-115
Manganese	552	1.00	"	500	110	85-115
Potassium	5250	50.0	"	5000	105	85-115
Sodium	5280	50.0	"	5000	106	85-115
Barium	537	1.00	"	500	107	85-115
Boron	2650	10.0	"	2500	106	85-115
Selenium	53.5	1.00	"	50.0	107	85-115
Strontium	555	10.0	"	500	111	85-115

Duplicate (BEB0384-DUP1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	89800	50.0	ug/l	88200	1.82	20
Iron	9.31	10.0	"	8.45	9.69	20
Magnesium	31000	50.0	"	31600	1.88	20
Manganese	677	1.00	"	650	4.16	20
Potassium	4260	50.0	"	4330	1.64	20
Sodium	77700	50.0	"	77800	0.202	20
Barium	103	1.00	"	99.9	3.16	20
Boron	114	10.0	"	125	9.27	20
Selenium	3.02	1.00	"	2.51	18.4	20
Strontium	1140	10.0	"	1130	0.554	20

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Matrix Spike (BEB0384-MS1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	93500	50.0	ug/l	5000	88200	106	70-130
Iron	5320	10.0	"	5000	8.45	106	70-130
Magnesium	36400	50.0	"	5000	31600	96.2	70-130
Manganese	1130	1.00	"	500	650	97.0	70-130
Potassium	9770	50.0	"	5000	4330	109	70-130
Sodium	83900	50.0	"	5000	77800	122	70-130
Barium	649	1.00	"	500	99.9	110	70-130
Boron	2600	10.0	"	2500	125	99.2	70-130
Selenium	59.2	1.00	"	50.0	2.51	113	70-130
Strontium	1700	10.0	"	500	1130	114	70-130

Matrix Spike Dup (BEB0384-MSD1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	92600	50.0	ug/l	5000	88200	88.3	70-130	0.963	25
Iron	5230	10.0	"	5000	8.45	104	70-130	1.62	25
Magnesium	35900	50.0	"	5000	31600	87.1	70-130	1.26	25
Manganese	1200	1.00	"	500	650	109	70-130	5.20	25
Potassium	9570	50.0	"	5000	4330	105	70-130	2.06	25
Sodium	81500	50.0	"	5000	77800	74.6	70-130	2.86	25
Barium	632	1.00	"	500	99.9	106	70-130	2.68	25
Boron	2610	10.0	"	2500	125	99.3	70-130	0.154	25
Selenium	63.3	1.00	"	50.0	2.51	122	70-130	6.59	25
Strontium	1670	10.0	"	500	1130	108	70-130	1.76	25

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BEB0369 - General Preparation

Blank (BEB0369-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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 (BEB0369-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	9.26	0.200	mg/L	10.0	92.6	90-110
Chloride	2.78	0.100	"	3.00	92.8	90-110
Fluoride	1.99	0.200	"	2.00	99.3	90-110
Sulfate	14.6	0.300	"	15.0	97.0	90-110
Nitrate as N	2.79	0.100	"	3.00	93.0	90-110
Nitrite as N	2.84	0.100	"	3.00	94.5	90-110

Duplicate (BEB0369-DUP1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	0.312	0.200	mg/L	0.312	0.00	20	
Chloride	178	0.100	"	44.7	120	20	QM-02
Fluoride	0.310	0.200	"	0.320	3.17	20	
Sulfate	501	0.300	"	224	76.2	20	QM-02
Nitrate as N	8.87	0.100	"	8.85	0.169	20	
Nitrite as N	ND	0.100	"	ND		20	
Nitrate/Nitrite as N	ND	0.200	"	8.85		20	

Matrix Spike (BEB0369-MS1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/26/21

Bromide	8.32	0.200	mg/L	10.0	0.312	80.1	80-120	
Chloride	181	0.100	"	3.00	44.7	NR	80-120	QM-02
Fluoride	2.23	0.200	"	2.00	0.320	95.3	80-120	
Sulfate	518	0.300	"	15.0	224	NR	80-120	QM-02
Nitrate as N	11.5	0.100	"	3.00	8.85	89.4	80-120	
Nitrite as N	3.15	0.100	"	3.00	ND	105	80-120	

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BEB0403 - General Preparation

Blank (BEB0403-BLK1)

Prepared: 02/26/21 Analyzed: 03/03/21

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

LCS (BEB0403-BS1)

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	105	10.0	mg/L as CaCO3	100	105	80-120
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Duplicate (BEB0403-DUP1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	290	10.0	mg/L as CaCO3	290	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	290	10.0	"	290	0.00	20

Matrix Spike (BEB0403-MS1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130
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Matrix Spike Dup (BEB0403-MSD1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130	0.00	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

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

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

Batch BEC0072 - General Preparation

Blank (BEC0072-BLK1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0072-BS1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 104 80-120

Duplicate (BEC0072-DUP1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 0.0110 0.0500 mg/L 0.0107 2.76 20

Matrix Spike (BEC0072-MS1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130

Matrix Spike Dup (BEC0072-MSD1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130 0.186 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Specific Conductance by SM2510B - Quality Control

Summit Scientific

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

Batch BEB0359 - General Preparation

Blank (BEB0359-BLK1)

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEB0359-DUP1)

Source: 2102311-01

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) 1080 1.00 umhos/cm 1080 0.186 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

Batch BEC0010 - General Preparation

Blank (BEC0010-BLK1)

Prepared & Analyzed: 03/01/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0010-DUP1)

Source: 2102289-01

Prepared & Analyzed: 03/01/21

Total Dissolved Solids 1000 10.0 mg/L 998 0.160 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715

Project Manager: Heather Shideman

Reported:
03/03/21 16:55

pH by SM4500 - Quality Control

Summit Scientific

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

Batch BEC0012 - General Preparation

LCS (BEC0012-BS1)

Prepared: 02/23/21 Analyzed: 03/01/21

pH	9.21	1.00	pH Units	9.21	100	90-110
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Duplicate (BEC0012-DUP1)

Source: 2102304-01

Prepared: 02/23/21 Analyzed: 03/01/21

pH	7.10	1.00	pH Units	7.09	0.141	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88 FAC ID766715
Project Manager: Heather Shideman

Reported:
03/03/21 16:55

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike 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

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

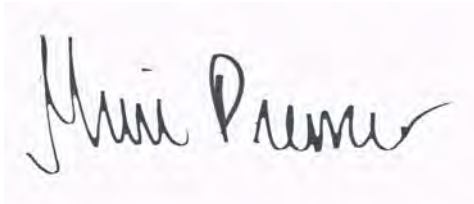
Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order #2102316

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is shown on a light pink background.

Muri Premier 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 Fac ID 766715
Project Manager: Heather Shideman

Reported:
03/03/21 17:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_6_Trip_Blank	2102316-01	Water	02/23/21 14:35	02/23/21 16:10

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.

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 S_2

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: Extraction Oil and Gas (XOG) **Report to:** Apex Companies, LLC

Project Manager: Heather Shideman

Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com,

Address: 2234 117th Ave, Ste 106

E-Mail: Kolbi.Condos@apexcos.com

Kolbi.Condos@apexcos.com

City/State/Zip: Greeley, CO 80634

cc: nbennett@extractionog.com

nbennett@extractionog.com
Trip Blank/GWA District Six C6

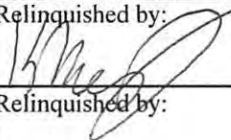
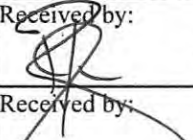
Phone: (970) 576-3446

Project Name: Trip Blank/GWA District Six C6

Sampler Name: Jeff Grimes

Project No.: Alloc-421 930, 88

Facility ID 766715

					Preservative				Matrix				Analysis Requested				Special Instructions		
ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX						
1	GW_61256_MH_MW_6_Trip_Blank	02/23/2021	1435	2					X				X					Sample Frequency: Q1	
Relinquished by:  Date/Time: 2/23/23 1610					Received by:  Date/Time: 02/23/2021 1610					Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____									Notes:
Relinquished by: _____ Date/Time: _____					Received by: _____ Date/Time: _____														
Relinquished by: _____ Date/Time: _____					Received by: _____ Date/Time: _____					Sample Integrity: 2.9 Temperature Upon Receipt: _____ Intact: <u>Yes</u> No									

Sample Receipt Checklist

2102316

S2 Work Order _____

Client: APEX COMPANIES

Client Project ID: TRIP BLANK 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)	2.9
-----------	-----

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"/>	
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 checked="" type="checkbox"/>	<input 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.				

RZ

Custodian Printed Name or Initials

RZ

Signature of Custodian

2/23/21

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 766715
Project Manager: Heather Shideman

Reported:
03/03/21 17:19

GW_61256_MH_MW_6_Trip_Blank
2102316-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 14:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEB0413	02/26/21	02/27/21	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: **02/23/21 14:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		123 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	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 766715
Project Manager: Heather Shideman

Reported:
03/03/21 17:19

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0413 - EPA 5030 Water MS

Blank (BEB0413-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	16.5		"	13.3		124	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (BEB0413-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3		125	51-132			
Toluene	39.3	1.0	"	33.3		118	51-138			
Ethylbenzene	41.2	1.0	"	33.3		124	58-146			
m,p-Xylene	78.0	2.0	"	66.7		117	57-144			
o-Xylene	40.1	1.0	"	33.3		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

Matrix Spike (BEB0413-MS1)

Source: 2102376-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3	ND	125	34-141			
Toluene	39.0	1.0	"	33.3	ND	117	27-151			
Ethylbenzene	41.4	1.0	"	33.3	ND	124	29-160			
m,p-Xylene	77.8	2.0	"	66.7	ND	117	20-166			
o-Xylene	40.7	1.0	"	33.3	ND	122	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	21-167			

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6
Project Number: Alloc-421 Fac ID 766715
Project Manager: Heather Shideman

Reported:
03/03/21 17:19

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

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

Batch BEB0413 - EPA 5030 Water MS

Matrix Spike Dup (BEB0413-MSD1)	Source: 2102376-01			Prepared: 02/26/21 Analyzed: 02/27/21						
Benzene	41.7	1.0	ug/l	33.3	ND	125	34-141	0.144	32	
Toluene	39.4	1.0	"	33.3	ND	118	27-151	0.842	25	
Ethylbenzene	41.3	1.0	"	33.3	ND	124	29-160	0.0967	50	
m,p-Xylene	77.9	2.0	"	66.7	ND	117	20-166	0.141	36	
o-Xylene	40.5	1.0	"	33.3	ND	122	33-159	0.443	26	
Surrogate: 1,2-Dichloroethane-d4	15.7		"	13.3		118	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	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 766715
Project Manager: Heather Shideman

Reported:
03/03/21 17:19

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 #: 785418 Job #: 47105 IS-99230 Co. Job#:
Sample Name: GW_61256_MH_MW_6 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: IsoFlask
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766715
Date Sampled: 2/23/2021 14:35 Date Received: 2/25/2021 Date Reported: 3/11/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane -----	4.0	2.6
Ethane -----	0.45	0.57
Propane -----	0.018	0.032

Alloc-421 930, 88

nd = not detected; na = not analyzed.

