Groundwater and Soil Vapor Sampling Results

District Six C6
Facility ID 286487
NENE Section 20, Township 5 North, Range 65 West

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Preparation Date
August 27, 2021
Revised September 2, 2021

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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 second quarter (Q2) 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 of depth of 60-feet bgs with 25-feet of screen. MW-2 was placed at a shallower depth than other onsite wells due to health and safety concerns associated with methane observed during drilling activities.

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

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

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

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

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

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) exceeded benzene levels. Slight total petroleum hydrocarbons, gasoline range organics (GRO) and diesel range organics (DRO) detections are consistently seen in the MW-1. GRO has also been detected MW-2 and MW-4.

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

<u>Groundwater Isotopic Interpretation</u>

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 Sampling and Analysis Plan (SAP).

QUARTERLY ACTIVITIES

Groundwater Sampling Activities and Results

Q2 sampling of MW-1, MW-2, MW-3, MW-4, MW-5, MW-8, and MW-10 was completed on June 2 and 3, 2021. MW-6 was buried during site construction activities and unable to be located for Q2 sampling. 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 Q2 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, **Figure 1,** includes both the DGS and RSK175 sampling methods results.

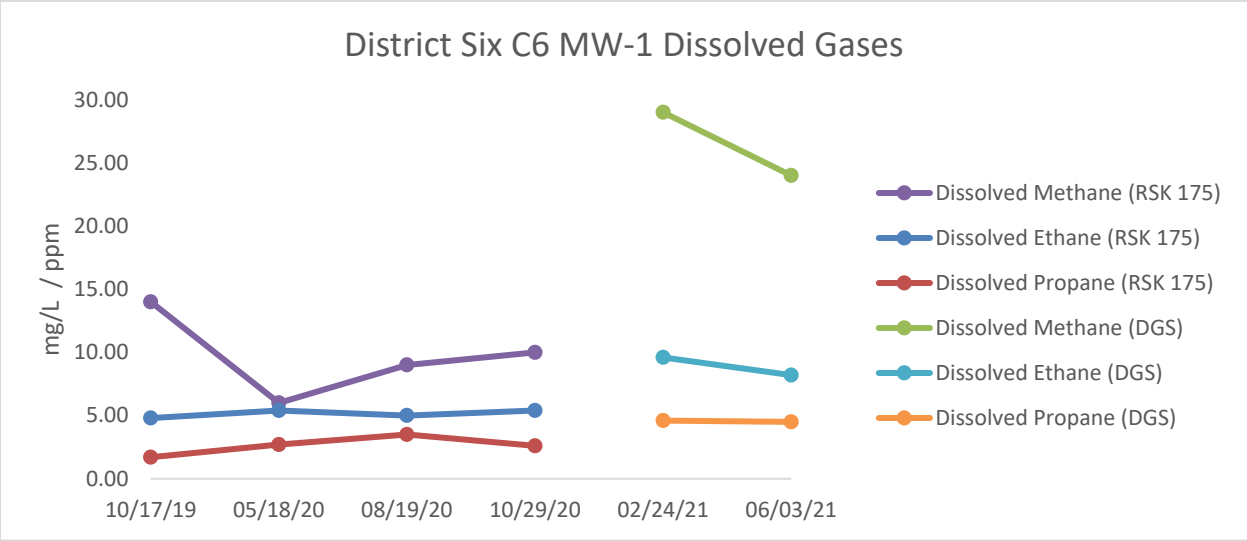


Figure 1 District Six C6 MW-1 Dissolved Gases – RSK 175 (mg/L) and DGS (ppm)

Dissolved methane was detected during Q2 2021 at monitoring wells MW-1 (24.00ppm), MW-4 (19.00 ppm), and MW-5 (4.00 ppm) and additional isotopic analysis was requested. DGS analysis did not detect enough dissolved methane gas from MW-2 (0.066 ppm), MW-3 (0.018 ppm), or MW-8 (0.14 ppm) to run the additional isotopic analysis. MW-6 was buried in road base and unable to be located for sampling. MW-10 was approved by the COGCC for RSK175 sampling due to proximity to newly installed equipment presenting safety concerns; however, due to lab communication errors, the dissolved gas was not analyzed during Q2.

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

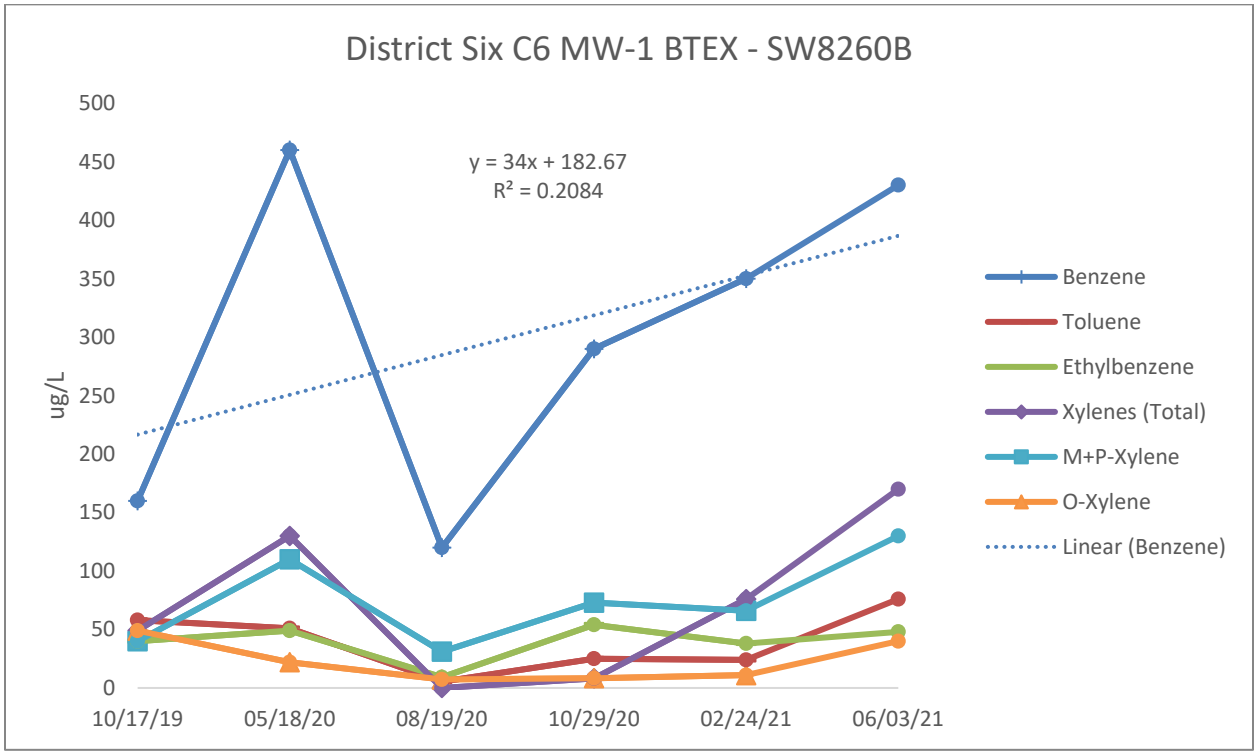


Figure 2 District Six C6 MW-1 BTEX (ug/L) detections

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

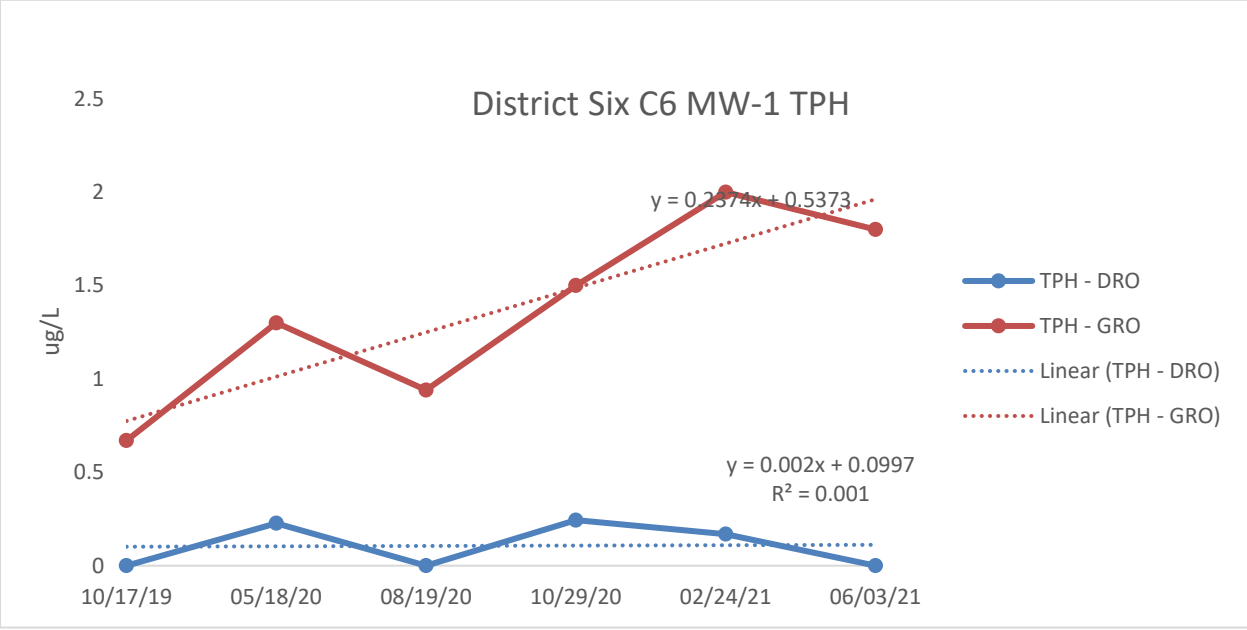


Figure 3 District Six C6 MW-1 TPH (ug/L) detections

Groundwater Isotopic Interpretation

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

The Q2 isotopic gas data from MW-1, MW-4, and MW-5 was compared to the original District Six C6 bradenhead sample (Sample ID 606506). The data continues to indicate the monitoring wells are impacted with a thermogenic gas similar to the District Six C6 bradenhead sample.

Soil Vapor Sampling Activities and Results

Readings were collected from each soil vapor point using a RKI Eagle 2 gas meter. The gas meter was equipped with methane (CH_4), hydrogen sulfide (H_2S), carbon monoxide (CO), and O_2 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 additional monitoring wells and to better understand any underlying sources or regional areas of concern, Apex reviewed readily available historical groundwater data; including the following:

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

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

The previously identified change in groundwater flow direction after the latest survey event may have been caused by natural processes such as precipitation and evapotranspiration, human related activities (e.g. irrigation), or an increase in seasonal domestic use (for lawns and gardens). The fluctuations may also have been a result of natural variances in the gradient itself at such a small scale. The site will be re-surveyed prior to the Q3 sample collection event to confirm current groundwater flow as it relates to future monitoring activities.

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

RECOMMENDATIONS AND ADDITIONAL ACTIONS

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

Upon review of the Q3 groundwater elevations resurvey and analytical data, the current monitoring plan will be re-evaluated. Extraction recognizes drilling additional monitoring wells to determine vertical and lateral extent of impacts to groundwater and to obtain a point of compliance and as a replacement for MW-6 may need to be a part of the revised monitoring plan.

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

Parameter	Units	Standard	Source	59993-MH MW-1 Facility ID 762176					
				Initial	1	2	3	4	5
Date Sampled	-	-	-	10/17/19	05/18/20	08/19/20	10/29/20	02/24/21	06/03/21
ALKALINITY AS CALCIUM CARBONATE - SM2320B									
Total Alkalinity	mg/l	None	-	260	260	210	280	260	320
Bicarbonate	mg/l	None	-	260	260	210	280	260	320
Carbonate	mg/l	None	-	ND	ND	ND	ND	ND	ND
BTEX - SW8260B									
Benzene	µg/l	5	915-1	**160**	**460**	**120**	**290**	**350**	**430**
Toluene	µg/l	560	915-1	58	51	5.4	25	24	76
Ethylbenzene	µg/l	700	915-1	40	49	9.2	54	38	48
Xylenes (Total)	µg/l	1,400	915-1	49	130	ND	8.2	76	170
M+P-Xylene	µg/l	None	-	40	110	31	73	66	130
O-Xylene	µg/l	None	-	49	22	7.3	8.3	11	40
TPH-DRO/GRO - SW8015M/SW8015									
TPH - DRO	mg/L	None	-	ND	0.227	ND	0.244	0.169	ND
TPH - GRO	mg/L	None	-	0.67	1.3	0.94	1.5	2	1.8
DISSOLVED GASES									
Dissolved Methane (RSK 175)	mg/L	None	-	14.00	6.00	9.00	10.00	#N/A	#N/A
Dissolved Ethane (RSK 175)	mg/L	None	-	4.80	5.40	5.00	5.40	#N/A	#N/A
Dissolved Propane (RSK 175)	mg/L	None	-	1.70	2.70	3.50	2.60	#N/A	#N/A
Dissolved Methane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	29.00	24
Dissolved Ethane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	9.60	8.2
Dissolved Propane (DGS)	ppm	None	-	#N/A	#N/A	#N/A	#N/A	4.60	4.5
IONS - EPA 300.0									
Bromide	mg/l	None	-	9.64	7.63	4.37	0.983	2.1	ND
Chloride	mg/l	250	Reg 41	**771**	**512**	**366**	172	**296**	194
Fluoride	mg/l	4	Reg 41	0.899	0.603	0.358	0.321	0.452	0.721
Nitrate + Nitrite as N	mg/l	10	Reg 41	1.87	0.491	ND	0.102	ND	0.460
Nitrate as N	mg/l	10	Reg 41	1.87	0.491	ND	0.102	ND	0.460
Nitrite as N	mg/l	1	Reg 41	ND	ND	ND	ND	ND	ND
Sulfate	mg/l	250	Reg 41	105	63.8	113	127	33.3	50.1
METALS EPA 200.8									
Dissolved Barium	mg/l	2	Reg 41	0.125	0.153	0.0853	0.0607	0.0563	0.0589
Dissolved Boron	mg/l	0.4	RSL	0.0751	0.127	0.166	0.0961	0.14	0.0931
Dissolved Calcium	mg/l	None	-	150	197	170	81.1	107	70.5
Dissolved Iron	mg/l	0.3	Reg 41	ND	0.0508	ND	0.0557	0.0287	0.245
Dissolved Magnesium	mg/l	None	-	88.5	107	91.4	38.4	50.9	39
Dissolved Manganese	mg/l	0.05	Reg 41	**1.43**	**1.49**	**1.51**	**0.773**	**1.19**	**0.633**
Dissolved Potassium	mg/l	None	-	3.88	4.91	6.69	2.78	3.83	3.14
Dissolved Selenium	mg/l	0.05	Reg 41	0.00131	ND	ND	ND	0.00576	0.00194
Dissolved Sodium	mg/l	None	-	104	174	203	77	146	95.5
Dissolved Strontium	mg/l	1.2	RSL	**1.9**	**2.53**	**2.47**	0.959	**1.5**	0.939
WATER QUALITY									
pH	s.u.	6-9	915-1	7.25	8.09	7.39	7.92	7.94	8.01
Specific Conductivity	µmhos/cm	None	-	1,910	3,180	2,420	1,140	1390	1,090
Total Dissolved Solids	mg/l	1.25 X background	915-1	942	1,580	1,200	570	694	540
Total Phosphorous	mg/l	None	-	0.0940	0.222	ND	ND	0.0825	0.088

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

Parameter	Units	Standard	Source	59993-MH MW-1 Facility ID 762176					
				Initial	1	2	3	4	5
Aqueous									
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	NA	-17.6	NA	-18.6	-20	-18.8
Delta 18O H2O ($d^{18}O$ of water)	% per mil	None	-	NA	-13.8	NA	-14.42	-13.63	13.87
Delta D H2O (dD of water)	% per mil	None	-	NA	-108.3	NA	-111.7	-107.2	-108.6
Gaseous									
Argon (Ar)	MOL %	None	-	0.213	0.203	0.28	0.129	0.277	0.148
C_6+ (hexanes +)	MOL %	None	-	0.0324	0.044	0.0344	0.0649	0.0102	0.0298
Carbon Dioxide (CO_2)	MOL %	None	-	2.37	1.63	1.91	1.66	1.16	1.6
Carbon Monoxide (CO)	MOL %	None	-	ND	ND	ND	ND	ND	ND
Delta 13C C1 ($d^{13}C_1$)	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C2 ($d^{13}C_2$)	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C C3 ($d^{13}C_3$)	% per mil	None	-	NA	NA	NA	NA	NA	NA
Delta 13C CO2 ($d^{13}CO_2$)	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C iC4 ($d^{13}iC_4$)	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta 13C nC4 ($d^{13}nC_4$)	per mil VPDB	None	-	NA	NA	NA	NA	NA	NA
Delta D C1 (dDC_1)	% per mil	None	-	NA	NA	NA	NA	NA	ND
Ethane (C_2)	MOL %	None	-	10.19	11.86	10.01	12.44	9.82	12.09
Ethane, Dissolved (C_2H_6)	cc/L	None	-	8.4	7.5	7.6	7.5	8.1	7.4
Ethane, Dissolved (C_2H_6)	mg/L	None	-	10	9.4	9.5	9.4	10	9.2
Ethylene (C_2H_4)	MOL %	None	-	ND	ND	ND	ND	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.5	0.67	0.62	0.59	0.38	0.58
Hydrogen (H_2)	MOL %	None	-	ND	ND	ND	ND	ND	ND
Isobutane (iC_4)	MOL %	None	-	0.273	0.368	0.317	0.426	0.292	0.432
Isopentane (iC_5)	MOL %	None	-	0.0667	0.0883	0.0785	0.128	0.0635	0.123
Methane (C_1)	MOL %	None	-	65.45	70.18	58.57	73.99	56.93	69.48
Methane, Dissolved (CH_4)	cc/L	None	-	50	42	42	41	43	39
Methane, Dissolved (CH_4)	mg/L	None	-	33	28	28	27	28	26
n-Butane (nC_4)	MOL %	None	-	0.326	0.647	0.518	0.808	0.408	0.866
Nitrogen (N_2)	MOL %	None	-	15.63	10.79	22.64	5.73	22.19	9.14
n-Pentane (nC_5)	MOL %	None	-	0.0404	0.0485	0.0428	0.0899	0.0214	0.0711
Oxygen (O_2)	MOL %	None	-	2.74	ND	2.16	0.12	5.46	1.34
Propane (C_3)	MOL %	None	-	2.67	4.14	3.44	4.41	3.37	4.68
Propane, Dissolved (C_3H_8)	cc/L	None	-	2.1	2.5	2.5	2.5	2.6	2.7
Propane, Dissolved (C_3H_8)	mg/L	None	-	3.8	4.6	4.6	4.6	4.8	4.9
Propylene (C_3H_6)	MOL %	None	-	ND	ND	ND	ND	ND	ND

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

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

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

Parameter	Units	Standard	Source	60666-MH MW-2 Facility ID 766284				
				Initial	1	2	3	4
Aqueous								
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	-13.4	NA	-11.3	-11.6	-12.8
Delta 18O H2O ($d^{18}O$ of water)	% per mil	None	-	-13.43	NA	-13.08	-13.06	-13.13
Delta D H2O (dD of water)	% per mil	None	-	-105.4	NA	-102.4	-102.5	-103
Gaseous								
Argon (Ar)	MOL %	None	-	0.817	NA	NA	NA	NA
C_6+ (hexanes +)	MOL %	None	-	0.0122	NA	NA	NA	NA
Carbon Dioxide (CO_2)	MOL %	None	-	0.7	NA	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	ND	NA	NA	NA	NA
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	-	1.22	NA	NA	NA	NA
Ethane, Dissolved (C_2H_6)	cc/L	None	-	13	NA	NA	NA	NA
Ethane, Dissolved (C_2H_6)	mg/L	None	-	16	NA	NA	NA	NA
Ethylene (C_2H_4)	MOL %	None	-	ND	NA	NA	NA	NA
Helium (He)	MOL %	None	-	0.0109	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	-	NA	NA	NA	NA
Hydrogen (H_2)	MOL %	None	-	ND	NA	NA	NA	NA
Isobutane (iC_4)	MOL %	None	-	0.0561	NA	NA	NA	NA
Isopentane (iC_5)	MOL %	None	-	0.0212	NA	NA	NA	NA
Methane (C_1)	MOL %	None	-	9.1	NA	NA	NA	NA
Methane, Dissolved (CH_4)	cc/L	None	-	96	NA	NA	NA	NA
Methane, Dissolved (CH_4)	mg/L	None	-	64	NA	NA	NA	NA
n-Butane (nC_4)	MOL %	None	-	0.0984	NA	NA	NA	NA
Nitrogen (N_2)	MOL %	None	-	68.9	NA	NA	NA	NA
n-Pentane (nC_5)	MOL %	None	-	0.0134	NA	NA	NA	NA
Oxygen (O_2)	MOL %	None	-	18.59	NA	NA	NA	NA
Propane (C_3)	MOL %	None	-	0.457	NA	NA	NA	NA
Propane, Dissolved (C_3H_8)	cc/L	None	-	4.8	NA	NA	NA	NA
Propane, Dissolved (C_3H_8)	mg/L	None	-	8.9	NA	NA	NA	NA
Propylene (C_3H_6)	MOL %	None	-	ND	NA	NA	NA	NA

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

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

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

Parameter	Units	Standard	Source	60666-MH MW-3 Facility ID 766285				
				Initial	1	2	3	4
Aqueous								
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	-13.1	NA	-12.8	-12	-12.3
Delta 18O H2O ($d^{18}O$ of water)	% per mil	None	-	-13.21	NA	-13.34	-13.52	-13.28
Delta D H2O (dD of water)	% per mil	None	-	-102.9	NA	-102.9	-105.6	-103.4
Gaseous								
Argon (Ar)	MOL %	None	-	NA	NA	NA	NA	NA
C_6+ (hexanes +)	MOL %	None	-	NA	NA	NA	NA	NA
Carbon Dioxide (CO_2)	MOL %	None	-	NA	NA	NA	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	NA	NA	NA	NA	NA
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	-	NA	NA	NA	NA	NA
Ethane, Dissolved (C_2H_6)	cc/L	None	-	NA	NA	NA	NA	NA
Ethane, Dissolved (C_2H_6)	mg/L	None	-	NA	NA	NA	NA	NA
Ethylene (C_2H_4)	MOL %	None	-	NA	NA	NA	NA	NA
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	NA	NA	NA	NA	NA
Hydrogen (H_2)	MOL %	None	-	NA	NA	NA	NA	NA
Isobutane (iC_4)	MOL %	None	-	NA	NA	NA	NA	NA
Isopentane (iC_5)	MOL %	None	-	NA	NA	NA	NA	NA
Methane (C_1)	MOL %	None	-	NA	NA	NA	NA	NA
Methane, Dissolved (CH_4)	cc/L	None	-	NA	NA	NA	NA	NA
Methane, Dissolved (CH_4)	mg/L	None	-	NA	NA	NA	NA	NA
n-Butane (nC_4)	MOL %	None	-	NA	NA	NA	NA	NA
Nitrogen (N_2)	MOL %	None	-	NA	NA	NA	NA	NA
n-Pentane (nC_5)	MOL %	None	-	NA	NA	NA	NA	NA
Oxygen (O_2)	MOL %	None	-	NA	NA	NA	NA	NA
Propane (C_3)	MOL %	None	-	NA	NA	NA	NA	NA
Propane, Dissolved (C_3H_8)	cc/L	None	-	NA	NA	NA	NA	NA
Propane, Dissolved (C_3H_8)	mg/L	None	-	NA	NA	NA	NA	NA
Propylene (C_3H_6)	MOL %	None	-	NA	NA	NA	NA	NA

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

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

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

Parameter	Units	Standard	Source	60666-MH MW-4 Facility ID 766286				
				Initial	1	2	3	4
Aqueous								
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	-11.1	NA	-13.5	-15.2	-16.0
Delta 18O H2O ($d^{18}O$ of water)	% per mil	None	-	-13.69	NA	-13.76	-13.71	-13.6
Delta D H2O (dD of water)	% per mil	None	-	-107.4	NA	-108	-107.6	-106.5
Gaseous								
Argon (Ar)	MOL %	None	-	0.392	0.429	0.19	0.207	0.323
C_6+ (hexanes +)	MOL %	None	-	0.0168	0.0108	0.0195	0.0056	0.0066
Carbon Dioxide (CO_2)	MOL %	None	-	3.8	3.22	3.52	3.23	3.28
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	-	8.79	6.3	10.97	10.32	9.14
Ethane, Dissolved (C_2H_6)	cc/L	None	-	4.2	5.1	5.4	5.9	4.7
Ethane, Dissolved (C_2H_6)	mg/L	None	-	5.3	6.5	6.7	7.4	5.9
Ethylene (C_2H_4)	MOL %	None	-	ND	ND	ND	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.72	0.6	0.64	0.57	0.62
Hydrogen (H_2)	MOL %	None	-	ND	ND	ND	ND	ND
Isobutane (iC_4)	MOL %	None	-	0.297	0.203	0.351	0.206	0.1
Isopentane (iC_5)	MOL %	None	-	0.0686	0.0507	0.0937	0.0452	0.0241
Methane (C_1)	MOL %	None	-	62.02	41.47	70.6	68.43	66.49
Methane, Dissolved (CH_4)	cc/L	None	-	28	32	32	35	31
Methane, Dissolved (CH_4)	mg/L	None	-	19	21	21	24	21
n-Butane (nC_4)	MOL %	None	-	0.391	0.252	0.396	0.247	0.0813
Nitrogen (N_2)	MOL %	None	-	20.17	37.1	10.8	13.98	18.23
n-Pentane (nC_5)	MOL %	None	-	0.0272	0.0141	0.031	0.0176	0.0095
Oxygen (O_2)	MOL %	None	-	1.49	9.05	0.19	1.49	1.73
Propane (C_3)	MOL %	None	-	2.54	1.9	2.84	1.82	0.581
Propane, Dissolved (C_3H_8)	cc/L	None	-	1.2	1.5	1.3	0.97	0.28
Propane, Dissolved (C_3H_8)	mg/L	None	-	2.1	2.7	2.4	1.8	0.51
Propylene (C_3H_6)	MOL %	None	-	ND	ND	ND	ND	ND

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

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

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

Parameter	Units	Standard	Source	60666-MH MW-5 Facility ID 766287				
				Initial	1	2	3	4
Date Sampled	-	-	-	05/06/20	08/18/20	10/28/20	02/24/21	06/02/21
Aqueous								
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	-9.8	NA	-10.7	-10.5	-10.5
Delta 18O H2O ($d^{18}O$ of water)	% per mil	None	-	-13.43	NA	-13.47	-13.43	-13.45
Delta D H2O (dD of water)	% per mil	None	-	-105.8	NA	-106	-105.9	-105.8
Gaseous								
Argon (Ar)	MOL %	None	-	1.39	1.19	1.24	1.04	1.09
C_6+ (hexanes +)	MOL %	None	-	0.0006	0.0012	0.0057	ND	0.0056
Carbon Dioxide (CO_2)	MOL %	None	-	6.66	6.02	5.88	2.41	4.25
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	-	0.949	1.46	1.92	1.06	2.34
Ethane, Dissolved (C_2H_6)	cc/L	None	-	0.25	0.38	0.57	0.63	0.8
Ethane, Dissolved (C_2H_6)	mg/L	None	-	0.31	0.48	0.72	0.79	1.0
Ethylene (C_2H_4)	MOL %	None	-	ND	ND	0.0005	ND	ND
Helium (He)	MOL %	None	-	NA	NA	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.83	0.83	0.81	0.51	0.73
Hydrogen (H_2)	MOL %	None	-	ND	ND	ND	ND	ND
Isobutane (iC_4)	MOL %	None	-	0.0238	0.0184	0.0535	0.0104	0.0504
Isopentane (iC_5)	MOL %	None	-	0.0006	0.0083	0.001	0.0016	0.0185
Methane (C_1)	MOL %	None	-	11.83	17.38	18.73	11.6	23.25
Methane, Dissolved (CH_4)	cc/L	None	-	2.8	4.2	5.2	6.2	7.2
Methane, Dissolved (CH_4)	mg/L	None	-	1.9	2.8	3.5	4.1	4.8
n-Butane (nC_4)	MOL %	None	-	0.0238	0.0154	0.101	0.0047	0.108
Nitrogen (N_2)	MOL %	None	-	72.58	64.77	60.71	70.21	61.28
n-Pentane (nC_5)	MOL %	None	-	0.0046	ND	0.0062	ND	0.0085
Oxygen (O_2)	MOL %	None	-	6.31	8.96	10.85	13.52	7.08
Propane (C_3)	MOL %	None	-	0.232	0.18	0.506	0.14	0.522
Propane, Dissolved (C_3H_8)	cc/L	None	-	0.056	0.044	0.14	0.077	0.17
Propane, Dissolved (C_3H_8)	mg/L	None	-	0.1	0.081	0.26	0.14	0.31
Propylene (C_3H_6)	MOL %	None	-	ND	ND	ND	ND	0.0004

TABLE 1-1: ANALTYICAL 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: ANALTYICAL 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 H2O ($d^{18}O$ of water)	% per mil	None	-	-14.48	14.4
Delta D H2O (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 C1 ($d^{13}C_1$)	% per mil	None	-	NA	NA
Delta 13C C2 ($d^{13}C_2$)	% per mil	None	-	NA	NA
Delta 13C C3 ($d^{13}C_3$)	% per mil	None	-	NA	NA
Delta 13C CO2 ($d^{13}CO_2$)	per mil VPDB	None	-	NA	NA
Delta 13C iC4 ($d^{13}iC_4$)	per mil VPDB	None	-	NA	NA
Delta 13C nC4 ($d^{13}nC_4$)	per mil VPDB	None	-	NA	NA
Delta D C1 (dDC_1)	% per mil	None	-	NA	NA
Ethane (C_2)	MOL %	None	-	1.42	1.36
Ethane, Dissolved (C_2H_6)	cc/L	None	-	0.44	0.46
Ethane, Dissolved (C_2H_6)	mg/L	None	-	0.54	0.57
Ethylene (C_2H_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_3H_8)	cc/L	None	-	0.048	0.017
Propane, Dissolved (C_3H_8)	mg/L	None	-	0.087	0.032
Propylene (C_3H_6)	MOL %	None	-	0.0004	ND

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

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

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

Parameter	Units	Standard	Source	61256-MH MW-8 Facility ID 766716		
				Initial	1	2
Date Sampled	-	-	-	11/23/20	02/23/21	06/02/21
Aqueous						
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	-11.3	-10.9	-11.2
Delta 18O H2O ($d^{18}O$ of water)	% per mil	None	-	-13.66	-13.71	-13.53
Delta D H2O (dD of water)	% per mil	None	-	-107.2	-107.5	-106.0
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_2H_6)	cc/L	None	NA	NA	NA	NA
Ethane, Dissolved (C_2H_6)	mg/L	None	NA	NA	NA	NA
Ethylene (C_2H_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_3H_8)	cc/L	None	NA	NA	NA	NA
Propane, Dissolved (C_3H_8)	mg/L	None	NA	NA	NA	NA
Propylene (C_3H_6)	MOL %	None	NA	NA	NA	NA

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

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

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

Parameter	Units	Standard	Source	61256-MH MW-10 Facility ID 766717		
				Initial	1	2
Date Sampled	-	-	-	11/23/20	03/18/21	06/03/21
Aqueous						
Delta 13C DIC ($d^{13}C$ of DIC)	% per mil	None	-	-11	-11.7	NA
Delta 18O H2O ($d^{18}O$ of water)	% per mil	None	-	-13.71	-13.31	NA
Delta D H2O (dD of water)	% per mil	None	-	-107	-103.9	NA
Gaseous						
Argon (Ar)	MOL %	None	-	1.01	NA	NA
C_6+ (hexanes +)	MOL %	None	-	0.0007	NA	NA
Carbon Dioxide (CO_2)	MOL %	None	-	4.88	NA	NA
Carbon Monoxide (CO)	MOL %	None	-	ND	NA	NA
Delta 13C C1 ($d^{13}C_1$)	% per mil	None	-	NA	NA	NA
Delta 13C C2 ($d^{13}C_2$)	% per mil	None	-	NA	NA	NA
Delta 13C C3 ($d^{13}C_3$)	% per mil	None	-	NA	NA	NA
Delta 13C CO2 ($d^{13}CO_2$)	per mil VPDB	None	-	NA	NA	NA
Delta 13C iC4 ($d^{13}iC_4$)	per mil VPDB	None	-	NA	NA	NA
Delta 13C nC4 ($d^{13}nC_4$)	per mil VPDB	None	-	NA	NA	NA
Delta D C1 (dDC_1)	% per mil	None	-	NA	NA	NA
Ethane (C_2)	MOL %	None	-	1.32	NA	NA
Ethane, Dissolved (C_2H_6)	cc/L	None	-	0.44	NA	NA
Ethane, Dissolved (C_2H_6)	mg/L	None	-	0.54	NA	NA
Ethylene (C_2H_4)	MOL %	None	-	ND	NA	NA
Helium (He)	MOL %	None	-	NA	NA	NA
Helium Dilution Factor	Other	None	-	0.73	NA	NA
Hydrogen (H_2)	MOL %	None	-	ND	NA	NA
Isobutane (iC_4)	MOL %	None	-	0.012	NA	NA
Isopentane (iC_5)	MOL %	None	-	0.0007	NA	NA
Methane (C_1)	MOL %	None	-	11.75	NA	NA
Methane, Dissolved (CH_4)	cc/L	None	-	3.5	NA	NA
Methane, Dissolved (CH_4)	mg/L	None	-	2.3	NA	NA
n-Butane (nC_4)	MOL %	None	-	0.0022	NA	NA
Nitrogen (N_2)	MOL %	None	-	72.33	NA	NA
n-Pentane (nC_5)	MOL %	None	-	0.0004	NA	NA
Oxygen (O_2)	MOL %	None	-	8.51	NA	NA
Propane (C_3)	MOL %	None	-	0.185	NA	NA
Propane, Dissolved (C_3H_8)	cc/L	None	-	0.056	NA	NA
Propane, Dissolved (C_3H_8)	mg/L	None	-	0.10	NA	NA
Propylene (C_3H_6)	MOL %	None	-	ND	NA	NA

TABLE 1-1: ANALTYICAL 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 FIELD SUMMARY
SOIL VAPOR MONITORING WELL SAMPLE RESULTS

Probe ID	Sample Date	Units	Balance	CH_4	CO_2	O_2	H_2S	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
	6/1/2021		86	1	4.7	8.3	0	10	NA
SVP-1-30′	8/30/2019		81.1	8.1	10.8	0	NA	NA	5.3
	9/10/2019		68.5	18.9	12.6	0	0	0	68
	10/15/2019		57.3	29.6	13.1	0	0	1	5.3
	8/17/2020		74.3	11	14.7	0	0	0	NA
	10/27/2020		69.8	16	14.2	0	6	0	NA
	2/23/2021		78.7	3	3.1	15.2	0	0	NA
	6/1/2021		46.7	40	13.3	0	6	10	NA
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
	6/1/2021		83.1	1	4.7	11.2	0	0	NA
SVP-2-30′	8/30/2019		67.1	22.2	10.7	0	NA	NA	9.8
	9/10/2019		0	87.8	12.2	0	0	0	5.5
	10/15/2019		0	87.6	12.4	0	0	1	23.1
	8/17/2020		73.1	12	14.9	0	8	0	NA
	10/27/2020		46.2	39.5	14.3	0	5	0	NA
	2/23/2021		78.8	3	3.2	15	0	0	NA
	6/1/2021		78.6	7.5	13.9	0	4	4	NA
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
	6/1/2021		79.8	5	3.8	11.4	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_2S	CO	PID
			%	%	%	%	ppm	ppm	ppm
SVP-3-30′	8/30/2019		39.7	51	9.3	0	NA	NA	59.1
	9/10/2019		0	89.4	10.2	0.4	0	0	782
	10/15/2019		0	89.2	10.8	0	1	2	39
	8/17/2020		2.4	84	13.6	0	5	0	NA
	10/27/2020		-12.5	100	12.5	0	3.5	0	NA
	2/23/2021		67.7	14	2.7	15.6	0	0	NA
	6/1/2021		-10	98	12	0	3	4	NA
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
	6/1/2021		80.3	6	7.5	6.2	0	4	NA
SVP-4-30′	8/30/2019		74.2	15.3	10.5	0	NA	NA	6.3
	9/10/2019		60.8	27.1	11.7	0.4	0	0	819
	10/15/2019		53.8	33.5	12.7	0	0	1	13
	8/17/2020		66.3	19	14.7	0	0	0	NA
	10/27/2020		65.5	20	14.5	0	0	0	NA
	2/23/2021		74.8	7	2.9	15.3	0	0	NA
	6/1/2021		81.1	5.5	13.4	0	4.5	10	NA

