VIA ELECTRONIC MAIL –

July 11, 2025

Andy Verbonitz
EH&S Specialist
Environmental Health and Safety
QB Energy LLC
143 Diamond Avenue
Parachute, Colorado 81635

Subject: **Release Investigation Field Activities**
Garden Gulch 3 – Produced Water Release
Logan Mesa
Garfield County, Colorado

Dear Mr. Verbonitz:

WSP USA Inc. (WSP), on behalf of QB Energy LLC (QB), completed confirmation soil field screening and soil sampling in response to the produced water release affiliated with the tank battery at the CHEVRON-66S96W/7SENE (Facility ID: 335652) [Garden Gulch 3 (GG3)] (Site) pad location, discovered on May 21, 2025. Field activities were performed in response to the release of approximately 11.5 barrels (bbls) of produced water from a leaking tank pipe fitting. Upon discovery of the release, the equipment was isolated, a hydro-vacuum truck removed all standing liquids, and the remaining fluids were transferred into a different tank. All spill response activities may be referenced under the State of Colorado Energy and Carbon Management Commission (ECMC) Spill / Release Point Number 490260. All subsequent investigative activities were completed in accordance with the State of Colorado Energy and Carbon Management Commission (ECMC) Rule 913.c.(3): *Remediation of Spill Releases Pursuant to Rule 912*. This report of work completed (ROWC) was prepared for the purpose of presenting the initial release characterization activities at the Site. The Site is located in the QB Logan Mesa area of operation in Garfield County, Colorado (Figure 1).

SOIL SAMPLING ACTIVITIES – GARDEN GULCH 3

On May 29, 2025, WSP conducted confirmation soil sampling activities related to the tank battery produced water release at the Site. Prior to WSP's arrival, the tank battery had been removed and the footprint below the battery had been excavated to depths ranging from approximately 5.5 to 6 feet below ground surface (bgs). Using a decontaminated spade shovel, WSP personnel collected confirmation soil samples from all four sidewalls in each cardinal direction (north, south, east, and west) at depths of approximately 5.5 feet bgs of the excavation. One confirmation soil sample was also collected from the base of the excavation footprint at a depth of approximately 6 feet bgs.

All material that had been removed from the excavation was stockpiled (approximately 305 cubic yards). One five-point composite confirmation soil sample [20250529-GG3-(STOCK02)] was collected from the stockpiled material. The five-point aliquots were thoroughly mixed prior to field screening and jarring.

All confirmation soil samples were field screened via a photoionization detector (PID) to analyze the soil headspaces for the presence or absence of volatile organic compounds (VOCs). The soils were also inspected using visual and olfactory senses for staining and hydrocarbon odors. The field screening results and observations are summarized in the table below.

Investigative Soil Sampling – May 29, 2025

Sample ID	PID (ppm)	Field Observations	Laboratory Analysis
20250529-GG3-(NW)@5.5	1.5	Hydrocarbon Odor / Staining	Full Table 915-1 Suite
20250529-GG3-(WW)@5.5	2.3	Hydrocarbon Odor / Staining	Full Table 915-1 Suite
20250529-GG3-(EW)@5.5	0.9	Hydrocarbon Odor / Staining	Full Table 915-1 Suite
20250529-GG3-(SW)@5.5	1.1	Hydrocarbon Odor / Staining	Full Table 915-1 Suite
20250529-GG3-(BASE)@6	8.4	Hydrocarbon Odor / Staining	Full Table 915-1 Suite
20250529-GG3-(STOCK02)	2.5	Hydrocarbon Odor / Staining	Full Table 915-1 Suite

Key:
PID – photoionization detector *ppm – parts per million*

In total, six confirmation soil samples were submitted to Elevation Diagnostics (Elevation) of Aurora, Colorado for laboratory analysis of the full ECMC Table 915-1 suite of analytes. All soil analytical results were evaluated under ECMC Residential Soil Screening Level Concentrations (RSSLCs). The confirmation soil sample locations and excavation and stockpile extents were mapped using a handheld Trimble® R1 Global Positioning System (GPS) receiver and are depicted on the attached Figure 2. A photographic log of the sampling activities is included in Enclosure A.

ANALYTICAL RESULTS – GARDEN GULCH 3

Laboratory analytical results of the confirmation soil samples collected from the Site on May 29, 2025 indicated exceedances of the RSSLCs for electrical conductivity (EC), sodium adsorption ratio (SAR), and arsenic. All other analytes were either below the laboratory reporting detection limit (RDL) or were within the ECMC Table 915-1 RSSLCs. The laboratory analytical reports are included in the corresponding Supplemental Form 19 (DN: 404260883). All exceedances are summarized in Table 1 and are depicted in Figure 3.

PATHWAY TO GROUNDWATER ASSESSMENT – GARDEN GULCH 3

WSP believes that a pathway to groundwater from soil identified beneath the point of release (POR) location does not exist due to the following reasons. The static water table depth is estimated to be approximately 17 feet bgs at the nearest groundwater monitoring well located approximately 6,103 feet to the east of the Site and identified by DWR Permit Number 275085, as shown in Figure 4. However, the well is positioned within the Parachute Creek alluvial valley, while the Site is located on the talus slope along the Logan Mesa cliffs above the alluvial valley. Due to differences in surface elevation between the POR and monitoring well, the vertical distance between the assumed static water level and the POR location is approximately 432 feet. No groundwater was observed infiltrating during site investigation activities. The nearest sensitive receptor is Parachute Creek, positioned approximately 5,413 feet southeast of the POR. Although the United States Geological Survey (USGS) topographic map classifies this stream as perennial, local knowledge and field observations suggest that it is better characterized as intermittent. The stream predominantly flows during major weather events, exceptional groundwater elevation increases manifested through natural springs, and / or rain / snow melting events.