Lab #: 784211 Job #: 47006 IS-99230 Co. Job#:
Sample Name: GW_61256_MH_MW_6 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766715
Date Sampled: 2/23/2021 14:35 Date Received: 2/25/2021 Date Reported: 3/09/2021

δD of water ----- -111.4 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -14.40 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- -11.1 ‰ 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: Alloc-421 930, 88

nd = not detected. na = not analyzed.

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

Lab #: 785418 Job #: 47105 IS-99230 Co. Job#:

Sample Name: GW_61256_MH_MW_6 Co. Lab#:

Company: Extraction Oil and Gas

API/Well:

Container: IsoFlask

Field/Site Name: Ground_Water/GWA_District_Six_C6

Location: NENE_20_5N_65W

Formation/Depth: Q1

Sampling Point: 766715

Date Sampled: 2/23/2021 14:35 Date Received: 2/25/2021 Date Reported: 4/15/2021

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide -----	nd					
Helium -----	na					
Hydrogen -----	nd					
Argon -----	1.29					
Oxygen -----	5.49					
Nitrogen -----	74.45					
Carbon Dioxide -----	2.50					
Methane -----	14.85	-43.50	-209.0		4.5	3.0
Ethane -----	1.36	-29.4			0.46	0.57
Ethylene -----	nd					
Propane -----	0.0550				0.017	0.032
Propylene -----	nd					
Iso-butane -----	0.0092					
N-butane -----	nd					
Iso-pentane -----	0.0007					
N-pentane -----	nd					
Hexanes + -----	nd					

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.72

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

Alloc-421 930, 88

Ethane carbon isotope data obtained online via GC-C-IRMS.

Insufficient C3-C5 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. %.

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

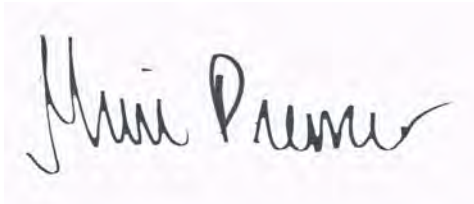
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2102311

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive, flowing style. The first name "Muri" is written with a large, stylized 'M' and 'u'. The last name "Premer" is written with a large 'P' and a trailing flourish.

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:
03/03/21 14:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_8	2102311-01	Water	02/23/21 09:40	02/23/21 16:10

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 2102311

S₂

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

Page 1 of 1

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: <u>Jeff Briggs</u>	Project No.: Alloc-421 930, 88	Facility ID 766716

				Preservative				Matrix				Analysis Requested				Special Instructions		
ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	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_8 NENE_20_5N_65W	02/23/2021	0940	8		X	X		X				X	X	X			Sample Frequency: Q1
	Temperature, field:	13.6 °C																
	pH, field:	7.51 s.u.																
	Conductivity, field:	1115 uS/cm																
	ORP, field:	212.5 mV																
	Dissolved Oxygen, field:	2.73 mg/L																
	Turbidity, field:	20.4 NTU																
Relinquished by: <u>[Signature]</u>		Date/Time: 2/23/21 1610		Received by: <u>[Signature]</u>		Date/Time: 02/23/2021 1610		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: 29										
								Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No										

2102311

Sample Receipt Checklist

S2 Work Order _____

Client: APEX COMPANIESClient Project ID: GWA DISTRICT SIX C6Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)


Temp (°C)	2.9
-----------	-----

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"/>	
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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"/>	pH1
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.				

RZ

Custodian Printed Name or Initials

Signature of Custodian 

2/23/21

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:
03/03/21 14:06

GW_61256_MH_MW_8
NENE_20_5N_65W
2102311-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEB0414	02/26/21	02/27/21	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: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEC0057	03/02/21	03/03/21	EPA 8015M	

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.0 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **02/23/21 09:40**

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

Summit Scientific

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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:
03/03/21 14:06

GW_61256_MH_MW_8
NENE_20_5N_65W
2102311-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	111000	50.0	ug/l	1	BEB0384	02/25/21	02/25/21	EPA 200.8	
Iron	30.1	10.0	"	"	"	"	"	"	
Magnesium	43100	50.0	"	"	"	"	"	"	
Manganese	52.2	1.00	"	"	"	"	"	"	
Potassium	3150	50.0	"	"	"	"	"	"	
Sodium	95100	50.0	"	"	"	"	"	"	
Barium	45.1	1.00	"	"	"	"	"	"	
Boron	161	10.0	"	"	"	"	"	"	
Selenium	5.80	1.00	"	"	"	"	"	"	
Strontium	1330	10.0	"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.312	0.200	mg/L	1	BEB0369	02/24/21	02/25/21	EPA 300.0	
Chloride	44.7	10.0	"	100	"	"	"	"	
Fluoride	0.320	0.200	"	1	"	"	"	"	
Sulfate	224	30.0	"	100	"	"	"	"	
Nitrate as N	8.85	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	8.85	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	290	10.0	mg/L as CaCO3	1	BEB0403	02/26/21	03/03/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	290	10.0	"	"	"	"	"	"	

Summit Scientific

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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:
03/03/21 14:06

GW_61256_MH_MW_8
NENE_20_5N_65W
2102311-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEC0072	03/03/21	03/03/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1080	1.00	umhos/cm	1	BEB0359	02/24/21	02/24/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	1070	10.0	mg/L	1	BEC0028	03/01/21	03/02/21	SM2540C	

pH by SM4500

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.44	1.00	pH Units	1	BEC0012	02/23/21	03/01/21	SM4500-H+ B	

Field Data

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1115		uS/cm	1	BEB0352	02/23/21	02/23/21	Field Method	
Turbidity	20.4		NTU	"	"	"	"	"	
Temperature	13.6		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	212.5		mv	"	"	"	"	"	
Dissolved Oxygen	2.73		mg/L	"	"	"	"	"	
pH	7.51		SU	"	"	"	"	"	

Summit Scientific

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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:
03/03/21 14:06

GW_61256_MH_MW_8
NENE_20_5N_65W
2102311-01 (Water)

Summit Scientific

Field Data

Summit Scientific

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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:
03/03/21 14:06

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Blank (BEB0414-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0135		"	0.0133		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0134		"	0.0133		100	21-167			

LCS (BEB0414-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0274	0.0010	mg/L	0.0333		82.2	51-132			
Toluene	0.0353	0.0010	"	0.0333		106	51-138			
Ethylbenzene	0.0341	0.0010	"	0.0333		102	58-146			
m,p-Xylene	0.0669	0.0020	"	0.0667		100	57-144			
o-Xylene	0.0341	0.0010	"	0.0333		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0144		"	0.0133		108	23-173			
Surrogate: Toluene-d8	0.0136		"	0.0133		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		100	21-167			

Matrix Spike (BEB0414-MS1)

Source: 2102344-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	0.0284	0.0010	mg/L	0.0333	ND	85.1	34-141			
Toluene	0.0368	0.0010	"	0.0333	ND	110	27-151			
Ethylbenzene	0.0351	0.0010	"	0.0333	ND	105	29-160			
m,p-Xylene	0.0691	0.0020	"	0.0667	ND	104	20-166			
o-Xylene	0.0351	0.0010	"	0.0333	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0147		"	0.0133		110	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	21-167			

Summit Scientific

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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:
03/03/21 14:06

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0414 - EPA 5030 Water MS

Matrix Spike Dup (BEB0414-MSD1)	Source: 2102344-01			Prepared: 02/26/21 Analyzed: 02/27/21						
Benzene	0.0275	0.0010	mg/L	0.0333	ND	82.5	34-141	3.12	32	
Toluene	0.0360	0.0010	"	0.0333	ND	108	27-151	2.31	25	
Ethylbenzene	0.0335	0.0010	"	0.0333	ND	101	29-160	4.55	50	
m,p-Xylene	0.0664	0.0020	"	0.0667	ND	99.5	20-166	4.09	36	
o-Xylene	0.0338	0.0010	"	0.0333	ND	102	33-159	3.66	26	
Surrogate: 1,2-Dichloroethane-d4	0.0151		"	0.0133		113	23-173			
Surrogate: Toluene-d8	0.0138		"	0.0133		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0133		"	0.0133		99.8	21-167			

Summit Scientific

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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:
03/03/21 14:06

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0057 - EPA 3520B

Blank (BEC0057-BLK1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	0.0226		"	0.0250		90.5	44.8-129			

LCS (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.849	0.100	mg/L	1.00		84.9	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250		101	44.8-129			

LCS Dup (BEC0057-BS1)

Prepared: 03/02/21 Analyzed: 03/03/21

C10-C28 (DRO)	0.801	0.100	mg/L	1.00		80.1	70-130	5.81	200	
Surrogate: o-Terphenyl	0.0221		"	0.0250		88.4	44.8-129			

Summit Scientific

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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:
03/03/21 14:06