Notes:
[1]Atmospheric readings collected from the top of casing

Attachment A

District Six C6 Plug and Abandonment Workover Daily Summary

Daily Activity and Cost Summary

Well Name: DISTRICT SIX C06

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

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

Objective

Summary

Contractor	Rig Number \ Crew	Rig Type
RANGER ENERGY SERVICES		Workover

Rpt #	Start Date	End Date	Day Total (Cost)	Cum To Date (Cost)	Summary
1.0	6/14/2019	6/14/2019	4,853.00	4,853.00	MIRU W/O RIG AND SUPPORT EQUIP MAKE READY FRO RENENTRY OPS AND SDFN
2.0	6/15/2019	6/15/2019	7,218.00	12,071.00	AOL; HSM/JSA; CHECK PRESSURE SICP=0PSI SURFACE CSG=5PSI; R/U P/S TALLY DRILL COLLARS (6) AND 2.875 N80 TBG; M/U BHA 3BLADE 3.75" BIT AND DRILL COLLARS (3 1/8") TAG TOC @ 3' AND DRILLOUT EOT @ 349' P/U OFF TOC AND CIRC CLEAN; LAYDOWN 5JTS (EOT @ 218') SECURE WELL AND SD TILL MONDAY
3.0	6/17/2019	6/17/2019	6,489.00	18,560.00	AOL; HSM/JSA; CHECK PRESSURES (SICP=0PSI SITP=0PSI,SISCP=15PSI/BDI); TIH 4JTS; R/U P/S; TAG TOC @ 349'; BEGIN TO DRILLOUT CEMENT; EOT @ 1089' STOP 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 BHA AND STAND BACK WASH PIPE; SECURE WELL AND EQUIP AND SDFN
8.0	6/22/2019	6/22/2019	6,694.50	50,568.00	AOL; HSM/JSA; SICP/SISCP=7PSI (BDI); OPEN WELL ATTEMPT OT RUN STAND IN HOLE UNABLE TO GET DOWN TAG 8' HIGH; LAY DOWN 1JT WASH PIPE; R/U P/S; AND RIH TAG TRASH @ 64'; BEGIN TO WASH DOWN DEBRIS WASH AWAY TAG SOLID @ 73' IH;L CONTINUE TO WASH OVER CSG; RETURN FINE MEATAL SHAVINGS AND FINE TO COARSE CEMENT; CIRC CLEAN ; END OF WASH PIPE @ 83'; POOH LAYING DOWN; CHANGE OUT WAVY BOTTOM SHOE FOR DRAG SHOE; SECURE WELL AND SDFN

Daily Activity and Cost Summary

Well Name: DISTRICT SIX C06

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

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

Daily Activity and Cost Summary

Well Name: DISTRICT SIX C06

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

Rpt #	Start Date	End Date	Day Total (Cost)	Cum To Date (Cost)	Summary
16.0	7/1/2019	7/1/2019	6,210.00	100,922.52	AOL;HSM/JSA; CHECK PRESSUES SISCP=6PSI (BDI); OPEN WELL OBSERVE BUBBLES BREAKING SURFACE EVERY 5MIN +/-, R/U P/S; P/U D/C AND M/U 7 7/8 (TRICONE) AND RIH TAG TOC @ 46' AND BEGIN DRILLING OUT @ 1.5BPM RETURN FINE TO CORSE CEMENT; TAG TOP OF 4.5 CSG @ 78' P/U OFF OF AND CIRC CLEAN; POOH LAYING DOWN COLLARS; OOH; SECURE WELL; B/D BHA; RACK SWIVEL BACK TO DERRICK; PERFORM INJECTION TEST ABLE TO INJECT AS FOLLOWS .5 BPM @ 80PSI, 1BPM @ 170-190PSI, 2BPM @ 250-280PSI; SECURE WELL AND EQUIP; SDFN
17.0	7/2/2019	7/2/2019	8,030.80	108,953.32	AOL; HSM; CHECK PRESSURES SISCP=15PSI (BDI); WOC; CE AOL; MIRU CE (OTEX) AND FW TRANSPORT (MILLER); HSM/JSA; P/T LINES TO 2400PSI (GOOD TEST); OPEN WELL AND PUMP 10BBL CaCl2, FOLLOWED BY 3BBL FW SPACER, 10BBL SMS (WELL BLOCK); 10BBL FW SPACER ; 100SKS CONTROL SET C 13.5 # CEMENT; WASH UP EQUIP; SQUEEZE CEMENT INTO HOLES PUMPING .5 BBL (3TIMES) CONTINUE TO SQUEEZE CEMNENT INTO HOLE PUMPING .25BBL (5 TIMES) PRESRING UP TO 600PSI PRESSURE BLEEDING BACK TO 140PSI AND HOLDING EACH TIME; CONTIUE TO SQUEEZE CEMENT ONLY ABLE TO .1BBL (X2) EACH TIME BEFORE PRESSURING UP TO 600PSI; .3BBL OF CEMENT LEFT IN CSG PRESSURE UPTO 800PSI AND SWI RDMO CE AND SDFN
18.0	7/3/2019	7/3/2019	1,538.00	110,491.32	AOL; HSM/JSA; CHECK PRESSURE SISCP=50PSI (BDI); OPEN WELL TOP OFF CSG W/ FW MONITOR WELL FOR MIGRATION (BUBBLES); OBSERVE "BUBBLES" BREAKING SURFACE OF FW P/U 2.875 TBG RIH TAG TOC @ 43.66'; POOH ; CLOSE AND SEUCRE BLIND RAMS; ATTEMPT TO GET INJECTION RATE .5BPM @ 70PSI BEGIN WALKING UPTO 1BPM PRESSURE SPIKED TO 1000PSI; AND PARTED SURFACE CSG @ BOTTOM OF COLLAR (8 5/8) BENEATH SURFACE HEAD; R/D RIG FLOOR; REMOVE BOPS; WAIT ON WELDER; WELDER AOL; HSM/AOL (HOTWORK PERMIT) ASSIGN FIRE WATCHMEN; BEGIN TO CUT/DRESS CSG; INSTALL WELD ON COLLAR; ALLOW TO COOL; M/U SURFACE HEAD, LARKIN FLANGE, N/U BOPS, R/U WORK FLOOR & P/S; M/U 7 7/8 TRICONE BIT, BIT SUB & 4 3/4 COLLARS; RIH TAG TOC @ 43' AND DRILLOUT TO 64.35' CIRC CLEAN; POOH LAYING DOWN; OOH BREAK DOWN BHA; FILL CSG; COSE AND SECURE BLINDRAMS AND PREFORM INJECTION TEST PUMPING .5BPM @ 50-100PSI, 1BPM @ 200-250PSI, 2BPM @ 300-400PSI; SECURE WELL AND EQUIP; SDFN
19.0	7/4/2019	7/4/2019	1,538.00	112,029.32	AOL; HSM, CHECK PRESSURES; SISCP= 0PSI (ON VACUUM), C&J & MILLER FW TRK AOL; MIRU CE EQUIP; HSM/JSA; P/T LINE TO 2000PSI (5MIN); BEGIN TO PUMP DOWN SURFACE CSG; PUMPING .5BBL GEL SPACER; FOLOWED BY 26SKS (6BBL) RDP BLEND; DISPLACE RDP PUMING 2.8BBL FW/GEL; SWI; WASH UP EQUIP TO DIRTY TANK; RDMO; SHUT DOWN TILL WEEKEND
20.0	7/6/2019	7/6/2019	1,538.00	113,567.32	AOL; HSM/JSA; CHECK PRESSURES SISCP= 13PSI (BDI); OPEN WELL, WATCH FOR MIGRATION (BUBBLES), NO MIGRATION OBSERVED; SECURE WELL AND INSTALL DIGITAL GAUGE AND MONITOR FOR 1HR; AFTER 1HR SISCP=0PSI, RIH WITH 6 3/4 TRICONE BIT & 4 3/4 DC'S, TAG TOC @ 43' DRILLING OUT RDP TO 60.58', SECURE WELL AND INSTALL DIGITAL GAUGE AND MONITOR FOR 1 HR; AFTER 1HR SISCP= 0PSI; CONTINUE TO DRILLOUT RDP/CEMENT TO TOP OF 4.5CSG TAG TOP OF 4.5 CSG @ 76' P/U OFF OF AND CIRC WELLBORE CLEAN; POOH LAYING DOWN; OOH BREAK DOWN BHA; FILL CSG; SECURE WELL INSTALL GAUGE AND MONITOR PRESSURE SISCP= 0PSI AFTER 30MIN; SECURE WELL AND EQUIP; SDFN
21.0	7/7/2019	7/7/2019	104,385.94	217,953.26	AOL; HSM/JSA; CHECK 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 0F 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	Surface Legal Location	Field Name	License #	State/Province	Well Configuration Type
0512324211	NENE 20 5N65W 6 PM	WATTENBERG		COLORADO	VERTICAL
Original KB Elevation (ft)	**KB-Tubing Head Distance (ft)**	**Spud Date Production**	**Rig Release Date**	**PBTD (All) (ftKB)**	**Total Depth All (TVD) (ftKB)**
4,682.00		11/10/2006 00:00	11/15/2006 00:00	Original Hole - 8,261.0	

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


EXTRACTION
Oil & Gas
District Six C6
Location ID: 286487
Well Location Map
N
MW-8
MW-5
MW-4
SVP-1
SVP-4
SVP-2
SVP-3
MW-1
MW-2
MW-3
MW-6
MW-10
Legend
Buried MW-6
Monitoring Well
Soil Vapor Point
60 ft
Google Earth

Attachment C

Groundwater Well Permit Records

GWS-51
02/2017

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 www.water.state.co.us

RECEIVED
AUG 23 2019
WATER RESOURCES
STATE ENGINEER
COLO

Well Owner Name(s): Extraction Oil and Gas, LLC

Address: 370 17th Street, Suite 5300, Denver, CO 80202

Phone: (970) 778-5956

Email: bford@extractionOG.com

Landowner's Name: Extraction Oil and Gas LLC

Please check one and complete as indicated including contact info:

☐ Water Well Driller Licensed in Colorado - Lic. No. _____

☐ Professional Engineer Registered in Colorado - Reg. No. _____

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

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

Contact / Company Maggie Graham/Apex Companies LLC

Address 1746 Cole Blvd, Suite 250, Building 21

City, State & Zip Lakewood, Colorado 80401

Phone (720) 501-5065

Email maggie.graham@apexcos.com

Print Name: Maggie Graham

Signature or enter full name here: Maggie Graham

Location: Section 20

Township 5 ☒N ☐S, Range 65 ☐E ☒W, 6 PM

County: Weld

Subdivision: NENE

Lot: _____ Block: _____ Filing: _____

Site/Property Address _____

40.391325°, -104.681889°

GPS Location in UTM format if known:

Set GPS unit to true north, datum NAD83, and use meters for the distance units, ☐Zone 12 or ☒Zone 13.

Easting 526998.24 Northing 4471240.51

# of Monitoring Holes to be constructed in Section: 1

Estimated Depth 90 Ft., Aquifer Type III/II

Purpose of Monitoring Hole(s) Groundwater monitoring

Anticipated Date of Construction: 08/26/2019

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

ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE
FOR OFFICE USE ONLY

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

APEX
apexcos.com

O) 720-501-5065

Add me to your contact list!

WorkSafe

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 dwrpermitsonline@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): ☐ Zone 12 ☒ Zone 13 Easting: 526998.2 Northing: 4471240.51

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 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? ☒ Yes ☐ No, Date Notification Given: 08/23/2019

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0' - 3'	Silty Sand	fg	Bwn.	
3' - 8'	Sandy Clay	vfg - fg	Bwn.	
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			

12. Hole Diameter (in.)

	From (ft)	To (ft)
8	0	85

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0	45

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	45	85

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: ☐ 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

Date/Time measured: 10/15/19, 9:50 am

Estimated Yield (gpm) N/A

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:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	kevin.ambrose@apexcos.com	(925) 596-1862	CA-PG# 9617

Mailing Address: 1746 Cole Blvd, Suite 250, Lakewood, CO 80401

Sign (or enter name if filing online)	Print Name and Title	Date:
Kevin Ambrose	Kevin Ambrose, Project Geologist	10/16/2019

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 dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 60666-MH **Receipt Number:**

2. Owner's Well Designation: MW-2

3. Well Owner Name: Extraction Oil and Gas, LLC

4. Well Location Street Address: 20 29th Street, Greeley, CO 90631

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 527013.3 Northing: 4471236.01

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 6 P.M.

County: Weld

Subdivision: _____, Lot ____, Block _____, Filing (Unit) _____

7. Ground Surface Elevation: 4672 feet **Date Completed:** 05/05/2020 **Drilling Method:** Hollow Stem Auger

8. Completed Aquifer Name : Unnamed Type III/II **Total Depth:** 60 feet **Depth Completed:** 60 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☒ Yes ☐ No, Date Notification Given: 04/07/2020

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0 - 20	SP-SM	vfg - mg	Bwn.	
20 - 31	SP	fg - cg, G	Bwn., Gray	
31 - 50	ML	fg	Green, Gray	40
50 - 60	SM	fg	Light Bwn.	

12. Hole Diameter (in.)

	From (ft)	To (ft)
8	0	60

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0	35

Perforated Casing Screen Slot Size (in): _____

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	35	60

14. Filter Pack:
Material: Sand
Size: 10-20
Interval: 32-60

15. Packer Placement:
Type: _____
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Cement Grout	580 lbs	Grout	0 - 29	Tremie Pipe

Remarks: v = very, f = fine, m = medium, c = coarse, g = grain, G = gravel, Bwn. = Brown

17. Disinfection: Type N/A Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: N/A

Static Level: 38.03

Date/Time measured: 5/14/20

Estimated Yield (gpm) N/A

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:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	Kevin.Ambrose@apexcos.com	(925) 596-1862	CA-PG# 9617

Mailing Address: 1746 Cole Blvd, Suite 250, Lakewood, CO 80401

Sign (or enter name if filing online)	Print Name and Title	Date:
Kevin Ambrose	Kevin Ambrose, Project Geologist	06/02/2020

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 dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 60666-MH **Receipt Number:**

2. Owner's Well Designation: MW-3

3. Well Owner Name: Extraction Oil and Gas, LLC

4. Well Location Street Address: 20 29th Street, Greeley, CO 90631

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 526999.8 Northing: 4471232.63

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 6 P.M.
County: Weld
Subdivision: _____, Lot ____, Block _____, Filing (Unit) _____

7. Ground Surface Elevation: 4672 feet **Date Completed:** 04/23/2020 **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? ☒ Yes ☐ No, Date Notification Given: 04/07/2020

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0 - 11	SP	fg	Light Bwn.	
11 - 20	SM	vfg - fg	Light Bwn.	
20 - 30	SP	fg - cg, G	Light Bwn.	
30 - 31	SM	fg - mg	Bwn.	
31 - 51	ML	fg	Gray	40
51 - 60	SM	fg	Bwn.	
60 - 70	SP-SM	fg - cg, G	Gley	
70 - 81.5	SM	fg	Bwn.	
81.5 - 85	ML	fg	Gley	

12. Hole Diameter (in.)

	From (ft)	To (ft)
8	0	85

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0	45

Perforated Casing Screen Slot Size (in): _____

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	45	85

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: v = very, f = fine, m = medium, c = coarse, g = grain, G = gravel, Bwn. = Brown, Gley = Greenish-Gray

17. Disinfection: Type N/A Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report
Well Yield Estimate Method: N/A
Static Level: 39.76
Date/Time measured: 5/6/20
Estimated Yield (gpm) N/A
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:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	Kevin.Ambrose@apexcos.com	(925) 596-1862	CA-PG# 9617

Mailing Address: 1746 Cole Blvd., Suite 250, Lakewood, CO 80401

Sign (or enter name if filing online)	Print Name and Title	Date:
Kevin Ambrose	Kevin Ambrose, Project Geologist	06/02/2020

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 dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 60666-MH **Receipt Number:**

2. Owner's Well Designation: MW-4

3. Well Owner Name: Extraction Oil and Gas, LLC

4. Well Location Street Address: 20 29th Street, Greeley, CO 90631

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 526994.4 Northing: 4471243.04

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 6 P.M.

County: Weld

Subdivision: _____, Lot ____, Block _____, Filing (Unit) _____

7. Ground Surface Elevation: 4672 feet **Date Completed:** 04/27/2020 **Drilling Method:** Hollow Stem Auger

8. Completed Aquifer Name : Unnamed Type III/II **Total Depth:** 87 feet **Depth Completed:** 85 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☒ Yes ☐ No, Date Notification Given: 04/07/2020

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0 - 11	ML	fg	Bwn.	
11 - 20	SM	fg - cg, G	Bwn.	
20 - 31	SP	fg - cg	Bwn.	
31 - 50	ML	fg	Gley	40
50 - 60	SM	fg	Bwn.	
60 - 61	GP	fg - cg, G	Bwn.	
61 - 70	CL	vfg	Bwn.	
70 - 80	SM	fg - cg, G	Bwn.	
80 - 85	ML	vfg	Bwn.	
85 - 87	CL	vfg	Bwn.	

12. Hole Diameter (in.)

	From (ft)	To (ft)
8	0	85

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0	45

Perforated Casing Screen Slot Size (in): _____

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	45	85

14. Filter Pack:
Material: Sand
Size: 10-20
Interval: 43-87

15. Packer Placement:
Type: _____
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Cement Grout	800 lbs	Grout	0 - 40	Tremie Pipe

Remarks: v = very, f = fine, m = medium, c = coarse, g = grain, G = gravel, Bwn. = Brown, Gley - Greenish-Gray

17. Disinfection: Type N/A Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: N/A

Static Level: 39.90

Date/Time measured: 5/5/20

Estimated Yield (gpm) N/A

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:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	Kevin.Ambrose@apexcos.com	(925) 596-1862	CA-PG# 9617

Mailing Address: 1746 Cole Blvd., Suite 250, Lakewood, CO 80401

Sign (or enter name if filing online)	Print Name and Title	Date:
Kevin Ambrose	Kevin Ambrose, Project Geologist	06/02/2020

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 dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 60666-MH **Receipt Number:**

2. Owner's Well Designation: MW-5

3. Well Owner Name: Extraction Oil and Gas, LLC

4. Well Location Street Address: 20 29th Street, Greeley, CO 90631

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 527004.9 Northing: 4471248.52

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 6 P.M.

County: Weld

Subdivision: _____, Lot ____, Block _____, Filing (Unit) _____

7. Ground Surface Elevation: 4672 feet **Date Completed:** 04/30/2020 **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? ☒ Yes ☐ No, Date Notification Given: 04/07/2020

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0 - 11	ML	fg	Bwn.	
11 - 20	SM	fg	Bwn.	
20 - 32	SP	fg - cg	Bwn.	
32 - 50	ML	vfg - fg	Grey	40
50 - 51.5	SP-SM	fg	Bwn.	
60 - 61	ML	fg	Bwn.	
61 - 70	CL	vfg - fg	Bwn.	
70 - 71	SM	fg	Bwn.	
71 - 80	ML	fg	Bwn.	
80 - 81	SM	fg - mg	Bwn.	
81 - 84	ML	fg	Bwn.	
84 - 85	CL	vfg	Grey	

12. Hole Diameter (in.)

	From (ft)	To (ft)
8	0	85

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0	45

Perforated Casing Screen Slot Size (in): _____

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	45	85

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: v = very, f = fine, m = medium, c = coarse, g = grain, G = gravel, Bwn. = Brown

17. Disinfection: Type N/A Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: N/A

Static Level: 39.51 Estimated Yield (gpm) N/A

Date/Time measured: 5/6/20 Estimate Length (hrs) N/A

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	Kevin.Ambrose@apexcos.com	(925) 596-1862	CA-PG# 9617

Mailing Address: 1746 Cole Blvd., Suite 250, Lakewood, CO 80401

Sign (or enter name if filing online)	Print Name and Title	Date:
Kevin Ambrose	Kevin Ambrose, Project Geologist	06/02/2020

GWS-51
02/2017

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@apexcos.com

Print Name: Ryan Finley

Signature or enter full name here: Ryan Finley

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: 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

PROCESSED BY _____

DIV. 1 WD 2 BAS _____ MD _____

DATE ACKNOWLEDGED 10/02/2020

CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

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

1) **Notice was provided to the State Engineer at least 72 hours prior to construction of monitoring & observation hole(s).**

2) **Construction of the hole(s) must be completed within 90 days of the date notice was given to the State Engineer.** Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing must not be used for beneficial purposes. The owner of the hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.

3) **All work must comply with the Water Well Construction Rules, 2 CCR 402-2.** Standard permit application and work report forms are found on the DWR website at dwr.colorado.gov. **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

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@apexcos.com> wrote:

> Hello DWR reviewer,
>
> Please accept the following GWS-31 forms on behalf of Extraction Oil & Gas, LLC for recently installed monitoring wells at District Six. Attached to this email are Well Construction and Yield Estimate Reports for Permit #: 61256-MH (MW-6, MW-8, and MW-10).
>
> Please let us know if you have any questions or require additional information.
>
> Thank you,

-Michael Ruiz

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

***ENR* Top 30 All-Environmental Firm**

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 dwr.colorado.gov and dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 61256-MH **Receipt Number:**

2. Owner's Well Designation: MW-6

3. Well Owner Name: Extraction Oil and Gas, LLC

4. Well Location Street Address: 20 29th Street, Greeley, CO 90631

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 526978.0 Northing: 4471235

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 6 P.M.

County: Weld

Subdivision: _____, Lot _____, Block _____, Filing (Unit) _____

7. Ground Surface Elevation: 4672 feet **Date Completed:** 11/09/2020 **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? ☒ Yes ☐ No, Date Notification Given: 09/30/2020

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0'-10'	Not Logged			
10'-20'	SM	vf-c	lght. bwn.	
20'-30'	SW	vf-vc	lght. bwn.	
30'-40'	SW	m-vcu	lght. bwn.	37'
40'-50'	SW/SC	m-vcu	bwn.	
50'-60'	SM/SC	vf-mu	bwn.	
60'-70'	SM	vf-c	bwn.	
70'-80'	SM/SC	vf-cu	bwn.	
80'-85'	SM/SC	vf-c	lght. bwn.	

12. Hole Diameter (in.)

	From (ft)	To (ft)
8 1/4	0	85

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0'	45'

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	45'	85'

14. Filter Pack:
Material: Sand
Size: 10-20
Interval: 85'-43'

15. Packer Placement:
Type: _____
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Portland Cement	11 bg	Grout	40'-2'	Tremie Pipe

Remarks:

17. Disinfection: Type N/A Amt. Used N/A

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: N/A

Static Level: 39.18 Feet

Date/Time measured: 11/23/2020 @ 13:26

Estimated Yield (gpm) N/A

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:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	mike.ruiz@apexcos.com	(307) 274-6386	

Mailing Address: 347 Sinclair St., Gillette, WY, 82718

Sign (or enter name if filing online)	Print Name and Title	Date:
Michael Ruiz	Michael Ruiz, Scientist 2	01/26/2021

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 dwr.colorado.gov and dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 61256-MH **Receipt Number:**

2. Owner's Well Designation: MW-8

3. Well Owner Name: Extraction Oil and Gas, LLC

4. Well Location Street Address: 20 29th Street, Greeley, CO 90631

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 527027.0 Northing: 4471258

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 6 P.M.

County: Weld

Subdivision: _____, Lot _____, Block _____, Filing (Unit) _____

7. Ground Surface Elevation: 4672 feet **Date Completed:** 10/20/2020 **Drilling Method:** Hollow Stem Auger

8. Completed Aquifer Name : Unnamed Type III/II **Total Depth:** 95 feet **Depth Completed:** 90 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☒ Yes ☐ No, Date Notification Given: 09/30/2020

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0-10	Not logged			
10'-20'	GM/GC	vfg-mg	Bwn.	
20'-30'	SM/GM	vfg-mg	Bwn.	
30'-40'	SC	vfg-mg	Bwn.	
40'-50'	SM	vfg-fg	Bwn.	
50'-60'	SM/SC	vfg-mg	Bwn.	
60'-70'	SM/SC	vfg-mg	Bwn.	
70'-80'	SM/SC	vfg-mg	Bwn.	
80'-85'	SM/SC	vfg-mg	Bwn.	
85'-95'	SM/SC	vfg-mg	Bwn.	

12. Hole Diameter (in.)

	From (ft)	To (ft)
8 1/4	0	95

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0	50

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	50	90

14. Filter Pack:
Material: Sand
Size: 10-20
Interval: 50-90

15. Packer Placement:
Type: _____
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Portland Cement	10 bg	Grout	0-48	Tremie Pipe

Remarks:

17. Disinfection: Type N/A Amt. Used N/A

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: N/A

Static Level: 38.97 Feet

Date/Time measured: 11/23/2020 @ 10:01

Estimated Yield (gpm) N/A

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:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	mike.ruiz@apexcos.com	(307) 274-6386	

Mailing Address: 347 Sinclair St., Gillette, WY, 82718

Sign (or enter name if filing online)	Print Name and Title	Date:
Michael Ruiz	Michael Ruiz, Scientist 2	01/26/2021

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 dwr.colorado.gov and dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 61256-MH **Receipt Number:**

2. Owner's Well Designation: MW-10

3. Well Owner Name: Extraction Oil and Gas, LLC

4. Well Location Street Address: 20 29th Street, Greeley, CO 90631

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 526991.0 Northing: 4471229

6. Legal Well Location: NE 1/4, NE 1/4, Sec., 20 Twp. 5 ☒ N or S ☐, Range 65 ☐ E or W ☒, 6 P.M.

County: Weld

Subdivision: _____, Lot _____, Block _____, Filing (Unit) _____

7. Ground Surface Elevation: 4672 feet **Date Completed:** 10/20/2020 **Drilling Method:** Hollow Stem Auger

8. Completed Aquifer Name : Unamed Type III/II **Total Depth:** 85 feet **Depth Completed:** 79.5 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☒ Yes ☐ No, Date Notification Given: 09/30/2020

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☒ Type II (Overlain by Type III) ☐ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0'-6'	Not Logged	Hydrovac'd		
6'-20'	Silty Sand	vfg-mg	Bwn.	
20'-30'	Sand/Silt	vfg-cg	Bwn.	
30'-40'	Silt/Clay	vfg-fg	Bwn.	
40'-50'	Silt/Clay	vfg-fg	Tan	
50'-85'	Sand/Silt	vfg-fg		

12. Hole Diameter (in.)

	From (ft)	To (ft)
8 1/4	0	85

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	0	39

Perforated Casing Screen Slot Size (in): _____

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.375	Sch40PVC	0.328	39	79

14. Filter Pack:
Material: Sand
Size: 10-20
Interval: 39-79

15. Packer Placement:
Type: _____
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Portland Cement	11 bg	Grout	0-35	

Remarks:

17. Disinfection: Type N/A Amt. Used N/A

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: N/A

Static Level: 38.91 Feet

Date/Time measured: 11/23/2020 @ 11:49

Estimated Yield (gpm) N/A

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:	Email:	Phone w/area code:	License Number:
Apex Companies, LLC	mike.ruiz@apexcos.com	(307) 274-6386	

Mailing Address: 347 Sinclair St. Gillette, WY 82718

Sign (or enter name if filing online)	Print Name and Title	Date:
Michael Ruiz	Michael Ruiz, Scientist 2	01/26/2021

Attachment D

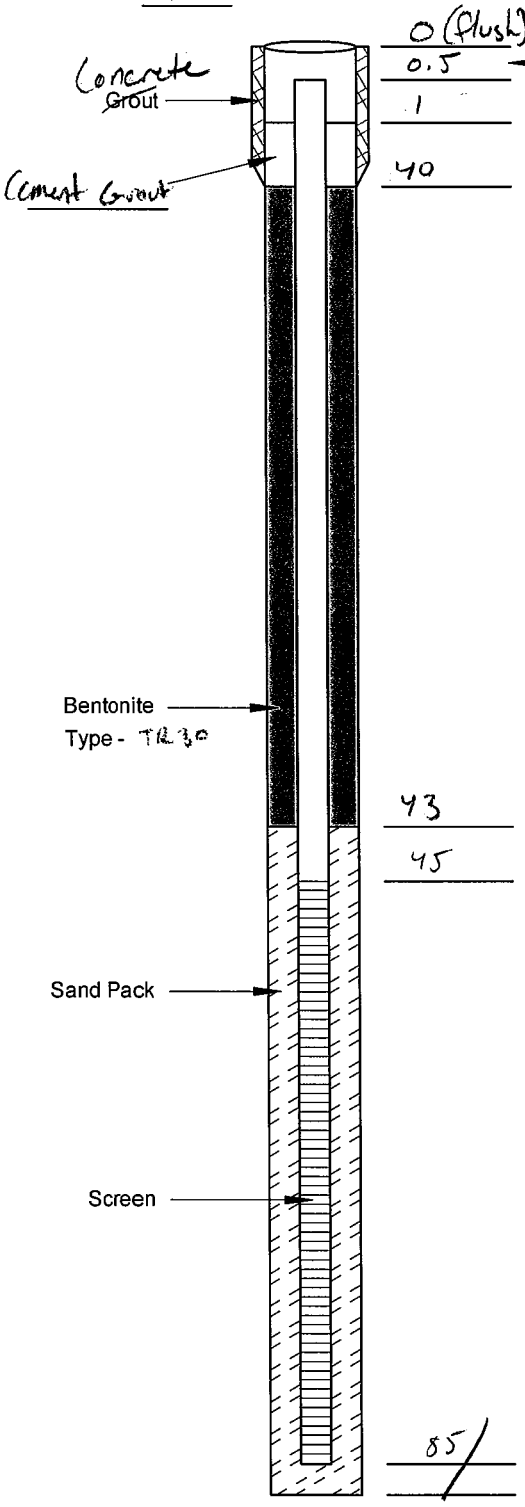
Groundwater Well Borehole and Completion Logs

APEX

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 744.1804.01 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 Date	Start Time	Finish Date	Finish Time
Drilling:	8/26		8/27	
Well Completion:	8/27		8/27	
Grouting:	8/28		8/28	

Depth to Water (Below TOC)

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

Well Construction Materials

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

Screen			
Size:	2" Sch 40	Config.:	
Area/Ft.:	0.16 gal/ft	Comp.:	PVC
Inside Diam.:	2"	Outside Diam.:	2.3"

Comments

The Source Group, Inc. a division of Apex Companies, LLC

PROJECT NAME AND SITE ADDRESS: 40.391363, -104.681859	BORING/WELL ID: MW-1
BORING LOCATION (AT SITE): Greeley Directional, D6C6 7'SE	PROJECT NO.:
SUBCONTRACTOR AND EQUIPMENT: CMT	LOGGED BY: K Ambrose
SAMPLING METHOD: Split Spoon	MONITORING DEVICE: Mini Rae 2000 PID Isobutylene
START DATE/ (TIME): 9/16/19	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 (00)
CASING DIAMETER(S):	SCREEN INTERVAL(S): SLOT (IN):
ANNULUS MATERIAL:	
REVIEWED BY:	

Length of Sample Recovery → / ← Sample Interval
Sample Packaged for Potential Analysis → ■

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
1105		2 3 7 11	0.8	10	SM	50% fine sand, 30% silt, 20% clay, greyish brown, medium dense, moist, trace med-coarse sand, trace v fine gravel	10
		2 12 19 25		15	SP	90% fine-coarse sand, 10% fine gravel, yellowish brown, wet, (mostly coarse) med. dense; 100% fine sand, wet, yellowish brown, dense	15
		9 27 21 11		18	SP	wet, fine-coarse sand, 5% gravel, greyish brown, dense w/ grey/black right before clay interface (~ 2.5" thick) sand (slight hc odor)	
				20	CL	grey, hard clay, wet, medium plasticity	20

The Source Group, Inc. a division of Apex Companies, LLC

BORING/WELL ID: MW-1

PROJECT NAME AND SITE ADDRESS: Greeley Directional

BORING LOCATION (AT SITE):

PROJECT NO.:

TIME	SAMPLE INTERVAL	BLOW COUNTS	PID (ppmV)	DEPTH	USCS LITHOLOGY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size/plasticity, other) ALL PERCENTAGES APPROXIMATE UNLESS STATED OTHERWISE	WELL CONST.
1230		2 5 6 7	3.5	38 40	CL SM	brown clay, stiff, medium plasticity, slight hc odor @ 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 dtw	
1355		2 6 13 17	6.4	48 50	SM SP SM	fine sand, brown, wet, m. dense Saturated, brown, m. stiff, m. plasticity, 10-20% fine sand Saturated, brown, fine sand, m dense	
1440		2 10 15 20	2.4	58 60	SP	Saturated, dense, fine-med sand w/ 5% coarse gravel stabilized water @ 37.70 1530 - auger gets stuck @ ~65' due to heaving sands	
1540		6 12 14	2.4	70 72	SP	med-coarse sand w/ 20% coarse gravel, saturated, brown, m dense fine sand (4") in shoe, m dense, saturated, brown	
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	
						@ 85' drillers encounter bedrock @ 85'. Stop drilling & call in to client & project manager. Wait for water to stabilize & collect multiple readings @ 59.5' bgs. Set well screen @ 45 to 85' bgs (20' above & below assumed breach @ 65')	

Page 2 of ___

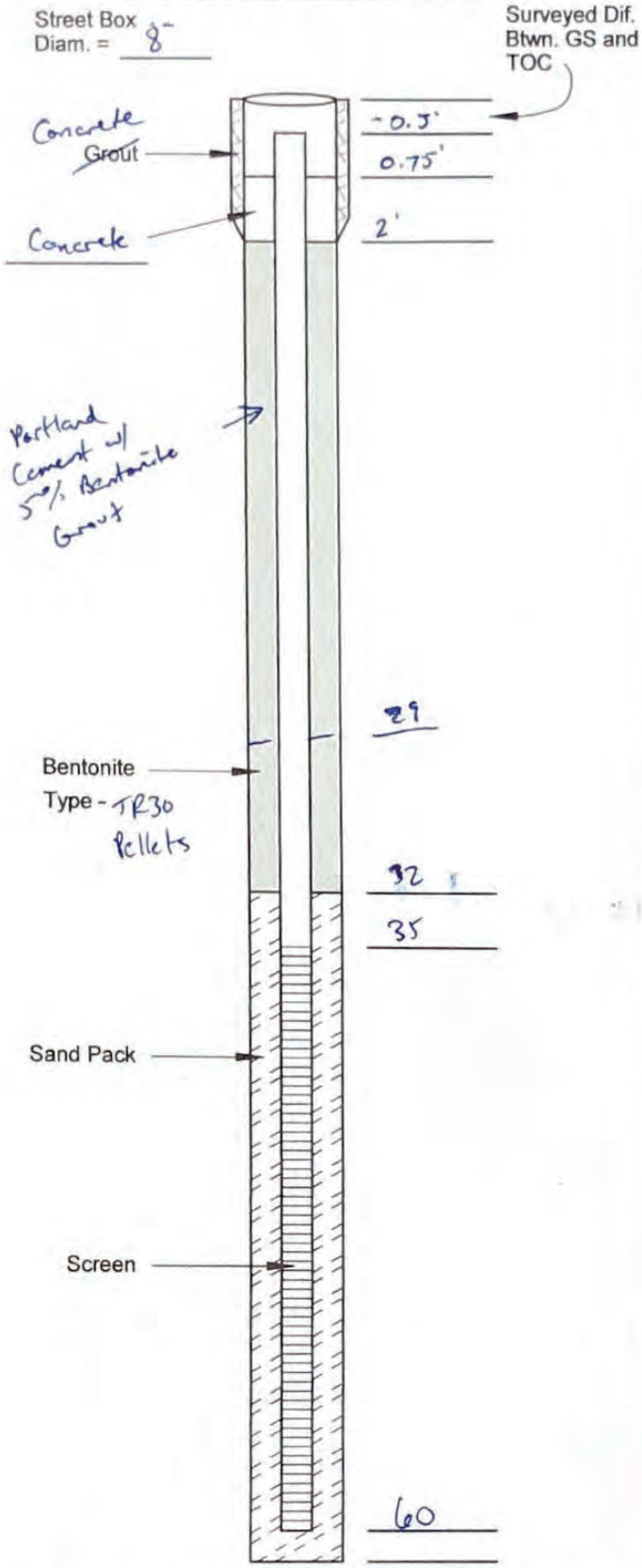
APEX

WELL CONSTRUCTION LOG

Project Number 744.1708.01 286487

Well Number MW02

Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 60'

Drilling Summary

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

Time Log

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

Depth to Water (Below TOC)

Depth: Date: Time:

Well Construction Materials

	Grout	Seals	Filter
Quantity:	2-29	29-32	32-60
Type:	Portland w/ Bent. Grout	TR30 Bent	10/20 Sand

Screen			
Size:	Sch. 40	Config.:	
Area/Ft.:	0.16 ft^2/ft	Comp.:	PVC
Inside Diam.:	2"	Outside Diam.:	2.3"

Comments

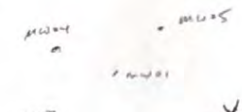
Drilling stopped at 60' bgs due to presence of methane gas in borehole. After the explosive atmosphere remained for several days, the borehole was completed w/ a well at 60' instead of attempting advancement to 85'.