Given these observations and facts related to groundwater in the immediate vicinity of the Site, WSP recommends that QB requests the Director to make a determination to continue evaluating remediation success of this project using the RSSLCs listed in ECMC Table 915-1, in accordance with ECMC Table 915-1, Footnote 7.

BACKGROUND SOIL ASSESSMENT – GARDEN GULCH 3

In accordance with ECMC Table 915-1, Footnote 1, WSP recommends that QB request the Director for use of background soil sample analytical data for relief of arsenic, EC, and SAR. All confirmation soil samples from the May 29, 2025 field activities yielded arsenic concentrations ranging from 6.84 to 14.78 milligrams per kilogram (mg/kg). This range is lower than those obtained from background soil samples collected from the nearby H07A 696 pad (Facility ID: 335820), which ranged from approximately 12.32 to 22.3 mg/kg. Additionally, the only EC exceedance was 4.05 millimhos per centimeter (mmhos/cm) from sample [20250529-GG3-(WW)@5.5]. This is lower than the EC concentrations of the H07A 696 background soil samples, which ranged from approximately 8.34 to 10 mmhos/cm. Moreover, the Garden Gulch 3 confirmation soil samples [20250529-GG3-(WW)@5.5 and 20250529-GG3-(STOCK02)] had SAR exceedances of 7.51 and 7.19, respectively. This range is lower than the samples [20250407-LMBG-(H07A 696 E01)@8 and 20250407-LMBG-(H07A 696 E03)@3], which reported SAR values of 15.46 and 9.1, respectively. WSP believes that the arsenic, EC, and SAR values within the Garden Gulch 3 excavation meet the criteria of ECMC Table 915-1, Footnote 1, and are representative of the parent soil material. The geographic proximities of these two facilities, the mapped soil unit extents, and the related arsenic, EC, and SAR concentrations are depicted in Figure 5. All related laboratory analytical reports are attached to DN 404260883, which corresponds with this report.

CONCLUSIONS – GARDEN GULCH 3

Based on the analytical data provided herein and pending approval from the Director, there are no impacts affiliated with the tank battery produced water release and WSP recommends that QB request “No Further Action” and closure of Spill / Release Point ID Number 490260.

Please contact us at (970) 658-7025 if you have any questions regarding this report or require additional information.

Kind regards,

Parker Coit, P.G.
Assistant Vice President, Geologist

Alex Asay
Assoc. Consultant, Environmental Geologist

Encl.