Dissolved Metals by EPA Method 200.8 - Quality Control
Summit Scientific

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

Batch BEB0384 - EPA 200.8

Blank (BEB0384-BLK1)

Prepared & Analyzed: 02/25/21

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 (BEB0384-BS1)

Prepared & Analyzed: 02/25/21

Calcium	5350	50.0	ug/l	5000	107	85-115
Iron	5130	10.0	"	5000	103	85-115
Magnesium	5460	50.0	"	5000	109	85-115
Manganese	552	1.00	"	500	110	85-115
Potassium	5250	50.0	"	5000	105	85-115
Sodium	5280	50.0	"	5000	106	85-115
Barium	537	1.00	"	500	107	85-115
Boron	2650	10.0	"	2500	106	85-115
Selenium	53.5	1.00	"	50.0	107	85-115
Strontium	555	10.0	"	500	111	85-115

Duplicate (BEB0384-DUP1)

Source: 2102350-01

Prepared & Analyzed: 02/25/21

Calcium	89800	50.0	ug/l	88200	1.82	20
Iron	9.31	10.0	"	8.45	9.69	20
Magnesium	31000	50.0	"	31600	1.88	20
Manganese	677	1.00	"	650	4.16	20
Potassium	4260	50.0	"	4330	1.64	20
Sodium	77700	50.0	"	77800	0.202	20
Barium	103	1.00	"	99.9	3.16	20
Boron	114	10.0	"	125	9.27	20
Selenium	3.02	1.00	"	2.51	18.4	20
Strontium	1140	10.0	"	1130	0.554	20

Summit Scientific

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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:
03/03/21 14:06

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEB0384 - EPA 200.8

Matrix Spike (BEB0384-MS1)			Source: 2102350-01		Prepared & Analyzed: 02/25/21					
Calcium	93500	50.0	ug/l	5000	88200	106	70-130			
Iron	5320	10.0	"	5000	8.45	106	70-130			
Magnesium	36400	50.0	"	5000	31600	96.2	70-130			
Manganese	1130	1.00	"	500	650	97.0	70-130			
Potassium	9770	50.0	"	5000	4330	109	70-130			
Sodium	83900	50.0	"	5000	77800	122	70-130			
Barium	649	1.00	"	500	99.9	110	70-130			
Boron	2600	10.0	"	2500	125	99.2	70-130			
Selenium	59.2	1.00	"	50.0	2.51	113	70-130			
Strontium	1700	10.0	"	500	1130	114	70-130			

Matrix Spike Dup (BEB0384-MSD1)			Source: 2102350-01		Prepared & Analyzed: 02/25/21					
Calcium	92600	50.0	ug/l	5000	88200	88.3	70-130	0.963	25	
Iron	5230	10.0	"	5000	8.45	104	70-130	1.62	25	
Magnesium	35900	50.0	"	5000	31600	87.1	70-130	1.26	25	
Manganese	1200	1.00	"	500	650	109	70-130	5.20	25	
Potassium	9570	50.0	"	5000	4330	105	70-130	2.06	25	
Sodium	81500	50.0	"	5000	77800	74.6	70-130	2.86	25	
Barium	632	1.00	"	500	99.9	106	70-130	2.68	25	
Boron	2610	10.0	"	2500	125	99.3	70-130	0.154	25	
Selenium	63.3	1.00	"	50.0	2.51	122	70-130	6.59	25	
Strontium	1670	10.0	"	500	1130	108	70-130	1.76	25	

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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:
03/03/21 14:06

Anions by EPA Method 300.0 - Quality Control
Summit Scientific

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

Batch BEB0369 - General Preparation

Blank (BEB0369-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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 (BEB0369-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	9.26	0.200	mg/L	10.0	92.6	90-110
Chloride	2.78	0.100	"	3.00	92.8	90-110
Fluoride	1.99	0.200	"	2.00	99.3	90-110
Sulfate	14.6	0.300	"	15.0	97.0	90-110
Nitrate as N	2.79	0.100	"	3.00	93.0	90-110
Nitrite as N	2.84	0.100	"	3.00	94.5	90-110

Duplicate (BEB0369-DUP1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/25/21

Bromide	0.312	0.200	mg/L	0.312	0.00	20	
Chloride	178	0.100	"	44.7	120	20	QM-02
Fluoride	0.310	0.200	"	0.320	3.17	20	
Sulfate	501	0.300	"	224	76.2	20	QM-02
Nitrate as N	8.87	0.100	"	8.85	0.169	20	
Nitrite as N	ND	0.100	"	ND		20	
Nitrate/Nitrite as N	ND	0.200	"	8.85		20	

Matrix Spike (BEB0369-MS1)

Source: 2102311-01

Prepared: 02/24/21 Analyzed: 02/26/21

Bromide	8.32	0.200	mg/L	10.0	0.312	80.1	80-120	
Chloride	181	0.100	"	3.00	44.7	NR	80-120	QM-02
Fluoride	2.23	0.200	"	2.00	0.320	95.3	80-120	
Sulfate	518	0.300	"	15.0	224	NR	80-120	QM-02
Nitrate as N	11.5	0.100	"	3.00	8.85	89.4	80-120	
Nitrite as N	3.15	0.100	"	3.00	ND	105	80-120	

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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:
03/03/21 14:06

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

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

Batch BEB0403 - General Preparation

Blank (BEB0403-BLK1)

Prepared: 02/26/21 Analyzed: 03/03/21

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

LCS (BEB0403-BS1)

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	105	10.0	mg/L as CaCO3	100	105	80-120
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Duplicate (BEB0403-DUP1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	290	10.0	mg/L as CaCO3	290	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	290	10.0	"	290	0.00	20

Matrix Spike (BEB0403-MS1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130
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Matrix Spike Dup (BEB0403-MSD1)

Source: 2102311-01

Prepared: 02/26/21 Analyzed: 03/03/21

Total Alkalinity	400	10.0	mg/L as CaCO3	100	290	110	70-130	0.00	20
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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:
03/03/21 14:06

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

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

Batch BEC0072 - General Preparation

Blank (BEC0072-BLK1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0072-BS1)

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 104 80-120

Duplicate (BEC0072-DUP1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 0.0110 0.0500 mg/L 0.0107 2.76 20

Matrix Spike (BEC0072-MS1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130

Matrix Spike Dup (BEC0072-MSD1)

Source: 2102311-01

Prepared & Analyzed: 03/03/21

Phosphorus - Total 1.07 0.0500 mg/L 1.00 0.0107 106 70-130 0.186 20

Summit Scientific

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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:
03/03/21 14:06

Specific Conductance by SM2510B - Quality Control

Summit Scientific

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

Batch BEB0359 - General Preparation

Blank (BEB0359-BLK1)

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEB0359-DUP1)

Source: 2102311-01

Prepared & Analyzed: 02/24/21

Specific Conductance (EC) 1080 1.00 umhos/cm 1080 0.186 20

Summit Scientific

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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:
03/03/21 14:06

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

Batch BEC0028 - General Preparation

Blank (BEC0028-BLK1)

Prepared: 03/01/21 Analyzed: 03/02/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0028-DUP1)

Source: 2102324-01

Prepared: 03/01/21 Analyzed: 03/02/21

Total Dissolved Solids 3870 10.0 mg/L 3800 1.90 20

Summit Scientific

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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:
03/03/21 14:06

pH by SM4500 - Quality Control

Summit Scientific

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

Batch BEC0012 - General Preparation

LCS (BEC0012-BS1)

Prepared: 02/23/21 Analyzed: 03/01/21

pH	9.21	1.00	pH Units	9.21	100	90-110
----	------	------	----------	------	-----	--------

Duplicate (BEC0012-DUP1)

Source: 2102304-01

Prepared: 02/23/21 Analyzed: 03/01/21

pH	7.10	1.00	pH Units	7.09	0.141	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:
03/03/21 14:06

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike 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

March 03, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

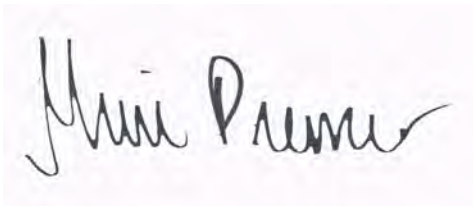
Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order #2102318

Enclosed are the results of analyses for samples received by Summit Scientific on 02/23/21 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is shown on a light pink background.

Muri Premier 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 Fac ID 766716
Project Manager: Heather Shideman

Reported:
03/03/21 17:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_8_Trip_Blank	2102318-01	Water	02/23/21 09:40	02/23/21 16:10

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

2102318

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: Extraction Oil and Gas (XOG) Report to: Apex Companies, LLC Project Manager: Heather Shideman
 Address: 2234 117th Ave, Ste 106 E-Mail: Rochelle.Carlsle@apexc.com, Heather.Shideman@apexc.com,
 City/State/Zip: Greeley, CO 80634 cc: Kolbi.Condos@apexc.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	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX							
1	GW_61256_MH_MW_8_Trip_Blank	02/23/2021	0940	2					X					X					Sample Frequency: Q1	
Relinquished by: <i>[Signature]</i>		Date/Time: 2/23/2021 1610		Received by: <i>[Signature]</i>		Date/Time: 02/23/2021 1610		Turn Around Time (Check) 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"/>											Notes:	
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity: <i>2.9</i> Temperature Upon Receipt: <i>2.9</i> Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No												

2102318

Sample Receipt Checklist

S2 Work Order _____

Client: APEX COMPANIESClient Project ID: TRIP BLANK DISTRICT SIX C6Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Temp (°C)	2.9
-----------	-----

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"/>	
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 checked="" type="checkbox"/>	<input 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.				