SOIL BORING LOG

APEX

Project Number	Boring Number	Sheet
	MW02	1 of 1

Boring Location Sketch



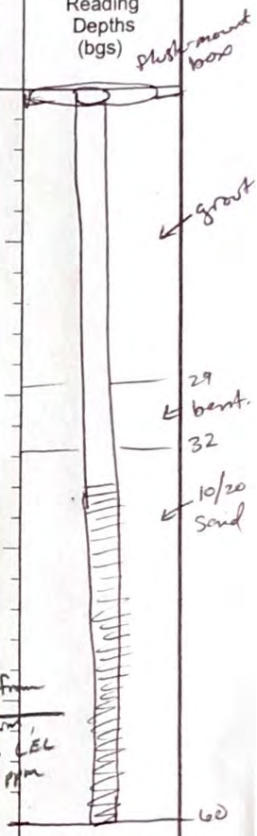
Project: District Six C6 Investigation Location: Greeley Directional Pad

Drilling Method & Equipment: B-59 HSA Rig, 8" OD auger flights Drilling Contractor: Cascade, Robbie Gildea

Date: 4/21/20, clear 60° Water Level: ____ Start: 4/20/20, 1300 Finish: ____ Logger: K. Ambrose

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	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)
10	10-12	1330	66%	2/4/4	(0, 90, 10, 0) brown, moist, fine sand, trace med sand, loose	SP-SM	N	0 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 0
					(5, 90, 5, 0) brown, damp, loose, fine-c sand trace # gravel	SP	N	0
30	30-32	1415	50%	5/5/5 (20 30 5)	(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	SAA, wet	ML	N	0 0 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, & fumes from augers when drillers reach 60'. Stop work to collect gas readings & see if gas action dissipates.			Readings from augers: 4-gas alarm, 20-25% LEL, PID ≈ 15-20 ppm
70								
80								
85								

PID Reading Depths (bgs)



TD = 60'

Prepacked 2" screen, 10-20 sand w/ 0.010" slot 35-60'

Total Depth(s) =

Soil Sample(s):

Rationale

Additional Information:

APEX

WELL CONSTRUCTION LOG

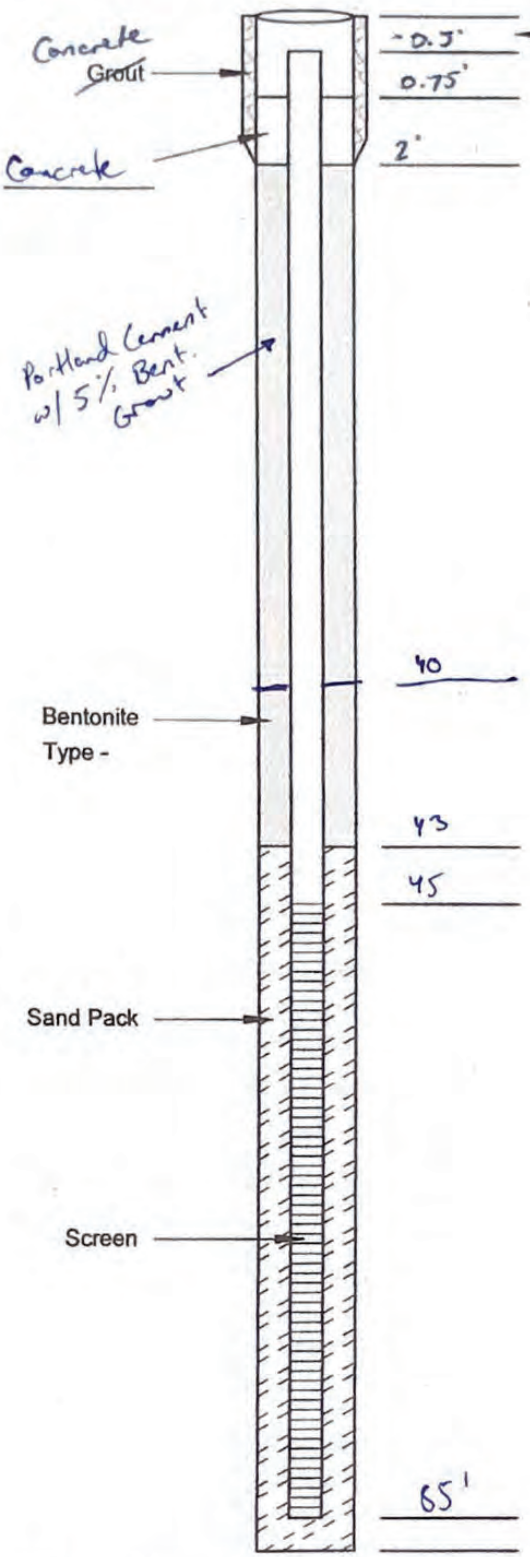
Project Number 744.1708.01 286487

Well Number MW03

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'

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	Config.:	
Area/Ft.:	0.16 in²/ft	Comp.:	PVC
Inside Diam.:	2"	Outside Diam.:	2.3"

Comments

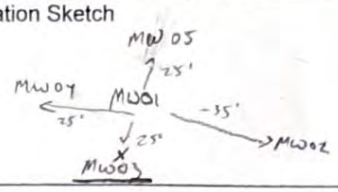
4/23 5:45

SOIL BORING LOG

APEX

Project Number	Boring Number	Sheet
	MW03	1 of 1

Boring Location Sketch



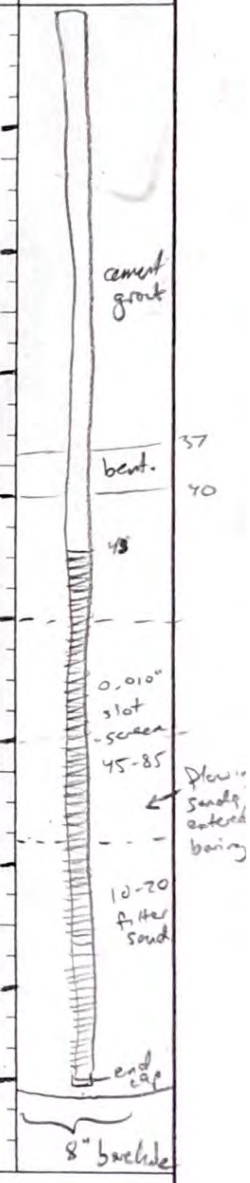
Project District Six CG — Location Greeley Dir. Pad

Drilling Method & Equipment HydroVac, B-59 HSA w/ 8" bit — Drilling Contractor Cascade Drilling, Robbie Gildea

Date 4/21/20 — Water Level ~45-50' bgs — Start 4/21/20, 1000 — Finish 4/23/20, — Logger K. Ambrose

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	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)
		4/21			hydrovac to 6' bgs x 10" wide for clearance. m. dense, lt brown sand, dry, no signs of odor or staining	SP	N	0
10	10-12	1145	100%	3/5/5	(0, 95, 5, 0) lt brn, dry, m. dense ↓ grades into fine sand	SP	N	10: 0; 10.5: 0; 11: 0; 11.5: 0; 10
					(0, 60, 40, 0) lt brn, 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; 20
30	30-32	1330	75%	8/8/8	(0, 70, 30, 0) fine sand, brownish, wet, trace med sand, med dense, grades into	SM	N	30: 0; 30.5: 0; 31: 0; 31.5: 0; 30
					(0, 30, 40, 20) fine sand, grayish brown, wet, med. plasticity, v. stiff	ML	N	
40	40-42	1405	100%	5/8/13	(0, 20, 40, 40) fine sand, lt gray, damp, med. plast ↓	ML	N	40: 0; 40.5: 0; 41: 0; 41.5; 40
					(0, 40, 50, 10) fine sand, lt gray w/ brown mottling, damp, low plasticity	ML		
50	50-52	1505	66%	10/11/10	(0, 40, 50, 10) yellowish brown, saturated, fine sand, low plasticity, stiff	ML	N	50: 6; 50.5; 51: 0; 51.5; 50
					(0, 70, 30, 0) y. brown, saturated, m. dense, fine sand	SM	N	
60	60-62	1616	80%	13/8/5	(10, 80, 10, 0) greenish gray, saturated, mostly fine to med sand, fine gravel, trace coarse sand	SP-SM	N	60: 0; 60.5; 61: 0; 61.5; 60
		4/22						
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; 71: 0; 71.5; 70
80	80-82	1130	100%	7/11/13	(5, 65, 30, 0) brown, wet, fine-med sand, trace fine gravel, m. dense,	SM		80: 0; 80.5; 81: 0; 81.5; 80
					(0, 40, 50, 10) brown, stiff, fine sand, low plasticity, wet	ML		
85	84-86	1230	100%		SAA (brown, wet)			84: 0; 84.5; 85: 0; 85
					(0, 20, 50, 30) greenish gray w/ black seam, hard, wet, no he odor, med plasticity	ML		

Well Construction Diagram



Total Depth(s) = 85'

Soil Sample(s): No soil samples retained for lab analysis

Rationale: No staining or elevated PID readings

Additional Information:

APEX

WELL CONSTRUCTION LOG

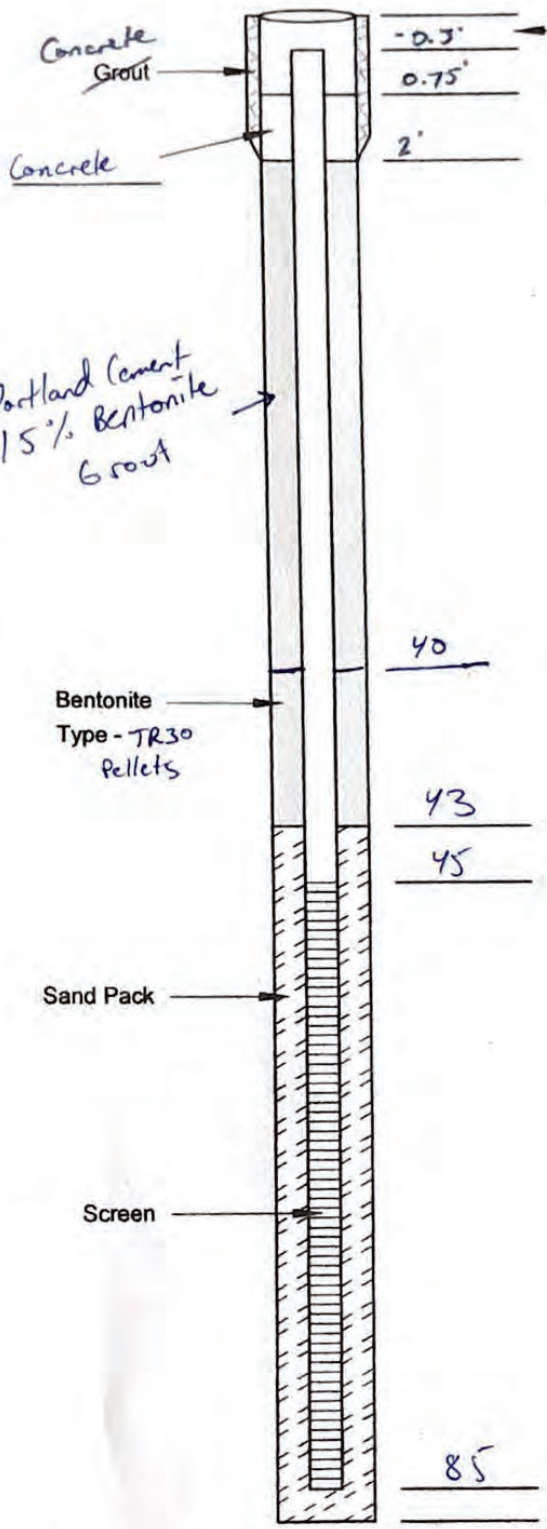
Project Number 744.1703.01 286487

Well Number MW04

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'

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:	4/23/20		4/24/20	
Well Completion:	4/24/20		4/27/20	
Grouting:	4/27/20		4/27/20	

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/ Bent. Grout	TR30 Bent	10/20 Sand

Screen			
Size:	Sch 40	Config.:	
Area/Ft.:	0.16 $5^{-1}/_{4}$	Comp.:	PVC
Inside Diam.:	2"	Outside Diam.:	2.3"

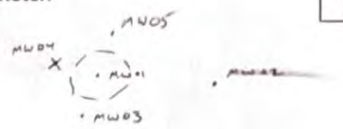
Comments

SOIL BORING LOG

APEX

Project Number	Boring Number	Sheet
	MW04	1 of 1

Boring Location Sketch



Project: District Six CG — Location: Greeley Directional Pad

Drilling Method & Equipment: Hydrovac (6") - cleaning, B59 HSA w/ 8" auger flights — Drilling Contractor: Cascade : Robbie Gildea

Date: 4/21/20 — Water Level: 6' — Start: 4/23/20, 1130 — Finish: — Logger: K Ambrose

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	Standard Penetration Test Results (6"/6"/6"/6")	Soil Description (USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor)	Symbol of USCS Log	Staining	PID Readings (ppm)	Well Const.
		4/23			Clear to ~5.5' bgs using hydrovac & hand tools. Compacted gravelly sand & wood debris.				
10	10-12	1140	75%	4/7/9	10 (0,30,70,0) fine sand, brown w/ lt brown streaking, no plasticity, stiff, dry	ML	N	@ e 10	
					10.5 ↓ grades into	SM	N	@ e 11	
					11.5 (5,70,25,0) fine sand w/ trace med/coarse sand, trace fine gravel, brown, damp, m. dense				
20	20-22	1200	66%	6/13/14	(0,85,5,0) fine-coarse sand, lt brown, m. dense, moist, fine gravel	SP	N	o e 20	
								o e 21	
								o e 22	
30	30-32	1325	75%	12/7/4	30 ↓ SA Above	SP	N	o e 30	
					31 (0,30,50,20) greenish grey, low plasticity, fine gr. sand, wet	ML	N	o e 31	
								o e 32	TR Bent Pellets 37
40	40-42	1350	100%	5/5/7	(0,20,50,30) brown, wet, med plast., fine grain sand	ML	N	o e 40	40
								o e 41	44.5' 10/20 Sand
								o e 42	
50	50-52	1420	100%	5/8/11	(0,60,40,0) brown, saturated, m. dense, fine gr. sand	SM	N	o e 50	
								o e 51	
		4/24							
60	60-62	930	100%	6/29/37	(60,30,10,0) brown, wet, fine-coarse sanded gravel, fine-coarse sand, dense	GP	N	o e 52	
					61 2" layer of black silty sand, trace fine gravel, wet, no odor (organic?)	SM	Y	o e 60 o e black sm	
					62 (0,20,30,50) brown, wet, high plasticity, hard, fine sand	CL	N	o e CL	Some Loosing sands throughout
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	o e 70	
								o e 71	
								o e 72	
80	80-82	1130	100%	5/1-/20	(0,60,40,0) brown, saturated, dense	SM	N	o e 80	
								o e 81	
85	85-87	1150	100%	7/11/13	85 (0,40,60,0) brown, saturated, fine gr sand	ML	N	o e 85	84.5'
					86 (0,0,30,70) greyish brown, hard, wet	CL	N	o e 86	2" Pre-Pack PVC Screen (0.010"-slot)
					87				

Total Depth(s) =

Soil Sample(s):

Rationale

Additional Information:

APEX

WELL CONSTRUCTION LOG

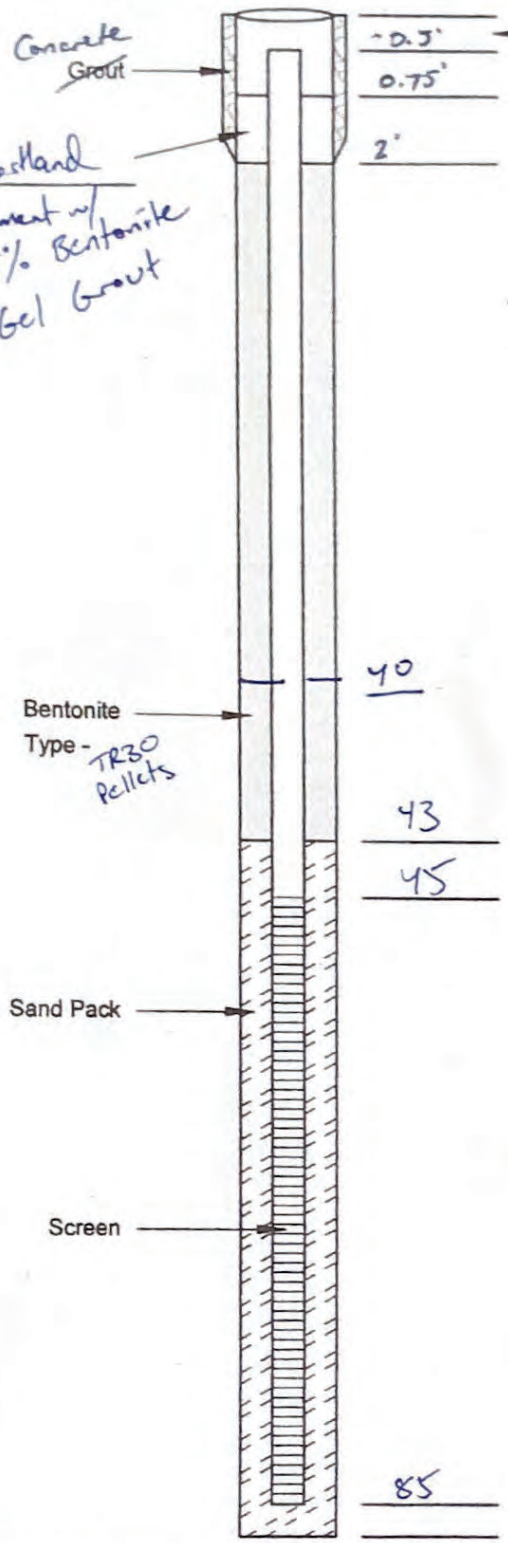
Project Number 744.1708.01 286487

Well Number MW05

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'

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 Time: first water, drilling

~39' 4/30/20 stabilized water

Well Construction Materials

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

Screen

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

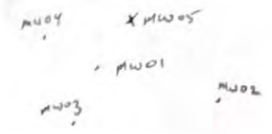
Comments

SOIL BORING LOG

APEX

Project Number	Boring Number	Sheet
	MW05	1 of 1

Boring Location Sketch



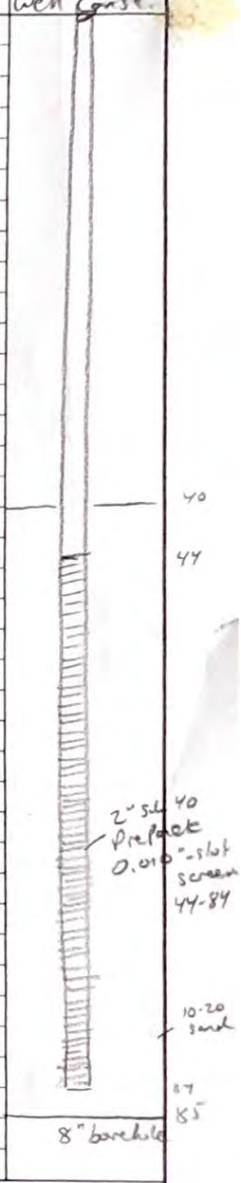
Project: District Six C6 — Location: Greeley Directional Pad

Drilling Method & Equipment: Hydrovac 6', B-59 HSA w/ 8"-OD auger flights — Drilling Contractor: Cascade, Robbie Gildea

Date: 4/21/20 clear 6° — Water Level: — Start: 4/27/20 12:00 — Finish: 4/30/20 — Logger: K Ambrose

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	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)
		4/27						
10	10-12	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
					(0,60,40,0) lt brown, m. dense, dry, fine gr sand	SM	N	0
20	20-22	1330	66%	3/11/10	(0,100,0,0) lt brown, fine-coarse sand, damp, m. dense	SP	N	0
30	30-32	1405	66%	11/17/9	(0,100,0,0) greenish brown from 30-30.5, yellowish brown 30.5-31.5, fine-coarse sand, wet, m. dense	SP	N	0
					in shoe, 2" - dark grey low plasticity silt w/ fine gr sand, damp	ML	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
		4/28			(0,40,60,0) lt brown, fine sand, saturated, hard grades into	ML	N	0
60	60-62	930	100%	8/28/33	(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
					(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
					(0,30,50,20) lt brown, wet, stiff, fine sand, low plasticity	ML	N	0
85	84-86	1200	100%	7/11/13	(0,10,40,50) lt grey, wet, stiff, high plasticity	CL	N	0

Well Const.



Total Depth(s) = 85'

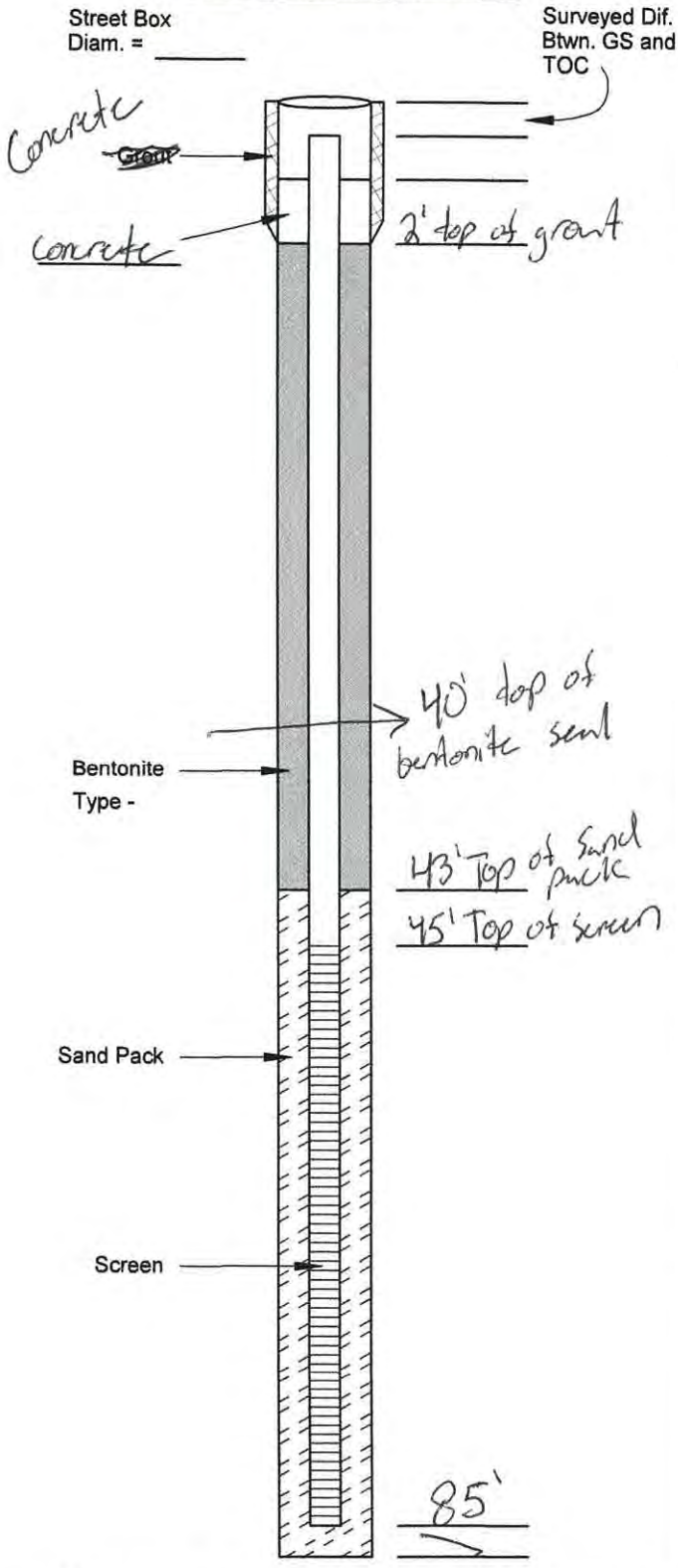
Soil Sample(s):

Rationale

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

APEX

Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = _____

WELL CONSTRUCTION LOG

Project Number 744.1708.01 286487

Well Number MW-06

Drilling Summary

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

Time Log

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

Depth to Water (Below TOC)

Depth: _____ Date: _____ Time: _____

Well Construction Materials

	Grout	Seals	Filter
Quantity:	2'-40'	40'-43'	43'-85'
Type:	Neat cement Portland mix	chipped 3/8 bentonite	#20 washed silica

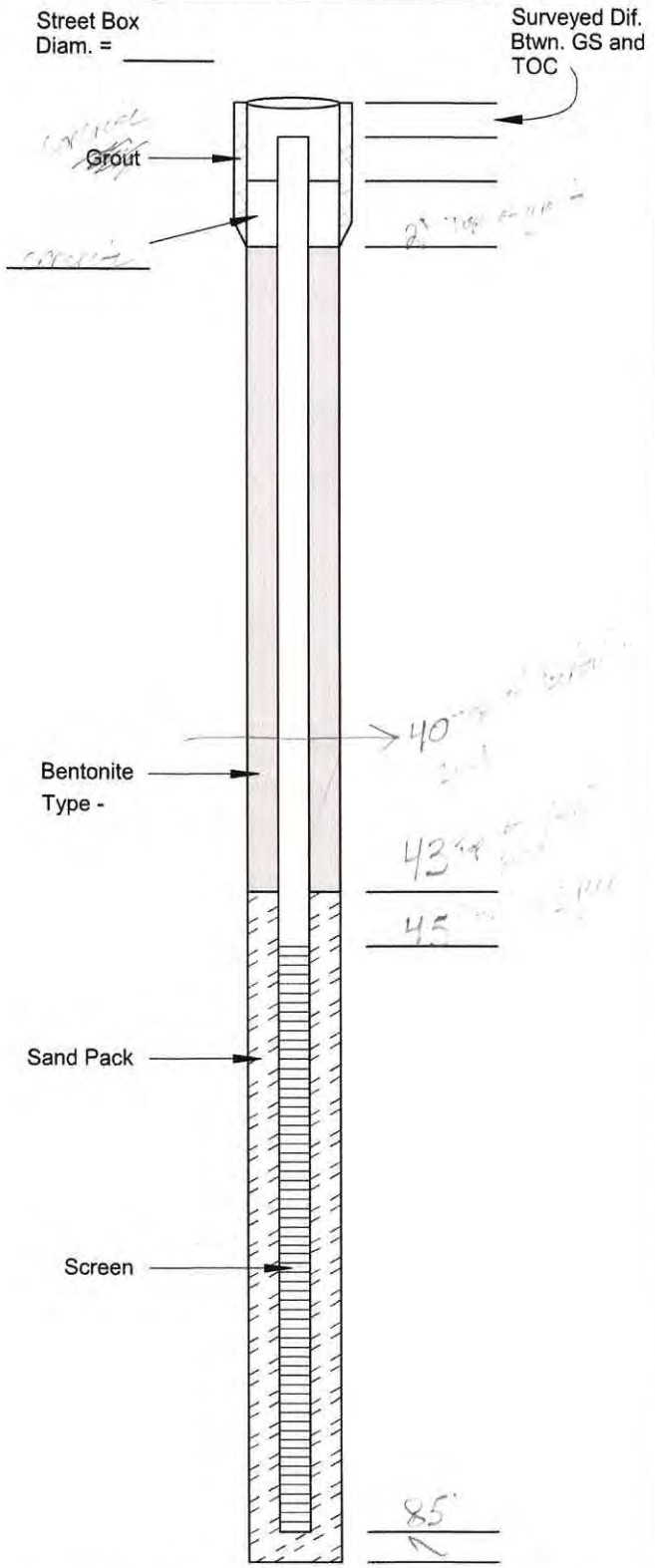
	Screen		
Size:	40'	Config.:	
Area/Ft.:		Comp.:	PVC
Inside Diam.:	2"	Outside Diam.:	2.3"

Comments

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

APEX

Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = _____

WELL CONSTRUCTION LOG

Project Number 744.1708.01 286487

Well Number MW-06

Drilling Summary

Total Depth of Hole: 85'
Hole Diameter: 8¼"
Drilling Company: Cascade Environmental
Driller: Robbie Gilden
Rig Type: B-59 Hollow Stem Auger
Bits: 8¼" D, 5' flight 5
Geologist: Kaila MacDougall

Time Log

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

Depth to Water (Below TOC)

Depth: _____ Date: _____ Time: _____

Well Construction Materials

	Grout	Seals	Filter
Quantity:	2-40'	40-43'	43-85'
Type:	sand & cement mix portland	chipped 3/8 med Bentonite	10/20 washed silica

	Screen		
Size:	40'	Config.:	
Area/Ft.:		Comp.:	PVC
Inside Diam.:	2"	Outside Diam.:	2.3"

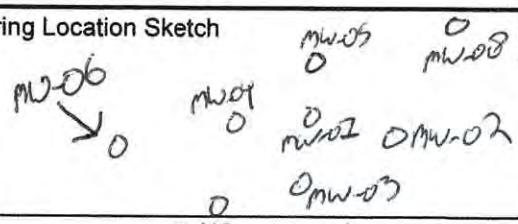
Comments

40' perforated screen installed from 85'-45'

APEX

SOIL BORING LOG

Boring Location Sketch



Project Number	Boring Number	Sheet
	MW-06	1 of 2

Project: District 6 C6 Location: Greater Directional Pad, X06

Drilling Method & Equipment: B59 HSA, 8¼" D x 5' L Drilling Contractor: Cascade, Robbie Eilden

Date: 20/11/09 Water Level: Start: 0927 Finish: 1258 Logger: Kade MacDougall

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	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)
					0-6 hydro-vac for utility				
10'	10-12	0937	2.0'	3/6/9	10-12 light brown, poorly sorted sediments w/ trace amounts pea gravel. Sub-rounded, vf-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 vf-c. Light amounts of clay present @ 20', coarsening down to vc w/ pea gravel @ 22'. Low plasticity, Dry, sub-rounded				
30'	30-32	1024	1.6'	3/14/21	30-32 Light brown w/ poorly sorted sediments ranging from m-vcu w/ pea gravel, no plasticity, low-dense, sub-rounded, sub-angular quartz grns, Dry, loose. Moist sediment encountered @ 37'	SW	no	0.0 0.0 0.0	20' 21' 22'
40'	40-42	1052	1.8'	4/3/4	40-42' Brown to light grey. 40-41' sed poorly sorted, m-vcu w/ pea gravel. No plasticity, low-dense, sharp contact @ 41' to m-vf w/ mod amounts clay, mod plasticity + density, planar laminate w/ oxidized silt lense. Sub-rounded, moist.				
50'	50-52	1114	2.1'	4/5/10	50-52 light brown, wet, poorly sorted silts and sands, vf-m, sub-rounded w/ mod clay. Mod dense, low-mod plasticity.	SW ↓ SC	no	0.0 0.0 0.0	30' 31' 32'
60'									40' 41' 42'
70'									
80'							no	50'-0.0 51'-0.0 52'-0.0	50' 51' 52'
85'									

Total Depth(s) = 85'

Soil Sample(s): No soil samples taken due to no PID detect, odor or staining

Rationale

Additional Information: Hydro-vac 0-6' for utility clearance. Flowing sands 50-85'

APEX

SOIL BORING LOG

Boring Location Sketch: See page 1

Project Number	Boring Number	Sheet
	MW-06	2 of 2

N

Project: District 6 C6 Location: Greeley Directional Pad, X06

Drilling Method & Equipment: B59 HSA Drilling Contractor: Cascade, Robbie Gilchrist

Date: 2/11/09 Water Level: Start: 0927 Finish: 1258 Logger: Kade MacDougall

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	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)
					-No core samples after 52' due to flowing sands. Log trending from augered sediments.				
60	60'		NA	NA	60' Brown, Moist/wet, poorly sorted vf-c w/ light clay, sub-rounded, mod dense, low plasticity,	SM/SC	no	0.0	60'
70	70'		NA	NA	70' Brown, Moist, Poorly sorted vf-c w/ light intermixed clay and trace fine gravel, low plasticity, mod dense, sub-rounded.	SM	no	0.0	70'
80	80'		NA	NA	80'/85'	SM/SC	no	0.0	80'
85	85'	1258	NA	NA	light brown, highly saturated/flowing sands w/ vf-c sand. Slick feel suggesting entrained clays.	SM/SC	no	0.0	85'

Total Depth(s) = 85'

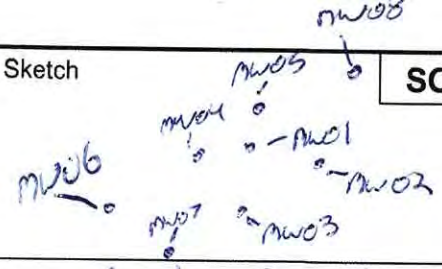
Soil Sample(s): No samples taken due to no PID, staining or odor Rationale

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

APEX

SOIL BORING LOG

Boring Location Sketch



Project Number	Boring Number	Sheet
	MW-06	1 of 2

Project: District 6 CG

Location: Greeley Directional Rd, XOG

Drilling Method & Equipment: BSG HSA, 8" D x 5' L

Drilling Contractor: Cascade, Robbie, Gilbert

Date: 20/11/09 Water Level: Start: 0927 Finish: 1258 Logger: Kaila McGregor

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	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)
10	10-12'	0937	2.0'	3/6/9	10-12. Light brown poorly sorted sands and silts w/ light amounts of gravel, moist, vf-c. Fmin. clumps of light clay. Non-reactive to HCl. No plasticity/crumbly.	SM	No	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 sediments ranging from vf-c. light amounts of clay present. Fmin. clumps to VG and gravel @22'. low plasticity. Dry-sub-rounded	SW	No	20-0.0 21-0.0 22-0.0	20' 21' 22'
30	30-32'	1024	1.6'	3/11/21					
40	40-42'	1052	1.8'	11/3/4	30-32. light brown-brown w/ poorly sorted sediments ranging from vf-vc w/ fine gravel. Dry, low plasticity, dense to ranged w/ sediments. Non-reactive to HCl. Loose.	SW	No	30-0.0 31-0.0 32-0.0	30' 31' 32'
50	50-52'	1114	2.0'	5/5/8	Moist sediments brought to surface by auger @ 1037. 40-41. Brown-light gray. 40'-41' sediments poorly sorted, moist w/ fine to med gravel. No plasticity, dense. 41' Strong contact zone to vf w/ med amounts clays, med plasticity, dense. Planar laminated/mottled silt lense. Sub-rounded grains. Moist.	SW ↓ SC	No	40-0.0 41-0.0 42-0.0	
60							No	50-0.0 51-0.0 52-0.0	
70									
80					50-52. light brown. Moist. Poorly sorted silts and sand vf-Mu, sub-rounded w/ med amounts clays. Med density, low-med plasticity.	SC			
85					No spoon core following 52'. Log from augered sediment.				