FIGURES

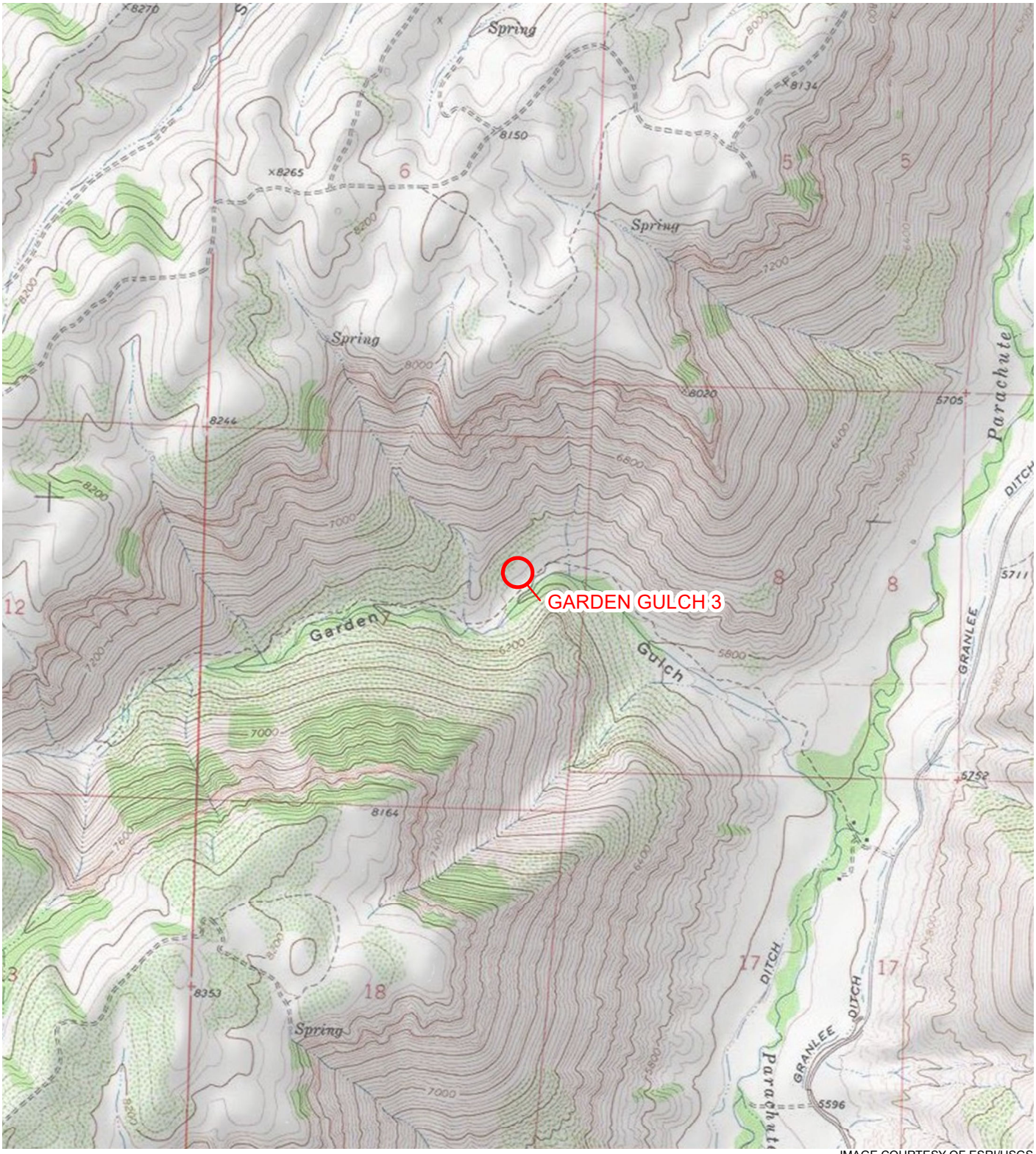


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,500 5,000

Feet

N

COLORADO

FIGURE 1
SITE LOCATION MAP
GARDEN GULCH 3
LOT 2 SEC 7-T6S-R96W
GARFIELD COUNTY, COLORADO
QB ENERGY LLC

wsp

T:\Standard\gis\CaerusPiceanceLLC\Garden Gulch 3\Maps\MXDs\FIG01_SL.mxd

BACKGROUND IMAGERY COURTESY OF GOOGLE EARTH (2023)