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/23/21

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 766716
Project Manager: Heather Shideman

Reported:
03/03/21 17:40

GW_61256_MH_MW_8_Trip_Blank
2102318-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/21 09:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEB0413	02/26/21	02/27/21	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: **02/23/21 09:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	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 766716
Project Manager: Heather Shideman

Reported:
03/03/21 17:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0413 - EPA 5030 Water MS

Blank (BEB0413-BLK1)

Prepared: 02/26/21 Analyzed: 02/27/21

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	16.5		"	13.3		124	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

LCS (BEB0413-BS1)

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3		125	51-132			
Toluene	39.3	1.0	"	33.3		118	51-138			
Ethylbenzene	41.2	1.0	"	33.3		124	58-146			
m,p-Xylene	78.0	2.0	"	66.7		117	57-144			
o-Xylene	40.1	1.0	"	33.3		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

Matrix Spike (BEB0413-MS1)

Source: 2102376-01

Prepared: 02/26/21 Analyzed: 02/27/21

Benzene	41.8	1.0	ug/l	33.3	ND	125	34-141			
Toluene	39.0	1.0	"	33.3	ND	117	27-151			
Ethylbenzene	41.4	1.0	"	33.3	ND	124	29-160			
m,p-Xylene	77.8	2.0	"	66.7	ND	117	20-166			
o-Xylene	40.7	1.0	"	33.3	ND	122	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	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 766716
Project Manager: Heather Shideman

Reported:
03/03/21 17:40

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

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

Batch BEB0413 - EPA 5030 Water MS

Matrix Spike Dup (BEB0413-MSD1)		Source: 2102376-01			Prepared: 02/26/21 Analyzed: 02/27/21					
Benzene	41.7	1.0	ug/l	33.3	ND	125	34-141	0.144	32	
Toluene	39.4	1.0	"	33.3	ND	118	27-151	0.842	25	
Ethylbenzene	41.3	1.0	"	33.3	ND	124	29-160	0.0967	50	
m,p-Xylene	77.9	2.0	"	66.7	ND	117	20-166	0.141	36	
o-Xylene	40.5	1.0	"	33.3	ND	122	33-159	0.443	26	
Surrogate: 1,2-Dichloroethane-d4	15.7		"	13.3		118	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	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 766716
Project Manager: Heather Shideman

Reported:
03/03/21 17:40

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 #: 785415 Job #: 47105 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: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766716
Date Sampled: 2/23/2021 9:40 Date Received: 2/25/2021 Date Reported: 3/11/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane -----	0.012	0.0079
Ethane -----	0.00095	0.0012
Propane -----	< 0.0001	< 0.0002

Alloc-421 930, 88

nd = not detected; na = not analyzed.

Lab #: 784208 Job #: 47006 IS-99230 Co. Job#:
Sample Name: GW_61256_MH_MW_8 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766716
Date Sampled: 2/23/2021 9:40 Date Received: 2/25/2021 Date Reported: 3/09/2021

δD of water ----- -107.5 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -13.71 ‰ 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: Alloc-421 930, 88

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

March 29, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order #2103283

Enclosed are the results of analyses for samples received by Summit Scientific on 03/18/21 13:45. 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', with a stylized, cursive script.

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
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_10	2103283-01	Water	03/18/21 11:27	03/18/21 13:45

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.

2103283

Summit Scientific



S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

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 Griggs **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	HNO ₃	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	03/18/2021	11:27						X					X	X	X					Sample Frequency: Q1
	Temperature, field:	13.1	°C																		
	pH, field:	7.36	s.u.																		
	Conductivity, field:	1337	uS/cm																		
	ORP, field:	240.1	mV																		
	Dissolved Oxygen, field:	2.81	mg/L																		
	Turbidity, field:	7.83	NTU																		
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)				Notes:									
		03/18/2021 13:45				3-18-21 13:45		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: 5.5 Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No													

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2103283

Client: Apex/XOG Client Project ID Groundwater/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)	5.5
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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, anions
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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HNO3
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Comments (if any):

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

MP

Custodian Printed Name or Initials

Muri Premer
Signature of Custodian

3/18/21

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
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

GW_61256_MH_MW_10
2103283-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0010	mg/L	1	BEC0368	03/22/21	03/23/21	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: **03/18/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		122 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	0.100	mg/L	1	BEC0447	03/25/21	03/26/21	EPA 8015M	

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.3 %	44.8-129		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **03/18/21 11:27**

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
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

GW_61256_MH_MW_10
2103283-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Calcium	108000	50.0	ug/l	1	BEC0360	03/22/21	03/22/21	EPA 200.8
Iron	18.7	10.0	"	"	"	"	"	"
Magnesium	42700	50.0	"	"	"	"	"	"
Manganese	1.56	1.00	"	"	"	"	"	"
Potassium	3530	50.0	"	"	"	"	"	"
Sodium	83600	50.0	"	"	"	"	"	"
Barium	50.0	1.00	"	"	"	"	"	"
Boron	ND	10.0	"	"	"	"	"	"
Selenium	3.50	1.00	"	"	"	"	"	"
Strontium	1400	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	ND	0.200	mg/L	1	BEC0320	03/18/21	03/19/21	EPA 300.0	
Chloride	37.5	10.0	"	100	"	"	"	"	
Fluoride	0.386	0.200	"	1	"	"	"	"	
Sulfate	99.2	30.0	"	100	"	"	"	"	
Nitrate as N	9.30	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	9.30	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	320	10.0	mg/L as CaCO3	1	BEC0427	03/25/21	03/25/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	320	10.0	"	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

GW_61256_MH_MW_10
2103283-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	0.0530	0.0500	mg/L	1	BEC0388	03/23/21	03/25/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1170	1.00	umhos/cm	1	BEC0334	03/19/21	03/19/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	587	10.0	mg/L	1	BEC0347	03/19/21	03/19/21	SM2540C	

pH by SM4500

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.23	1.00	pH Units	1	BEC0382	03/18/21	03/23/21	SM4500-H+ B	

Field Data

Date Sampled: **03/18/21 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1337.0		uS/cm	1	BEC0331	03/18/21	03/18/21	Field Method	
Turbidity	7.83		NTU	"	"	"	"	"	
Temperature	13.10		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	240.1		mv	"	"	"	"	"	
Dissolved Oxygen	2.81		mg/L	"	"	"	"	"	
pH	7.36		SU	"	"	"	"	"	

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

GW_61256_MH_MW_10
2103283-01 (Water)

Summit Scientific

Field Data

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEC0368 - EPA 5030 Water MS

Blank (BEC0368-BLK1)

Prepared & Analyzed: 03/22/21

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	0.0150		"	0.0133		113	23-173			
Surrogate: Toluene-d8	0.0140		"	0.0133		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0150		"	0.0133		113	21-167			

LCS (BEC0368-BS1)

Prepared & Analyzed: 03/22/21

Benzene	0.0345	0.0010	mg/L	0.0333		103	51-132			
Toluene	0.0274	0.0010	"	0.0333		82.1	51-138			
Ethylbenzene	0.0356	0.0010	"	0.0333		107	58-146			
m,p-Xylene	0.0690	0.0020	"	0.0667		104	57-144			
o-Xylene	0.0345	0.0010	"	0.0333		104	53-146			
Surrogate: 1,2-Dichloroethane-d4	0.0172		"	0.0133		129	23-173			
Surrogate: Toluene-d8	0.0137		"	0.0133		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0156		"	0.0133		117	21-167			

Matrix Spike (BEC0368-MS1)

Source: 2103279-01

Prepared & Analyzed: 03/22/21

Benzene	0.0340	0.0010	mg/L	0.0333	ND	102	34-141			
Toluene	0.0265	0.0010	"	0.0333	ND	79.6	27-151			
Ethylbenzene	0.0355	0.0010	"	0.0333	ND	107	29-160			
m,p-Xylene	0.0704	0.0020	"	0.0667	ND	106	20-166			
o-Xylene	0.0355	0.0010	"	0.0333	ND	107	33-159			
Surrogate: 1,2-Dichloroethane-d4	0.0174		"	0.0133		130	23-173			
Surrogate: Toluene-d8	0.0139		"	0.0133		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0153		"	0.0133		115	21-167			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

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

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

Batch BEC0368 - EPA 5030 Water MS

Matrix Spike Dup (BEC0368-MSD1)	Source: 2103279-01			Prepared & Analyzed: 03/22/21							
Benzene	0.0341	0.0010	mg/L	0.0333	ND	102	34-141	0.440	32		
Toluene	0.0264	0.0010	"	0.0333	ND	79.2	27-151	0.491	25		
Ethylbenzene	0.0365	0.0010	"	0.0333	ND	109	29-160	2.58	50		
m,p-Xylene	0.0733	0.0020	"	0.0667	ND	110	20-166	4.08	36		
o-Xylene	0.0343	0.0010	"	0.0333	ND	103	33-159	3.49	26		
Surrogate: 1,2-Dichloroethane-d4	0.0166		"	0.0133		125	23-173				
Surrogate: Toluene-d8	0.0136		"	0.0133		102	20-170				
Surrogate: 4-Bromofluorobenzene	0.0164		"	0.0133		123	21-167				

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEC0447 - EPA 3520B

Blank (BEC0447-BLK1)

Prepared: 03/25/21 Analyzed: 03/26/21

C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	0.0161		"	0.0250		64.5	44.8-129			

LCS (BEC0447-BS1)

Prepared: 03/25/21 Analyzed: 03/26/21

C10-C28 (DRO)	1.19	0.100	mg/L	1.00		119	70-130			
Surrogate: o-Terphenyl	0.0253		"	0.0250		101	44.8-129			

LCS Dup (BEC0447-BSD1)

Prepared: 03/25/21 Analyzed: 03/26/21

C10-C28 (DRO)	1.01	0.100	mg/L	1.00		101	70-130	16.2	200	
Surrogate: o-Terphenyl	0.0185		"	0.0250		73.9	44.8-129			

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEC0360 - EPA 200.8

Blank (BEC0360-BLK1)

Prepared & Analyzed: 03/22/21

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 (BEC0360-BS1)

Prepared & Analyzed: 03/22/21

Calcium	5490	50.0	ug/l	5000	110	85-115
Iron	5260	10.0	"	5000	105	85-115
Magnesium	5550	50.0	"	5000	111	85-115
Manganese	527	1.00	"	500	105	85-115
Potassium	5740	50.0	"	5000	115	85-115
Sodium	5560	50.0	"	5000	111	85-115
Barium	524	1.00	"	500	105	85-115
Boron	2550	10.0	"	2500	102	85-115
Selenium	50.8	1.00	"	50.0	102	85-115
Strontium	527	10.0	"	500	105	85-115