Total Depth(s) = 85 ft

Soil Sample(s): -no soil samples taken.

Rationale: No staining, odor or PID readings were found

Additional Information: Hydro-vac stop for utility clearance

APEX

Boring Location Sketch

SOIL BORING LOG

Project Number	Boring Number	Sheet
	MW-06	2 of 2

N

Project District 6 C6 Location Greeley Directional pad

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

Date 20/11/09 Water Level _____ Start 0927 Finish 1258 Logger Kyle McDougall

Depth Below Surface	Sample Interval	Sample Depth/Time	Sample Recovery	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)
					No spoon core following 52', Log from augered sediments	Sr/Sc	no		
60	60'		NA	NA	60' Brown Pl-t/wet Poorly sort			60'-0.0	60'
70	70'		NA	NA			no	70'-0.0	70'
80	80'		NA	NA			no	80'-0.0	80'
85	85'		NA	NA				85'-0.0	85'
90									

Total Depth(s) = 85ft

Soil Sample(s): No samples were taken

No Staining Rationale: Water and no PID readings were found

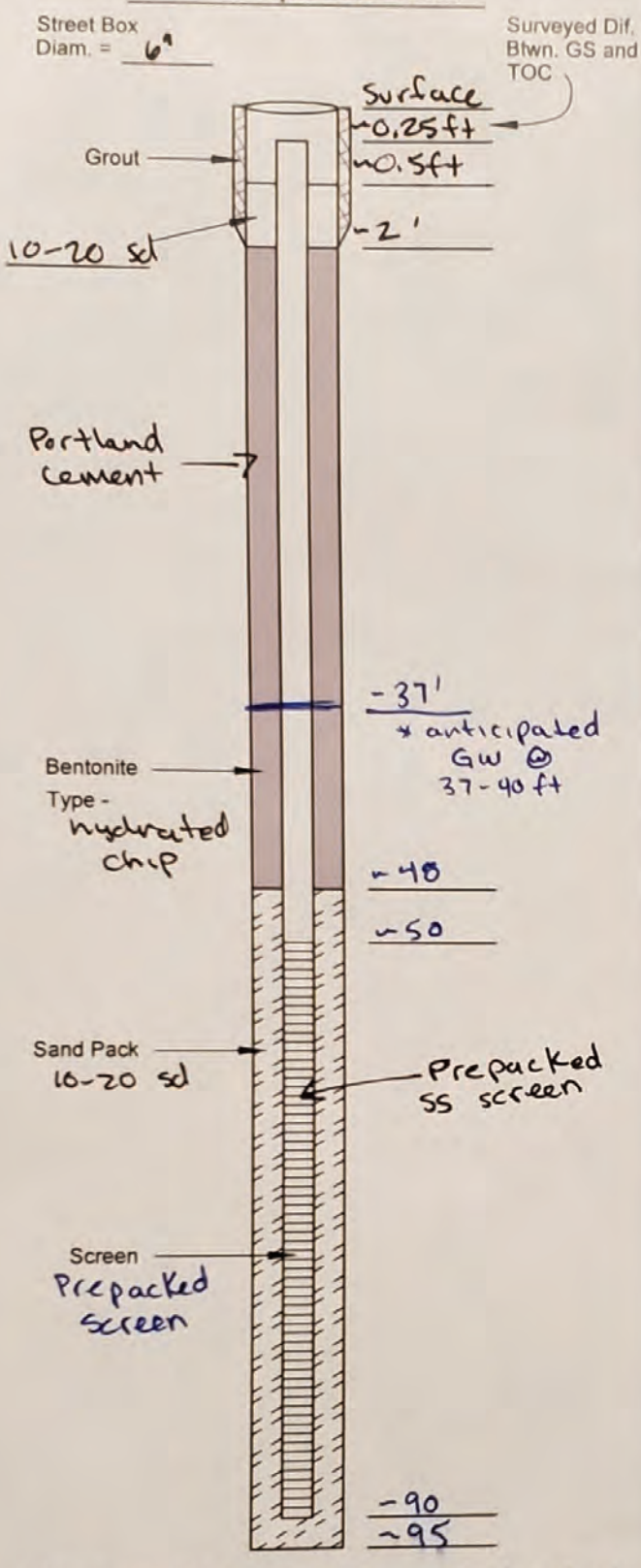
Additional Information: Sands 50-85' w/ poor recovery to surface

APEX

WELL CONSTRUCTION LOG

Project Number	District Six C6	Well Number	MW08

Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = _____

Drilling Summary

Total Depth of Hole: ~95ft BGS
Hole Diameter: 8 1/4"
Drilling Company: Cascade
Driller: Miles
Rig Type: Hollow stem auger
Bits: 8 1/4", 5ft flights
Geologist: Ryan Finley

Time Log

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

Depth to Water (Below TOC)

Depth: _____ Date: _____ Time: _____

Well Construction Materials

	Grout	Seals	Filter
Quantity:	10 bg	4 bg	28 bg
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 ~~90ft~~ 85ft + left overnight. on 10/20/20, casing dropped to 90ft + stayed. well set @ 90ft

APEX

Boring Location Sketch

SOIL BORING LOG

Project Number	Boring Number	Sheet
286487	MW08	1 of 3

N

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: Interval	Sample: Depth/Time	Sample: Recovery	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)
3					Hydrovac potholing to 6ft BGS for utility clearance	GM SM	N		
6									
9					10ft med brwn gravelly silty sd + clay sd. vfg-mg sd. >60% 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
12									
15						GM	N	1.2	20
					20ft med brwn gravelly silty sd. vfg-mg. >50% mg-cg sd. up to 1/4" dia. No plastic, low cohesive. moist. No odor/stn.	SM GM	N	2.3	30
30									
					30ft med brwn silty sd. w/ some gravel 5-10%. vfg-mg sd. grav up to 1/4" angular gravel, rounded sd. No plastic. moist. No odor/stn.	SC	N	2.9	40
45									
					40ft med brwn - L. grey clay sd. vfg-fg. med-high plastic. low dense. moist - satur. slight unknown odor NOT HC. No stain.	SM	N	2.7	50
60						SM SC	N	3.1	60
					50ft. M. brwn - olive gr/grn silty sd. vfg-mg. Low plastic Tr. clay. very loose. v. low dense saturated SA. No odor/stn	SM SC	N	2.6	70
75									
					60ft Same as above very saturated - soupy	SM SC	N	3.9	80
					70ft Same as above flowing sd.	SM SC	N	2.2	85
90					80ft Same as above flowing sd				
					85ft same as above flowing sd				
					* All samples collected off auger flights every 10ft No sampler split spoon used. No hammer counts				

Total Depth(s) = ~95ft **

Soil Sample(s): Ø

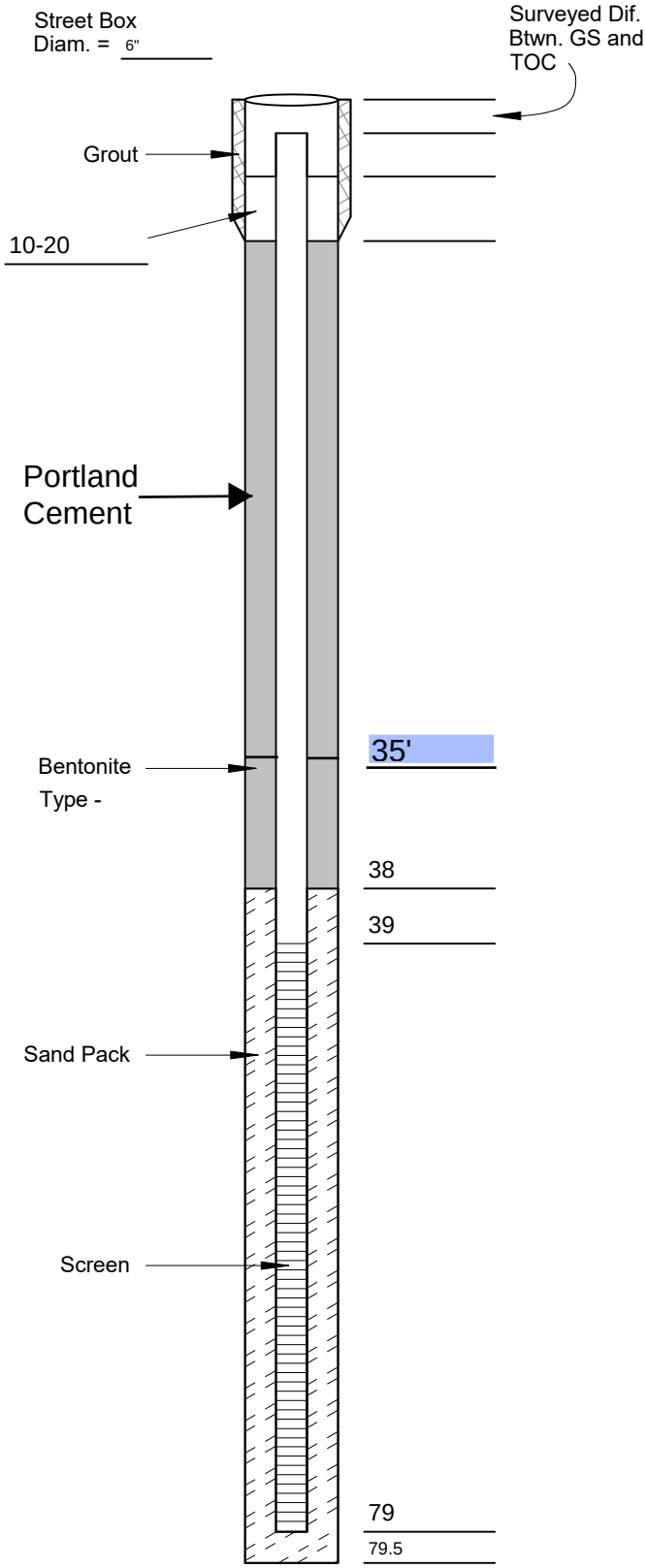
Rationale: No Suspected impacts

Additional Information: ** Driller lost count of depth + drilled to 95ft. depth listed above may not be accurate

WELL CONSTRUCTION LOG

Project Number: District Six | Well Number: MW10

Well Completion Detail



* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = _____

Drilling Summary

Total Depth of Hole: 85'
Hole Diameter: 8 1/4"
Drilling Company: Cascade
Driller:
Rig Type: Hollow Stem Auger
Bits: Standard
Geologist: Jason Grubb

Time Log

	Start Date	Start Time	Finish Date	Finish Time
Drilling:	10/22	10:00	10/22	14:50
Well Completion:	10/22	14:50	10/22	16:30
Grouting:				

Depth to Water (Below TOC)

Depth: _____ Date: _____ Time: _____

Well Construction Materials

	Grout	Seals	Filter
Quantity:			
Type:			

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 85', but flowing sands pushed into auger at 79.5'. Prepack screen was set. Driller knocked out plug and removed auger and boring filled to 55' with flowing sands. Sand pack set from 55' to 38'. Three foot bentonite plug set.

APEX

Boring Location Sketch

SOIL BORING LOG

Project Number	Boring Number	Sheet
	MW07	1 of 2

N

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 Interval	Sample Depth/Time	Sample Recovery	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)
					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%	6/10/12	Tan, silt/clay with some very fine sands (<10%). High plasticity. Saturated. No odor or staining.	ML/CL		0.0	42'
50					At 45' the center rod sunk to 48' and became stuck. Removed auger and rod and used plug to advance boring for well placement.				
60					Cuttings consisted of very fine sands with silt.				
70									

Total Depth(s) = 85'

Soil Sample(s):

Rationale

Additional Information: Stepped out from original location of MW07

APEX

Boring Location Sketch

SOIL BORING LOG

Project Number	Boring Number	Sheet
	MW07	2 of 2

N

MW-10

Project: District 6 Location: Greeley, CO

Drilling Method & Equipment: HSA Drilling Contractor: Cascade

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

Depth Below Surface	Sample: Interval	Sample: Depth/ Time	Sample: Recovery	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)
80					Flowing sands in auger to 79.5'				
90					85' Bottom of boring				

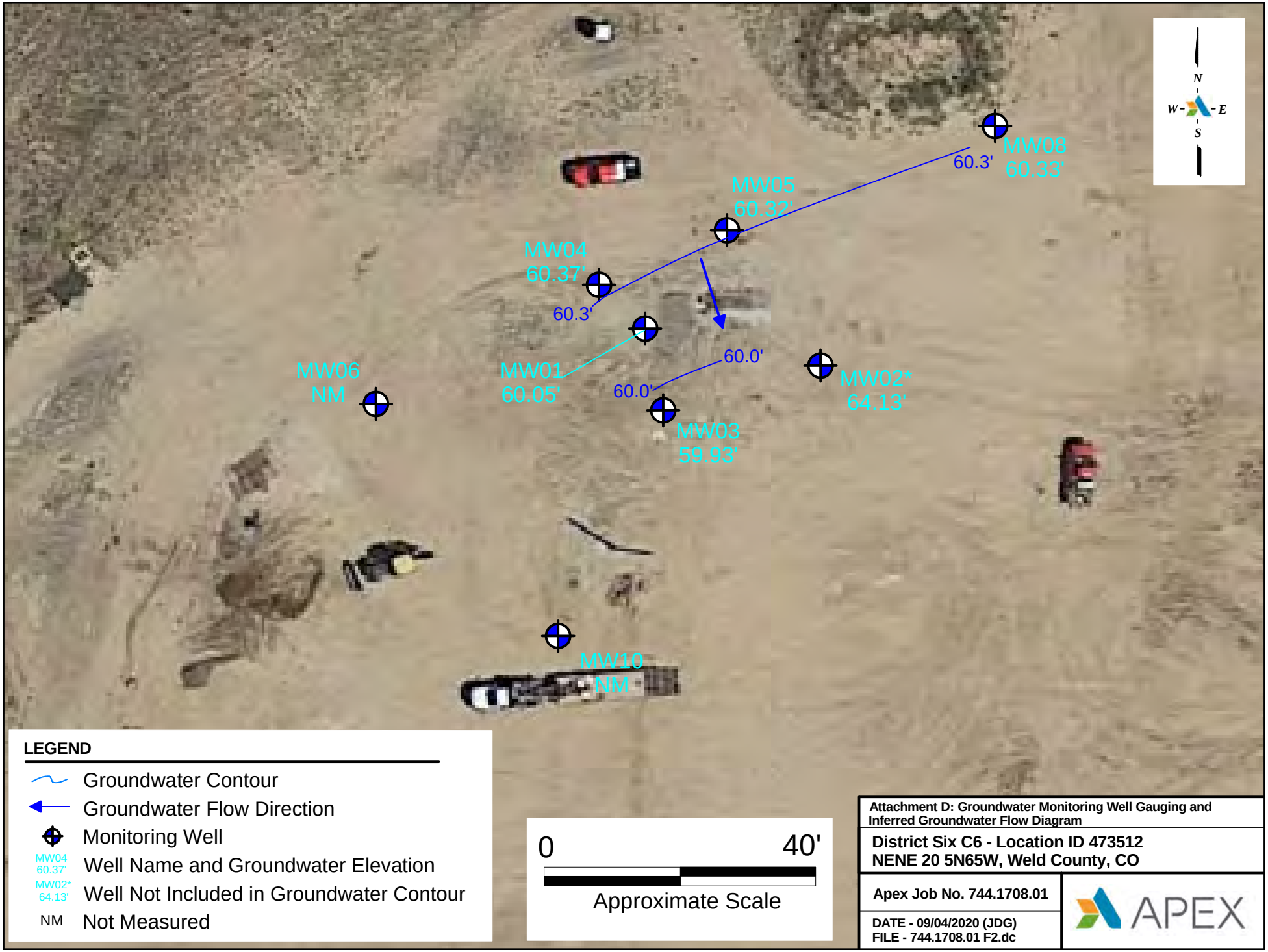
Total Depth(s) =

Soil Sample(s): Rationale

Additional Information:

Attachment E

Groundwater Monitoring Well Gauging and Inferred Groundwater Flow Diagrams



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

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

Apex Job No. 744.1708.01

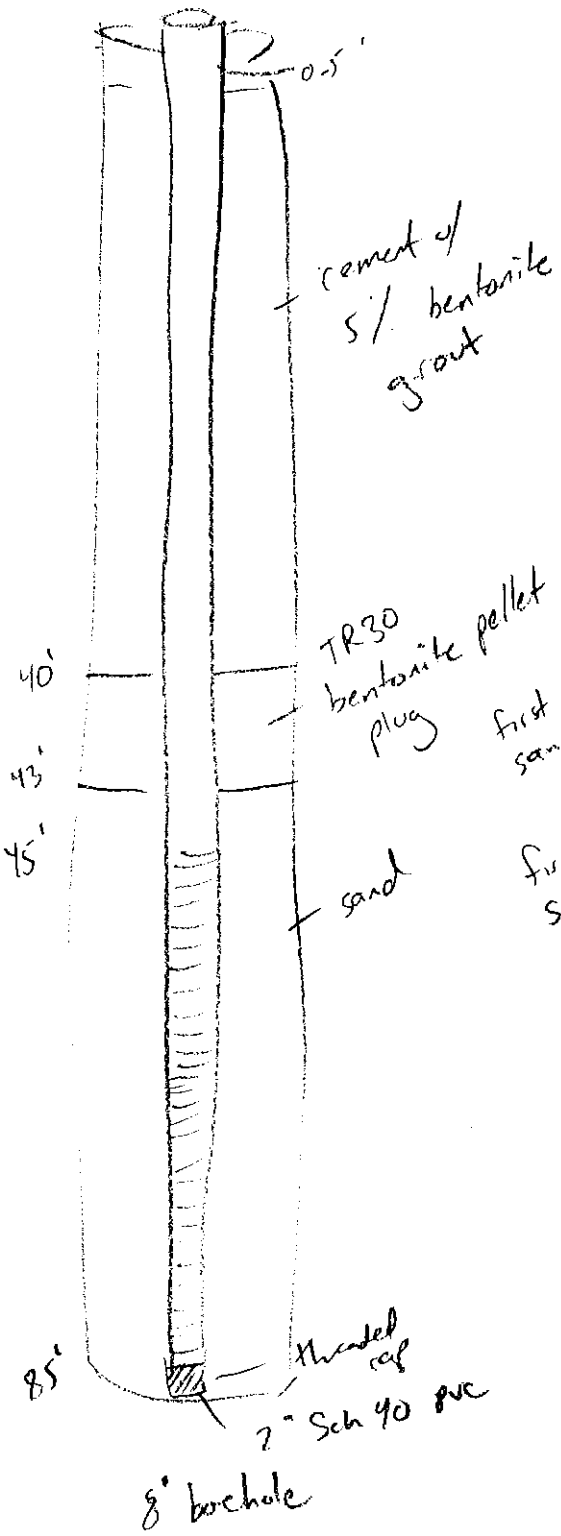
DATE - 09/04/2020 (JDG)
FILE - 744.1708.01 F2.dc

APEX

Attachment F

Soil Vapor Monitoring Probe Construction Diagram

MW-1



first water on samples (~38-40')

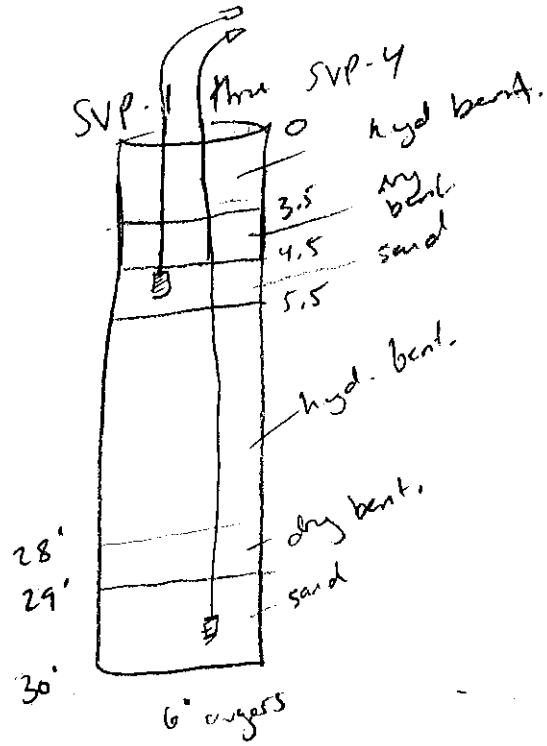
first saturated sample = 48-50' run

water in borehole 9/26 @ 1530 = 37.7' (current auger depth 70')

water in borehole 8/27 @ 1130 = 59.5' (auger depth 85' [bedrock])

stablized water in well 9/30 @ 900 = 37.64

SVP-1 thru SVP-4



Attachment G

2021 Q2 Groundwater Laboratory Reports

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 30, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

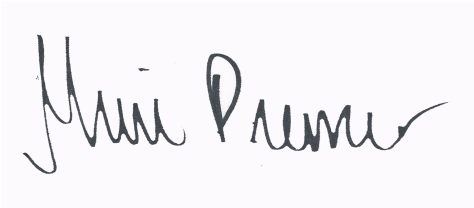
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2106080

Enclosed are the results of analyses for samples received by Summit Scientific on 06/03/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury

President

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_59993_MH_MW_1	2106080-01	Water	06/03/21 12:30	06/03/21 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.

2106080

Summit Scientific

S2

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.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:	Josh Griggs		**Project No.:** Alloc-421 930, 88		**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)**	**Ground Water**	**Soil**	**Air-Canister #**	**Other (Specify)**	**COGCC 609**	**No BART**	**No RSK175** (ethane, methane, propane)					
1	GW_59993_MH_MW_1	06/03/21	1230	11					X				X	X	X					**Sample Frequency:**
	NENE_20_5N_65W																			Q2
	Temperature, field:	15.4	°C																	
	pH, field:	7.59	s.u.																	
	Conductivity, field:	[redacted]1098	uS/cm																	
	ORP, field:	[redacted]	mV																	
	Dissolved Oxygen, field:	-0.05	mg/L																	
	Turbidity, field:	15.2	NTU																	

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	06/03/21 1555	[signature]	6/3/21 1700
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours
___ 24 hours _X_ Standard
___ 48 hours ___

Sample Integrity:
Temperature Upon Receipt: 3
Intact: (Yes) No

Notes:

Sample Receipt Checklist

S2 Work Order 2106080

Client: XOG / Apex Client Project ID: Ground Water / GWA District Six C6

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ✓ ☐ ☐ ☐ ☐ Airbill #: _____

Matrix (check all that apply): ☐ Air ☐ Soil/Solid ✓ Water ☐ Other: _____ (Describe)

Temp (°C)	3

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.	✓			On ice.
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl, HNO_3, H_2SO_4
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

JB	[signature]	6/3/21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

GW_59993_MH_MW_1

NENE_20_5N_65W

2106080-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.43**	0.010	mg/L	10	BEF0162	06/07/21	06/08/21	EPA 8260B	
Toluene	**0.076**	0.0010	"	1	"	"	"	"	
Ethylbenzene	**0.048**	0.0010	"	"	"	"	"	"	
m,p-Xylene	**0.13**	0.0020	"	"	"	"	"	"	
o-Xylene	**0.040**	0.0010	"	"	"	"	"	"	
Xylenes (total)	**0.17**	0.0020	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	**1.8**	0.050	"	"	"	"	"	"	

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*106 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEF0442	06/14/21	06/22/21	EPA 8015M	

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*98.6 %*	*44.8-129*		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**70500**	50.0	ug/l	1	BEF0169	06/08/21	06/08/21	EPA 200.8	

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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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

GW_59993_MH_MW_1
NENE_20_5N_65W
2106080-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Iron	**245**	10.0	ug/l	1	BEF0169	06/08/21	06/08/21	EPA 200.8
Magnesium	**39000**	50.0	"	"	"	"	"	"
Manganese	**633**	1.00	"	"	"	"	"	"
Potassium	**3140**	50.0	"	"	"	"	"	"
Sodium	**95500**	50.0	"	"	"	"	"	"
Barium	**58.9**	1.00	"	"	"	"	"	"
Boron	**93.1**	10.0	"	"	"	"	"	"
Selenium	**1.94**	1.00	"	"	"	"	"	"
Strontium	**939**	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	ND	0.200	mg/L	1	BEF0122	06/04/21	06/07/21	EPA 300.0	
Chloride	**194**	10.0	"	100	"	"	"	"	
Fluoride	**0.721**	0.200	"	1	"	"	"	"	
Sulfate	**50.1**	0.300	"	"	"	"	"	"	
Nitrate as N	**0.460**	0.100	"	"	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	**0.460**	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	**320**	10.0	mg/L as CaCO3	1	BEF0206	06/09/21	06/14/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	**320**	10.0	"	"	"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **06/03/21 12:30**

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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

GW_59993_MH_MW_1
NENE_20_5N_65W
2106080-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Phosphorus - Total	**0.0880**	0.0500	mg/L	1	BEF0297	06/14/21	06/14/21	SM4500-P-E

Specific Conductance by SM2510B

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1090**	1.00	umhos/cm	1	BEF0107	06/04/21	06/04/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**540**	10.0	mg/L	1	BEF0106	06/04/21	06/04/21	SM2540C	

pH by SM4500

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.01**	1.00	pH Units	1	BEF0210	06/03/21	06/09/21	SM4500-H+ B	

Field Data

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1098**		uS/cm	1	BEF0102	06/03/21	06/03/21	Field Method	
Turbidity	**15.2**		NTU	"	"	"	"	"	
Temperature	**15.4**		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	**-229.8**		mv	"	"	"	"	"	
Dissolved Oxygen	**-0.05**		mg/L	"	"	"	"	"	
pH	**7.59**		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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*0.0122*		*"*	*0.0133*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*0.0166*		*"*	*0.0133*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0141*		*"*	*0.0133*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0501	0.0010	mg/L	0.0500		100	51-132			
Toluene	0.0508	0.0010	"	0.0500		102	51-138			
Ethylbenzene	0.0485	0.0010	"	0.0500		97.0	58-146			
m,p-Xylene	0.0973	0.0020	"	0.100		97.3	57-144			
o-Xylene	0.0503	0.0010	"	0.0500		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*0.0148*		*"*	*0.0133*		*111*	*23-173*			
Surrogate: Toluene-d8	*0.0127*		*"*	*0.0133*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0500	0.0010	mg/L	0.0500	ND	99.9	34-141			
Toluene	0.0498	0.0010	"	0.0500	ND	99.7	27-151			
Ethylbenzene	0.0481	0.0010	"	0.0500	ND	96.1	29-160			
m,p-Xylene	0.0976	0.0020	"	0.100	ND	97.6	20-166			
o-Xylene	0.0503	0.0010	"	0.0500	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*0.0127*		*"*	*0.0133*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*0.0125*		*"*	*0.0133*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0132*		*"*	*0.0133*		*99.1*	*21-167*			

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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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0473	0.0010	mg/L	0.0500	ND	94.6	34-141	5.43	32	
Toluene	0.0472	0.0010	"	0.0500	ND	94.3	27-151	5.55	25	
Ethylbenzene	0.0474	0.0010	"	0.0500	ND	94.9	29-160	1.32	50	
m,p-Xylene	0.0946	0.0020	"	0.100	ND	94.6	20-166	3.10	36	
o-Xylene	0.0491	0.0010	"	0.0500	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*0.0131*		*"*	*0.0133*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*0.0124*		*"*	*0.0133*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*101*	*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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0442 - EPA 3520B										
Blank (BEF0442-BLK1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	*0.0242*		*"*	*0.0250*		*96.9*	*44.8-129*			
LCS (BEF0442-BS1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	0.957	0.100	mg/L	1.00		95.7	70-130			
Surrogate: o-Terphenyl	*0.0246*		*"*	*0.0250*		*98.4*	*44.8-129*			
LCS Dup (BEF0442-BSD1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	1.10	0.100	mg/L	1.00		110	70-130	13.7	200	
Surrogate: o-Terphenyl	*0.0248*		*"*	*0.0250*		*99.0*	*44.8-129*			

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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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0169 - EPA 200.8										
Blank (BEF0169-BLK1)				Prepared & Analyzed: 06/08/21						
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 (BEF0169-BS1)				Prepared & Analyzed: 06/08/21						
Calcium	5380	50.0	ug/l	5000		108	85-115			
Iron	5010	10.0	"	5000		100	85-115			
Magnesium	5590	50.0	"	5000		112	85-115			
Manganese	512	1.00	"	500		102	85-115			
Potassium	5350	50.0	"	5000		107	85-115			
Sodium	5280	50.0	"	5000		106	85-115			
Barium	494	1.00	"	500		98.7	85-115			
Boron	2470	10.0	"	2500		98.8	85-115			
Selenium	51.7	1.00	"	50.0		103	85-115			
Strontium	531	10.0	"	500		106	85-115			
Duplicate (BEF0169-DUP1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	208000	50.0	ug/l		214000			2.68	20	
Iron	4.50	10.0	"		ND			200	20	
Magnesium	105000	50.0	"		108000			2.04	20	
Manganese	105	1.00	"		104			0.892	20	
Potassium	6080	50.0	"		6190			1.70	20	
Sodium	180000	50.0	"		183000			1.76	20	
Barium	39.3	1.00	"		41.6			5.60	20	
Boron	585	10.0	"		606			3.58	20	
Selenium	3.68	1.00	"		3.64			1.12	20	
Strontium	3300	10.0	"		3280			0.352	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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0169 - EPA 200.8										
Matrix Spike (BEF0169-MS1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	220000	50.0	ug/l	5000	214000	119	70-130			
Iron	5300	10.0	"	5000	ND	106	70-130			
Magnesium	114000	50.0	"	5000	108000	120	70-130			
Manganese	630	1.00	"	500	104	105	70-130			
Potassium	11600	50.0	"	5000	6190	108	70-130			
Sodium	188000	50.0	"	5000	183000	104	70-130			
Barium	546	1.00	"	500	41.6	101	70-130			
Boron	3010	10.0	"	2500	606	96.3	70-130			
Selenium	59.5	1.00	"	50.0	3.64	112	70-130			
Strontium	3720	10.0	"	500	3280	86.3	70-130			
Matrix Spike Dup (BEF0169-MSD1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	218000	50.0	ug/l	5000	214000	81.6	70-130	0.865	25	
Iron	5270	10.0	"	5000	ND	105	70-130	0.664	25	
Magnesium	111000	50.0	"	5000	108000	74.3	70-130	2.04	25	
Manganese	635	1.00	"	500	104	106	70-130	0.746	25	
Potassium	11300	50.0	"	5000	6190	102	70-130	2.53	25	
Sodium	188000	50.0	"	5000	183000	112	70-130	0.226	25	
Barium	522	1.00	"	500	41.6	96.0	70-130	4.61	25	
Boron	2970	10.0	"	2500	606	94.6	70-130	1.49	25	
Selenium	58.6	1.00	"	50.0	3.64	110	70-130	1.51	25	
Strontium	3690	10.0	"	500	3280	81.8	70-130	0.603	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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0122 - General Preparation										
Blank (BEF0122-BLK1)				Prepared: 06/04/21 Analyzed: 06/07/21						
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 (BEF0122-BS1)				Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	11.0	0.200	mg/L	10.0		110	90-110			
Chloride	3.19	0.100	"	3.00		106	90-110			
Fluoride	2.19	0.200	"	2.00		109	90-110			
Sulfate	16.0	0.300	"	15.0		107	90-110			
Nitrate as N	3.10	0.100	"	3.00		103	90-110			
Nitrite as N	3.16	0.100	"	3.00		105	90-110			
Duplicate (BEF0122-DUP1)		**Source: 2106078-01**		Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	ND	0.200	mg/L		ND				20	
Chloride	ND	0.100	"		122			200	20	QM-02
Fluoride	0.739	0.200	"		0.771			4.24	20	
Sulfate	122	0.300	"		149			20.1	20	QM-02
Nitrate as N	2.14	0.100	"		2.18			1.81	20	
Nitrite as N	5.08	0.100	"		5.01			1.37	20	
Nitrate/Nitrite as N	7.21	0.200	"		7.18			0.417	20	
Matrix Spike (BEF0122-MS1)		**Source: 2106078-01**		Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	10.1	0.200	mg/L	10.0	ND	101	80-120			
Chloride	ND	0.100	"	3.00	122	NR	80-120			QM-02
Fluoride	2.84	0.200	"	2.00	0.771	104	80-120			
Sulfate	126	0.300	"	15.0	149	NR	80-120			QM-02
Nitrate as N	5.41	0.100	"	3.00	2.18	108	80-120			
Nitrite as N	8.13	0.100	"	3.00	5.01	104	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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0206 - General Preparation										
Blank (BEF0206-BLK1)				Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							
LCS (BEF0206-BS1)				Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
Duplicate (BEF0206-DUP1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	360	10.0	mg/L as CaCO3		360			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	360	10.0	"		360			0.00	20	
Matrix Spike (BEF0206-MS1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	470	10.0	mg/L as CaCO3	100	360	110	70-130			
Matrix Spike Dup (BEF0206-MSD1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	470	10.0	mg/L as CaCO3	100	360	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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0297 - General Preparation										
Blank (BEF0297-BLK1)				Prepared & Analyzed: 06/14/21						
Phosphorus - Total	ND	0.0500	mg/L							
LCS (BEF0297-BS1)				Prepared & Analyzed: 06/14/21						
Phosphorus - Total	0.996	0.0500	mg/L	1.00		99.6	80-120			
Duplicate (BEF0297-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	0.0550	0.0500	mg/L		0.0540			1.83	20	
Matrix Spike (BEF0297-MS1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	1.04	0.0500	mg/L	1.00	0.0540	98.6	70-130			
Matrix Spike Dup (BEF0297-MSD1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	1.03	0.0500	mg/L	1.00	0.0540	97.6	70-130	0.966	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 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Specific Conductance by SM2510B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0107 - General Preparation										
Blank (BEF0107-BLK1)				Prepared & Analyzed: 06/04/21						
Specific Conductance (EC)	ND	1.00	umhos/cm							
Duplicate (BEF0107-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/04/21						
Specific Conductance (EC)	1170	1.00	umhos/cm		1160			0.601	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.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0106 - General Preparation										
Blank (BEF0106-BLK1)				Prepared & Analyzed: 06/04/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEF0106-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/04/21						
Total Dissolved Solids	586	10.0	mg/L		586			0.0171	20	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 08/30/21 10:47

pH by SM4500 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0210 - General Preparation										
LCS (BEF0210-BS1)				Prepared: 06/03/21 Analyzed: 06/09/21						
pH	9.25	1.00	pH Units	9.21		100	90-110			
Duplicate (BEF0210-DUP1)		**Source: 2106068-01**		Prepared: 06/03/21 Analyzed: 06/09/21						
pH	8.14	1.00	pH Units		8.10			0.493	20	

Notes and Definitions

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

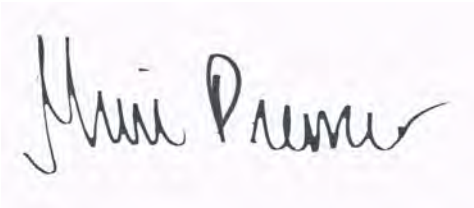
June 28, 2021

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

RE: Trip_Blank/GWA_District_Six_C6
Work Order #2106079

Enclosed are the results of analyses for samples received by Summit Scientific on 06/03/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_59993_MH_MW_1_Trip_Blank	2106079-01	Water	06/03/21 12:30	06/03/21 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 2106079

S_2

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

Client:	Extraction Oil and Gas (XOG)	**Report to:** Apex Companies, LLC	**Project Manager:**	Heather Shideman	
Address:	2234 117th Ave, Ste 106		**E-Mail:**	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com	
City/State/Zip:	Greeley, CO 80634		**cc:**	nbennett@extractionog.com	
Phone:	(970) 576-3446		**Project Name:**	Trip_Blank/GWA_District_Six_C6	
Sampler Name:	Jeff Griggs		**Project No.:**	ALLOC-421	**Facility ID** 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	06/03/21	1230	2					X				X							**Sample Frequency:** Q2

Relinquished by:	Date/Time: 06/03/21 1555	Received by:	Date/Time: 6/3/21 1700
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 3
Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2106079

Client: XOG / Apex 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)	3

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.	✓			On ice.
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?	✓			
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation **(excluding cooling)** (1)? 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)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

JB	[signature]	6/3/21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:28

GW_59993_MH_MW_1_Trip_Blank
2106079-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEF0162	06/07/21	06/08/21	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: **06/03/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*103 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.9 %*	*21-167*		"	"	"	"	

Summit Scientific

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

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*12.2*		*"*	*13.3*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*16.6*		*"*	*13.3*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.1*		*"*	*13.3*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	50.1	1.0	ug/l	50.0		100	51-132			
Toluene	50.8	1.0	"	50.0		102	51-138			
Ethylbenzene	48.5	1.0	"	50.0		97.0	58-146			
m,p-Xylene	97.3	2.0	"	100		97.3	57-144			
o-Xylene	50.3	1.0	"	50.0		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*14.8*		*"*	*13.3*		*111*	*23-173*			
Surrogate: Toluene-d8	*12.7*		*"*	*13.3*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.5*		*"*	*13.3*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	50.0	1.0	ug/l	50.0	ND	99.9	34-141			
Toluene	49.8	1.0	"	50.0	ND	99.7	27-151			
Ethylbenzene	48.1	1.0	"	50.0	ND	96.1	29-160			
m,p-Xylene	97.6	2.0	"	100	ND	97.6	20-166			
o-Xylene	50.3	1.0	"	50.0	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*12.7*		*"*	*13.3*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*12.5*		*"*	*13.3*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.2*		*"*	*13.3*		*99.1*	*21-167*			

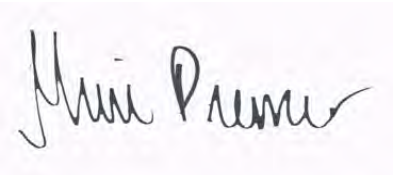
S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 762176 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	47.3	1.0	ug/l	50.0	ND	94.6	34-141	5.43	32	
Toluene	47.2	1.0	"	50.0	ND	94.3	27-151	5.55	25	
Ethylbenzene	47.4	1.0	"	50.0	ND	94.9	29-160	1.32	50	
m,p-Xylene	94.6	2.0	"	100	ND	94.6	20-166	3.10	36	
o-Xylene	49.1	1.0	"	50.0	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*13.1*		*"*	*13.3*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*12.4*		*"*	*13.3*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.5*		*"*	*13.3*		*101*	*21-167*			



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.