LEGEND

- SOIL SAMPLE LOCATION
- SOIL STOCKPILE SAMPLE LOCATION
- EXCAVATION EXTENT
- SOIL STOCKPILE

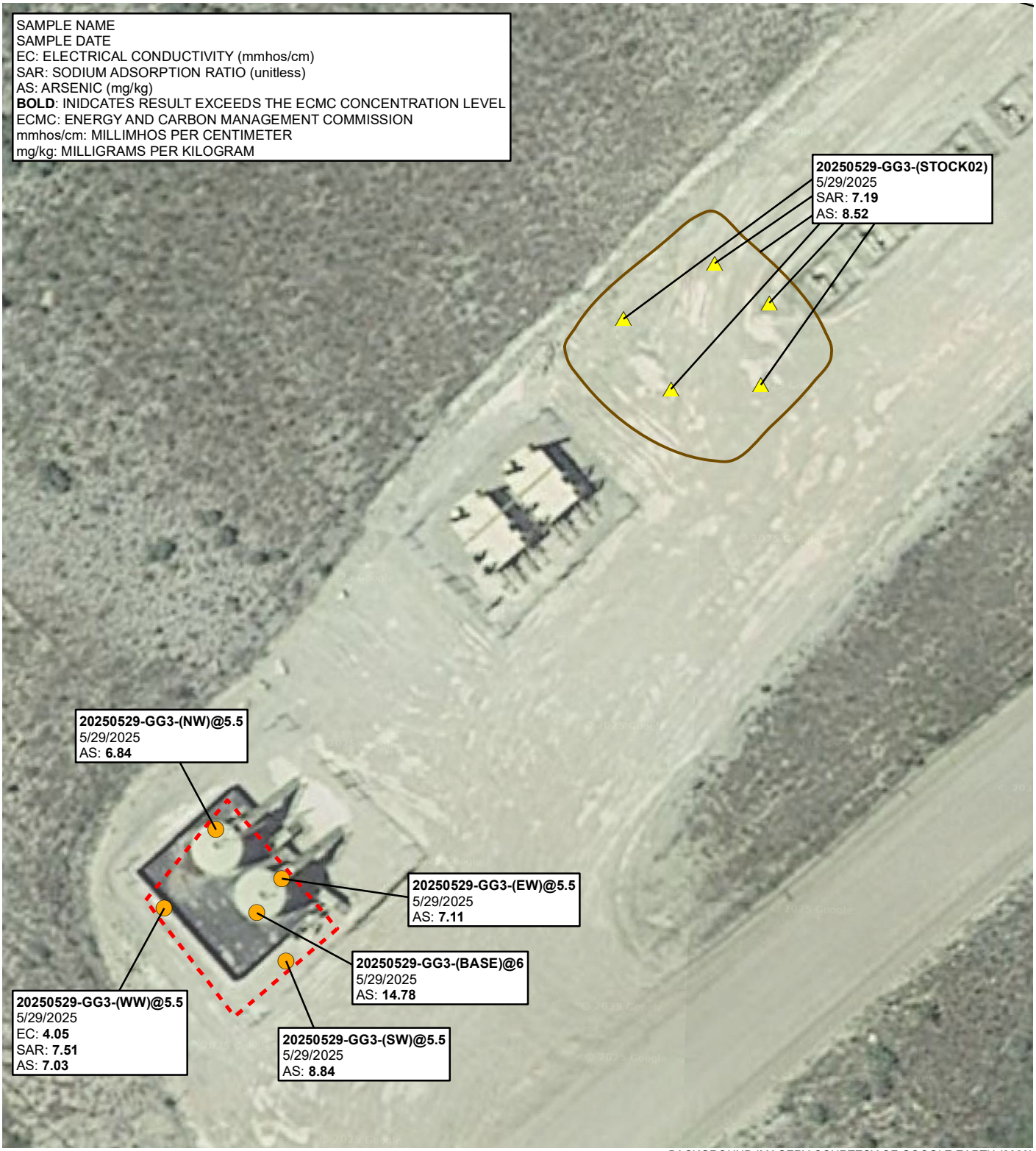
0 50 100

Feet

N

FIGURE 2
SAMPLE LOCATION MAP
GARDEN GULCH 3
LOT 2 SEC 7-T6S-R96W
GARFIELD COUNTY, COLORADO
QB ENERGY LLC

T:\Standard\gis\CaerusPiceanceLLC\Garden Gulch 3\Maps\MXDs\2025\FIG02_SAMPLE_LOCATION_MAP_062325.mxd



BACKGROUND IMAGERY COURTESY OF GOOGLE EARTH (2023)

LEGEND

- SOIL SAMPLE LOCATION
- SOIL STOCKPILE SAMPLE LOCATION
- EXCAVATION EXTENT
- SOIL STOCKPILE

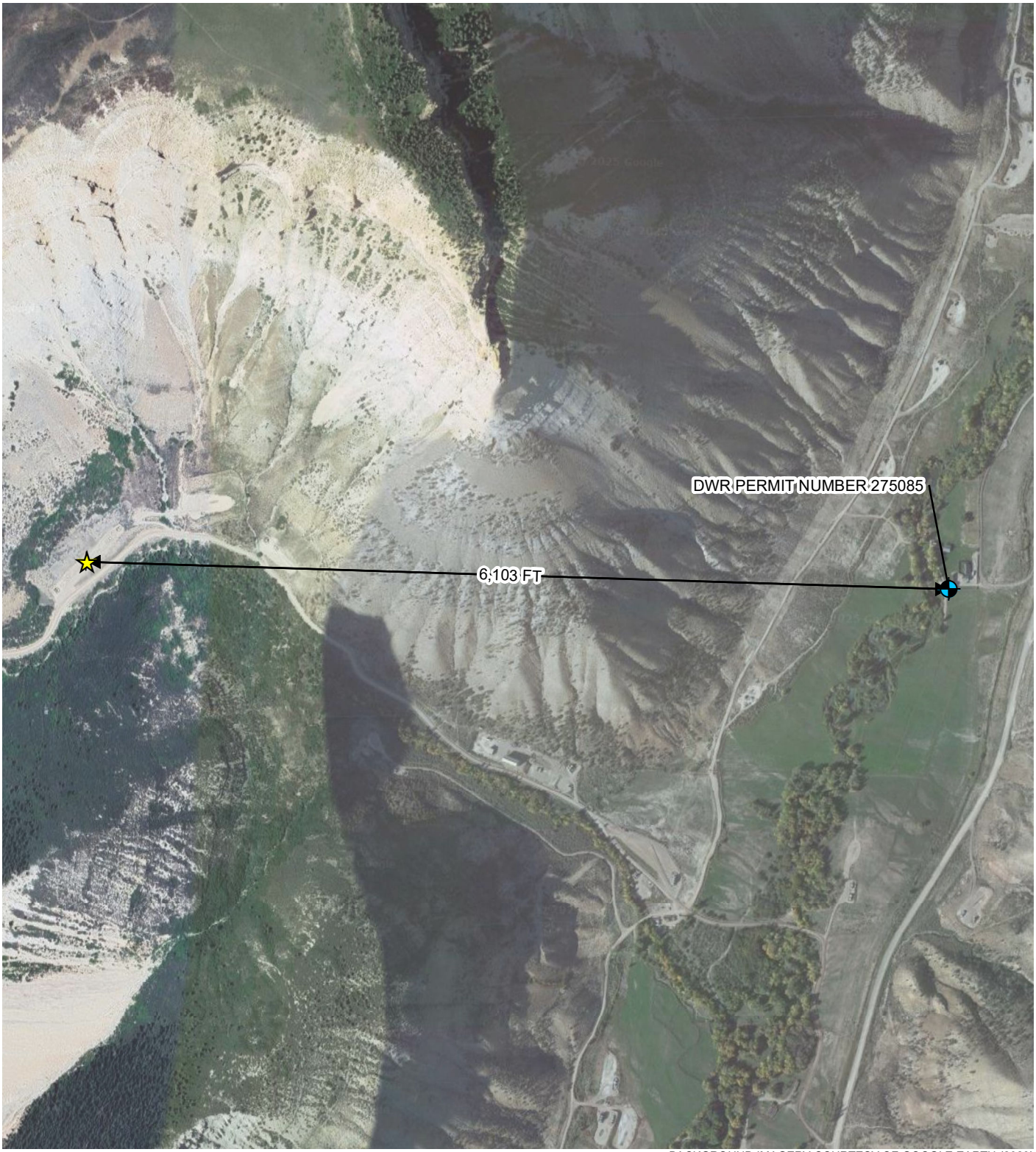
0 50 100

Feet

N

FIGURE 3
ANALYTICAL EXCEEDANCE MAP
GARDEN GULCH 3
LOT 2 SEC 7-T6S-R96W
GARFIELD COUNTY, COLORADO
QB ENERGY LLC

T:\Standard\gis\CaerusPiceanceLLC\Garden Gulch 3\Maps\MXDs\2025\FIG03_ANALYTICAL_EXCEEDANCE_MAP_062325.mxd