Duplicate (BEC0360-DUP1)

Source: 2103263-01

Prepared & Analyzed: 03/22/21

Calcium	200000	50.0	ug/l	199000	0.701	20
Iron	113	10.0	"	135	17.0	20
Magnesium	36700	50.0	"	39000	6.00	20
Manganese	164	1.00	"	175	6.46	20
Potassium	15600	50.0	"	16600	5.98	20
Sodium	116000	50.0	"	122000	5.51	20
Barium	108	1.00	"	105	3.00	20
Boron	ND	10.0	"	ND		20
Selenium	1.65	1.00	"	1.62	2.01	20
Strontium	2070	10.0	"	2000	3.68	20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

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

Batch BEC0360 - EPA 200.8

Matrix Spike (BEC0360-MS1)

Source: 2103263-01

Prepared & Analyzed: 03/22/21

Calcium	205000	50.0	ug/l	5000	199000	115	70-130
Iron	5250	10.0	"	5000	135	102	70-130
Magnesium	44200	50.0	"	5000	39000	103	70-130
Manganese	724	1.00	"	500	175	110	70-130
Potassium	20500	50.0	"	5000	16600	78.1	70-130
Sodium	126000	50.0	"	5000	122000	73.3	70-130
Barium	634	1.00	"	500	105	106	70-130
Boron	2010	10.0	"	2500	ND	80.2	70-130
Selenium	59.4	1.00	"	50.0	1.62	116	70-130
Strontium	2530	10.0	"	500	2000	107	70-130

Matrix Spike Dup (BEC0360-MSD1)

Source: 2103263-01

Prepared & Analyzed: 03/22/21

Calcium	205000	50.0	ug/l	5000	199000	118	70-130	0.0852	25
Iron	5290	10.0	"	5000	135	103	70-130	0.732	25
Magnesium	44400	50.0	"	5000	39000	108	70-130	0.561	25
Manganese	714	1.00	"	500	175	108	70-130	1.39	25
Potassium	20900	50.0	"	5000	16600	85.0	70-130	1.67	25
Sodium	127000	50.0	"	5000	122000	96.4	70-130	0.914	25
Barium	640	1.00	"	500	105	107	70-130	0.864	25
Boron	1980	10.0	"	2500	ND	79.3	70-130	1.15	25
Selenium	54.9	1.00	"	50.0	1.62	107	70-130	7.82	25
Strontium	2550	10.0	"	500	2000	111	70-130	0.897	25

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BEC0320 - General Preparation

Blank (BEC0320-BLK1)

Prepared: 03/18/21 Analyzed: 03/19/21

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 (BEC0320-BS1)

Prepared: 03/18/21 Analyzed: 03/19/21

Bromide	9.60	0.200	mg/L	10.0	96.0	90-110
Chloride	2.93	0.100	"	3.00	97.6	90-110
Fluoride	1.95	0.200	"	2.00	97.6	90-110
Sulfate	15.2	0.300	"	15.0	101	90-110
Nitrate as N	2.91	0.100	"	3.00	96.9	90-110
Nitrite as N	2.91	0.100	"	3.00	97.0	90-110

Duplicate (BEC0320-DUP1)

Source: 2103248-01

Prepared: 03/18/21 Analyzed: 03/19/21

Bromide	15.8	20.0	mg/L	15.8	0.00	20	QM-02
Chloride	30400	10.0	"	42900	33.9	20	
Fluoride	ND	20.0	"	ND		20	
Sulfate	1570	30.0	"	1530	2.19	20	
Nitrate as N	ND	10.0	"	0.100		20	
Nitrite as N	ND	10.0	"	ND		20	
Nitrate/Nitrite as N	ND	20.0	"	0.100		20	

Matrix Spike (BEC0320-MS1)

Source: 2103248-01

Prepared: 03/18/21 Analyzed: 03/19/21

Bromide	909	20.0	mg/L	1000	15.8	89.3	80-120	QM-02
Chloride	52500	10.0	"	300	42900	NR	80-120	
Fluoride	191	20.0	"	200	ND	95.7	80-120	
Sulfate	3190	30.0	"	1500	1530	111	80-120	
Nitrate as N	270	10.0	"	300	0.100	89.9	80-120	
Nitrite as N	344	10.0	"	300	ND	115	80-120	

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

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

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

Batch BEC0427 - General Preparation

Blank (BEC0427-BLK1)

Prepared & Analyzed: 03/25/21

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

LCS (BEC0427-BS1)

Prepared & Analyzed: 03/25/21

Total Alkalinity	110	10.0	mg/L as CaCO3	100	110	80-120
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Duplicate (BEC0427-DUP1)

Source: 2103283-01

Prepared & Analyzed: 03/25/21

Total Alkalinity	320	10.0	mg/L as CaCO3	320	0.00	20
Carbonate	ND	10.0	"	ND		20
Bicarbonate	320	10.0	"	320	0.00	20

Matrix Spike (BEC0427-MS1)

Source: 2103283-01

Prepared & Analyzed: 03/25/21

Total Alkalinity	390	10.0	mg/L as CaCO3	100	320	70.0	70-130
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Matrix Spike Dup (BEC0427-MSD1)

Source: 2103283-01

Prepared & Analyzed: 03/25/21

Total Alkalinity	390	10.0	mg/L as CaCO3	100	320	70.0	70-130	0.00	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

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

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

Batch BEC0388 - General Preparation

Blank (BEC0388-BLK1)

Prepared: 03/23/21 Analyzed: 03/25/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEC0388-BS1)

Prepared: 03/23/21 Analyzed: 03/25/21

Phosphorus - Total 1.10 0.0500 mg/L 1.00 110 80-120

Duplicate (BEC0388-DUP1)

Source: 2103283-01

Prepared: 03/23/21 Analyzed: 03/25/21

Phosphorus - Total 0.0540 0.0500 mg/L 0.0530 1.87 20

Matrix Spike (BEC0388-MS1)

Source: 2103283-01

Prepared: 03/23/21 Analyzed: 03/25/21

Phosphorus - Total 1.05 0.0500 mg/L 1.00 0.0530 99.7 70-130

Matrix Spike Dup (BEC0388-MSD1)

Source: 2103283-01

Prepared: 03/23/21 Analyzed: 03/25/21

Phosphorus - Total 1.08 0.0500 mg/L 1.00 0.0530 103 70-130 2.82 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Specific Conductance by SM2510B - Quality Control
Summit Scientific

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

Batch BEC0334 - General Preparation

Blank (BEC0334-BLK1)

Prepared & Analyzed: 03/19/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEC0334-DUP1)

Source: 2103283-01

Prepared & Analyzed: 03/19/21

Specific Conductance (EC) 1170 1.00 umhos/cm 1170 0.171 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BEC0347 - General Preparation

Blank (BEC0347-BLK1)

Prepared & Analyzed: 03/19/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEC0347-DUP1)

Source: 2103282-01

Prepared & Analyzed: 03/19/21

Total Dissolved Solids 702 10.0 mg/L 694 1.17 20

Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6

Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

pH by SM4500 - Quality Control
Summit Scientific

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

Batch BEC0382 - General Preparation

LCS (BEC0382-BS1)

Prepared: 03/18/21 Analyzed: 03/23/21

pH	9.18	1.00	pH Units	9.21	99.7	90-110
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Duplicate (BEC0382-DUP1)

Source: 2103278-01

Prepared: 03/18/21 Analyzed: 03/23/21

pH	6.90	1.00	pH Units	6.89	0.145	20
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Summit Scientific

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

Project: Groundwater/GWA_District_Six_C6
Project Number: Alloc 421 930.88
Project Manager: Heather Shideman

Reported:
03/29/21 16:30

Notes and Definitions

QM-02 The RPD and/or percent recovery for this QC spike 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

March 29, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Trip_Blank/GWA_District_Six_C6

Work Order # 2103284

Enclosed are the results of analyses for samples received by Summit Scientific on 03/18/21 13:45. 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-421 930,88
Project Manager: Heather Shideman

Reported:
03/29/21 13:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_10_Trip_Blank	2103284-01	Water	03/18/21 11:27	03/18/21 13:45

Summit Scientific

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2103284

Summit Scientific

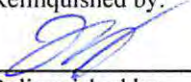

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

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:** Kolbi.Condos@apexcos.com
Phone: (970) 576-3446 **Project Name:** Trip_Blank/GWA_District_Six_C6
Sampler Name: Jeff Griegs **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	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX						
1	GW_61256_MH_MW_10_Trip_Blank	03/18/2021	1127	2					X					X					Sample Frequency: Q1
Relinquished by: 		Date/Time: 03/18/2021 13:45		Received by: 		Date/Time: 3-18-21 13:45		Turn Around Time (Check)				Notes:							
Relinquished by:		Date/Time:		Received by:		Date/Time:		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>5.5</u>											
								Intact: <u>Yes</u> No											

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2103284

Client: Apex/XOG Client Project ID Trip_Blank/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)	5.5
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
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.