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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794479	Job #:	47876	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:	6/03/2021 12:30	Date Received:	6/07/2021	Date Reported:	6/10/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane ----------	36	24
Ethane ----------	6.6	8.2
Propane ----------	2.5	4.5

Alloc-421

nd = not detected; na = not analyzed.

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794473	Job #:	47875	IS-99230	Co. Job#:
Sample Name:	GW_59993_MH_MW_1				Co. Lab#:
Company:	Extraction Oil and Gas				
API/Well:					
Container:	125ml bottle				
Field/Site Name:	Ground_Water/GWA_District_Six_C6				
Location:	NENE_20_5N_65W				
Formation/Depth:	Q1				
Sampling Point:	762176				
Date Sampled:	6/03/2021 12:30	Date Received:	6/07/2021	Date Reported:	6/28/2021

δD of water	----------	-108.6 ‰ relative to VSMOW
δ^{18}O of water	----------	-13.87 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	-18.8 ‰ relative to VPDB
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794479	Job #:	47876	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:	6/03/2021 12:30	Date Received:	6/07/2021	Date Reported:	8/02/2021

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide	nd					
Helium	na					
Hydrogen	nd					
Argon	0.148					
Oxygen	1.34					
Nitrogen	9.14					
Carbon Dioxide	1.60					
Methane	69.48	-47.28	-225.5		39	26
Ethane	12.09	-31.92			7.4	9.2
Ethylene	nd					
Propane	4.68	-28.20			2.7	4.9
Propylene	nd					
Iso-butane	0.432	-30.65				
N-butane	0.866	-26.69				
Iso-pentane	0.123	-28.0				
N-pentane	0.0711	-25.5				
Hexanes +	0.0298					

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.58
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
Alloc-421
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

September 02, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2106055

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_2	2106055-01	Water	06/02/21 11:55	06/02/21 17:50

Summit Scientific

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

2106055

Summit Scientific

S2

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.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:	Jeff Griggs		**Project No.:** Alloc-421 930, 88		**Facility ID 766284**

					Preservative				Matrix				Analysis Requested							Special Instructions
ID	**Field ID / Point of Collection**	**Date Sampled**	**Time Sampled**	**# of containers**	**HCl**	**HNO3**	**None**	**Other (Specify)**	**Ground Water**	**Soil**	**Air-Canister #**	**Other (Specify)**	**COGCC 609**	**No BART**	**No RSK175** (ethane, methane, propane)					
1	GW_60666_MH_MW_2	06/02/21	1155	11					X				X	X	X					**Sample Frequency:**
	NENE_20_5N_65W																			Q2
	Temperature, field:	15.2	°C																	
	pH, field:	7.14	s.u.																	
	Conductivity, field:	1151	uS/cm																	
	ORP, field:	74.4	mV																	
	Dissolved Oxygen, field:	4.24	mg/L																	
	Turbidity, field:	47.6	NTU																	

Relinquished by:	Date/Time: 06/02/21 1750	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6.2.21 1750

Turn Around Time (Check)
Same Day ___ 72 hours
___ 24 hours _X_ Standard
___ 48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2-3
Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2106055

Client: XOG Client Project ID: Ground-Water/GWA_District_Six_C6

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other [X] [ ] [ ] [ ] [ ] Airbill #: _____

Matrix (check all that apply): [ ] Air [ ] Soil/Solid [X] Water [ ] Other: _____ (Describe)

Temp (°C)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			pH
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?		✓		
Additional Comments (if any):				

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

AT	[signature]	6.2.21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

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:** 09/02/21 13:32

GW_60666_MH_MW_2
NENE_20_5N_65W
2106055-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEF0162	06/07/21	06/08/21	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: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*95.0 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.9 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEF0442	06/14/21	06/22/21	EPA 8015M	

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*118 %*	*44.8-129*		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

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S2

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:** 09/02/21 13:32

GW_60666_MH_MW_2
NENE_20_5N_65W
2106055-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Calcium	**86400**	50.0	ug/l	1	BEF0079	06/03/21	06/03/21	EPA 200.8
Iron	**136**	10.0	"	"	"	"	"	"
Magnesium	**38000**	50.0	"	"	"	"	"	"
Manganese	**4.10**	1.00	"	"	"	"	"	"
Potassium	**2850**	50.0	"	"	"	"	"	"
Sodium	**64200**	50.0	"	"	"	"	"	"
Barium	**37.2**	1.00	"	"	"	"	"	"
Boron	**209**	10.0	"	"	"	"	"	"
Selenium	**51.4**	1.00	"	"	"	"	"	"
Strontium	**1160**	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	**0.475**	0.200	mg/L	1	BEF0083	06/03/21	06/03/21	EPA 300.0	
Chloride	**87.0**	10.0	"	100	"	"	"	"	
Fluoride	**0.659**	0.200	"	1	"	"	"	"	
Sulfate	**193**	30.0	"	100	"	"	"	"	
Nitrate as N	**14.5**	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	**14.5**	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	**340**	10.0	mg/L as CaCO3	1	BEF0089	06/03/21	06/14/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	**340**	10.0	"	"	"	"	"	"	

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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:** 09/02/21 13:32

GW_60666_MH_MW_2
NENE_20_5N_65W
2106055-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	**0.0650**	0.0500	mg/L	1	BEF0268	06/11/21	06/11/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1140**	1.00	umhos/cm	1	BEF0073	06/03/21	06/03/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**559**	10.0	mg/L	1	BEF0074	06/03/21	06/03/21	SM2540C	

pH by SM4500

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.33**	1.00	pH Units	1	BEF0209	06/02/21	06/09/21	SM4500-H+ B	

Field Data

Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1151**		uS/cm	1	BEF0070	06/02/21	06/02/21	Field Method	
Turbidity	**47.6**		NTU	"	"	"	"	"	
Temperature	**15.2**		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	**74.4**		mv	"	"	"	"	"	
Dissolved Oxygen	**4.24**		mg/L	"	"	"	"	"	
pH	**7.14**		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:** 09/02/21 13:32

GW_60666_MH_MW_2
NENE_20_5N_65W

2106055-01 (Water)

Summit Scientific

Field Data

S2

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:** 09/02/21 13:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*0.0122*		*"*	*0.0133*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*0.0166*		*"*	*0.0133*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0141*		*"*	*0.0133*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0501	0.0010	mg/L	0.0500		100	51-132			
Toluene	0.0508	0.0010	"	0.0500		102	51-138			
Ethylbenzene	0.0485	0.0010	"	0.0500		97.0	58-146			
m,p-Xylene	0.0973	0.0020	"	0.100		97.3	57-144			
o-Xylene	0.0503	0.0010	"	0.0500		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*0.0148*		*"*	*0.0133*		*111*	*23-173*			
Surrogate: Toluene-d8	*0.0127*		*"*	*0.0133*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0500	0.0010	mg/L	0.0500	ND	99.9	34-141			
Toluene	0.0498	0.0010	"	0.0500	ND	99.7	27-151			
Ethylbenzene	0.0481	0.0010	"	0.0500	ND	96.1	29-160			
m,p-Xylene	0.0976	0.0020	"	0.100	ND	97.6	20-166			
o-Xylene	0.0503	0.0010	"	0.0500	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*0.0127*		*"*	*0.0133*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*0.0125*		*"*	*0.0133*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0132*		*"*	*0.0133*		*99.1*	*21-167*			

S2

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:** 09/02/21 13:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0473	0.0010	mg/L	0.0500	ND	94.6	34-141	5.43	32	
Toluene	0.0472	0.0010	"	0.0500	ND	94.3	27-151	5.55	25	
Ethylbenzene	0.0474	0.0010	"	0.0500	ND	94.9	29-160	1.32	50	
m,p-Xylene	0.0946	0.0020	"	0.100	ND	94.6	20-166	3.10	36	
o-Xylene	0.0491	0.0010	"	0.0500	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*0.0131*		*"*	*0.0133*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*0.0124*		*"*	*0.0133*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*101*	*21-167*			

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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:** 09/02/21 13:32

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0442 - EPA 3520B										
Blank (BEF0442-BLK1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	*0.0242*		*"*	*0.0250*		*96.9*	*44.8-129*			
LCS (BEF0442-BS1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	0.957	0.100	mg/L	1.00		95.7	70-130			
Surrogate: o-Terphenyl	*0.0246*		*"*	*0.0250*		*98.4*	*44.8-129*			
LCS Dup (BEF0442-BSD1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	1.10	0.100	mg/L	1.00		110	70-130	13.7	200	
Surrogate: o-Terphenyl	*0.0248*		*"*	*0.0250*		*99.0*	*44.8-129*			

S2

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:** 09/02/21 13:32

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Blank (BEF0079-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0079-BS1)				Prepared & Analyzed: 06/03/21						
Calcium	4860	50.0	ug/l	5000		97.2	85-115			
Iron	5110	10.0	"	5000		102	85-115			
Magnesium	5240	50.0	"	5000		105	85-115			
Manganese	509	1.00	"	500		102	85-115			
Potassium	5210	50.0	"	5000		104	85-115			
Sodium	5100	50.0	"	5000		102	85-115			
Barium	476	1.00	"	500		95.3	85-115			
Boron	2850	10.0	"	2500		114	85-115			
Selenium	53.9	1.00	"	50.0		108	85-115			
Strontium	482	10.0	"	500		96.3	85-115			
Duplicate (BEF0079-DUP1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	116000	50.0	ug/l		131000			12.1	20	
Iron	60.3	10.0	"		63.5			5.19	20	
Magnesium	98600	50.0	"		110000			11.3	20	
Manganese	105	1.00	"		110			5.21	20	
Potassium	6690	50.0	"		7630			13.1	20	
Sodium	364000	50.0	"		402000			10.0	20	
Barium	59.0	1.00	"		65.1			9.83	20	
Boron	178	10.0	"		214			18.3	20	
Selenium	51.3	1.00	"		51.8			1.02	20	
Strontium	1510	10.0	"		1680			10.1	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 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:32

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Matrix Spike (BEF0079-MS1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	136000	50.0	ug/l	5000	131000	93.0	70-130			
Iron	5710	10.0	"	5000	63.5	113	70-130			
Magnesium	115000	50.0	"	5000	110000	103	70-130			
Manganese	690	1.00	"	500	110	116	70-130			
Potassium	12200	50.0	"	5000	7630	90.6	70-130			
Sodium	408000	50.0	"	5000	402000	107	70-130			
Barium	570	1.00	"	500	65.1	101	70-130			
Boron	2450	10.0	"	2500	214	89.3	70-130			
Selenium	98.1	1.00	"	50.0	51.8	92.5	70-130			
Strontium	2190	10.0	"	500	1680	103	70-130			
Matrix Spike Dup (BEF0079-MSD1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	135000	50.0	ug/l	5000	131000	79.9	70-130	0.482	25	
Iron	5750	10.0	"	5000	63.5	114	70-130	0.801	25	
Magnesium	114000	50.0	"	5000	110000	77.5	70-130	1.09	25	
Manganese	691	1.00	"	500	110	116	70-130	0.130	25	
Potassium	11800	50.0	"	5000	7630	82.8	70-130	3.28	25	
Sodium	407000	50.0	"	5000	402000	84.4	70-130	0.277	25	
Barium	562	1.00	"	500	65.1	99.4	70-130	1.43	25	
Boron	2460	10.0	"	2500	214	89.8	70-130	0.519	25	
Selenium	97.0	1.00	"	50.0	51.8	90.3	70-130	1.10	25	
Strontium	2180	10.0	"	500	1680	100	70-130	0.654	25	

S2

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:** 09/02/21 13:32

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0083 - General Preparation										
Blank (BEF0083-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0083-BS1)				Prepared & Analyzed: 06/03/21						
Bromide	10.6	0.200	mg/L	10.0		106	90-110			
Chloride	3.29	0.100	"	3.00		110	90-110			
Fluoride	2.14	0.200	"	2.00		107	90-110			
Sulfate	15.7	0.300	"	15.0		105	90-110			
Nitrate as N	3.27	0.100	"	3.00		109	90-110			
Nitrite as N	3.28	0.100	"	3.00		109	90-110			
Duplicate (BEF0083-DUP1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	ND	0.200	mg/L		0.294			200	20	
Chloride	15.1	0.100	"		14.7			2.74	20	
Fluoride	ND	0.200	"		ND				20	
Sulfate	12.8	0.300	"		12.0			6.45	20	
Nitrate as N	0.0300	0.100	"		0.0300			0.00	20	
Nitrite as N	ND	0.100	"		ND				20	
Nitrate/Nitrite as N	0.0300	0.200	"		0.0300			0.00	20	
Matrix Spike (BEF0083-MS1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	9.44	0.200	mg/L	10.0	0.294	91.5	80-120			
Chloride	17.5	0.100	"	3.00	14.7	94.0	80-120			
Fluoride	2.06	0.200	"	2.00	ND	103	80-120			
Sulfate	27.3	0.300	"	15.0	12.0	102	80-120			
Nitrate as N	2.95	0.100	"	3.00	0.0300	97.2	80-120			
Nitrite as N	2.86	0.100	"	3.00	ND	95.3	80-120			

S2

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:** 09/02/21 13:32

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0089 - General Preparation										
Blank (BEF0089-BLK1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							
LCS (BEF0089-BS1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
Duplicate (BEF0089-DUP1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	400	10.0	mg/L as CaCO3		400			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	400	10.0	"		400			0.00	20	
Matrix Spike (BEF0089-MS1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130			
Matrix Spike Dup (BEF0089-MSD1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130	0.00	20	

S2

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:** 09/02/21 13:32

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0268 - General Preparation										
Blank (BEF0268-BLK1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	ND	0.0500	mg/L							
LCS (BEF0268-BS1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.923	0.0500	mg/L	1.00		92.3	80-120			
Duplicate (BEF0268-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.0800	0.0500	mg/L		0.0770			3.82	20	
Matrix Spike (BEF0268-MS1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.05	0.0500	mg/L	1.00	0.0770	97.3	70-130			
Matrix Spike Dup (BEF0268-MSD1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.04	0.0500	mg/L	1.00	0.0770	96.3	70-130	0.957	20	

S2

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:** 09/02/21 13:32

Specific Conductance by SM2510B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0073 - General Preparation										
Blank (BEF0073-BLK1)				Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	ND	1.00	umhos/cm							
Duplicate (BEF0073-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	5600	1.00	umhos/cm		5590			0.107	20	

S2

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:** 09/02/21 13:32

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0074 - General Preparation										
Blank (BEF0074-BLK1)				Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEF0074-DUP1)		**Source: 2105449-01**		Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	689	10.0	mg/L		690			0.131	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.

S2

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:** 09/02/21 13:32

pH by SM4500 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0209 - General Preparation										
LCS (BEF0209-BS1)				Prepared: 06/02/21 Analyzed: 06/09/21						
pH	9.28	1.00	pH Units	9.21		101	90-110			
Duplicate (BEF0209-DUP1)		**Source: 2106036-01**		Prepared: 06/02/21 Analyzed: 06/09/21						
pH	7.00	1.00	pH Units		6.91			1.29	20	

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

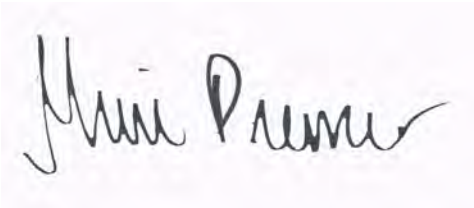
June 24, 2021

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

RE: Trip_Blank/GWA_District_Six_C6
Work Order #2106057

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

S2

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:** 06/24/21 13:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_2_Trip_Blank	2106057-01	Water	06/02/21 11:55	06/02/21 17:50

Summit Scientific

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

2106057

Summit Scientific

S_2

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

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

					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_60666_MH_MW_2_Trip_Blank	06/02/21	1155	2					X				X							**Sample Frequency:** Q2

Relinquished by:	Date/Time: 06/02/21 1750	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6-2-21 1750

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2-3
Intact: Yes No

Notes:

2106057

Sample Receipt Checklist

S2 Work Order_____

Client: Extraction (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)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? 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)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

AT	[signature]	6-2-21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

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:** 06/24/21 13:39

GW_60666_MH_MW_2_Trip_Blank
2106057-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

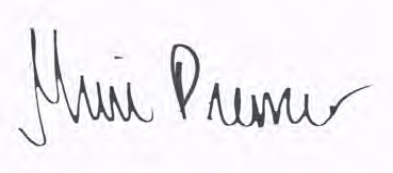
Date Sampled: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEF0133	06/05/21	06/06/21	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: **06/02/21 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*63.8 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*119 %*	*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.

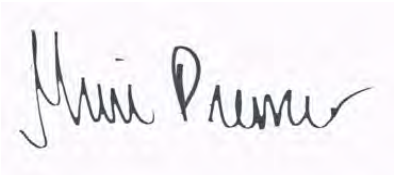
S2

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:** 06/24/21 13:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Blank (BEF0133-BLK1)				Prepared: 06/05/21 Analyzed: 06/06/21						
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	*11.1*		*"*	*13.3*		*83.5*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.5*		*"*	*13.3*		*109*	*21-167*			
LCS (BEF0133-BS1)				Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.8	1.0	ug/l	33.3		86.4	51-132			
Toluene	42.1	1.0	"	33.3		126	51-138			
Ethylbenzene	36.0	1.0	"	33.3		108	58-146			
m,p-Xylene	70.2	2.0	"	66.7		105	57-144			
o-Xylene	35.2	1.0	"	33.3		106	53-146			
Surrogate: 1,2-Dichloroethane-d4	*8.53*		*"*	*13.3*		*64.0*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*107*	*21-167*			
Matrix Spike (BEF0133-MS1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	27.8	1.0	ug/l	33.3	ND	83.6	34-141			
Toluene	43.2	1.0	"	33.3	ND	129	27-151			
Ethylbenzene	38.1	1.0	"	33.3	ND	114	29-160			
m,p-Xylene	73.8	2.0	"	66.7	ND	111	20-166			
o-Xylene	36.5	1.0	"	33.3	ND	109	33-159			
Surrogate: 1,2-Dichloroethane-d4	*7.48*		*"*	*13.3*		*56.1*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*106*	*21-167*			



S2

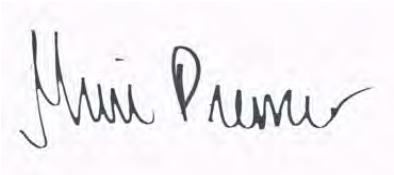
Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Project Manager: Heather Shideman	**Reported:** 06/24/21 13:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0133-MSD1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.0	1.0	ug/l	33.3	ND	84.1	34-141	0.680	32	
Toluene	44.2	1.0	"	33.3	ND	133	27-151	2.34	25	
Ethylbenzene	36.9	1.0	"	33.3	ND	111	29-160	3.20	50	
m,p-Xylene	72.7	2.0	"	66.7	ND	109	20-166	1.47	36	
o-Xylene	36.5	1.0	"	33.3	ND	110	33-159	0.164	26	
Surrogate: 1,2-Dichloroethane-d4	*12.0*		*"*	*13.3*		*89.8*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.7*		*"*	*13.3*		*110*	*21-167*			

Summit Scientific



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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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794475	Job #:	47876	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:	Q2				
Sampling Point:	766284				
Date Sampled:	6/02/2021 11:55	Date Received:	6/07/2021	Date Reported:	6/10/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane ----------	0.066	0.044
Ethane ----------	0.013	0.017
Propane ----------	0.0047	0.0086

Alloc-421 L

nd = not detected; na = not analyzed.

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794469	Job #:	47875	IS-99230	Co. Job#:
Sample Name:	GW_60666_MH_MW_2				Co. Lab#:
Company:	Extraction Oil and Gas				
API/Well:					
Container:	125ml bottle				
Field/Site Name:	Ground_Water/GWA_District_Six_C6				
Location:	NENE_20_5N_65W				
Formation/Depth:	Q2				
Sampling Point:	766284				
Date Sampled:	6/02/2021 11:55	Date Received:	6/07/2021	Date Reported:	6/28/2021

δD of water	----------	-103.0 ‰ relative to VSMOW
δ^{18}O of water	----------	-13.13 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	-12.8 ‰ relative to VPDB
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

September 02, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

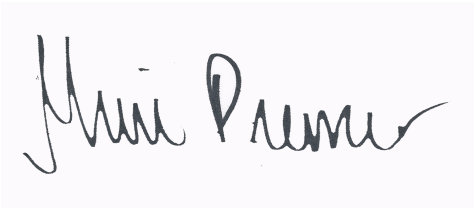
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2106054

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury

President

S2

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:** 09/02/21 13:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_3	2106054-01	Water	06/02/21 13:45	06/02/21 17:50

Summit Scientific

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

2106054

Summit Scientific

S2

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.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:	Jeff Griggs		**Project No.:** Alloc-421 930, 88		**Facility ID 766285**

					Preservative				Matrix				Analysis Requested							Special Instructions
ID	**Field ID / Point of Collection**	**Date Sampled**	**Time Sampled**	**# of containers**	**HCl**	**HNO3**	**None**	**Other (Specify)**	**Ground Water**	**Soil**	**Air-Canister #**	**Other (Specify)**	**COGCC 609**	**No BART**	**No RSK175** (ethane, methane, propane)					
1	GW_60666_MH_MW_3	06/02/21	1345	15					X				X	X	X					**Sample Frequency:**
	NENE_20_5N_65W																			Q2
	Temperature, field:	15.6	°C																	
	pH, field:	7.09	s.u.																	
	Conductivity, field:	1198	uS/cm																	
	ORP, field:	64.2	mV																	
	Dissolved Oxygen, field:	1.87	mg/L																	
	Turbidity, field:	28.2	NTU																	

Relinquished by:	Date/Time: 6.2.21 1750	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6.2.21 1750

Turn Around Time (Check)
Same Day ___ 72 hours
___ 24 hours _X_ Standard
___ 48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2.3
Intact: Yes No

Notes:

2106054

Sample Receipt Checklist

S2 Work Order_____

Client: XOG Client Project ID: Ground-Water/GWA_District_Six_C6

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other_____ Airbill #: _____

[X] [ ] [ ] [ ] [ ]

Matrix (check all that apply): [ ] Air [ ] Soil/Solid [X] Water [ ] Other:_____ (Describe)

Temp (°C)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			pH
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?		✓		
Additional Comments (if any):				

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

AT
Custodian Printed Name or Initials

Signature of Custodian

6.2.21
Date/Time

S2

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:** 09/02/21 13:26

GW_60666_MH_MW_3
NENE_20_5N_65W
2106054-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEF0162	06/07/21	06/08/21	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: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*110 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*105 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.1 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEF0442	06/14/21	06/22/21	EPA 8015M	

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*100 %*	*44.8-129*		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **06/02/21 13:45**

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.

S2

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:** 09/02/21 13:26

GW_60666_MH_MW_3
NENE_20_5N_65W
2106054-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Calcium	**90700**	50.0	ug/l	1	BEF0079	06/03/21	06/03/21	EPA 200.8
Iron	**137**	10.0	"	"	"	"	"	"
Magnesium	**37400**	50.0	"	"	"	"	"	"
Manganese	**178**	1.00	"	"	"	"	"	"
Potassium	**3810**	50.0	"	"	"	"	"	"
Sodium	**63900**	50.0	"	"	"	"	"	"
Barium	**49.6**	1.00	"	"	"	"	"	"
Boron	**176**	10.0	"	"	"	"	"	"
Selenium	**46.5**	1.00	"	"	"	"	"	"
Strontium	**1170**	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	**0.507**	0.200	mg/L	1	BEF0083	06/03/21	06/03/21	EPA 300.0	
Chloride	**105**	10.0	"	100	"	"	"	"	
Fluoride	**0.515**	0.200	"	1	"	"	"	"	
Sulfate	**226**	30.0	"	100	"	"	"	"	
Nitrate as N	**12.0**	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	**12.0**	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	**320**	10.0	mg/L as CaCO3	1	BEF0089	06/03/21	06/14/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	**320**	10.0	"	"	"	"	"	"	

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S2

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:** 09/02/21 13:26

GW_60666_MH_MW_3
NENE_20_5N_65W
2106054-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	**0.0830**	0.0500	mg/L	1	BEF0268	06/11/21	06/11/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1210**	1.00	umhos/cm	1	BEF0073	06/03/21	06/03/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**586**	10.0	mg/L	1	BEF0074	06/03/21	06/03/21	SM2540C	

pH by SM4500

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.22**	1.00	pH Units	1	BEF0209	06/02/21	06/09/21	SM4500-H+ B	

Field Data

Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1198**		uS/cm	1	BEF0069	06/02/21	06/02/21	Field Method	
Turbidity	**28.2**		NTU	"	"	"	"	"	
Temperature	**15.6**		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	**64.20**		mv	"	"	"	"	"	
Dissolved Oxygen	**1.87**		mg/L	"	"	"	"	"	
pH	**7.09**		SU	"	"	"	"	"	

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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:** 09/02/21 13:26

GW_60666_MH_MW_3
NENE_20_5N_65W

2106054-01 (Water)

Summit Scientific

Field Data

S2

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:** 09/02/21 13:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*0.0122*		*"*	*0.0133*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*0.0166*		*"*	*0.0133*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0141*		*"*	*0.0133*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0501	0.0010	mg/L	0.0500		100	51-132			
Toluene	0.0508	0.0010	"	0.0500		102	51-138			
Ethylbenzene	0.0485	0.0010	"	0.0500		97.0	58-146			
m,p-Xylene	0.0973	0.0020	"	0.100		97.3	57-144			
o-Xylene	0.0503	0.0010	"	0.0500		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*0.0148*		*"*	*0.0133*		*111*	*23-173*			
Surrogate: Toluene-d8	*0.0127*		*"*	*0.0133*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0500	0.0010	mg/L	0.0500	ND	99.9	34-141			
Toluene	0.0498	0.0010	"	0.0500	ND	99.7	27-151			
Ethylbenzene	0.0481	0.0010	"	0.0500	ND	96.1	29-160			
m,p-Xylene	0.0976	0.0020	"	0.100	ND	97.6	20-166			
o-Xylene	0.0503	0.0010	"	0.0500	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*0.0127*		*"*	*0.0133*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*0.0125*		*"*	*0.0133*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0132*		*"*	*0.0133*		*99.1*	*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:** 09/02/21 13:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0473	0.0010	mg/L	0.0500	ND	94.6	34-141	5.43	32	
Toluene	0.0472	0.0010	"	0.0500	ND	94.3	27-151	5.55	25	
Ethylbenzene	0.0474	0.0010	"	0.0500	ND	94.9	29-160	1.32	50	
m,p-Xylene	0.0946	0.0020	"	0.100	ND	94.6	20-166	3.10	36	
o-Xylene	0.0491	0.0010	"	0.0500	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*0.0131*		*"*	*0.0133*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*0.0124*		*"*	*0.0133*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*101*	*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:** 09/02/21 13:26

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0442 - EPA 3520B										
Blank (BEF0442-BLK1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	*0.0242*		*"*	*0.0250*		*96.9*	*44.8-129*			
LCS (BEF0442-BS1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	0.957	0.100	mg/L	1.00		95.7	70-130			
Surrogate: o-Terphenyl	*0.0246*		*"*	*0.0250*		*98.4*	*44.8-129*			
LCS Dup (BEF0442-BSD1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	1.10	0.100	mg/L	1.00		110	70-130	13.7	200	
Surrogate: o-Terphenyl	*0.0248*		*"*	*0.0250*		*99.0*	*44.8-129*			

S2

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:** 09/02/21 13:26

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Blank (BEF0079-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0079-BS1)				Prepared & Analyzed: 06/03/21						
Calcium	4860	50.0	ug/l	5000		97.2	85-115			
Iron	5110	10.0	"	5000		102	85-115			
Magnesium	5240	50.0	"	5000		105	85-115			
Manganese	509	1.00	"	500		102	85-115			
Potassium	5210	50.0	"	5000		104	85-115			
Sodium	5100	50.0	"	5000		102	85-115			
Barium	476	1.00	"	500		95.3	85-115			
Boron	2850	10.0	"	2500		114	85-115			
Selenium	53.9	1.00	"	50.0		108	85-115			
Strontium	482	10.0	"	500		96.3	85-115			
Duplicate (BEF0079-DUP1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	116000	50.0	ug/l		131000			12.1	20	
Iron	60.3	10.0	"		63.5			5.19	20	
Magnesium	98600	50.0	"		110000			11.3	20	
Manganese	105	1.00	"		110			5.21	20	
Potassium	6690	50.0	"		7630			13.1	20	
Sodium	364000	50.0	"		402000			10.0	20	
Barium	59.0	1.00	"		65.1			9.83	20	
Boron	178	10.0	"		214			18.3	20	
Selenium	51.3	1.00	"		51.8			1.02	20	
Strontium	1510	10.0	"		1680			10.1	20	

Summit Scientific

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S2

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:** 09/02/21 13:26

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Matrix Spike (BEF0079-MS1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	136000	50.0	ug/l	5000	131000	93.0	70-130			
Iron	5710	10.0	"	5000	63.5	113	70-130			
Magnesium	115000	50.0	"	5000	110000	103	70-130			
Manganese	690	1.00	"	500	110	116	70-130			
Potassium	12200	50.0	"	5000	7630	90.6	70-130			
Sodium	408000	50.0	"	5000	402000	107	70-130			
Barium	570	1.00	"	500	65.1	101	70-130			
Boron	2450	10.0	"	2500	214	89.3	70-130			
Selenium	98.1	1.00	"	50.0	51.8	92.5	70-130			
Strontium	2190	10.0	"	500	1680	103	70-130			
Matrix Spike Dup (BEF0079-MSD1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	135000	50.0	ug/l	5000	131000	79.9	70-130	0.482	25	
Iron	5750	10.0	"	5000	63.5	114	70-130	0.801	25	
Magnesium	114000	50.0	"	5000	110000	77.5	70-130	1.09	25	
Manganese	691	1.00	"	500	110	116	70-130	0.130	25	
Potassium	11800	50.0	"	5000	7630	82.8	70-130	3.28	25	
Sodium	407000	50.0	"	5000	402000	84.4	70-130	0.277	25	
Barium	562	1.00	"	500	65.1	99.4	70-130	1.43	25	
Boron	2460	10.0	"	2500	214	89.8	70-130	0.519	25	
Selenium	97.0	1.00	"	50.0	51.8	90.3	70-130	1.10	25	
Strontium	2180	10.0	"	500	1680	100	70-130	0.654	25	

S2

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:** 09/02/21 13:26

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0083 - General Preparation										
Blank (BEF0083-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0083-BS1)				Prepared & Analyzed: 06/03/21						
Bromide	10.6	0.200	mg/L	10.0		106	90-110			
Chloride	3.29	0.100	"	3.00		110	90-110			
Fluoride	2.14	0.200	"	2.00		107	90-110			
Sulfate	15.7	0.300	"	15.0		105	90-110			
Nitrate as N	3.27	0.100	"	3.00		109	90-110			
Nitrite as N	3.28	0.100	"	3.00		109	90-110			
Duplicate (BEF0083-DUP1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	ND	0.200	mg/L		0.294			200	20	
Chloride	15.1	0.100	"		14.7			2.74	20	
Fluoride	ND	0.200	"		ND				20	
Sulfate	12.8	0.300	"		12.0			6.45	20	
Nitrate as N	0.0300	0.100	"		0.0300			0.00	20	
Nitrite as N	ND	0.100	"		ND				20	
Nitrate/Nitrite as N	0.0300	0.200	"		0.0300			0.00	20	
Matrix Spike (BEF0083-MS1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	9.44	0.200	mg/L	10.0	0.294	91.5	80-120			
Chloride	17.5	0.100	"	3.00	14.7	94.0	80-120			
Fluoride	2.06	0.200	"	2.00	ND	103	80-120			
Sulfate	27.3	0.300	"	15.0	12.0	102	80-120			
Nitrate as N	2.95	0.100	"	3.00	0.0300	97.2	80-120			
Nitrite as N	2.86	0.100	"	3.00	ND	95.3	80-120			

S2

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:** 09/02/21 13:26

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0089 - General Preparation										
Blank (BEF0089-BLK1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							
LCS (BEF0089-BS1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
Duplicate (BEF0089-DUP1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	400	10.0	mg/L as CaCO3		400			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	400	10.0	"		400			0.00	20	
Matrix Spike (BEF0089-MS1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130			
Matrix Spike Dup (BEF0089-MSD1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130	0.00	20	

S2

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:** 09/02/21 13:26

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0268 - General Preparation										
Blank (BEF0268-BLK1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	ND	0.0500	mg/L							
LCS (BEF0268-BS1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.923	0.0500	mg/L	1.00		92.3	80-120			
Duplicate (BEF0268-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.0800	0.0500	mg/L		0.0770			3.82	20	
Matrix Spike (BEF0268-MS1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.05	0.0500	mg/L	1.00	0.0770	97.3	70-130			
Matrix Spike Dup (BEF0268-MSD1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.04	0.0500	mg/L	1.00	0.0770	96.3	70-130	0.957	20	