BACKGROUND IMAGERY COURTESY OF GOOGLE EARTH (2023)

LEGEND

- GARDEN GULCH 3 FACILITY
- GROUNDWATER MONITORING WELL

0 1,000 2,000

Feet

N

FIGURE 4
MONITORING WELL PROXIMITY MAP
GARDEN GULCH 3
LOT 2 SEC 7-T6S-R96W
GARFIELD COUNTY, COLORADO
QB ENERGY LLC

T:\Standard\gis\CaerusPiceanceLLC\Garden Gulch 3\Maps\MXDs\2025\FIG04_GW_WELL_PROX_LOCATION_MAP_071025.mxd

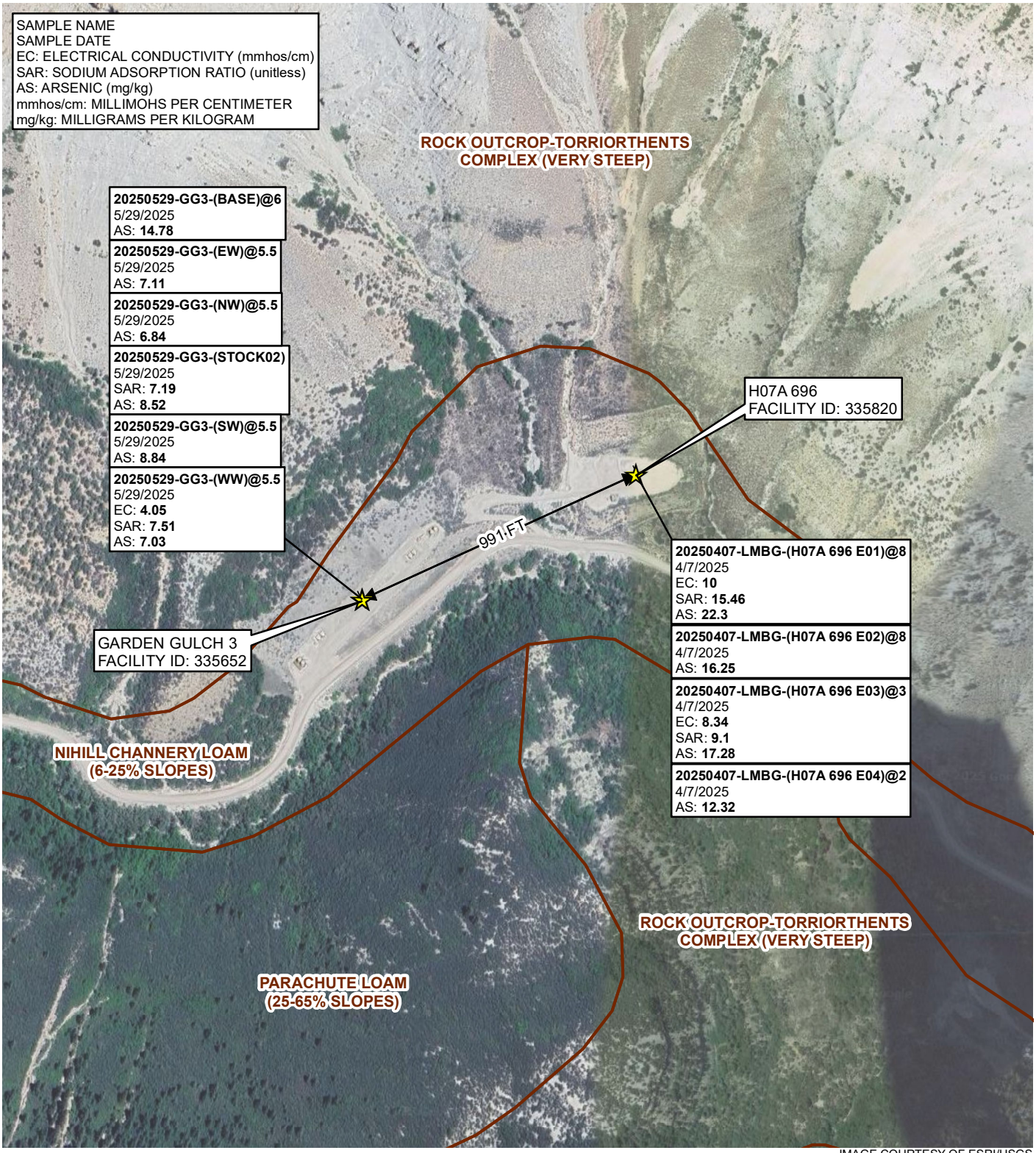


IMAGE COURTESY OF ESRI/USGS

LEGEND

FACILITY LOCATION

NRCS SSURGO SOIL

0 500 1,000
Feet

N

COLORADO

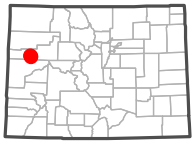


FIGURE 5
GEOGRAPHIC PROXIMITY LOCATION MAP
GARDEN GULCH 3
LOT 2 SEC 7-T6S-R96W
GARFIELD COUNTY, COLORADO
QB ENERGY LLC

wsp

T:\Standard\gis\CaerusPiceanceLLC\Garden Gulch 3\Maps\MXDs\2025\FIG05_GEO_PROX_LOC_MAP_EC_SAR_071025.mxd