MP

Custodian Printed Name or Initials

Muri Premer

Signature of Custodian

3/18/21

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
Project Manager: Heather Shideman

Reported:
03/29/21 13:02

GW_61256_MH_MW_10_Trip_Blank

2103284-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 03/18/21 11:27

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEC0368	03/22/21	03/23/21	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: 03/18/21 11:27

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		119 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		120 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Trip_Blank/GWA_District_Six_C6

Project Number: Alloc-421 930,88

Project Manager: Heather Shideman

Reported:
03/29/21 13:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEC0368 - EPA 5030 Water MS

Blank (BEC0368-BLK1)

Prepared & Analyzed: 03/22/21

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	15.0		"	13.3		113	23-173			
Surrogate: Toluene-d8	14.0		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	15.0		"	13.3		113	21-167			

LCS (BEC0368-BS1)

Prepared & Analyzed: 03/22/21

Benzene	34.5	1.0	ug/l	33.3		103	51-132			
Toluene	27.4	1.0	"	33.3		82.1	51-138			
Ethylbenzene	35.6	1.0	"	33.3		107	58-146			
m,p-Xylene	69.0	2.0	"	66.7		104	57-144			
o-Xylene	34.5	1.0	"	33.3		104	53-146			
Surrogate: 1,2-Dichloroethane-d4	17.2		"	13.3		129	23-173			
Surrogate: Toluene-d8	13.7		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	15.6		"	13.3		117	21-167			

Matrix Spike (BEC0368-MS1)

Source: 2103279-01

Prepared & Analyzed: 03/22/21

Benzene	34.0	1.0	ug/l	33.3	ND	102	34-141			
Toluene	26.5	1.0	"	33.3	ND	79.6	27-151			
Ethylbenzene	35.5	1.0	"	33.3	ND	107	29-160			
m,p-Xylene	70.4	2.0	"	66.7	ND	106	20-166			
o-Xylene	35.5	1.0	"	33.3	ND	107	33-159			
Surrogate: 1,2-Dichloroethane-d4	17.4		"	13.3		130	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	20-170			
Surrogate: 4-Bromofluorobenzene	15.3		"	13.3		115	21-167			

Summit Scientific

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Denver CO, 80202

Project: Trip_Blank/GWA_District_Six_C6

Project Number: Alloc-421 930,88
Project Manager: Heather Shideman

Reported:
03/29/21 13:02

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

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

Batch BEC0368 - EPA 5030 Water MS

Matrix Spike Dup (BEC0368-MSD1)	Source: 2103279-01			Prepared & Analyzed: 03/22/21						
Benzene	34.1	1.0	ug/l	33.3	ND	102	34-141	0.440	32	
Toluene	26.4	1.0	"	33.3	ND	79.2	27-151	0.491	25	
Ethylbenzene	36.5	1.0	"	33.3	ND	109	29-160	2.58	50	
m,p-Xylene	73.3	2.0	"	66.7	ND	110	20-166	4.08	36	
o-Xylene	34.3	1.0	"	33.3	ND	103	33-159	3.49	26	
Surrogate: 1,2-Dichloroethane-d4	16.6		"	13.3		125	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	16.4		"	13.3		123	21-167			

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Extraction Oil&Gas
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Denver CO, 80202

Project: Trip_Blank/GWA_District_Six_C6

Project Number: Alloc-421 930,88
Project Manager: Heather Shideman

Reported:
03/29/21 13:02

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 #: 786660 Job #: 47227 IS-99230 Co. Job#:
Sample Name: GW_61256_MH_MW_10 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: IsoFlask
Field/Site Name: Ground_Water/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766717
Date Sampled: 3/18/2021 11:27 Date Received: 3/19/2021 Date Reported: 3/24/2021

Component	<u>Dissolved gas cc/L</u>	<u>Dissolved gas ppm</u>
Methane -----	0.046	0.031
Ethane -----	0.0032	0.0041
Propane -----	0.00031	0.00057

Alloc-421 930, 88

nd = not detected; na = not analyzed.

Lab #: 786659 Job #: 47226 IS-99230 Co. Job#:
Sample Name: GW_61256_MH_MW_10 Co. Lab#:
Company: Extraction Oil and Gas
API/Well:
Container: 60ml Bottle
Field/Site Name: Groundwater/GWA_District_Six_C6
Location: NENE_20_5N_65W
Formation/Depth: Q1
Sampling Point: 766717
Date Sampled: 3/18/2021 11:27 Date Received: 3/19/2021 Date Reported: 4/09/2021

δD of water ----- -103.9 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -13.31 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- -11.7 ‰ 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: Alloc-421 930, 88

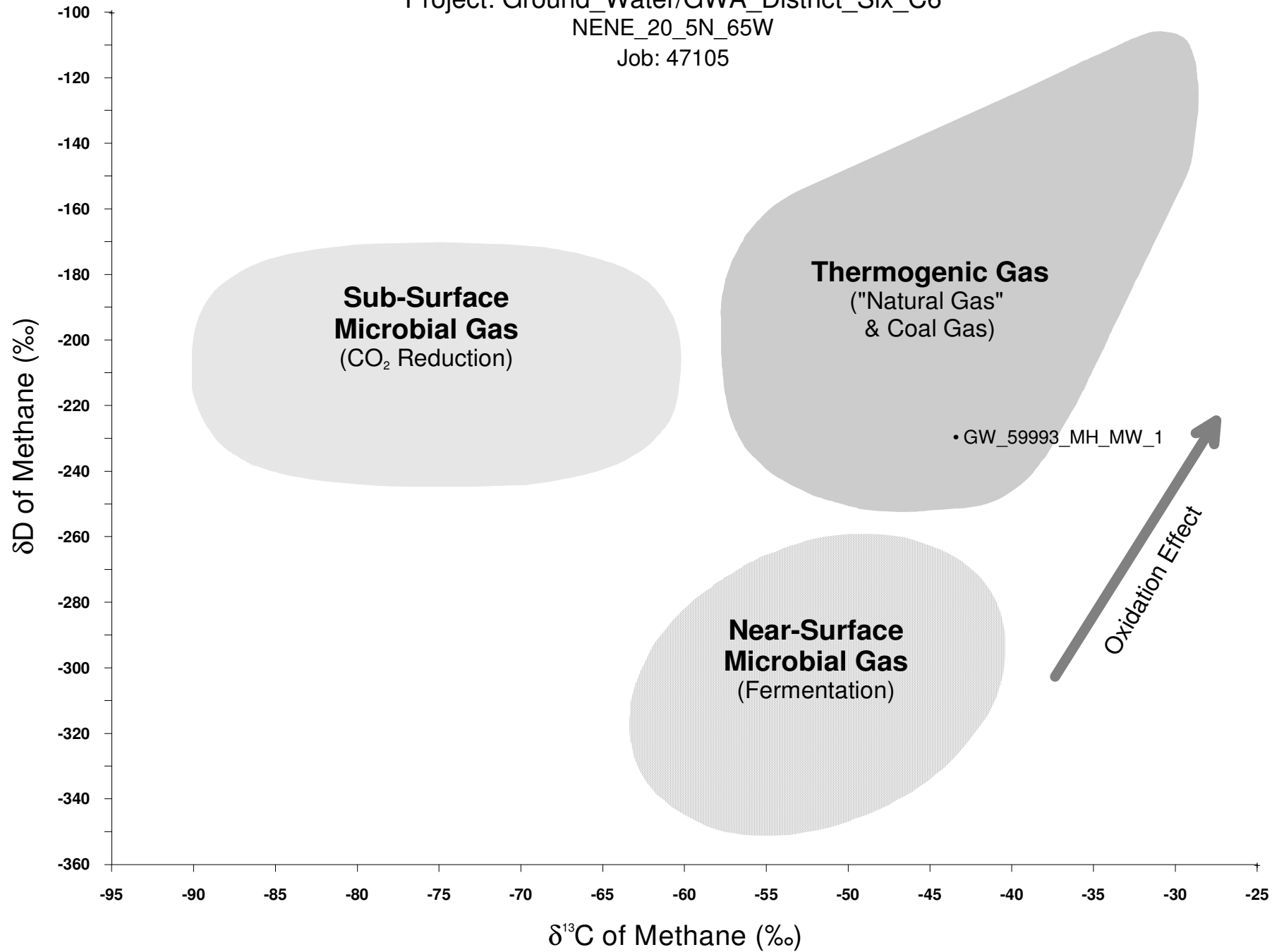
nd = not detected. na = not analyzed.