S2

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:** 09/02/21 13:26

Specific Conductance by SM2510B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0073 - General Preparation										
Blank (BEF0073-BLK1)				Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	ND	1.00	umhos/cm							
Duplicate (BEF0073-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	5600	1.00	umhos/cm		5590			0.107	20	

S2

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:** 09/02/21 13:26

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0074 - General Preparation										
Blank (BEF0074-BLK1)				Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEF0074-DUP1)		**Source: 2105449-01**		Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	689	10.0	mg/L		690			0.131	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:** 09/02/21 13:26

pH by SM4500 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0209 - General Preparation										
LCS (BEF0209-BS1)				Prepared: 06/02/21 Analyzed: 06/09/21						
pH	9.28	1.00	pH Units	9.21		101	90-110			
Duplicate (BEF0209-DUP1)		**Source: 2106036-01**		Prepared: 06/02/21 Analyzed: 06/09/21						
pH	7.00	1.00	pH Units		6.91			1.29	20	

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

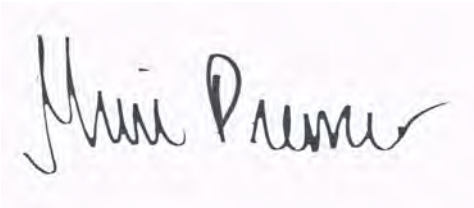
June 24, 2021

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

RE: Trip_Blank/GWA_District_Six_C6
Work Order #2106058

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

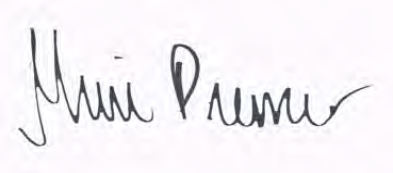
S2

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:** 06/24/21 14:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_3_Trip_Blank	2106058-01	Water	06/02/21 13:45	06/02/21 17:50

Summit Scientific



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

2106058

Summit Scientific

S2

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

Client:	Extraction Oil and Gas (XOG)	**Report to:** Apex Companies, LLC	**Project Manager:**	Heather Shideman	
Address:	2234 117th Ave, Ste 106		**E-Mail:**	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com	
City/State/Zip:	Greeley, CO 80634		**cc:**	nbennett@extractionog.com	
Phone:	(970) 576-3446		**Project Name:**	Trip_Blank/GWA_District_Six_C6	
Sampler Name:	Jeff Griggs		**Project No.:**	ALLOC-421	**Facility ID 766285**

					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_60666_MH_MW_3_Trip_Blank	06/02/21	1345	2					X				X							**Sample Frequency:** Q2

Relinquished by:	Date/Time: 6.2.21 1750	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6.2.21 1750

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2.3
Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2106058

Client: Extraction (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)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? 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)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

AT	[signature]	6-2-21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

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:** 06/24/21 14:00

GW_60666_MH_MW_3_Trip_Blank
2106058-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

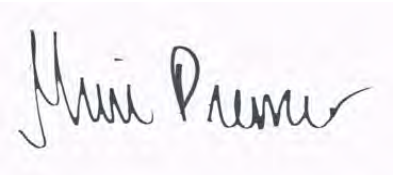
Date Sampled: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEF0133	06/05/21	06/06/21	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: **06/02/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*61.0 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*127 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*	*21-167*		"	"	"	"	

Summit Scientific



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S2

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:** 06/24/21 14:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Blank (BEF0133-BLK1)				Prepared: 06/05/21 Analyzed: 06/06/21						
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	*11.1*		*"*	*13.3*		*83.5*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.5*		*"*	*13.3*		*109*	*21-167*			
LCS (BEF0133-BS1)				Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.8	1.0	ug/l	33.3		86.4	51-132			
Toluene	42.1	1.0	"	33.3		126	51-138			
Ethylbenzene	36.0	1.0	"	33.3		108	58-146			
m,p-Xylene	70.2	2.0	"	66.7		105	57-144			
o-Xylene	35.2	1.0	"	33.3		106	53-146			
Surrogate: 1,2-Dichloroethane-d4	*8.53*		*"*	*13.3*		*64.0*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*107*	*21-167*			
Matrix Spike (BEF0133-MS1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	27.8	1.0	ug/l	33.3	ND	83.6	34-141			
Toluene	43.2	1.0	"	33.3	ND	129	27-151			
Ethylbenzene	38.1	1.0	"	33.3	ND	114	29-160			
m,p-Xylene	73.8	2.0	"	66.7	ND	111	20-166			
o-Xylene	36.5	1.0	"	33.3	ND	109	33-159			
Surrogate: 1,2-Dichloroethane-d4	*7.48*		*"*	*13.3*		*56.1*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*106*	*21-167*			

S2

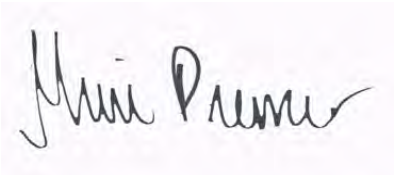
Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Project Manager: Heather Shideman	**Reported:** 06/24/21 14:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0133-MSD1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.0	1.0	ug/l	33.3	ND	84.1	34-141	0.680	32	
Toluene	44.2	1.0	"	33.3	ND	133	27-151	2.34	25	
Ethylbenzene	36.9	1.0	"	33.3	ND	111	29-160	3.20	50	
m,p-Xylene	72.7	2.0	"	66.7	ND	109	20-166	1.47	36	
o-Xylene	36.5	1.0	"	33.3	ND	110	33-159	0.164	26	
Surrogate: 1,2-Dichloroethane-d4	*12.0*		*"*	*13.3*		*89.8*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.7*		*"*	*13.3*		*110*	*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.

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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794476	Job #:	47876	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:	Q2				
Sampling Point:	766285				
Date Sampled:	6/02/2021 13:45	Date Received:	6/07/2021	Date Reported:	6/10/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane ----------	0.027	0.018
Ethane ----------	0.0020	0.0025
Propane ----------	< 0.0001	< 0.0002

Alloc-421

nd = not detected; na = not analyzed.

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794470	Job #:	47875	IS-99230	Co. Job#:
Sample Name:	GW_60666_MH_MW_3				Co. Lab#:
Company:	Extraction Oil and Gas				
API/Well:					
Container:	125ml bottle				
Field/Site Name:	Ground_Water/GWA_District_Six_C6				
Location:	NENE_20_5N_65W				
Formation/Depth:	Q2				
Sampling Point:	766285				
Date Sampled:	6/02/2021 13:45	Date Received:	6/07/2021	Date Reported:	6/28/2021

δD of water	----------	-103.4 ‰ relative to VSMOW
δ^{18}O of water	----------	-13.28 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	-12.3 ‰ relative to VPDB
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

September 02, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2106078

Enclosed are the results of analyses for samples received by Summit Scientific on 06/03/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Muri Premer For Paul Shrewsbury

President

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_4	2106078-01	Water	06/03/21 10:40	06/03/21 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.

2106078

Summit Scientific

S2

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.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:	Jeff Cariggs		**Project No.:** Alloc-421 930, 88		**Facility ID 766286**

					Preservative				Matrix				Analysis Requested							Special Instructions
ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	HCl	HNO3	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	06/03/21	1040	11					X				X	X	X					Sample Frequency:
	NENE_20_5N_65W																			Q2
	Temperature, field:	15.0	°C																	
	pH, field:	7.40	s.u.																	
	Conductivity, field:	1147	uS/cm																	
	ORP, field:	-333.6	mV																	
	Dissolved Oxygen, field:	-0.04	mg/L																	
	Turbidity, field:	21.0	NTU																	

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	06/03/21 1555	[signature]	6/3/21 1700
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours
___ 24 hours _X_ Standard
___ 48 hours ___

Sample Integrity:
Temperature Upon Receipt: 5
Intact: Yes No

Notes:

2106078

Sample Receipt Checklist

S2 Work Order_____

Client: XOG / Apex Client Project ID: Ground_Water/GWA_District_Six_C6

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other_____ Airbill #: _____

[✓] [ ] [ ] [ ] [ ]

Matrix (check all that apply): [ ] Air [ ] Soil/Solid [✓] Water [ ] Other:_____ (Describe)

Temp (°C)	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)? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			On ice.
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl, HNO_3, H_2SO_4
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

JB	[signature]	6/3/21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

GW_60666_MH_MW_4
NENE_20_5N_65W
2106078-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.0041**	0.0010	mg/L	1	BEF0162	06/07/21	06/08/21	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	**0.13**	0.050	"	"	"	"	"	"	

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*108 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*108 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.2 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEF0442	06/14/21	06/22/21	EPA 8015M	

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*97.2 %*	*44.8-129*		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Summit Scientific

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S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

GW_60666_MH_MW_4
NENE_20_5N_65W
2106078-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Calcium	**97100**	50.0	ug/l	1	BEF0169	06/08/21	06/08/21	EPA 200.8
Iron	**48.8**	10.0	"	"	"	"	"	"
Magnesium	**44700**	50.0	"	"	"	"	"	"
Manganese	**793**	1.00	"	"	"	"	"	"
Potassium	**2770**	50.0	"	"	"	"	"	"
Sodium	**94200**	50.0	"	"	"	"	"	"
Barium	**44.6**	1.00	"	"	"	"	"	"
Boron	**205**	10.0	"	"	"	"	"	"
Selenium	ND	1.00	"	"	"	"	"	"
Strontium	**1320**	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	ND	0.200	mg/L	1	BEF0122	06/04/21	06/07/21	EPA 300.0	
Chloride	**122**	10.0	"	100	"	"	"	"	
Fluoride	**0.771**	0.200	"	1	"	"	"	"	
Sulfate	**149**	30.0	"	100	"	"	"	"	
Nitrate as N	**2.18**	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	**2.18**	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	**360**	10.0	mg/L as CaCO3	1	BEF0206	06/09/21	06/14/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	**360**	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.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

GW_60666_MH_MW_4
NENE_20_5N_65W
2106078-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	**0.0540**	0.0500	mg/L	1	BEF0297	06/14/21	06/14/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1160**	1.00	umhos/cm	1	BEF0107	06/04/21	06/04/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**586**	10.0	mg/L	1	BEF0106	06/04/21	06/04/21	SM2540C	

pH by SM4500

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.65**	1.00	pH Units	1	BEF0210	06/03/21	06/09/21	SM4500-H+ B	

Field Data

Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1147**		uS/cm	1	BEF0101	06/03/21	06/03/21	Field Method	
Turbidity	**21.0**		NTU	"	"	"	"	"	
Temperature	**15.0**		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	**-333.6**		mv	"	"	"	"	"	
Dissolved Oxygen	**-0.04**		mg/L	"	"	"	"	"	
pH	**7.40**		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.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

GW_60666_MH_MW_4
NENE_20_5N_65W

2106078-01 (Water)

Summit Scientific

Field Data

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*0.0122*		*"*	*0.0133*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*0.0166*		*"*	*0.0133*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0141*		*"*	*0.0133*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0501	0.0010	mg/L	0.0500		100	51-132			
Toluene	0.0508	0.0010	"	0.0500		102	51-138			
Ethylbenzene	0.0485	0.0010	"	0.0500		97.0	58-146			
m,p-Xylene	0.0973	0.0020	"	0.100		97.3	57-144			
o-Xylene	0.0503	0.0010	"	0.0500		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*0.0148*		*"*	*0.0133*		*111*	*23-173*			
Surrogate: Toluene-d8	*0.0127*		*"*	*0.0133*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0500	0.0010	mg/L	0.0500	ND	99.9	34-141			
Toluene	0.0498	0.0010	"	0.0500	ND	99.7	27-151			
Ethylbenzene	0.0481	0.0010	"	0.0500	ND	96.1	29-160			
m,p-Xylene	0.0976	0.0020	"	0.100	ND	97.6	20-166			
o-Xylene	0.0503	0.0010	"	0.0500	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*0.0127*		*"*	*0.0133*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*0.0125*		*"*	*0.0133*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0132*		*"*	*0.0133*		*99.1*	*21-167*			

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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 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0473	0.0010	mg/L	0.0500	ND	94.6	34-141	5.43	32	
Toluene	0.0472	0.0010	"	0.0500	ND	94.3	27-151	5.55	25	
Ethylbenzene	0.0474	0.0010	"	0.0500	ND	94.9	29-160	1.32	50	
m,p-Xylene	0.0946	0.0020	"	0.100	ND	94.6	20-166	3.10	36	
o-Xylene	0.0491	0.0010	"	0.0500	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*0.0131*		*"*	*0.0133*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*0.0124*		*"*	*0.0133*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*101*	*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 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0442 - EPA 3520B										
Blank (BEF0442-BLK1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	*0.0242*		*"*	*0.0250*		*96.9*	*44.8-129*			
LCS (BEF0442-BS1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	0.957	0.100	mg/L	1.00		95.7	70-130			
Surrogate: o-Terphenyl	*0.0246*		*"*	*0.0250*		*98.4*	*44.8-129*			
LCS Dup (BEF0442-BSD1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	1.10	0.100	mg/L	1.00		110	70-130	13.7	200	
Surrogate: o-Terphenyl	*0.0248*		*"*	*0.0250*		*99.0*	*44.8-129*			

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0169 - EPA 200.8										
Blank (BEF0169-BLK1)				Prepared & Analyzed: 06/08/21						
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 (BEF0169-BS1)				Prepared & Analyzed: 06/08/21						
Calcium	5380	50.0	ug/l	5000		108	85-115			
Iron	5010	10.0	"	5000		100	85-115			
Magnesium	5590	50.0	"	5000		112	85-115			
Manganese	512	1.00	"	500		102	85-115			
Potassium	5350	50.0	"	5000		107	85-115			
Sodium	5280	50.0	"	5000		106	85-115			
Barium	494	1.00	"	500		98.7	85-115			
Boron	2470	10.0	"	2500		98.8	85-115			
Selenium	51.7	1.00	"	50.0		103	85-115			
Strontium	531	10.0	"	500		106	85-115			
Duplicate (BEF0169-DUP1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	208000	50.0	ug/l		214000			2.68	20	
Iron	4.50	10.0	"		ND			200	20	
Magnesium	105000	50.0	"		108000			2.04	20	
Manganese	105	1.00	"		104			0.892	20	
Potassium	6080	50.0	"		6190			1.70	20	
Sodium	180000	50.0	"		183000			1.76	20	
Barium	39.3	1.00	"		41.6			5.60	20	
Boron	585	10.0	"		606			3.58	20	
Selenium	3.68	1.00	"		3.64			1.12	20	
Strontium	3300	10.0	"		3280			0.352	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 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0169 - EPA 200.8										
Matrix Spike (BEF0169-MS1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	220000	50.0	ug/l	5000	214000	119	70-130			
Iron	5300	10.0	"	5000	ND	106	70-130			
Magnesium	114000	50.0	"	5000	108000	120	70-130			
Manganese	630	1.00	"	500	104	105	70-130			
Potassium	11600	50.0	"	5000	6190	108	70-130			
Sodium	188000	50.0	"	5000	183000	104	70-130			
Barium	546	1.00	"	500	41.6	101	70-130			
Boron	3010	10.0	"	2500	606	96.3	70-130			
Selenium	59.5	1.00	"	50.0	3.64	112	70-130			
Strontium	3720	10.0	"	500	3280	86.3	70-130			
Matrix Spike Dup (BEF0169-MSD1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	218000	50.0	ug/l	5000	214000	81.6	70-130	0.865	25	
Iron	5270	10.0	"	5000	ND	105	70-130	0.664	25	
Magnesium	111000	50.0	"	5000	108000	74.3	70-130	2.04	25	
Manganese	635	1.00	"	500	104	106	70-130	0.746	25	
Potassium	11300	50.0	"	5000	6190	102	70-130	2.53	25	
Sodium	188000	50.0	"	5000	183000	112	70-130	0.226	25	
Barium	522	1.00	"	500	41.6	96.0	70-130	4.61	25	
Boron	2970	10.0	"	2500	606	94.6	70-130	1.49	25	
Selenium	58.6	1.00	"	50.0	3.64	110	70-130	1.51	25	
Strontium	3690	10.0	"	500	3280	81.8	70-130	0.603	25	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0122 - General Preparation										
Blank (BEF0122-BLK1)				Prepared: 06/04/21 Analyzed: 06/07/21						
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 (BEF0122-BS1)				Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	11.0	0.200	mg/L	10.0		110	90-110			
Chloride	3.19	0.100	"	3.00		106	90-110			
Fluoride	2.19	0.200	"	2.00		109	90-110			
Sulfate	16.0	0.300	"	15.0		107	90-110			
Nitrate as N	3.10	0.100	"	3.00		103	90-110			
Nitrite as N	3.16	0.100	"	3.00		105	90-110			
Duplicate (BEF0122-DUP1)		**Source: 2106078-01**		Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	ND	0.200	mg/L		ND				20	
Chloride	ND	0.100	"		122			200	20	QM-02
Fluoride	0.739	0.200	"		0.771			4.24	20	
Sulfate	122	0.300	"		149			20.1	20	QM-02
Nitrate as N	2.14	0.100	"		2.18			1.81	20	
Nitrite as N	5.08	0.100	"		ND			200	20	
Nitrate/Nitrite as N	7.21	0.200	"		2.18			107	20	
Matrix Spike (BEF0122-MS1)		**Source: 2106078-01**		Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	10.1	0.200	mg/L	10.0	ND	101	80-120			
Chloride	ND	0.100	"	3.00	122	NR	80-120			QM-02
Fluoride	2.84	0.200	"	2.00	0.771	104	80-120			
Sulfate	126	0.300	"	15.0	149	NR	80-120			QM-02
Nitrate as N	5.41	0.100	"	3.00	2.18	108	80-120			
Nitrite as N	8.13	0.100	"	3.00	ND	271	80-120			

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0206 - General Preparation										
Blank (BEF0206-BLK1)				Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							
LCS (BEF0206-BS1)				Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
Duplicate (BEF0206-DUP1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	360	10.0	mg/L as CaCO3		360			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	360	10.0	"		360			0.00	20	
Matrix Spike (BEF0206-MS1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	470	10.0	mg/L as CaCO3	100	360	110	70-130			
Matrix Spike Dup (BEF0206-MSD1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	470	10.0	mg/L as CaCO3	100	360	110	70-130	0.00	20	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0297 - General Preparation										
Blank (BEF0297-BLK1)				Prepared & Analyzed: 06/14/21						
Phosphorus - Total	ND	0.0500	mg/L							
LCS (BEF0297-BS1)				Prepared & Analyzed: 06/14/21						
Phosphorus - Total	0.996	0.0500	mg/L	1.00		99.6	80-120			
Duplicate (BEF0297-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	0.0550	0.0500	mg/L		0.0540			1.83	20	
Matrix Spike (BEF0297-MS1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	1.04	0.0500	mg/L	1.00	0.0540	98.6	70-130			
Matrix Spike Dup (BEF0297-MSD1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	1.03	0.0500	mg/L	1.00	0.0540	97.6	70-130	0.966	20	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Specific Conductance by SM2510B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0107 - General Preparation										
Blank (BEF0107-BLK1)				Prepared & Analyzed: 06/04/21						
Specific Conductance (EC)	ND	1.00	umhos/cm							
Duplicate (BEF0107-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/04/21						
Specific Conductance (EC)	1170	1.00	umhos/cm		1160			0.601	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 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0106 - General Preparation										
Blank (BEF0106-BLK1)				Prepared & Analyzed: 06/04/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEF0106-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/04/21						
Total Dissolved Solids	586	10.0	mg/L		586			0.0171	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 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:42

pH by SM4500 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0210 - General Preparation										
LCS (BEF0210-BS1)				Prepared: 06/03/21 Analyzed: 06/09/21						
pH	9.25	1.00	pH Units	9.21		100	90-110			
Duplicate (BEF0210-DUP1)		**Source: 2106068-01**		Prepared: 06/03/21 Analyzed: 06/09/21						
pH	8.14	1.00	pH Units		8.10			0.493	20	

Notes and Definitions

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

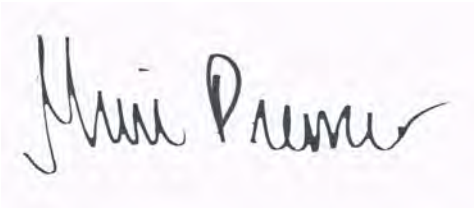
June 28, 2021

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

RE: Trip_Blank/GWA_District_Six_C6
Work Order #2106077

Enclosed are the results of analyses for samples received by Summit Scientific on 06/03/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_4_Trip_Blank	2106077-01	Water	06/03/21 10:40	06/03/21 17:00

Summit Scientific

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Summit Scientific 2106077

S2

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

Client:	Extraction Oil and Gas (XOG)	**Report to:** Apex Companies, LLC	**Project Manager:**	Heather Shideman	
Address:	2234 117th Ave, Ste 106		**E-Mail:**	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com	
City/State/Zip:	Greeley, CO 80634		**cc:**	nbennett@extractionog.com	
Phone:	(970) 576-3446		**Project Name:**	Trip_Blank/GWA_District_Six_C6	
Sampler Name:	Jeff Gordyn		**Project No.:**	ALLOC-421	**Facility ID** 766286

					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_60666_MH_MW_4_Trip_Blank	06/03/21	1040	2					X				X							**Sample Frequency:** Q2

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	06/03/21 1555	[signature]	6/3/21 1700
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 5
Intact: Yes No

Notes:

2106077

Sample Receipt Checklist

S2 Work Order_____

Client: X06 / Apex 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

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.	✓			On ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?	✓			
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation **(excluding cooling)** (1)? 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)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

JB	[signature]	6/3/21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:02

GW_60666_MH_MW_4_Trip_Blank
2106077-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

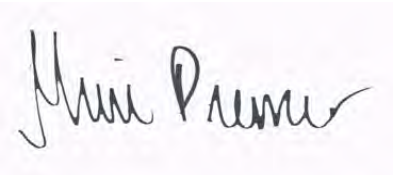
Date Sampled: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEF0162	06/07/21	06/08/21	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: **06/03/21 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*109 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*104 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.7 %*	*21-167*		"	"	"	"	

Summit Scientific



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

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*12.2*		*"*	*13.3*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*16.6*		*"*	*13.3*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.1*		*"*	*13.3*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	50.1	1.0	ug/l	50.0		100	51-132			
Toluene	50.8	1.0	"	50.0		102	51-138			
Ethylbenzene	48.5	1.0	"	50.0		97.0	58-146			
m,p-Xylene	97.3	2.0	"	100		97.3	57-144			
o-Xylene	50.3	1.0	"	50.0		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*14.8*		*"*	*13.3*		*111*	*23-173*			
Surrogate: Toluene-d8	*12.7*		*"*	*13.3*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.5*		*"*	*13.3*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	50.0	1.0	ug/l	50.0	ND	99.9	34-141			
Toluene	49.8	1.0	"	50.0	ND	99.7	27-151			
Ethylbenzene	48.1	1.0	"	50.0	ND	96.1	29-160			
m,p-Xylene	97.6	2.0	"	100	ND	97.6	20-166			
o-Xylene	50.3	1.0	"	50.0	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*12.7*		*"*	*13.3*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*12.5*		*"*	*13.3*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.2*		*"*	*13.3*		*99.1*	*21-167*			

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 Fac ID 766286 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	47.3	1.0	ug/l	50.0	ND	94.6	34-141	5.43	32	
Toluene	47.2	1.0	"	50.0	ND	94.3	27-151	5.55	25	
Ethylbenzene	47.4	1.0	"	50.0	ND	94.9	29-160	1.32	50	
m,p-Xylene	94.6	2.0	"	100	ND	94.6	20-166	3.10	36	
o-Xylene	49.1	1.0	"	50.0	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*13.1*		*"*	*13.3*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*12.4*		*"*	*13.3*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.5*		*"*	*13.3*		*101*	*21-167*			

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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794478	Job #:	47876	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:	Q2				
Sampling Point:	766286				
Date Sampled:	6/03/2021 10:40	Date Received:	6/07/2021	Date Reported:	6/10/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane ----------	29	19
Ethane ----------	4.2	5.3
Propane ----------	0.26	0.47

Alloc-421

nd = not detected; na = not analyzed.

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794472	Job #:	47875	IS-99230	Co. Job#:
Sample Name:	GW_60666_MH_MW_4				Co. Lab#:
Company:	Extraction Oil and Gas				
API/Well:					
Container:	125ml bottle				
Field/Site Name:	Ground_Water/GWA_District_Six_C6				
Location:	NENE_20_5N_65W				
Formation/Depth:	Q2				
Sampling Point:	766286				
Date Sampled:	6/03/2021 10:40	Date Received:	6/07/2021	Date Reported:	6/28/2021

δD of water	----------	-106.5 ‰ relative to VSMOW
δ^{18}O of water	----------	-13.60 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	-16.0 ‰ relative to VPDB
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794478	Job #:	47876	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:	Q2				
Sampling Point:	766286				
Date Sampled:	6/03/2021 10:40	Date Received:	6/07/2021	Date Reported:	8/02/2021

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide	nd					
Helium	na					
Hydrogen	nd					
Argon	0.323					
Oxygen	1.73					
Nitrogen	18.23					
Carbon Dioxide	3.28					
Methane	66.49	-46.39	-223.4		31	21
Ethane	9.14	-30.53			4.7	5.9
Ethylene	nd					
Propane	0.581	-24.81			0.28	0.51
Propylene	nd					
Iso-butane	0.100	-30.1				
N-butane	0.0813	-25.7				
Iso-pentane	0.0241					
N-pentane	0.0095					
Hexanes +	0.0066					

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.62
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
Alloc-421
Butane carbon isotope data obtained online via GC-C-IRMS.
Insufficient 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

June 24, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

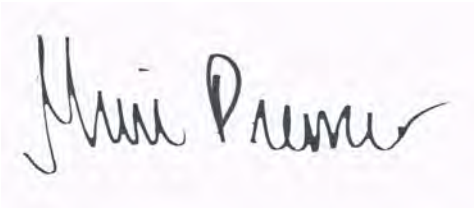
Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2106052

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



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 Project Manager: Heather Shideman	**Reported:** 06/24/21 12:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_5	2106052-01	Water	06/02/21 15:45	06/02/21 17:50

Summit Scientific

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

2106052

Summit Scientific

S2

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.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:	Jeff Griggs		**Project No.:** Alloc-421 930, 88		**Facility ID 766287**

					Preservative				Matrix				Analysis Requested							Special Instructions
ID	**Field ID / Point of Collection**	**Date Sampled**	**Time Sampled**	**# of containers**	**HCl**	**HNO3**	**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	06/02/21	1545	11					X				X	X	X					**Sample Frequency:**
	NENE_20_5N_65W																			Q2
	Temperature, field:	16.0	°C																	
	pH, field:	7.15	s.u.																	
	Conductivity, field:	2043	uS/cm																	
	ORP, field:	-60.9	mV																	
	Dissolved Oxygen, field:	0.46	mg/L																	
	Turbidity, field:	11.2	NTU																	

Relinquished by:	Date/Time: 06/02/21 1750	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6-2-21 1750

Turn Around Time (Check)
Same Day ___ 72 hours
___ 24 hours _X_ Standard
___ 48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2-3
Intact: (Yes) No

Notes:

Sample Receipt Checklist

S2 Work Order 2106052

Client: XOG Client Project ID: Ground_Water/GWA_District_Six_C6

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other [X] [ ] [ ] [ ] [ ] Airbill #: _____

Matrix (check all that apply): [ ] Air [ ] Soil/Solid [X] Water [ ] Other: _____ (Describe)

Temp (°C)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			pH
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?		✓		
Additional Comments (if any):				

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

AT	[signature]	6.2.21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

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:** 06/24/21 12:17

GW_60666_MH_MW_5

NENE_20_5N_65W

2106052-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEF0162	06/07/21	06/08/21	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: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*116 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*104 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.4 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEF0442	06/14/21	06/22/21	EPA 8015M	

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*48.4 %*	*44.8-129*		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **06/02/21 15:45**

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.

S2

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:** 06/24/21 12:17

GW_60666_MH_MW_5
NENE_20_5N_65W
2106052-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Calcium	**143000**	50.0	ug/l	1	BEF0079	06/03/21	06/03/21	EPA 200.8
Iron	**273**	10.0	"	"	"	"	"	"
Magnesium	**56800**	50.0	"	"	"	"	"	"
Manganese	**640**	1.00	"	"	"	"	"	"
Potassium	**3910**	50.0	"	"	"	"	"	"
Sodium	**139000**	50.0	"	"	"	"	"	"
Barium	**54.0**	1.00	"	"	"	"	"	"
Boron	**245**	10.0	"	"	"	"	"	"
Selenium	**62.0**	1.00	"	"	"	"	"	"
Strontium	**2050**	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **06/02/21 15:45**

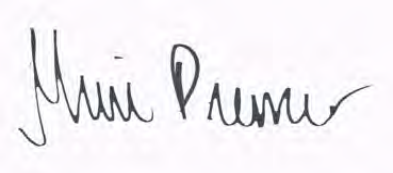
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	**5.07**	0.200	mg/L	1	BEF0083	06/03/21	06/03/21	EPA 300.0	
Chloride	**480**	10.0	"	100	"	"	"	"	
Fluoride	**0.669**	0.200	"	1	"	"	"	"	
Sulfate	**261**	30.0	"	100	"	"	"	"	
Nitrate as N	**7.85**	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	**7.85**	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	**230**	10.0	mg/L as CaCO3	1	BEF0089	06/03/21	06/14/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	**230**	10.0	"	"	"	"	"	"	

Summit Scientific



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S2

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:** 06/24/21 12:17

GW_60666_MH_MW_5
NENE_20_5N_65W
2106052-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	ND	0.0500	mg/L	1	BEF0268	06/11/21	06/11/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**2050**	1.00	umhos/cm	1	BEF0073	06/03/21	06/03/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**1010**	10.0	mg/L	1	BEF0074	06/03/21	06/03/21	SM2540C	

pH by SM4500

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.31**	1.00	pH Units	1	BEF0209	06/02/21	06/09/21	SM4500-H+ B	

Field Data

Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**2043**		uS/cm	1	BEF0067	06/02/21	06/02/21	Field Method	
Turbidity	**11.2**		NTU	"	"	"	"	"	
Temperature	**16.0**		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	**-60.9**		mv	"	"	"	"	"	
Dissolved Oxygen	**0.46**		mg/L	"	"	"	"	"	
pH	**7.15**		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.

GW_60666_MH_MW_5
NENE_20_5N_65W

2106052-01 (Water)

Summit Scientific

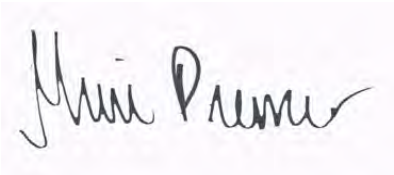
Field Data

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:** 06/24/21 12:17

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*0.0122*		*"*	*0.0133*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*0.0166*		*"*	*0.0133*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0141*		*"*	*0.0133*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0501	0.0010	mg/L	0.0500		100	51-132			
Toluene	0.0508	0.0010	"	0.0500		102	51-138			
Ethylbenzene	0.0485	0.0010	"	0.0500		97.0	58-146			
m,p-Xylene	0.0973	0.0020	"	0.100		97.3	57-144			
o-Xylene	0.0503	0.0010	"	0.0500		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*0.0148*		*"*	*0.0133*		*111*	*23-173*			
Surrogate: Toluene-d8	*0.0127*		*"*	*0.0133*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0500	0.0010	mg/L	0.0500	ND	99.9	34-141			
Toluene	0.0498	0.0010	"	0.0500	ND	99.7	27-151			
Ethylbenzene	0.0481	0.0010	"	0.0500	ND	96.1	29-160			
m,p-Xylene	0.0976	0.0020	"	0.100	ND	97.6	20-166			
o-Xylene	0.0503	0.0010	"	0.0500	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*0.0127*		*"*	*0.0133*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*0.0125*		*"*	*0.0133*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0132*		*"*	*0.0133*		*99.1*	*21-167*			



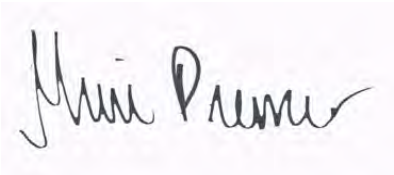
S2

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:** 06/24/21 12:17

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0473	0.0010	mg/L	0.0500	ND	94.6	34-141	5.43	32	
Toluene	0.0472	0.0010	"	0.0500	ND	94.3	27-151	5.55	25	
Ethylbenzene	0.0474	0.0010	"	0.0500	ND	94.9	29-160	1.32	50	
m,p-Xylene	0.0946	0.0020	"	0.100	ND	94.6	20-166	3.10	36	
o-Xylene	0.0491	0.0010	"	0.0500	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*0.0131*		*"*	*0.0133*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*0.0124*		*"*	*0.0133*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*101*	*21-167*			



Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0442 - EPA 3520B										
Blank (BEF0442-BLK1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	*0.0242*		*"*	*0.0250*		*96.9*	*44.8-129*			
LCS (BEF0442-BS1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	0.957	0.100	mg/L	1.00		95.7	70-130			
Surrogate: o-Terphenyl	*0.0246*		*"*	*0.0250*		*98.4*	*44.8-129*			
LCS Dup (BEF0442-BSD1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	1.10	0.100	mg/L	1.00		110	70-130	13.7	200	
Surrogate: o-Terphenyl	*0.0248*		*"*	*0.0250*		*99.0*	*44.8-129*			

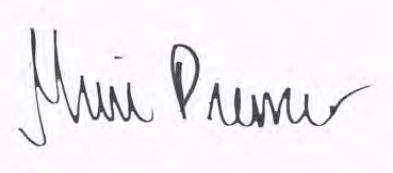
S2

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:** 06/24/21 12:17

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Blank (BEF0079-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0079-BS1)				Prepared & Analyzed: 06/03/21						
Calcium	4860	50.0	ug/l	5000		97.2	85-115			
Iron	5110	10.0	"	5000		102	85-115			
Magnesium	5240	50.0	"	5000		105	85-115			
Manganese	509	1.00	"	500		102	85-115			
Potassium	5210	50.0	"	5000		104	85-115			
Sodium	5100	50.0	"	5000		102	85-115			
Barium	476	1.00	"	500		95.3	85-115			
Boron	2850	10.0	"	2500		114	85-115			
Selenium	53.9	1.00	"	50.0		108	85-115			
Strontium	482	10.0	"	500		96.3	85-115			
Duplicate (BEF0079-DUP1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	116000	50.0	ug/l		131000			12.1	20	
Iron	60.3	10.0	"		63.5			5.19	20	
Magnesium	98600	50.0	"		110000			11.3	20	
Manganese	105	1.00	"		110			5.21	20	
Potassium	6690	50.0	"		7630			13.1	20	
Sodium	364000	50.0	"		402000			10.0	20	
Barium	59.0	1.00	"		65.1			9.83	20	
Boron	178	10.0	"		214			18.3	20	
Selenium	51.3	1.00	"		51.8			1.02	20	
Strontium	1510	10.0	"		1680			10.1	20	



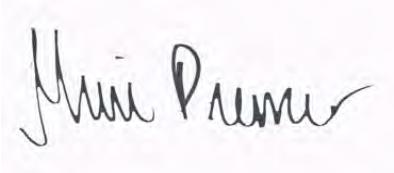
S2

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:** 06/24/21 12:17

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Matrix Spike (BEF0079-MS1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	136000	50.0	ug/l	5000	131000	93.0	70-130			
Iron	5710	10.0	"	5000	63.5	113	70-130			
Magnesium	115000	50.0	"	5000	110000	103	70-130			
Manganese	690	1.00	"	500	110	116	70-130			
Potassium	12200	50.0	"	5000	7630	90.6	70-130			
Sodium	408000	50.0	"	5000	402000	107	70-130			
Barium	570	1.00	"	500	65.1	101	70-130			
Boron	2450	10.0	"	2500	214	89.3	70-130			
Selenium	98.1	1.00	"	50.0	51.8	92.5	70-130			
Strontium	2190	10.0	"	500	1680	103	70-130			
Matrix Spike Dup (BEF0079-MSD1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	135000	50.0	ug/l	5000	131000	79.9	70-130	0.482	25	
Iron	5750	10.0	"	5000	63.5	114	70-130	0.801	25	
Magnesium	114000	50.0	"	5000	110000	77.5	70-130	1.09	25	
Manganese	691	1.00	"	500	110	116	70-130	0.130	25	
Potassium	11800	50.0	"	5000	7630	82.8	70-130	3.28	25	
Sodium	407000	50.0	"	5000	402000	84.4	70-130	0.277	25	
Barium	562	1.00	"	500	65.1	99.4	70-130	1.43	25	
Boron	2460	10.0	"	2500	214	89.8	70-130	0.519	25	
Selenium	97.0	1.00	"	50.0	51.8	90.3	70-130	1.10	25	
Strontium	2180	10.0	"	500	1680	100	70-130	0.654	25	



Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0083 - General Preparation										
Blank (BEF0083-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0083-BS1)				Prepared & Analyzed: 06/03/21						
Bromide	10.6	0.200	mg/L	10.0		106	90-110			
Chloride	3.29	0.100	"	3.00		110	90-110			
Fluoride	2.14	0.200	"	2.00		107	90-110			
Sulfate	15.7	0.300	"	15.0		105	90-110			
Nitrate as N	3.27	0.100	"	3.00		109	90-110			
Nitrite as N	3.28	0.100	"	3.00		109	90-110			
Duplicate (BEF0083-DUP1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	ND	0.200	mg/L		0.294				20	
Chloride	15.1	0.100	"		14.7			2.74	20	
Fluoride	ND	0.200	"		ND				20	
Sulfate	12.8	0.300	"		12.0			6.45	20	
Nitrate as N	0.0300	0.100	"		0.0300			0.00	20	
Nitrite as N	ND	0.100	"		ND				20	
Nitrate/Nitrite as N	0.0300	0.200	"		0.0300			0.00	20	
Matrix Spike (BEF0083-MS1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	9.44	0.200	mg/L	10.0	0.294	91.5	80-120			
Chloride	17.5	0.100	"	3.00	14.7	94.0	80-120			
Fluoride	2.06	0.200	"	2.00	ND	103	80-120			
Sulfate	27.3	0.300	"	15.0	12.0	102	80-120			
Nitrate as N	2.95	0.100	"	3.00	0.0300	97.2	80-120			
Nitrite as N	2.86	0.100	"	3.00	ND	95.3	80-120			

S2

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:** 06/24/21 12:17

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

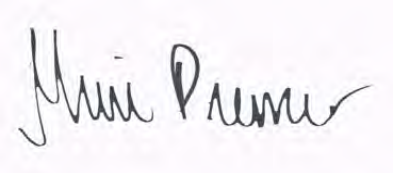
Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0089 - General Preparation										
Blank (BEF0089-BLK1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							
LCS (BEF0089-BS1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
Duplicate (BEF0089-DUP1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	400	10.0	mg/L as CaCO3		400			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	400	10.0	"		400			0.00	20	
Matrix Spike (BEF0089-MS1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130			
Matrix Spike Dup (BEF0089-MSD1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130	0.00	20	

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0268 - General Preparation										
Blank (BEF0268-BLK1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	ND	0.0500	mg/L							
LCS (BEF0268-BS1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.923	0.0500	mg/L	1.00		92.3	80-120			
Duplicate (BEF0268-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.0800	0.0500	mg/L		0.0770			3.82	20	
Matrix Spike (BEF0268-MS1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.05	0.0500	mg/L	1.00	0.0770	97.3	70-130			
Matrix Spike Dup (BEF0268-MSD1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.04	0.0500	mg/L	1.00	0.0770	96.3	70-130	0.957	20	



Specific Conductance by SM2510B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0073 - General Preparation										
Blank (BEF0073-BLK1)				Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	ND	1.00	umhos/cm							
Duplicate (BEF0073-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	5600	1.00	umhos/cm		5590			0.107	20	

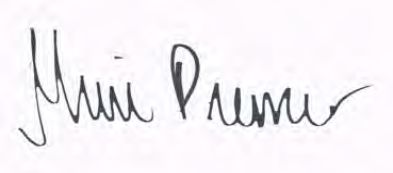
S2

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:** 06/24/21 12:17

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0074 - General Preparation										
Blank (BEF0074-BLK1)				Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEF0074-DUP1)		**Source: 2105449-01**		Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	689	10.0	mg/L		690			0.131	20	



pH by SM4500 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0209 - General Preparation										
LCS (BEF0209-BS1)				Prepared: 06/02/21 Analyzed: 06/09/21						
pH	9.28	1.00	pH Units	9.21		101	90-110			
Duplicate (BEF0209-DUP1)		**Source: 2106036-01**		Prepared: 06/02/21 Analyzed: 06/09/21						
pH	7.00	1.00	pH Units		6.91			1.29	20	

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

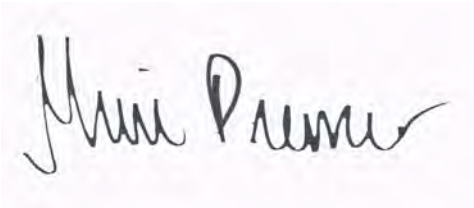
June 24, 2021

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

RE: Trip_Blank/GWA_District_Six_C6
Work Order #2106056

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

S2

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:** 06/24/21 13:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_60666_MH_MW_5_Trip_Blank	2106056-01	Water	06/02/21 15:45	06/02/21 17:50

Summit Scientific

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

2106056

Summit Scientific

S_2

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

Client:	Extraction Oil and Gas (XOG)	**Report to:** Apex Companies, LLC	**Project Manager:**	Heather Shideman	
Address:	2234 117th Ave, Ste 106		**E-Mail:**	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com	
City/State/Zip:	Greeley, CO 80634		**cc:**	nbennett@extractionog.com	
Phone:	(970) 576-3446		**Project Name:**	Trip_Blank/GWA_District_Six_C6	
Sampler Name:	Jeff Griggs		**Project No.:**	ALLOC-421	**Facility ID 766287**

					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_60666_MH_MW_5_Trip_Blank	06/02/21	1545	2					X				X							**Sample Frequency:** Q2

Relinquished by:	Date/Time: 06/02/21 1750	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6.2.21 1750

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2.3
Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2106056

Client: Extraction (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)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? 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)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

IAT	[signature]	6-2-21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

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:** 06/24/21 13:35

GW_60666_MH_MW_5_Trip_Blank
2106056-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

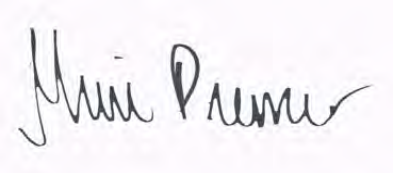
Date Sampled: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEF0133	06/05/21	06/06/21	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: **06/02/21 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*60.9 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*122 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*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.

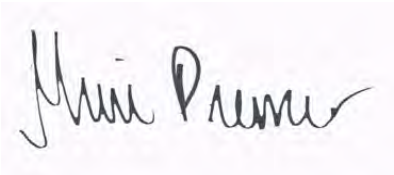
S2

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:** 06/24/21 13:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Blank (BEF0133-BLK1)				Prepared: 06/05/21 Analyzed: 06/06/21						
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	*11.1*		*"*	*13.3*		*83.5*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.5*		*"*	*13.3*		*109*	*21-167*			
LCS (BEF0133-BS1)				Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.8	1.0	ug/l	33.3		86.4	51-132			
Toluene	42.1	1.0	"	33.3		126	51-138			
Ethylbenzene	36.0	1.0	"	33.3		108	58-146			
m,p-Xylene	70.2	2.0	"	66.7		105	57-144			
o-Xylene	35.2	1.0	"	33.3		106	53-146			
Surrogate: 1,2-Dichloroethane-d4	*8.53*		*"*	*13.3*		*64.0*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*107*	*21-167*			
Matrix Spike (BEF0133-MS1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	27.8	1.0	ug/l	33.3	ND	83.6	34-141			
Toluene	43.2	1.0	"	33.3	ND	129	27-151			
Ethylbenzene	38.1	1.0	"	33.3	ND	114	29-160			
m,p-Xylene	73.8	2.0	"	66.7	ND	111	20-166			
o-Xylene	36.5	1.0	"	33.3	ND	109	33-159			
Surrogate: 1,2-Dichloroethane-d4	*7.48*		*"*	*13.3*		*56.1*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*106*	*21-167*			



S2

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:** 06/24/21 13:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0133-MSD1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.0	1.0	ug/l	33.3	ND	84.1	34-141	0.680	32	
Toluene	44.2	1.0	"	33.3	ND	133	27-151	2.34	25	
Ethylbenzene	36.9	1.0	"	33.3	ND	111	29-160	3.20	50	
m,p-Xylene	72.7	2.0	"	66.7	ND	109	20-166	1.47	36	
o-Xylene	36.5	1.0	"	33.3	ND	110	33-159	0.164	26	
Surrogate: 1,2-Dichloroethane-d4	*12.0*		*"*	*13.3*		*89.8*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.7*		*"*	*13.3*		*110*	*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.

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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794477	Job #:	47876	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:	Q2				
Sampling Point:	766287				
Date Sampled:	6/02/2021 15:45	Date Received:	6/07/2021	Date Reported:	6/10/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane ----------	6.0	4.0
Ethane ----------	0.71	0.89
Propane ----------	0.15	0.27

Alloc-421

nd = not detected; na = not analyzed.

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794471	Job #:	47875	IS-99230	Co. Job#:
Sample Name:	GW_60666_MH_MW_5				Co. Lab#:
Company:	Extraction Oil and Gas				
API/Well:					
Container:	125ml bottle				
Field/Site Name:	Ground_Water/GWA_District_Six_C6				
Location:	NENE_20_5N_65W				
Formation/Depth:	Q2				
Sampling Point:	766287				
Date Sampled:	6/02/2021 15:45	Date Received:	6/07/2021	Date Reported:	6/28/2021

δD of water	----------	-105.8 ‰ relative to VSMOW
δ^{18}O of water	----------	-13.45 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	-10.5 ‰ relative to VPDB
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794477	Job #:	47876	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:	Q2				
Sampling Point:	766287				
Date Sampled:	6/02/2021 15:45	Date Received:	6/07/2021	Date Reported:	8/02/2021

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰	Dissolved gas cc/L	Dissolved gas ppm
Carbon Monoxide	nd					
Helium	na					
Hydrogen	nd					
Argon	1.09					
Oxygen	7.08					
Nitrogen	61.28					
Carbon Dioxide	4.25					
Methane	23.25	-46.39	-220.0		7.2	4.8
Ethane	2.34	-27.26			0.80	1.0
Ethylene	nd					
Propane	0.522	-27.3			0.17	0.31
Propylene	0.0004					
Iso-butane	0.0504	-30.4				
N-butane	0.108	-25.6				
Iso-pentane	0.0185					
N-pentane	0.0085					
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 = 0.73
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
Alloc-421
Insufficient pentane concentrations for isotopic analysis.
Propane and butane 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

September 02, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2106053

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Muri Premer For Paul Shrewsbury

President

S2

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:** 09/02/21 13:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_8	2106053-01	Water	06/02/21 10:30	06/02/21 17:50

Summit Scientific

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

2106053

Summit Scientific

S2

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

Client:	Extraction Oil and Gas (XOG) Report to: Apex Companies, LLC	Project Manager:	Heather Shideman
Address:	2234 117th Ave, Ste 106	E-Mail:	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com, Kolbi.Condos@apexcos.com
City/State/Zip:	Greeley, CO 80634	cc:	nbennett@extractionog.com
Phone:	(970) 576-3446	Project Name:	Groundwater/GWA_District_Six_C6
Sampler Name:	Jeff Griggs	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	06/02/21	1030	11					X				X	X	X					Sample
	NENE_20_5N_65W																			Frequency: O2
	Temperature, field:	15.0 °C																		
	pH, field:	7.15 s.u.																		
	Conductivity, field:	1303 uS/cm																		
	ORP, field:	50.4 mV																		
	Dissolved Oxygen, field:	1.17 mg/L																		
	Turbidity, field:	6.61 NTU																		

Relinquished by:	Date/Time: 06/02/21 1250	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6.2.21 1750

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2.3
Intact: (Yes) No

Notes:

Sample Receipt Checklist

S2 Work Order 2106053

Client: XOG Client Project ID: Ground-Water/GWA_District_Six_C6

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other [X] [ ] [ ] [ ] [ ] Airbill #: _____

Matrix (check all that apply): [ ] Air [ ] Soil/Solid [X] Water [ ] Other: _____ (Describe)

Temp (°C)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			pH
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?		✓		
Additional Comments (if any):				

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

AT	[signature]	6.2.21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

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:** 09/02/21 13:09

GW_61256_MH_MW_8

NENE_20_5N_65W

2106053-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEF0162	06/07/21	06/08/21	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: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*99.5 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*92.0 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.8 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEF0442	06/14/21	06/22/21	EPA 8015M	

Date Sampled: **06/02/21 10:30**

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: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Summit Scientific

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S2

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:** 09/02/21 13:09

GW_61256_MH_MW_8
NENE_20_5N_65W
2106053-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Calcium	**94700**	50.0	ug/l	1	BEF0079	06/03/21	06/03/21	EPA 200.8
Iron	**63.7**	10.0	"	"	"	"	"	"
Magnesium	**37900**	50.0	"	"	"	"	"	"
Manganese	**13.0**	1.00	"	"	"	"	"	"
Potassium	**3020**	50.0	"	"	"	"	"	"
Sodium	**76700**	50.0	"	"	"	"	"	"
Barium	**36.1**	1.00	"	"	"	"	"	"
Boron	**197**	10.0	"	"	"	"	"	"
Selenium	**63.6**	1.00	"	"	"	"	"	"
Strontium	**1190**	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	**0.717**	0.200	mg/L	1	BEF0083	06/03/21	06/03/21	EPA 300.0	
Chloride	**114**	10.0	"	100	"	"	"	"	
Fluoride	**0.455**	0.200	"	1	"	"	"	"	
Sulfate	**294**	30.0	"	100	"	"	"	"	
Nitrate as N	**11.2**	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	**11.2**	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	**300**	10.0	mg/L as CaCO3	1	BEF0089	06/03/21	06/14/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	**300**	10.0	"	"	"	"	"	"	

Summit Scientific

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

S2

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:** 09/02/21 13:09

GW_61256_MH_MW_8
NENE_20_5N_65W
2106053-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	**0.0500**	0.0500	mg/L	1	BEF0268	06/11/21	06/11/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1320**	1.00	umhos/cm	1	BEF0073	06/03/21	06/03/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**643**	10.0	mg/L	1	BEF0074	06/03/21	06/03/21	SM2540C	

pH by SM4500

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.27**	1.00	pH Units	1	BEF0209	06/02/21	06/09/21	SM4500-H+ B	

Field Data

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1303**		uS/cm	1	BEF0068	06/02/21	06/02/21	Field Method	
Turbidity	**6.61**		NTU	"	"	"	"	"	
Temperature	**15.0**		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	**50.4**		mv	"	"	"	"	"	
Dissolved Oxygen	**1.17**		mg/L	"	"	"	"	"	
pH	**7.15**		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.

S2

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:** 09/02/21 13:09

GW_61256_MH_MW_8
NENE_20_5N_65W

2106053-01 (Water)

Summit Scientific

Field Data

S2

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:** 09/02/21 13:09

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*0.0122*		*"*	*0.0133*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*0.0166*		*"*	*0.0133*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0141*		*"*	*0.0133*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0501	0.0010	mg/L	0.0500		100	51-132			
Toluene	0.0508	0.0010	"	0.0500		102	51-138			
Ethylbenzene	0.0485	0.0010	"	0.0500		97.0	58-146			
m,p-Xylene	0.0973	0.0020	"	0.100		97.3	57-144			
o-Xylene	0.0503	0.0010	"	0.0500		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*0.0148*		*"*	*0.0133*		*111*	*23-173*			
Surrogate: Toluene-d8	*0.0127*		*"*	*0.0133*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0500	0.0010	mg/L	0.0500	ND	99.9	34-141			
Toluene	0.0498	0.0010	"	0.0500	ND	99.7	27-151			
Ethylbenzene	0.0481	0.0010	"	0.0500	ND	96.1	29-160			
m,p-Xylene	0.0976	0.0020	"	0.100	ND	97.6	20-166			
o-Xylene	0.0503	0.0010	"	0.0500	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*0.0127*		*"*	*0.0133*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*0.0125*		*"*	*0.0133*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0132*		*"*	*0.0133*		*99.1*	*21-167*			

S2

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:** 09/02/21 13:09

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0473	0.0010	mg/L	0.0500	ND	94.6	34-141	5.43	32	
Toluene	0.0472	0.0010	"	0.0500	ND	94.3	27-151	5.55	25	
Ethylbenzene	0.0474	0.0010	"	0.0500	ND	94.9	29-160	1.32	50	
m,p-Xylene	0.0946	0.0020	"	0.100	ND	94.6	20-166	3.10	36	
o-Xylene	0.0491	0.0010	"	0.0500	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*0.0131*		*"*	*0.0133*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*0.0124*		*"*	*0.0133*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*101*	*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:** 09/02/21 13:09

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0442 - EPA 3520B										
Blank (BEF0442-BLK1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	*0.0242*		*"*	*0.0250*		*96.9*	*44.8-129*			
LCS (BEF0442-BS1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	0.957	0.100	mg/L	1.00		95.7	70-130			
Surrogate: o-Terphenyl	*0.0246*		*"*	*0.0250*		*98.4*	*44.8-129*			
LCS Dup (BEF0442-BSD1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	1.10	0.100	mg/L	1.00		110	70-130	13.7	200	
Surrogate: o-Terphenyl	*0.0248*		*"*	*0.0250*		*99.0*	*44.8-129*			

S2

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:** 09/02/21 13:09

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Blank (BEF0079-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0079-BS1)				Prepared & Analyzed: 06/03/21						
Calcium	4860	50.0	ug/l	5000		97.2	85-115			
Iron	5110	10.0	"	5000		102	85-115			
Magnesium	5240	50.0	"	5000		105	85-115			
Manganese	509	1.00	"	500		102	85-115			
Potassium	5210	50.0	"	5000		104	85-115			
Sodium	5100	50.0	"	5000		102	85-115			
Barium	476	1.00	"	500		95.3	85-115			
Boron	2850	10.0	"	2500		114	85-115			
Selenium	53.9	1.00	"	50.0		108	85-115			
Strontium	482	10.0	"	500		96.3	85-115			
Duplicate (BEF0079-DUP1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	116000	50.0	ug/l		131000			12.1	20	
Iron	60.3	10.0	"		63.5			5.19	20	
Magnesium	98600	50.0	"		110000			11.3	20	
Manganese	105	1.00	"		110			5.21	20	
Potassium	6690	50.0	"		7630			13.1	20	
Sodium	364000	50.0	"		402000			10.0	20	
Barium	59.0	1.00	"		65.1			9.83	20	
Boron	178	10.0	"		214			18.3	20	
Selenium	51.3	1.00	"		51.8			1.02	20	
Strontium	1510	10.0	"		1680			10.1	20	

Summit Scientific

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S2

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:** 09/02/21 13:09

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0079 - EPA 200.8										
Matrix Spike (BEF0079-MS1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	136000	50.0	ug/l	5000	131000	93.0	70-130			
Iron	5710	10.0	"	5000	63.5	113	70-130			
Magnesium	115000	50.0	"	5000	110000	103	70-130			
Manganese	690	1.00	"	500	110	116	70-130			
Potassium	12200	50.0	"	5000	7630	90.6	70-130			
Sodium	408000	50.0	"	5000	402000	107	70-130			
Barium	570	1.00	"	500	65.1	101	70-130			
Boron	2450	10.0	"	2500	214	89.3	70-130			
Selenium	98.1	1.00	"	50.0	51.8	92.5	70-130			
Strontium	2190	10.0	"	500	1680	103	70-130			
Matrix Spike Dup (BEF0079-MSD1)		**Source: 2106031-01**		Prepared & Analyzed: 06/03/21						
Calcium	135000	50.0	ug/l	5000	131000	79.9	70-130	0.482	25	
Iron	5750	10.0	"	5000	63.5	114	70-130	0.801	25	
Magnesium	114000	50.0	"	5000	110000	77.5	70-130	1.09	25	
Manganese	691	1.00	"	500	110	116	70-130	0.130	25	
Potassium	11800	50.0	"	5000	7630	82.8	70-130	3.28	25	
Sodium	407000	50.0	"	5000	402000	84.4	70-130	0.277	25	
Barium	562	1.00	"	500	65.1	99.4	70-130	1.43	25	
Boron	2460	10.0	"	2500	214	89.8	70-130	0.519	25	
Selenium	97.0	1.00	"	50.0	51.8	90.3	70-130	1.10	25	
Strontium	2180	10.0	"	500	1680	100	70-130	0.654	25	

S2

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:** 09/02/21 13:09

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0083 - General Preparation										
Blank (BEF0083-BLK1)				Prepared & Analyzed: 06/03/21						
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 (BEF0083-BS1)				Prepared & Analyzed: 06/03/21						
Bromide	10.6	0.200	mg/L	10.0		106	90-110			
Chloride	3.29	0.100	"	3.00		110	90-110			
Fluoride	2.14	0.200	"	2.00		107	90-110			
Sulfate	15.7	0.300	"	15.0		105	90-110			
Nitrate as N	3.27	0.100	"	3.00		109	90-110			
Nitrite as N	3.28	0.100	"	3.00		109	90-110			
Duplicate (BEF0083-DUP1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	ND	0.200	mg/L		0.294			200	20	
Chloride	15.1	0.100	"		14.7			2.74	20	
Fluoride	ND	0.200	"		ND				20	
Sulfate	12.8	0.300	"		12.0			6.45	20	
Nitrate as N	0.0300	0.100	"		0.0300			0.00	20	
Nitrite as N	ND	0.100	"		ND				20	
Nitrate/Nitrite as N	0.0300	0.200	"		0.0300			0.00	20	
Matrix Spike (BEF0083-MS1)		**Source: 2106032-01**		Prepared & Analyzed: 06/03/21						
Bromide	9.44	0.200	mg/L	10.0	0.294	91.5	80-120			
Chloride	17.5	0.100	"	3.00	14.7	94.0	80-120			
Fluoride	2.06	0.200	"	2.00	ND	103	80-120			
Sulfate	27.3	0.300	"	15.0	12.0	102	80-120			
Nitrate as N	2.95	0.100	"	3.00	0.0300	97.2	80-120			
Nitrite as N	2.86	0.100	"	3.00	ND	95.3	80-120			

S2

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:** 09/02/21 13:09

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0089 - General Preparation										
Blank (BEF0089-BLK1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							
LCS (BEF0089-BS1)				Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
Duplicate (BEF0089-DUP1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	400	10.0	mg/L as CaCO3		400			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	400	10.0	"		400			0.00	20	
Matrix Spike (BEF0089-MS1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130			
Matrix Spike Dup (BEF0089-MSD1)		**Source: 2106040-01**		Prepared: 06/03/21 Analyzed: 06/14/21						
Total Alkalinity	485	10.0	mg/L as CaCO3	100	400	85.0	70-130	0.00	20	

S2

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:** 09/02/21 13:09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0268 - General Preparation										
Blank (BEF0268-BLK1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	ND	0.0500	mg/L							
LCS (BEF0268-BS1)				Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.923	0.0500	mg/L	1.00		92.3	80-120			
Duplicate (BEF0268-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	0.0800	0.0500	mg/L		0.0770			3.82	20	
Matrix Spike (BEF0268-MS1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.05	0.0500	mg/L	1.00	0.0770	97.3	70-130			
Matrix Spike Dup (BEF0268-MSD1)		**Source: 2106040-01**		Prepared & Analyzed: 06/11/21						
Phosphorus - Total	1.04	0.0500	mg/L	1.00	0.0770	96.3	70-130	0.957	20	

S2

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:** 09/02/21 13:09

Specific Conductance by SM2510B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0073 - General Preparation										
Blank (BEF0073-BLK1)				Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	ND	1.00	umhos/cm							
Duplicate (BEF0073-DUP1)		**Source: 2106040-01**		Prepared & Analyzed: 06/03/21						
Specific Conductance (EC)	5600	1.00	umhos/cm		5590			0.107	20	

S2

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:** 09/02/21 13:09

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0074 - General Preparation										
Blank (BEF0074-BLK1)				Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEF0074-DUP1)		**Source: 2105449-01**		Prepared & Analyzed: 06/03/21						
Total Dissolved Solids	689	10.0	mg/L		690			0.131	20	

S2

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:** 09/02/21 13:09

pH by SM4500 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0209 - General Preparation										
LCS (BEF0209-BS1)				Prepared: 06/02/21 Analyzed: 06/09/21						
pH	9.28	1.00	pH Units	9.21		101	90-110			
Duplicate (BEF0209-DUP1)		**Source: 2106036-01**		Prepared: 06/02/21 Analyzed: 06/09/21						
pH	7.00	1.00	pH Units		6.91			1.29	20	

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

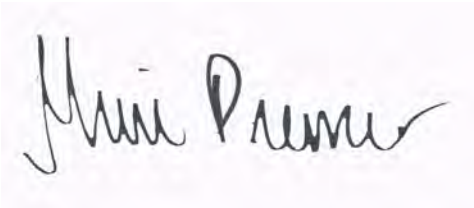
June 24, 2021

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

RE: Trip_Blank/GWA_District_Six_C6
Work Order #2106059

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

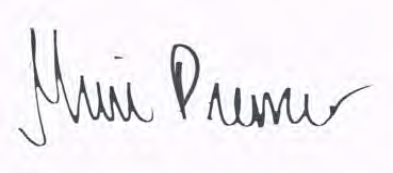
S2

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:** 06/24/21 14:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_8_Trip_Blank	2106059-01	Water	06/02/21 10:30	06/02/21 17:50

Summit Scientific



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

2106059

Summit Scientific

S_2

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

Client:	Extraction Oil and Gas (XOG) Report to: Apex Companies, LLC	Project Manager:	Heather Shideman
Address:	2234 117th Ave, Ste 106	E-Mail:	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com, Kolbi.Condos@apexcos.com
City/State/Zip:	Greeley, CO 80634	cc:	nbennett@extractionog.com
Phone:	(970) 576-3446	Project Name:	Trip_Blank/GWA_District_Six_C6
Sampler Name:	Jeff Griggs	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)	BTEX							
1	GW_61256_MH_MW_8_Trip_Blank	06/02/21	1030	2					X				X							Sample Frequency: Q2

Relinquished by:	Date/Time: 06/02/21 1750	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time: 6.2.21 1750

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 2.3°
Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2106059

Client: Extraction (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)	2.3

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.	✓			on ice
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? 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)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

AT	[signature]	6-2-21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

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:** 06/24/21 14:02

GW_61256_MH_MW_8_Trip_Blank
2106059-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEF0133	06/05/21	06/06/21	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: **06/02/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*55.6 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*130 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*	*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.

S2

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:** 06/24/21 14:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Blank (BEF0133-BLK1)				Prepared: 06/05/21 Analyzed: 06/06/21						
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	*11.1*		*"*	*13.3*		*83.5*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.5*		*"*	*13.3*		*109*	*21-167*			
LCS (BEF0133-BS1)				Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.8	1.0	ug/l	33.3		86.4	51-132			
Toluene	42.1	1.0	"	33.3		126	51-138			
Ethylbenzene	36.0	1.0	"	33.3		108	58-146			
m,p-Xylene	70.2	2.0	"	66.7		105	57-144			
o-Xylene	35.2	1.0	"	33.3		106	53-146			
Surrogate: 1,2-Dichloroethane-d4	*8.53*		*"*	*13.3*		*64.0*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*107*	*21-167*			
Matrix Spike (BEF0133-MS1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	27.8	1.0	ug/l	33.3	ND	83.6	34-141			
Toluene	43.2	1.0	"	33.3	ND	129	27-151			
Ethylbenzene	38.1	1.0	"	33.3	ND	114	29-160			
m,p-Xylene	73.8	2.0	"	66.7	ND	111	20-166			
o-Xylene	36.5	1.0	"	33.3	ND	109	33-159			
Surrogate: 1,2-Dichloroethane-d4	*7.48*		*"*	*13.3*		*56.1*	*23-173*			
Surrogate: Toluene-d8	*15.1*		*"*	*13.3*		*113*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.2*		*"*	*13.3*		*106*	*21-167*			

S2

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:** 06/24/21 14:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0133 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0133-MSD1)		**Source: 2105513-01**		Prepared: 06/05/21 Analyzed: 06/06/21						
Benzene	28.0	1.0	ug/l	33.3	ND	84.1	34-141	0.680	32	
Toluene	44.2	1.0	"	33.3	ND	133	27-151	2.34	25	
Ethylbenzene	36.9	1.0	"	33.3	ND	111	29-160	3.20	50	
m,p-Xylene	72.7	2.0	"	66.7	ND	109	20-166	1.47	36	
o-Xylene	36.5	1.0	"	33.3	ND	110	33-159	0.164	26	
Surrogate: 1,2-Dichloroethane-d4	*12.0*		*"*	*13.3*		*89.8*	*23-173*			
Surrogate: Toluene-d8	*15.8*		*"*	*13.3*		*119*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.7*		*"*	*13.3*		*110*	*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.

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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794474	Job #:	47876	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:	766717				
Date Sampled:	6/02/2021 10:30	Date Received:	6/07/2021	Date Reported:	6/10/2021

Component	Dissolved gas cc/L	Dissolved gas ppm
Methane ----------	0.21	0.14
Ethane ----------	0.025	0.031
Propane ----------	0.00010	0.0002

Alloc-421 930, 88

nd = not detected; na = not analyzed.

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	794468	Job #: 47875	IS-99230	Co. Job#:	
Sample Name:	GW_61256_MH_MW_8			Co. Lab#:	
Company:	Extraction Oil and Gas				
API/Well:					
Container:	125ml bottle				
Field/Site Name:	Ground_Water/GWA_District_Six_C6				
Location:	NENE_20_5N_65W				
Formation/Depth:	Q1				
Sampling Point:	766717				
Date Sampled:	6/02/2021 10:30	Date Received:	6/07/2021	Date Reported:	6/28/2021

δD of water	----------	-106.0 ‰ relative to VSMOW
δ^{18}O of water	----------	-13.53 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	-11.2 ‰ relative to VPDB
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

September 02, 2021

Heather Shideman

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Groundwater/GWA_District_Six_C6

Work Order # 2106082

Enclosed are the results of analyses for samples received by Summit Scientific on 06/03/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Muri Premer For Paul Shrewsbury

President

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_10	2106082-01	Water	06/03/21 13:46	06/03/21 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

2106082

S_2

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

Client: Extraction Oil and Gas (XOG) **Report to:** Apex Companies, LLC **Project Manager:** Heather Shideman

Address: 2234 117th Ave, Ste 106 **E-Mail:** Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com, Kolbi.Condos@apexcos.com

City/State/Zip: Greeley, CO 80634 **cc:** nbennett@extractionog.com

Phone: (970) 576-3446 **Project Name:** Groundwater/GWA_District_Six_C6

Sampler Name: Jeff Griggs **Project No.:** Alloc-421 930, 88 **Facility ID** 766717

					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_10	06/03/21	1346	11					X				X	X	X					Sample
	NENE_20_5N_65W																			Frequency: Q2
	Temperature, field:	19.4	°C																	
	pH, field:	7.25	s.u.																	
	Conductivity, field:	1177	uS/cm																	
	ORP, field:	17.3	mV																	
	Dissolved Oxygen, field:	3.19	mg/L																	
	Turbidity, field:	1100	NTU																	

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	06/03/21 1555	[signature]	6/3/21 1700
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 3
Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2106082

Client: XOG / Apex 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)	3

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.	✓			On ice.
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)** (1)? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl, HNO_3, H_2SO_4
If samples are acid preserved for metals, is the pH ≤ 2(1)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

JB	[signature]	6/3/21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

GW_61256_MH_MW_10
NENE_20_5N_65W
2106082-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0010	mg/L	1	BEF0162	06/07/21	06/08/21	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: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.3 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	0.100	mg/L	1	BEF0442	06/14/21	06/22/21	EPA 8015M	

Date Sampled: **06/03/21 13:46**

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

Dissolved Metals by EPA Method 200.8

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Summit Scientific

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S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

GW_61256_MH_MW_10
NENE_20_5N_65W
2106082-01 (Water)

Summit Scientific

Dissolved Metals by EPA Method 200.8

Calcium	**94600**	50.0	ug/l	1	BEF0169	06/08/21	06/08/21	EPA 200.8
Iron	**1110**	10.0	"	"	"	"	"	"
Magnesium	**38000**	50.0	"	"	"	"	"	"
Manganese	**16.3**	1.00	"	"	"	"	"	"
Potassium	**5540**	50.0	"	"	"	"	"	"
Sodium	**90900**	50.0	"	"	"	"	"	"
Barium	**51.5**	1.00	"	"	"	"	"	"
Boron	**161**	10.0	"	"	"	"	"	"
Selenium	**3.83**	1.00	"	"	"	"	"	"
Strontium	**1180**	10.0	"	"	"	"	"	"

Anions by EPA Method 300.0

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	ND	0.200	mg/L	1	BEF0122	06/04/21	06/07/21	EPA 300.0	
Chloride	**51.7**	10.0	"	100	"	"	"	"	
Fluoride	**0.769**	0.200	"	1	"	"	"	"	
Sulfate	**265**	30.0	"	100	"	"	"	"	
Nitrate as N	**12.2**	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	**12.2**	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	**320**	10.0	mg/L as CaCO3	1	BEF0206	06/09/21	06/14/21	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.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

GW_61256_MH_MW_10
NENE_20_5N_65W
2106082-01 (Water)

Summit Scientific

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	**0.0850**	0.0500	mg/L	1	BEF0297	06/14/21	06/14/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1120**	1.00	umhos/cm	1	BEF0107	06/04/21	06/04/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**554**	10.0	mg/L	1	BEF0106	06/04/21	06/04/21	SM2540C	

pH by SM4500

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.64**	1.00	pH Units	1	BEF0210	06/03/21	06/09/21	SM4500-H+ B	

Field Data

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1177**		uS/cm	1	BEF0103	06/03/21	06/03/21	Field Method	
Turbidity	**1100**		NTU	"	"	"	"	"	
Temperature	**19.4**		Degrees C	"	"	"	"	"	
Oxidation/Reduction Potential	**17.3**		mv	"	"	"	"	"	
Dissolved Oxygen	**3.19**		mg/L	"	"	"	"	"	
pH	**7.25**		SU	"	"	"	"	"	

Summit Scientific

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S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

GW_61256_MH_MW_10
NENE_20_5N_65W

2106082-01 (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.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*0.0122*		*"*	*0.0133*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*0.0166*		*"*	*0.0133*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0141*		*"*	*0.0133*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0501	0.0010	mg/L	0.0500		100	51-132			
Toluene	0.0508	0.0010	"	0.0500		102	51-138			
Ethylbenzene	0.0485	0.0010	"	0.0500		97.0	58-146			
m,p-Xylene	0.0973	0.0020	"	0.100		97.3	57-144			
o-Xylene	0.0503	0.0010	"	0.0500		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*0.0148*		*"*	*0.0133*		*111*	*23-173*			
Surrogate: Toluene-d8	*0.0127*		*"*	*0.0133*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0500	0.0010	mg/L	0.0500	ND	99.9	34-141			
Toluene	0.0498	0.0010	"	0.0500	ND	99.7	27-151			
Ethylbenzene	0.0481	0.0010	"	0.0500	ND	96.1	29-160			
m,p-Xylene	0.0976	0.0020	"	0.100	ND	97.6	20-166			
o-Xylene	0.0503	0.0010	"	0.0500	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*0.0127*		*"*	*0.0133*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*0.0125*		*"*	*0.0133*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0132*		*"*	*0.0133*		*99.1*	*21-167*			