TABLE

TABLE 1

SOIL ANALYTICAL RESULTS
GARDEN GULCH 3
GARFIELD COUNTY, COLORADO
QB ENERGY LLC

				Soil Analytical Results												
			Analyte	**EC**	**SAR**	**pH**	**HWS Boron**	**Arsenic**	**Barium**	**Cadmium**	**Chromium VI**	**Copper**	**Lead**	**Nickel**	**Selenium**	**Silver**	**Zinc**
			915-1 RESIDENTIAL SOIL	4	6	8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
			Units	mmhos/cm	No Unit	SU	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Name	**Sample Type**	**Sample Date**	**Lab Report**														
20250407-LMBG-(H07A 696 E01)@8	Background	04/07/2025	4230	**10**	**15.46**	8.04	0.41	**22.3**	270.48	0.49	< 0.08	18.47	14.6	17.1	2.94	< 0.25	78.09
20250407-LMBG-(H07A 696 E02)@8	Background	04/07/2025	4230	0.85	0.59	8.13	0.36	**16.25**	336.01	0.58	< 0.08	21.25	15.27	18.36	3.45	< 0.25	85.37
20250407-LMBG-(H07A 696 E03)@3	Background	04/07/2025	4230	**8.34**	**9.1**	7.86	0.35	**17.28**	286.18	0.51	< 0.08	22.48	15.05	17.4	3.63	< 0.25	78.49
20250407-LMBG-(H07A 696 E04)@2	Background	04/07/2025	4230	0.96	1.12	8.02	0.23	**12.32**	283.42	0.48	< 0.08	18.95	12.48	16.72	3.35	< 0.25	70.01
20250529-GG3-(BASE)@6	Excavation	05/29/2025	4969	1.59	1.23	8.19	0.77	**14.78**	251.41	0.67	< 0.08	20.61	17.15	20.77	6.01	< 0.25	88.68
20250529-GG3-(EW)@5.5	Excavation	05/29/2025	4969	1.33	1.41	8.12	0.64	**7.11**	394.02	0.48	< 0.08	15.77	11.21	14.85	2.73	< 0.25	63.07
20250529-GG3-(NW)@5.5	Excavation	05/29/2025	4969	1.82	1.59	8.20	0.52	**6.84**	392.53	0.51	< 0.08	15.01	12.01	14.23	2.73	< 0.25	66.67
20250529-GG3-(STOCK02)	Stockpile	05/29/2025	4969	2.83	**7.19**	8.11	0.64	**8.52**	165.70	0.52	< 0.08	18.79	15.36	18.57	3.46	< 0.25	75.40
20250529-GG3-(SW)@5.5	Excavation	05/29/2025	4969	3.24	1.17	7.88	0.68	**8.84**	253.76	0.65	< 0.08	17.76	13.76	17.41	4.01	< 0.25	75.67
20250529-GG3-(WW)@5.5	Excavation	05/29/2025	4969	**4.05**	**7.51**	7.41	1.25	**7.03**	113.80	0.50	0.10	16.08	12.72	13.85	3.02	< 0.25	67.97

Key:
EC - electrical conductivity
SAR - sodium adsorption ratio
mmhos/cm - millimhos per centimeter
SU - standard units
mg/kg - miligram per kilogram
mg/l - milligram per liter

GRO - gasoline range organics
DRO - diesel range organics
ORO - oil range organics
TMB - trimethylbenzene
< - less than laboratory minimum detection limit
NA - not assessed

TABLE 1

SOIL ANALYTICAL RESULTS
GARDEN GULCH 3
GARFIELD COUNTY, COLORADO
QB ENERGY LLC

Soil Analytical Results

Analyte				GRO	DRO	ORO	TPH	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,2,4-TMB	1,3,5-TMB	Acenaphthene	Anthracene	Benz(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenz(a,h)anthracen	Fluoranthene	Fluorene	Indeno(1,2,3-cd)Pyre	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Pyrene
915-1 RESIDENTIAL SOIL							500	1.2	490	5.8	58	30	27	360	1800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	2	180
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Name	**Sample Type**	**Sample Date**	**Lab Report**																									
20250529-GG3-(BASE)@6	Excavation	05/29/2025	4969	0.289	< 100	< 100	0.289	< 0.00242	< 0.00263	< 0.005	< 0.00654	< 0.00245	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00313	< 0.01	< 0.00306	< 0.01
20250529-GG3-(EW)@5.5	Excavation	05/29/2025	4969	< 0.268	< 100	< 100	< 200.268	< 0.00242	< 0.00263	< 0.005	< 0.00654	< 0.00245	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00313	< 0.01	< 0.00306	< 0.01
20250529-GG3-(NW)@5.5	Excavation	05/29/2025	4969	< 0.268	143.96	127.94	271.9	< 0.00242	< 0.00263	< 0.005	< 0.00654	< 0.00245	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00313	< 0.01	< 0.00306	< 0.01
20250529-GG3-(STOCK02)	Stockpile	05/29/2025	4969	0.972	382.68	< 100	383.652	< 0.00242	< 0.00263	< 0.005	< 0.00654	< 0.00245	0.0073	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.034	< 0.01	0.290	0.597	0.209	< 0.01
20250529-GG3-(SW)@5.5	Excavation	05/29/2025	4969	< 0.268	< 100	< 100	< 200.268	< 0.00242	< 0.00263	< 0.005	< 0.00654	< 0.00245	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00313	< 0.01	< 0.00306	< 0.01
20250529-GG3-(WW)@5.5	Excavation	05/29/2025	4969	< 0.268	< 100	< 100	< 200.268	< 0.00242	< 0.00263	< 0.005	< 0.00654	< 0.00245	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00313	< 0.01	< 0.00306	< 0.01