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

Attachment H

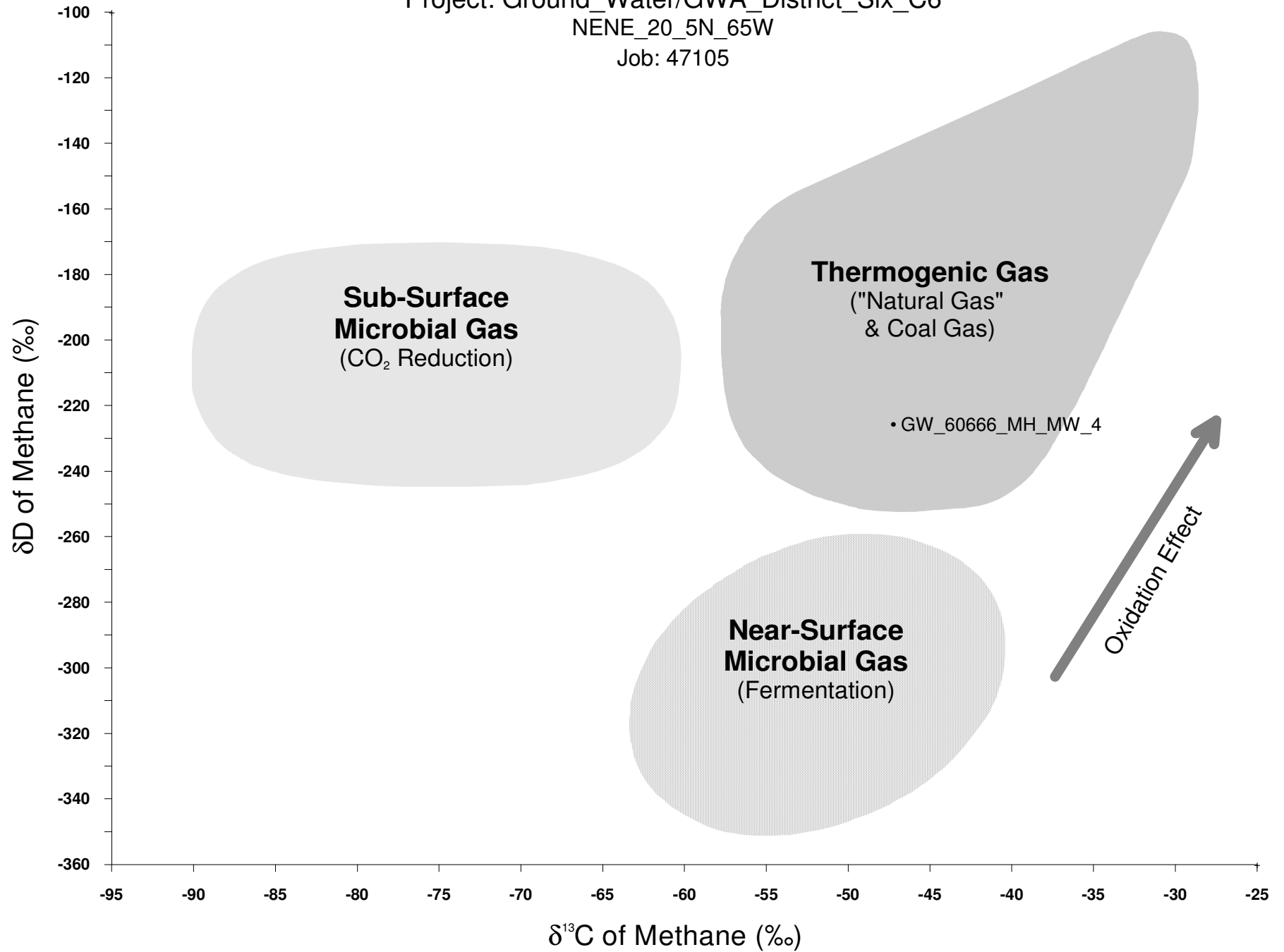
2021 Q1 Groundwater Isotope Ratio Plots

Project: Ground_Water/GWA_District_Six_C6
NENE_20_5N_65W
Job: 47105



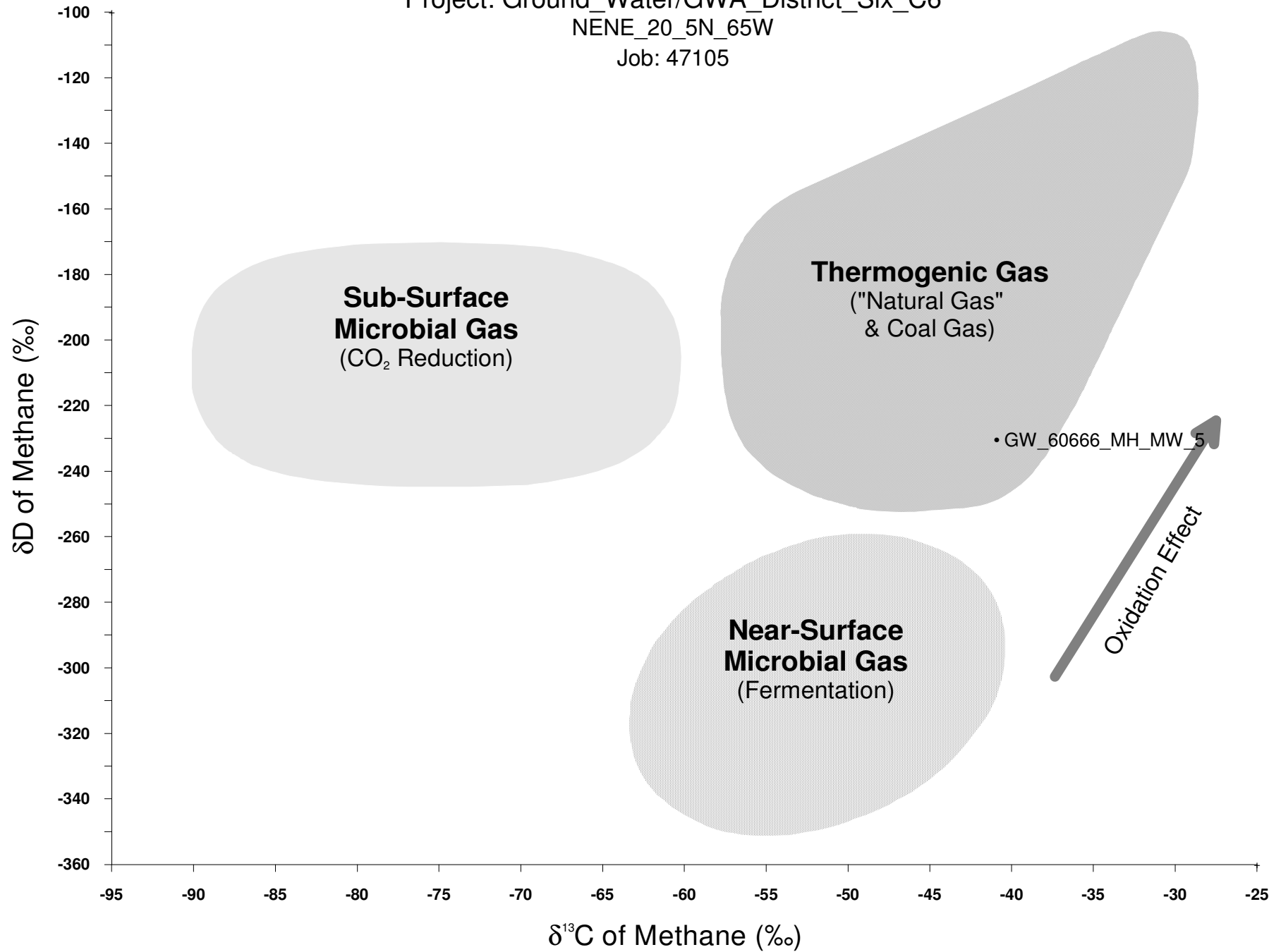
This plot is a visual representation of data and not intended to be an interpretation of results.

Project: Ground_Water/GWA_District_Six_C6
NENE_20_5N_65W
Job: 47105



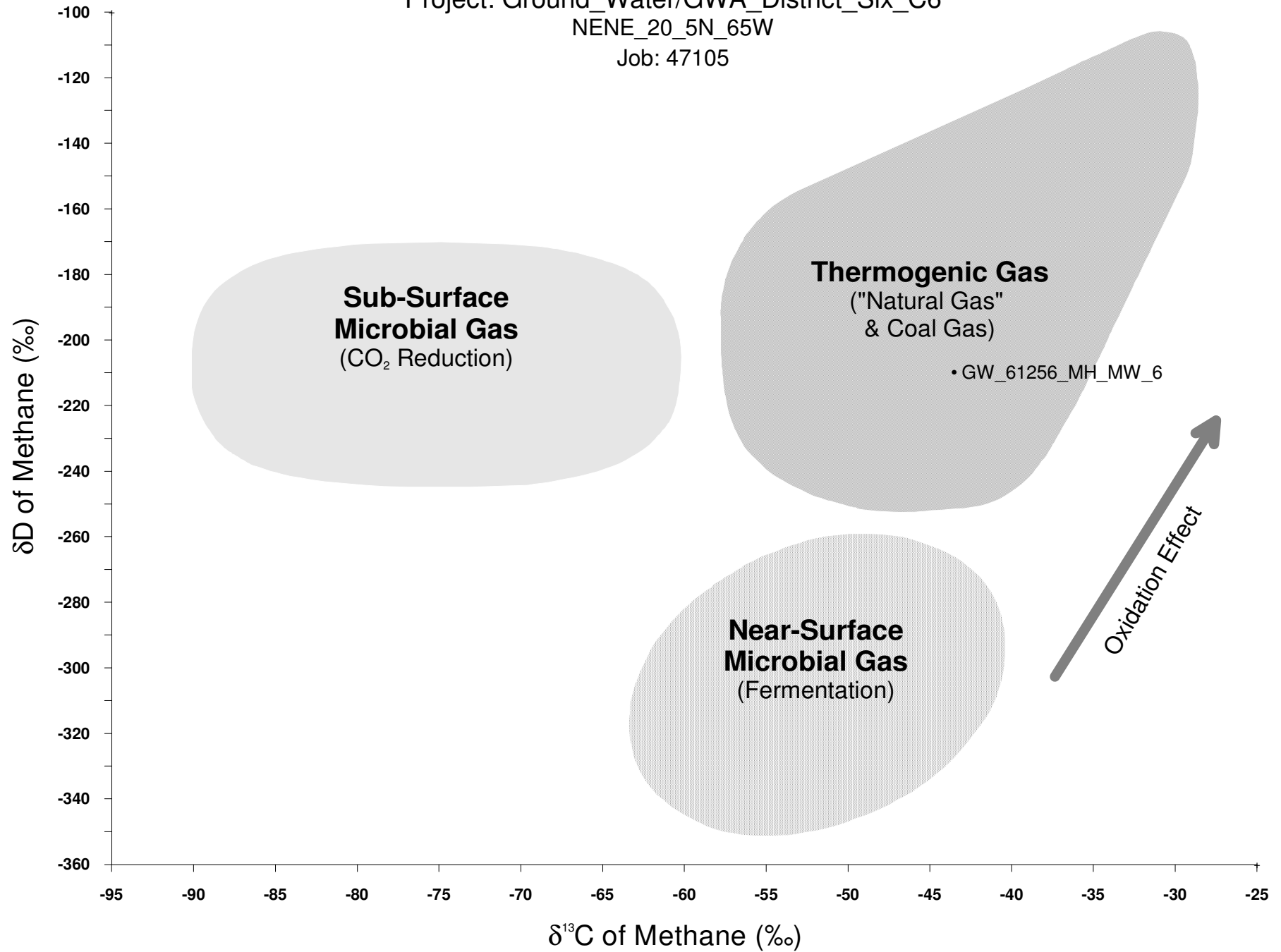
This plot is a visual representation of data and not intended to be an interpretation of results.

Project: Ground_Water/GWA_District_Six_C6
NENE_20_5N_65W
Job: 47105



This plot is a visual representation of data and not intended to be an interpretation of results.

Project: Ground_Water/GWA_District_Six_C6
NENE_20_5N_65W
Job: 47105



This plot is a visual representation of data and not intended to be an interpretation of results.