Summit Scientific

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

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	0.0473	0.0010	mg/L	0.0500	ND	94.6	34-141	5.43	32	
Toluene	0.0472	0.0010	"	0.0500	ND	94.3	27-151	5.55	25	
Ethylbenzene	0.0474	0.0010	"	0.0500	ND	94.9	29-160	1.32	50	
m,p-Xylene	0.0946	0.0020	"	0.100	ND	94.6	20-166	3.10	36	
o-Xylene	0.0491	0.0010	"	0.0500	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*0.0131*		*"*	*0.0133*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*0.0124*		*"*	*0.0133*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0135*		*"*	*0.0133*		*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.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0442 - EPA 3520B										
Blank (BEF0442-BLK1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	ND	0.100	mg/L							
Surrogate: o-Terphenyl	*0.0242*		*"*	*0.0250*		*96.9*	*44.8-129*			
LCS (BEF0442-BS1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	0.957	0.100	mg/L	1.00		95.7	70-130			
Surrogate: o-Terphenyl	*0.0246*		*"*	*0.0250*		*98.4*	*44.8-129*			
LCS Dup (BEF0442-BSD1)				Prepared: 06/14/21 Analyzed: 06/22/21						
C10-C28 (DRO)	1.10	0.100	mg/L	1.00		110	70-130	13.7	200	
Surrogate: o-Terphenyl	*0.0248*		*"*	*0.0250*		*99.0*	*44.8-129*			

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0169 - EPA 200.8										
Blank (BEF0169-BLK1)				Prepared & Analyzed: 06/08/21						
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 (BEF0169-BS1)				Prepared & Analyzed: 06/08/21						
Calcium	5380	50.0	ug/l	5000		108	85-115			
Iron	5010	10.0	"	5000		100	85-115			
Magnesium	5590	50.0	"	5000		112	85-115			
Manganese	512	1.00	"	500		102	85-115			
Potassium	5350	50.0	"	5000		107	85-115			
Sodium	5280	50.0	"	5000		106	85-115			
Barium	494	1.00	"	500		98.7	85-115			
Boron	2470	10.0	"	2500		98.8	85-115			
Selenium	51.7	1.00	"	50.0		103	85-115			
Strontium	531	10.0	"	500		106	85-115			
Duplicate (BEF0169-DUP1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	208000	50.0	ug/l		214000			2.68	20	
Iron	4.50	10.0	"		ND			200	20	
Magnesium	105000	50.0	"		108000			2.04	20	
Manganese	105	1.00	"		104			0.892	20	
Potassium	6080	50.0	"		6190			1.70	20	
Sodium	180000	50.0	"		183000			1.76	20	
Barium	39.3	1.00	"		41.6			5.60	20	
Boron	585	10.0	"		606			3.58	20	
Selenium	3.68	1.00	"		3.64			1.12	20	
Strontium	3300	10.0	"		3280			0.352	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.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Dissolved Metals by EPA Method 200.8 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0169 - EPA 200.8										
Matrix Spike (BEF0169-MS1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	220000	50.0	ug/l	5000	214000	119	70-130			
Iron	5300	10.0	"	5000	ND	106	70-130			
Magnesium	114000	50.0	"	5000	108000	120	70-130			
Manganese	630	1.00	"	500	104	105	70-130			
Potassium	11600	50.0	"	5000	6190	108	70-130			
Sodium	188000	50.0	"	5000	183000	104	70-130			
Barium	546	1.00	"	500	41.6	101	70-130			
Boron	3010	10.0	"	2500	606	96.3	70-130			
Selenium	59.5	1.00	"	50.0	3.64	112	70-130			
Strontium	3720	10.0	"	500	3280	86.3	70-130			
Matrix Spike Dup (BEF0169-MSD1)		**Source: 2106060-01**		Prepared & Analyzed: 06/08/21						
Calcium	218000	50.0	ug/l	5000	214000	81.6	70-130	0.865	25	
Iron	5270	10.0	"	5000	ND	105	70-130	0.664	25	
Magnesium	111000	50.0	"	5000	108000	74.3	70-130	2.04	25	
Manganese	635	1.00	"	500	104	106	70-130	0.746	25	
Potassium	11300	50.0	"	5000	6190	102	70-130	2.53	25	
Sodium	188000	50.0	"	5000	183000	112	70-130	0.226	25	
Barium	522	1.00	"	500	41.6	96.0	70-130	4.61	25	
Boron	2970	10.0	"	2500	606	94.6	70-130	1.49	25	
Selenium	58.6	1.00	"	50.0	3.64	110	70-130	1.51	25	
Strontium	3690	10.0	"	500	3280	81.8	70-130	0.603	25	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0122 - General Preparation										
Blank (BEF0122-BLK1)				Prepared: 06/04/21 Analyzed: 06/07/21						
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 (BEF0122-BS1)				Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	11.0	0.200	mg/L	10.0		110	90-110			
Chloride	3.19	0.100	"	3.00		106	90-110			
Fluoride	2.19	0.200	"	2.00		109	90-110			
Sulfate	16.0	0.300	"	15.0		107	90-110			
Nitrate as N	3.10	0.100	"	3.00		103	90-110			
Nitrite as N	3.16	0.100	"	3.00		105	90-110			
Duplicate (BEF0122-DUP1)		**Source: 2106078-01**		Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	ND	0.200	mg/L		ND				20	
Chloride	ND	0.100	"		122			200	20	QM-02
Fluoride	0.739	0.200	"		0.771			4.24	20	
Sulfate	122	0.300	"		149			20.1	20	QM-02
Nitrate as N	2.14	0.100	"		2.18			1.81	20	
Nitrite as N	5.08	0.100	"		ND			200	20	
Nitrate/Nitrite as N	7.21	0.200	"		2.18			107	20	
Matrix Spike (BEF0122-MS1)		**Source: 2106078-01**		Prepared: 06/04/21 Analyzed: 06/07/21						
Bromide	10.1	0.200	mg/L	10.0	ND	101	80-120			
Chloride	ND	0.100	"	3.00	122	NR	80-120			QM-02
Fluoride	2.84	0.200	"	2.00	0.771	104	80-120			
Sulfate	126	0.300	"	15.0	149	NR	80-120			QM-02
Nitrate as N	5.41	0.100	"	3.00	2.18	108	80-120			
Nitrite as N	8.13	0.100	"	3.00	ND	271	80-120			

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0206 - General Preparation										
Blank (BEF0206-BLK1)				Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							
LCS (BEF0206-BS1)				Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
Duplicate (BEF0206-DUP1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	360	10.0	mg/L as CaCO3		360			0.00	20	
Carbonate	ND	10.0	"		ND				20	
Bicarbonate	360	10.0	"		360			0.00	20	
Matrix Spike (BEF0206-MS1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	470	10.0	mg/L as CaCO3	100	360	110	70-130			
Matrix Spike Dup (BEF0206-MSD1)		**Source: 2106078-01**		Prepared: 06/09/21 Analyzed: 06/14/21						
Total Alkalinity	470	10.0	mg/L as CaCO3	100	360	110	70-130	0.00	20	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0297 - General Preparation										
Blank (BEF0297-BLK1)				Prepared & Analyzed: 06/14/21						
Phosphorus - Total	ND	0.0500	mg/L							
LCS (BEF0297-BS1)				Prepared & Analyzed: 06/14/21						
Phosphorus - Total	0.996	0.0500	mg/L	1.00		99.6	80-120			
Duplicate (BEF0297-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	0.0550	0.0500	mg/L		0.0540			1.83	20	
Matrix Spike (BEF0297-MS1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	1.04	0.0500	mg/L	1.00	0.0540	98.6	70-130			
Matrix Spike Dup (BEF0297-MSD1)		**Source: 2106078-01**		Prepared & Analyzed: 06/14/21						
Phosphorus - Total	1.03	0.0500	mg/L	1.00	0.0540	97.6	70-130	0.966	20	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Specific Conductance by SM2510B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0107 - General Preparation										
Blank (BEF0107-BLK1)				Prepared & Analyzed: 06/04/21						
Specific Conductance (EC)	ND	1.00	umhos/cm							
Duplicate (BEF0107-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/04/21						
Specific Conductance (EC)	1170	1.00	umhos/cm		1160			0.601	20	

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0106 - General Preparation										
Blank (BEF0106-BLK1)				Prepared & Analyzed: 06/04/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEF0106-DUP1)		**Source: 2106078-01**		Prepared & Analyzed: 06/04/21						
Total Dissolved Solids	586	10.0	mg/L		586			0.0171	20	

Summit Scientific

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S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Groundwater/GWA_District_Six_C6 Project Number: Alloc 421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 09/02/21 13:50

pH by SM4500 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0210 - General Preparation										
LCS (BEF0210-BS1)				Prepared: 06/03/21 Analyzed: 06/09/21						
pH	9.25	1.00	pH Units	9.21		100	90-110			
Duplicate (BEF0210-DUP1)		**Source: 2106068-01**		Prepared: 06/03/21 Analyzed: 06/09/21						
pH	8.14	1.00	pH Units		8.10			0.493	20	

Notes and Definitions

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

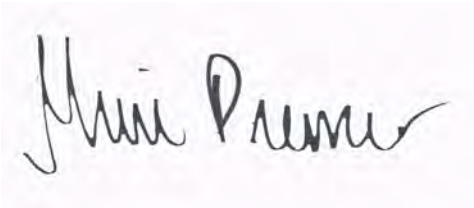
June 28, 2021

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

RE: Trip_Blank/GWA_District_Six_C6
Work Order #2106081

Enclosed are the results of analyses for samples received by Summit Scientific on 06/03/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW_61256_MH_MW_10_Trip_Blank	2106081-01	Water	06/03/21 13:46	06/03/21 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 2106081

S_2

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

Client:	Extraction Oil and Gas (XOG)	**Report to:** Apex Companies, LLC	**Project Manager:**	Heather Shideman	
Address:	2234 117th Ave, Ste 106		**E-Mail:**	Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com, Kolbi.Condos@apexcos.com	
City/State/Zip:	Greeley, CO 80634		**cc:**	nbennett@extractionog.com	
Phone:	(970) 576-3446		**Project Name:**	Trip_Blank/GWA_District_Six_C6	
Sampler Name:	Jeff Griggs		**Project No.:**	Alloc-421 930, 88	**Facility ID** 766717

					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_10_Trip_Blank	06/03/21	1346	2					X				X							**Sample Frequency:** Q2

Relinquished by:	Date/Time: 06/03/21 1555	Received by:	Date/Time: 6/3/21 1700
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 3
Intact: (Yes) No

Notes:

2106081

Sample Receipt Checklist

S2 Work Order_____

Client: XOG / Apex 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)	3

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.	✓			On ice.
Were all samples received intact (1)?	✓			
Was adequate sample volume provided (1)?	✓			
If custody seals are present, are they intact (1)?	✓			
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely (1)?	✓			
Does the COC agree with the number and type of sample bottles received (1)?	✓			
Do the sample IDs on the bottle labels match the COC (1)?	✓			
Is the COC properly relinquished by the client w/ date and time recorded (1)?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation **(excluding cooling)** (1)? 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)? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

JB	[signature]	6/3/21
Custodian Printed Name or Initials	**Signature of Custodian**	**Date/Time**

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:40

GW_61256_MH_MW_10_Trip_Blank
2106081-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEF0162	06/07/21	06/08/21	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: **06/03/21 13:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.8 %*	*21-167*		"	"	"	"	

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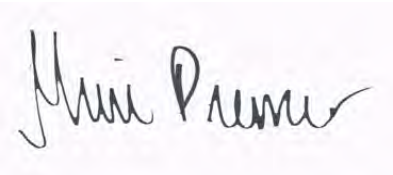


The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Blank (BEF0162-BLK1)				Prepared: 06/07/21 Analyzed: 06/08/21						
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	*12.2*		*"*	*13.3*		*91.3*	*23-173*			
Surrogate: Toluene-d8	*16.6*		*"*	*13.3*		*124*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.1*		*"*	*13.3*		*106*	*21-167*			
LCS (BEF0162-BS1)				Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	50.1	1.0	ug/l	50.0		100	51-132			
Toluene	50.8	1.0	"	50.0		102	51-138			
Ethylbenzene	48.5	1.0	"	50.0		97.0	58-146			
m,p-Xylene	97.3	2.0	"	100		97.3	57-144			
o-Xylene	50.3	1.0	"	50.0		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	*14.8*		*"*	*13.3*		*111*	*23-173*			
Surrogate: Toluene-d8	*12.7*		*"*	*13.3*		*95.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.5*		*"*	*13.3*		*102*	*21-167*			
Matrix Spike (BEF0162-MS1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	50.0	1.0	ug/l	50.0	ND	99.9	34-141			
Toluene	49.8	1.0	"	50.0	ND	99.7	27-151			
Ethylbenzene	48.1	1.0	"	50.0	ND	96.1	29-160			
m,p-Xylene	97.6	2.0	"	100	ND	97.6	20-166			
o-Xylene	50.3	1.0	"	50.0	ND	101	33-159			
Surrogate: 1,2-Dichloroethane-d4	*12.7*		*"*	*13.3*		*95.2*	*23-173*			
Surrogate: Toluene-d8	*12.5*		*"*	*13.3*		*93.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.2*		*"*	*13.3*		*99.1*	*21-167*			

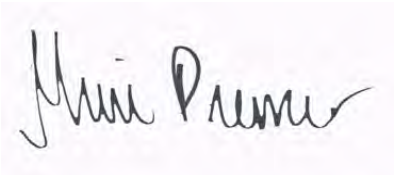
S2

Extraction Oil&Gas 370 17th Street Suite 5300 Denver CO, 80202	Project: Trip_Blank/GWA_District_Six_C6 Project Number: Alloc-421 930.88 Fac ID 766717 Project Manager: Heather Shideman	**Reported:** 06/28/21 11:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEF0162 - EPA 5030 Water MS										
Matrix Spike Dup (BEF0162-MSD1)		**Source: 2106103-01**		Prepared: 06/07/21 Analyzed: 06/08/21						
Benzene	47.3	1.0	ug/l	50.0	ND	94.6	34-141	5.43	32	
Toluene	47.2	1.0	"	50.0	ND	94.3	27-151	5.55	25	
Ethylbenzene	47.4	1.0	"	50.0	ND	94.9	29-160	1.32	50	
m,p-Xylene	94.6	2.0	"	100	ND	94.6	20-166	3.10	36	
o-Xylene	49.1	1.0	"	50.0	ND	98.1	33-159	2.42	26	
Surrogate: 1,2-Dichloroethane-d4	*13.1*		*"*	*13.3*		*98.6*	*23-173*			
Surrogate: Toluene-d8	*12.4*		*"*	*13.3*		*92.9*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.5*		*"*	*13.3*		*101*	*21-167*			



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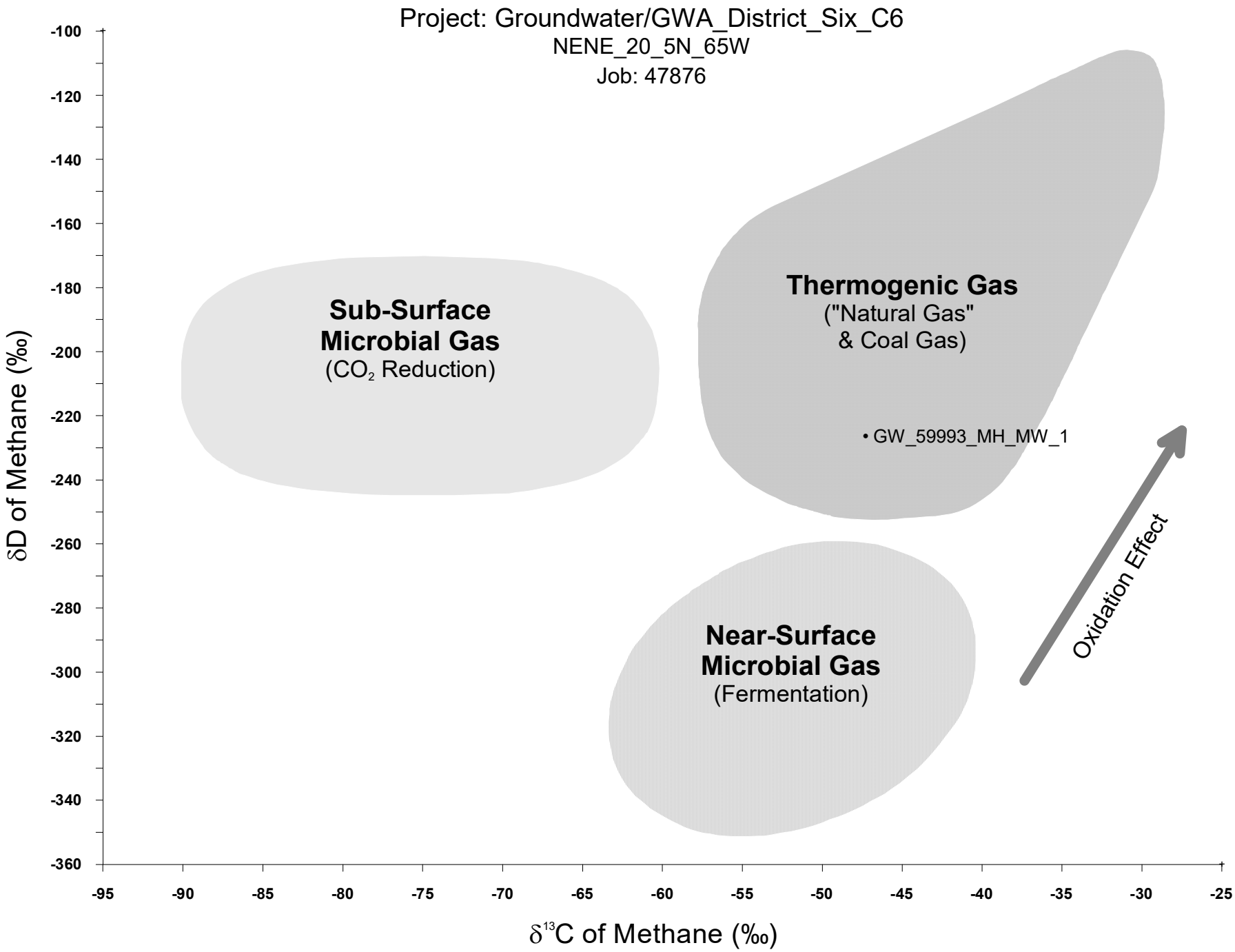
Notes and Definitions

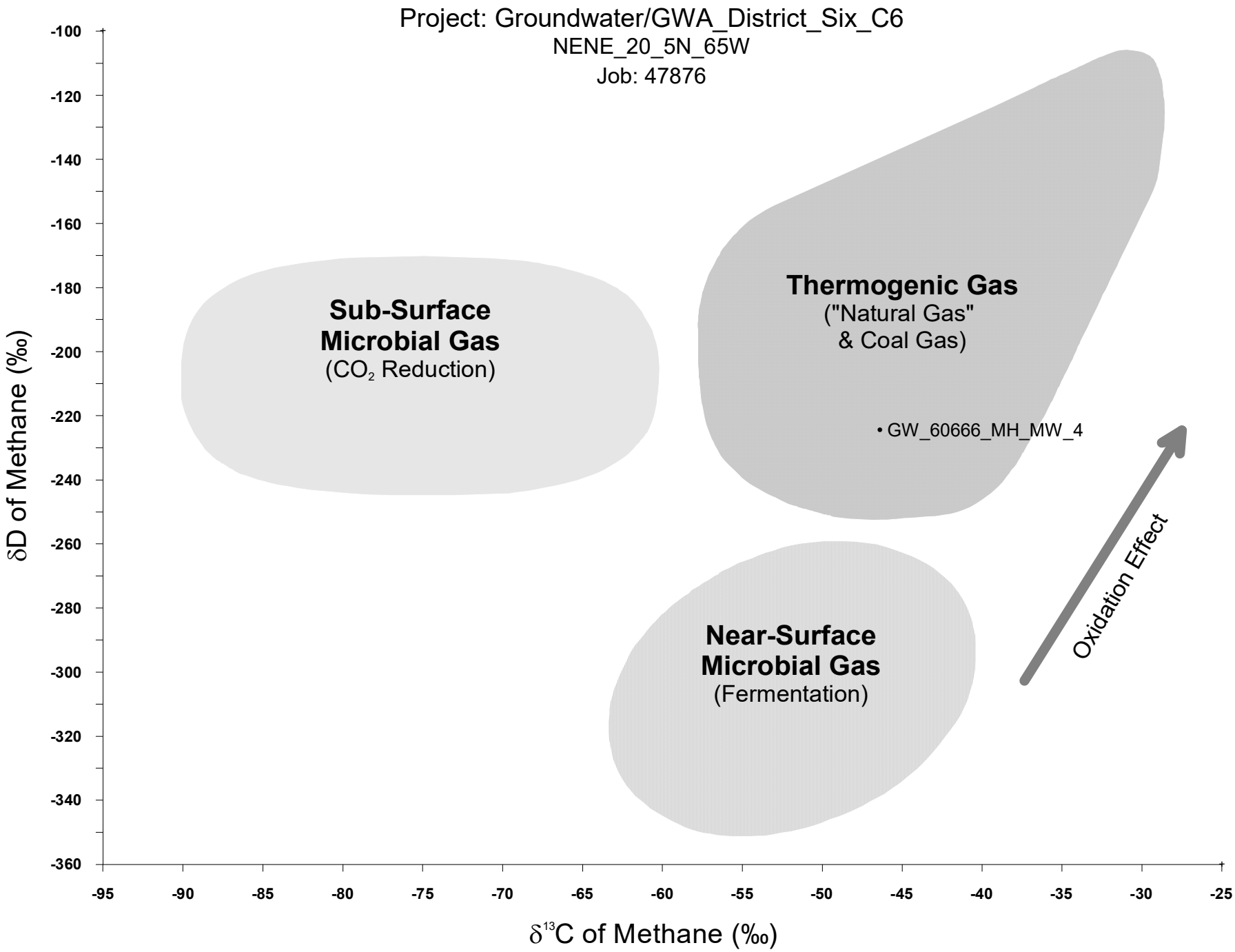
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Attachment H

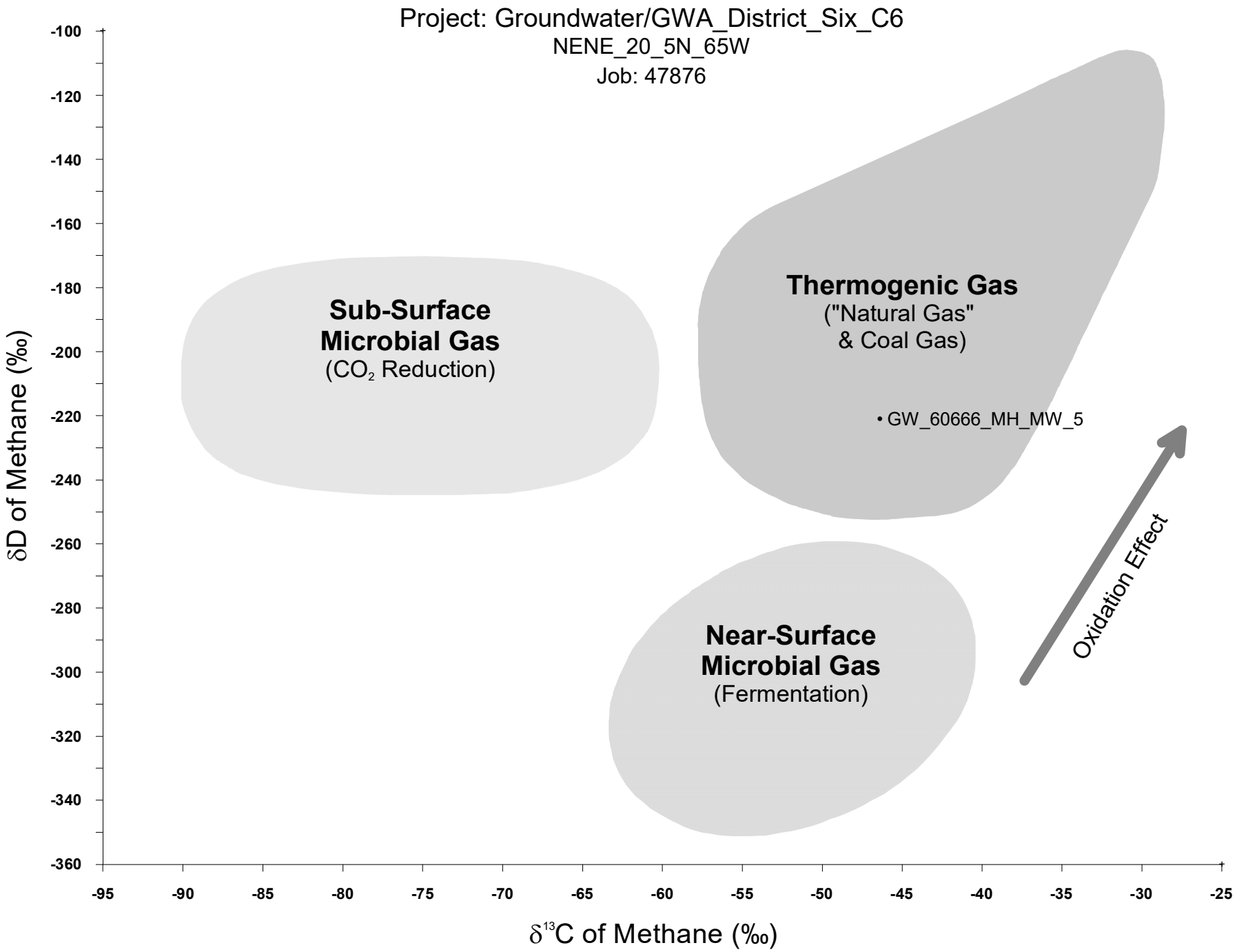
2021 Q2 Groundwater Isotope Ratio Plots



This plot is a visual representation of data and not intended to be an interpretation of results.



This plot is a visual representation of data and not intended to be an interpretation of results.



This plot is a visual representation of data and not intended to be an interpretation of results.

Attachment I

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

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
1	1 - Sampled 5/24/2021	8313	128949--A	Well Constructed	Clark, Rodney & Lori 2605 1st Ave Greeley, CO 80631-7418 970-356-6534	5N	65W	17	SE	SE	40.39538	-104.678395	Domestic	106
2	3 - Sampled 5/24/2021	80250	90300--A	Well Constructed	Martinez, Maria L. Physical: 3300 Empire St., Evans, CO 80620 Mailing: 28725 County Road 64, Gill, CO 80624-9110	5N	65W	20	NE	SW	40.382396	-104.687375	Domestic	43
3	Eliminated -- Landowner called 5/25/21, stated well is currently non-functioning. They would contact us when it would be available to sample	9058877	2229-	Well Constructed	Krieger, Clarence J Living Trust (Attn: Tammy Malick) 970-522-9771 Physical: Garden City 1st Add Block 2 Lot 10 Garden City, CO Mailing: 2743 6th Avenue Ln, Greeley, CO 80631-8455	5N	65W	17	SE	SW	40.393659	-104.689691	Domestic	71
4	Eliminated -- No water source owner response. Letters sent 4/30/21 and 6/22/21.	9062662	19734-F	Well Constructed	GKT University Square Greeley LL2, LLC C/O TKG Management Physical:2716 11th Ave., Greeley, CO 80631 Mailing: 211 N Stadium Blvd. Suite 201, Columbia, MO 65203-1161	5N	65W	17	SE	SW	40.392219	-104.691984	Industrial	
5	Eliminated -- Per Permit, Dry well, P&A'd 6/13/1968	9063738	34191-	Well Constructed	Maple Real Estate, LLC / 4K Real Estate, LLC Physical: 615 E 26th St., Garden City, CO 80631 Mailing: 30941 Rocky Rd., Greeley, CO 80631-9375	5N	65W	17	SE	SW	40.393659	-104.689691	Domestic	
6	Eliminated -- Non-functioning per owner 5/11/2021	9064222	41128-	Well Constructed	Yoshida Partners Physical: 3104 Empire St. A, Evans, CO 80620 Mailing: 505 31st St., Greeley, CO 80631-7445	5N	65W	20	NW	SE	40.382792	-104.68497	Domestic	43
7	Eliminated -- No water source owner response. Letters sent 4/30/21 and 6/22/21.	9065831	87460-	Well Constructed	Greeley-Evans Weld County School District 6 Fleet Maintenance School District No. 6 Physical: 155 E 27th St. Mailing: 811 15th St. Greeley, CO 80631-4403 970-348-6800	5N	65W	16	SW	SW	40.393655	-104.676612	Domestic	110
8	2 - Sampled 5/24/2021	0324245B	160051--A	Well Constructed	Dale G Doty 2964 1st Ave Greeley, CO 80631-7415 970-356-4220; 970-356-7550; 970-352-1210	5N	65W	21	SW	NW	40.388071	-104.67724	Domestic	
9	4 - Sampled 1/10/2020	9064923	60135-	Well Constructed	Stoudt, Fred & Tammara 519 35th St Evans, CO 80620 (970) 330-8960	5N	65W	20	SW	SE	40.379168	-104.684985	Domestic	29
10	Monitoring well, sampled quarterly by XOG	59993	59993-MH	Well Constructed	Extraction Oil and Gas Inc	5N	65W	20	NE	NE	40.391327	-104.681902	Monitoring/Sampling	85

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
11	Monitoring well, sampled quarterly by XOG	60666	60666-MH	Well Constructed	Extraction Oil and Gas Inc	5N	65W	20	NE	NE	40.391264	-104.681879	Monitoring/Sampling	85
12	Monitoring well, sampled quarterly by XOG	61256	61256-MH	Well Constructed	Extraction Oil and Gas Inc	5N	65W	20	NE	NE	40.391283	-104.682138	Monitoring/Sampling	85
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
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 DONNELLEY 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	

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

	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
86	Eliminated -- Permit Status	0000337D	1995198-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388048	-104.681976	Other	
87	Eliminated -- Permit Status	0000337E	1995199-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387958	-104.681977	Other	
88	Eliminated -- Permit Status	0000337F	1995200-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387966	-104.681859	Other	
89	Eliminated -- Permit Status	0000337G	1995201-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388012	-104.68187	Other	
90	Eliminated -- Permit Status	0000337H	1995202-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.388038	-104.681729	Other	
91	Eliminated -- Permit Status	0000337I	1995203-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387912	-104.6818	Other	
92	Eliminated -- Permit Status	0000337J	1995204-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387913	-104.681906	Other	
93	Eliminated -- Permit Status	0000337K	1995205-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387976	-104.682012	Other	
94	Eliminated -- Permit Status	0000337L	1995206-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.38803	-104.682012	Other	
95	Eliminated -- Permit Status	0000337M	1995207-AB	Well Abandoned	RR DONNELLEY NORWEST PUBLISHING CO	5N	65W	20	SE	NE	40.387966	-104.681824	Other	
96	Eliminated -- Permit Status	7695	15194-F	Permit Expired	ROYAL B ASSOCIATES	5N	65W	20	SW	SE	40.378045	-104.684156	Commercial	
97	Eliminated -- Permit Status	0008313A	128949-	Application Received	CLARK, 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	

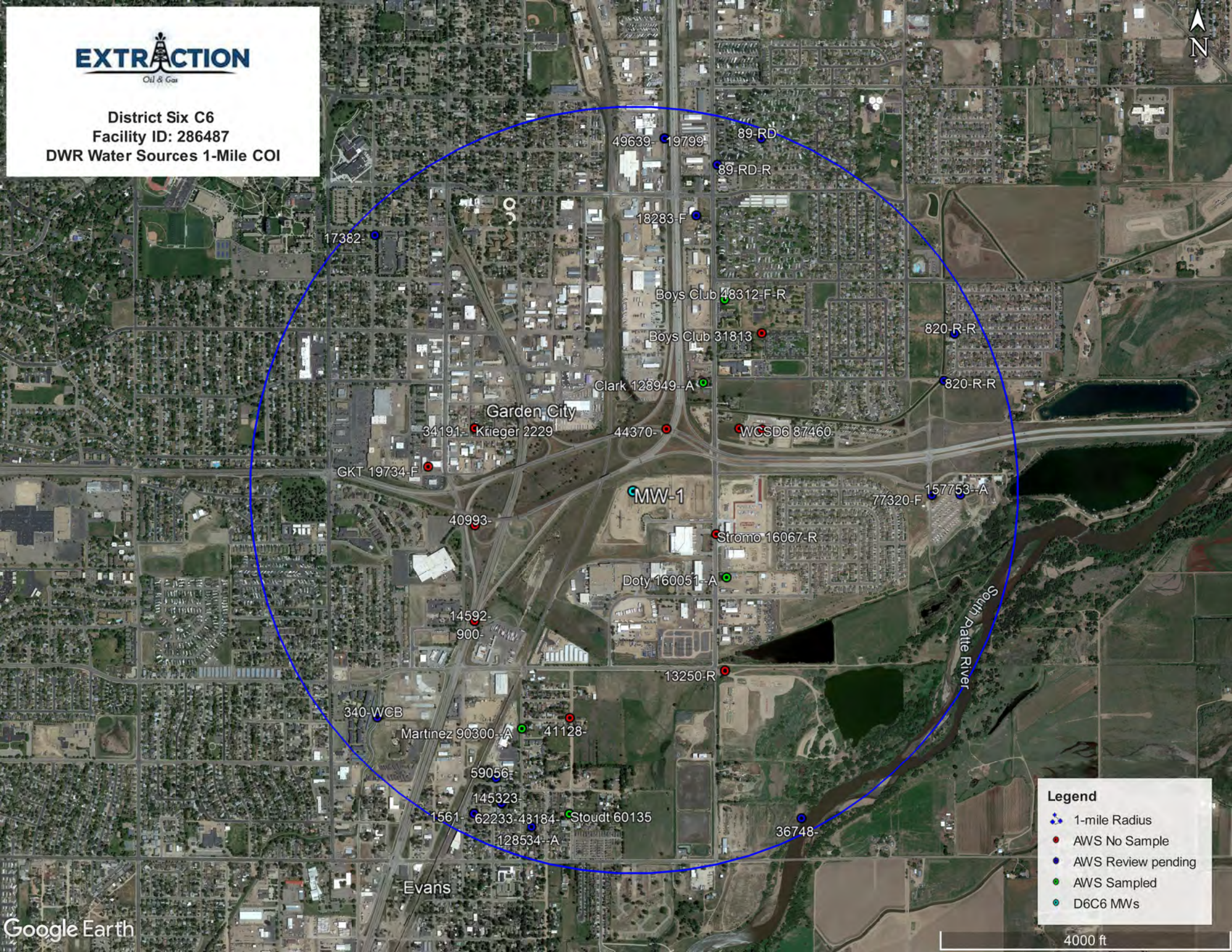
	Status	Receipt	Permit	Permit Status	Contact Name	Twn	Rng	Sec	Q160	Q40	Latitude	Longitude	Use(s)	TD
109	Eliminated -- Permit Status	0313070A	157753-	Well Abandoned	QUICK, ROBERT	5N	65W	21	NW	NE	40.391516	-104.665723	Domestic	
110	Eliminated -- Permit Status	0330311A	40122-F	Permit Expired	NORWEST PUBLISHING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

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

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

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

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


EXTRACTION
Oil & Gas
District Six C6
Facility ID: 286487
DWR Water Sources 1-Mile COI
N
49639-
19799-
89-RD
89-RD-R
18283-F
17382-
Boys Club 48312-F-R
Boys Club 31813
820-R-R
820-R-R
Clark 128949--A
Garden City
34191-
Krieger 2229
44370-
WCSD6 87460
GKT 19734-F
MW-1
77320-F
157753--A
40993-
Stromo 16067-R
Doty 160051--A
14592-
900-
South Platte River
13250-R
340-WCB
Martinez 90300--A
41128-
59056-
145323-
1561-
62233-
48184-
Stoudt 60135
128534--A
36748-
Evans
Google Earth
Legend
1-mile Radius
AWS No Sample
AWS Review pending
AWS Sampled
D6C6 MWs
4000 ft