Key:
EC - electrical conductivity
SAR - sodium adsorption ratio
mmhos/cm - micromhos per centimeter
SU - standard units
mg/kg - milligram per kilogram
mg/l - milligram per liter
TPH - combination of TPH-GRO, TPH-DRO, and TPH-ORO

GRO - gasoline range organics
DRO - diesel range organics
ORO - oil range organics
TMB - trimethylbenzene
< - less than laboratory minimum detection limit
NA - not assessed

Revised: June 18, 2025

ENCLOSURE A – PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
1	5/29/2025

Excavation overview

View Southeast

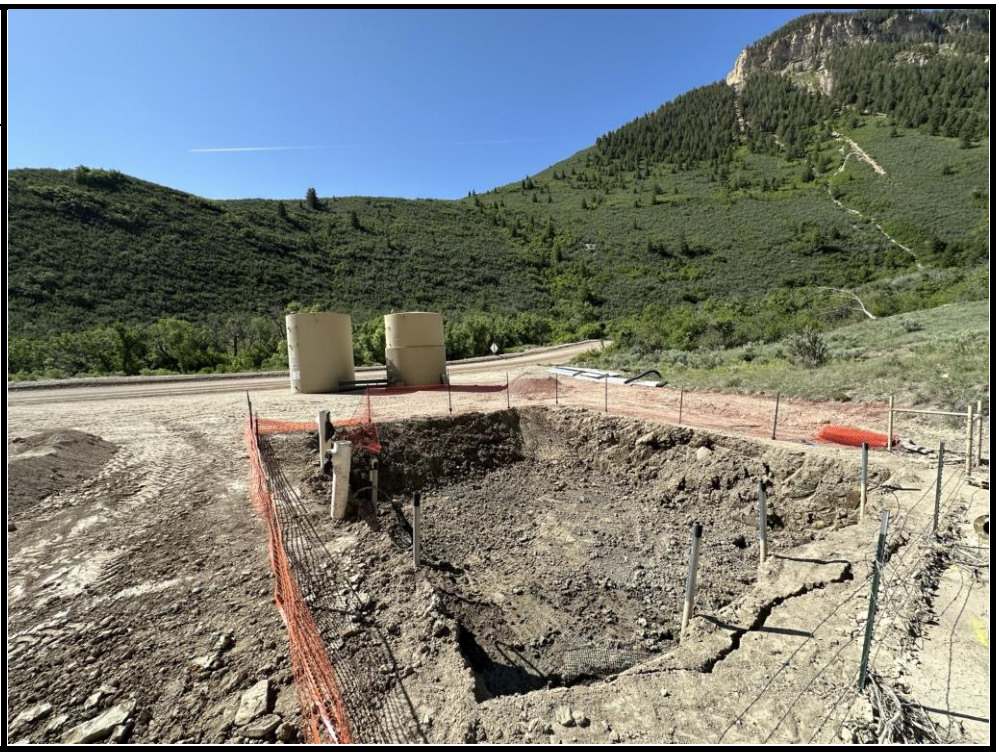
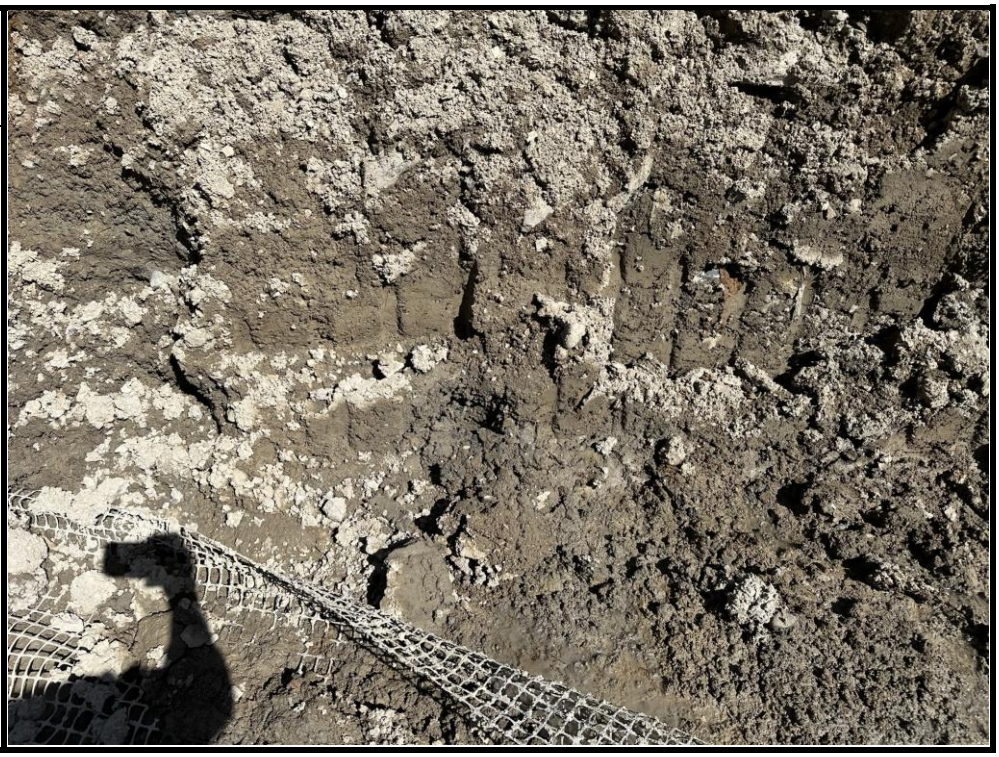