Attachment I

Division of Water Sources (DWR) Water Source One-Mile Radius Identification

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 Water source will be sampled upon owner permission	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
2 Water source will be sampled upon owner permission	80250	90300--A	Well Constructed	Martinez, Maria L. Physical: 3300 Empire St., Evans CO Mailing: 28725 County Road 64, Gill, CO 80624-9110	5N	65W	20	NE	SW	40.382396	-104.687375	Domestic	43
3 Water source will be sampled upon owner permission	9058877	2229-	Well Constructed	Town of Garden City Physical: 621 27th Street Rd, Garden City, CO Mailing: 621 27th Street Rd, Greeley, CO 80631-8466	5N	65W	17	SE	SW	40.393659	-104.689691	Domestic	71
4 Water source will be sampled upon owner permission	9062662	19734-F	Well Constructed	GKT University Square Greeley CG, LLC C/O TKG Managment Physical: 2716 11th Ave., Greeley, CO Mailing: 211 N Stadium Blvd. Suite 201, Columbia, MO 65203-1161	5N	65W	17	SE	SW	40.392219	-104.691984	Industrial	
5 Water source will be sampled upon owner permission	9063738	34191-	Well Constructed	Maple Real Estate, LLC / 4K Real Estate, LLC Physical: 615 E 26th St., Garden City, CO Mailing: 30941 Rocky Rd., Greeley, CO 80631-9375	5N	65W	17	SE	SW	40.393659	-104.689691	Domestic	
6 Water source will be sampled upon owner permission	9064222	41128-	Well Constructed	Yoshida Partners Physical: 3104 Empire St. A, Evans, CO Mailing: 505 31st St., Greeley, CO 80631-7445	5N	65W	20	NW	SE	40.382792	-104.68497	Domestic	43
7 Water source will be sampled upon owner permission	9065831	87460-	Well Constructed	School District No. 6 Physical: 155 E 27th St. Mailing: 811 15th St. Greeley, CO 80631-4403	5N	65W	16	SW	SW	40.393655	-104.676612	Domestic	110
8 Sampled 3/27/20	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	
9 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
10 Sampled	59993	59993-MH	Well Constructed	EXTRACTION OIL & GAS INC	5N	65W	20	NE	NE	40.391327	-104.681902	Monitoring/Sampling	85
11 Sampled	60666	60666-MH	Well Constructed	EXTRACTION OIL AND GAS INC	5N	65W	20	NE	NE	40.391264	-104.681879	Monitoring/Sampling	85
12 Sampled	61256	61256-MH	Well Constructed	EXTRACTION OIL AND GAS INC	5N	65W	20	NE	NE	40.391283	-104.682138	Monitoring/Sampling	85
13 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

	Status	Receipt	Permit	Permit Status	Contact Name	TwN	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
14	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	
15	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
16	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
17	Eliminated -- Replaced by receipt 80250	9065905	90300-	Well Constructed	BROWN, JAMES	5N	65W	20	NW	SE	40.382386	-104.683782	Domestic	
18	Eliminated -- Replaced by 0349215B	0349215A	170076-	Well Constructed	HENNING, WARREN	5N	65W	20	SW	SE	40.37914	-104.682725	Stock	
19	Eliminated -- Permit Use	16991	16991-MH	Permit Issued	NORWEST, PUBLISHING	5N	65W	20	SE	NE	40.388214	-104.682577	Monitoring/Sampling	
20	Eliminated -- Permit Use	19713	19713-MH	Permit Issued	LUTHERAN GOOD SAMARITAN SOCIETY	5N	65W	17	NW	NW	40.402775	-104.692256	Monitoring/Sampling	
21	Eliminated -- Permit Use	20007	20007-MH	Permit Issued	NORWEST RR DONNELLEY	5N	65W	20	SE	NE	40.388214	-104.682577	Monitoring/Sampling	
22	Eliminated -- Permit Use	20196	20196-MH	Permit Issued	MINERAL RESOURCES INC	5N	65W	20	NW	SE	40.382792	-104.68497	Monitoring/Sampling	
23	Eliminated -- Permit Use	25549	25549-MH	Permit Issued	R R DONNELLY NORWEST INC	5N	65W	20	NE	NE	40.39002	-104.6802	Monitoring/Sampling	
24	Eliminated -- Permit Use	25574	25574-MH	Permit Issued	R R DONNELLY NORWEST INC	5N	65W	20	SE	NE	40.388214	-104.682577	Monitoring/Sampling	
25	Eliminated -- Permit Use	29184	29184-MH	Permit Issued	DIAMOND, SHAMROCK	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
26	Eliminated -- Permit Use	29193	29193-MH	Permit Issued	DIAMOND, SHAMROCK	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
27	Eliminated -- Permit Use	29533	29533-MH	Permit Issued	STATE FARM MUTUAL AUTOMOBILE INS	5N	65W	20	NE	NW	40.390044	-104.689681	Monitoring/Sampling	
28	Eliminated -- Permit Use	30532	30532-MH	Permit Issued	MID AMERICA HOLDING CO	5N	65W	17	SE	SE	40.393636	-104.680209	Monitoring/Sampling	
29	Eliminated -- Permit Use	30693	30693-MH	Permit Issued	MID AMERICAN HOLDING	5N	65W	17	SE	SE	40.393636	-104.680209	Monitoring/Sampling	
30	Eliminated -- Permit Use	31045	31045-MH	Permit Issued	DIAMOND, SHAMROCK	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
31	Eliminated -- Permit Use	32225	32225-MH	Permit Issued	GREELEY CITY OF	5N	65W	17	NE	SW	40.397283	-104.689725	Monitoring/Sampling	
32	Eliminated -- Permit Use	32453	32453-MH	Permit Issued	BONELL GOOD SAMARITAN CENTER	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
33	Eliminated -- Permit Use	32688	32688-MH	Permit Issued	CO DIV OIL & PUBLIC SAFETY	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
34	Eliminated -- Permit Use	0033247E	210604-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397442	-104.691182	Monitoring/Sampling	58
35	Eliminated -- Permit Use	0033247F	210605-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397614	-104.691323	Monitoring/Sampling	58
36	Eliminated -- Permit Use	0033247G	210603-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397533	-104.691241	Monitoring/Sampling	60
37	Eliminated -- Permit Use	0033247H	215544-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397554	-104.689308	Monitoring/Sampling	54
38	Eliminated -- Permit Use	0033247I	210606-	Well Constructed	DIAMOND SHAMROCK REFINING/MARKETING	5N	65W	17	NE	SW	40.397559	-104.691088	Monitoring/Sampling	58
39	Eliminated -- Permit Use	33499	33499-MH	Permit Issued	BORELL GOOD SAMARITAN CENTER	5N	65W	17	SE	NW	40.400908	-104.68976	Monitoring/Sampling	
40	Eliminated -- Permit Use	37863	37863-MH	Permit Issued	CO DIV OIL & PUBLIC SAFETY	5N	65W	18	SE	SE	40.393672	-104.699364	Monitoring/Sampling	
41	Eliminated -- Permit Use	38610	38610-MH	Permit Issued	ROTHMAN OIL	5N	65W	18	SE	SE	40.393672	-104.699364	Monitoring/Sampling	
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	

	Status	Receipt	Permit	Permit Status	Contact Name	TwN	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
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	40.383392	-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	
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	

	Status	Receipt	Permit	Permit Status	Contact Name	TwN	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
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, CLEARENCE	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	
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	

	Status	Receipt	Permit	Permit Status	Contact Name	TwN	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
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	
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

	Status	Receipt	Permit	Permit Status	Contact Name	TwN	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
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	
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	

	Status	Receipt	Permit	Permit Status	Contact Name	TwN	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
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
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

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
170		94566	9989--A	Permit Issued	MILLER, A E	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		0324245A	160051-	Well Constructed	DOTY, GENE	5N	65W	21	SW	NW	40.388071	-104.67724	Domestic	
176		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		438551	48312-F-R	Well Constructed	GIRLS & BOYS CLUB	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
	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
184		9058749	1561-	Well Constructed	MILLER, ROSCOE	5N	65W	20	SE	SW	40.379179	-104.689725	Domestic	27
185	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
186	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
187		9062324	16067-R	Well Constructed	STROMO LLC	5N	65W	21	NE	NW	40.390025	-104.670751	Irrigation	111
188		9062443	17382-	Well Constructed	LITTLE, ROLAND	5N	65W	17	SW	NW	40.400919	-104.694605	Domestic	59
189		9062504	18283-F	Well Constructed	WISNEWSKI JERRELL & BETHEL	5N	65W	17	SE	NE	40.401661	-104.678754	Domestic, Irrigation	66
190	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	
191		9062669	19799-	Well Constructed	ELIFRITS, W W	5N	65W	17	NE	NE	40.404579	-104.680312	Domestic	62
192		9063591	31813-	Well Constructed	BOYS CLUB OF GREELEY	5N	65W	16	NW	SW	40.397249	-104.675503	Domestic	80
193		9063866	36748-	Well Constructed	JAY NELSON JR	5N	65W	21	SW	SW	40.379006	-104.67356	Domestic	70
194		9064578	48184-	Well Constructed	CLARK, J W	5N	65W	20	SW	SE	40.379168	-104.684985	Domestic	30
195		9064641	49639-	Well Constructed	LUNDVALL ENTERPRISES INC	5N	65W	17	NE	NE	40.404579	-104.680312	Domestic	102
196		9064894	59056-	Well Constructed	CRISP JOHN E & VIRGIE F	5N	65W	20	SE	SW	40.380516	-104.688644	Domestic	
197		9064965	62233-	Well Constructed	REWENTS, JAMES J	5N	65W	20	SE	SW	40.379179	-104.689725	Domestic	
198		9066559	145323-	Well Constructed	BROWN, JEAN M	5N	65W	20	SE	SW	40.37957	-104.688378	Domestic	42
199		C620340	340-WCB	Well Constructed	STROH, J J	5N	65W	20	NW	SW	40.382815	-104.694477	Stock	65
200														