Photo No.	Date
2	5/29/2025

20250529-GG3-(NW)@5.5

View Northwest



PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
3	5/29/2025

20250529-GG3-(WW)@5.5

View Southwest

Photo No.	Date
4	5/29/2025

20250529-GG3-(EW)@5.5

View Northeast

PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
5	5/29/2025

20250529-GG3-(SW)@5.5

View Southeast

Photo No.	Date
6	5/29/2025

20250529-GG3-(BASE)@6

View Southeast

PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
7	5/29/2025

20250529-GG3-(STOCK01)

Overview

View Southwest

Photo No.	Date
8	5/29/2025

20250529-GG3-(STOCK01)

Aliquot 1

View Northwest

PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
9	5/29/2025

20250529-GG3-(STOCK01)

Aliquot 2

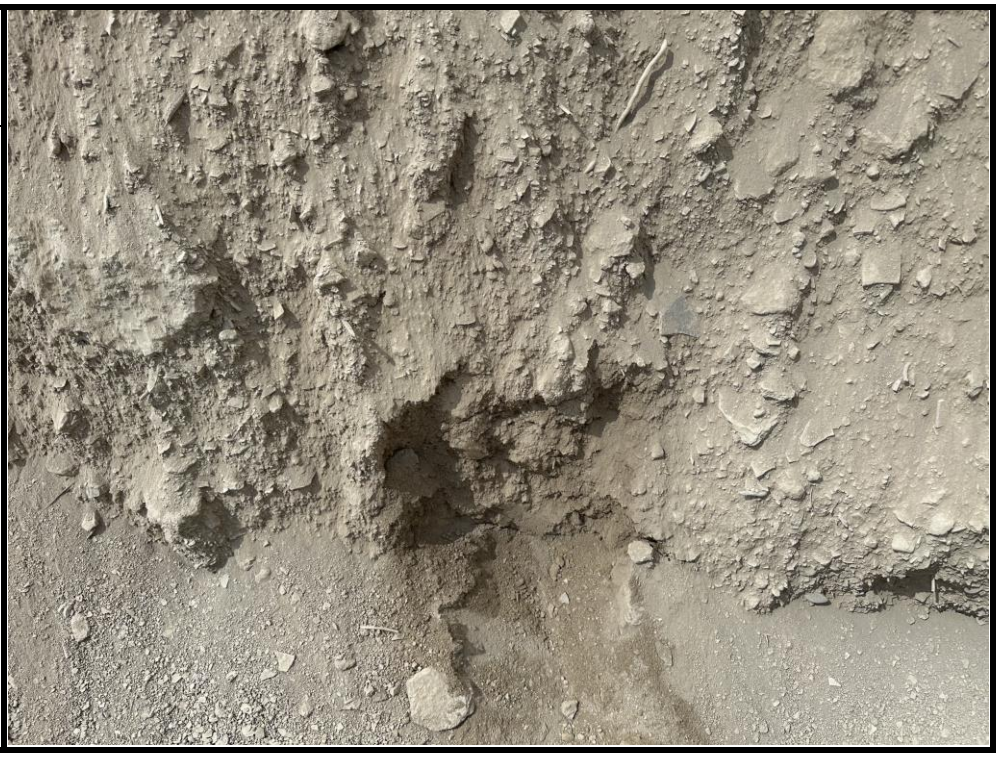
View Southwest

Photo No.	Date
10	5/29/2025

20250529-GG3-(STOCK01)

Aliquot 3

View Southeast



PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
11	5/29/2025

20250529-GG3-(STOCK01)

Aliquot 4

View North

Photo No.	Date
12	5/29/2025

20250529-GG3-(STOCK01)

Aliquot 5

View East

PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
13	5/29/2025

20250529-GG3-(STOCK02)

Overview

View Southwest

Photo No.	Date
14	5/29/2025

20250529-GG3-(STOCK02)

Aliquot 1

View Northwest

PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
15	5/29/2025

20250529-GG3-(STOCK02)

Aliquot 2

View Southwest

Photo No.	Date
16	5/29/2025

20250529-GG3-(STOCK02)

Aliquot 3

View Southwest

PHOTOGRAPHIC LOG

QB Energy LLC	GG3 – Excavation Soil Sampling	

Photo No.	Date
17	5/29/2025

20250529-GG3-(STOCK02)

Aliquot 4

View Southeast

Photo No.	Date
18	5/29/2025

20250529-GG3-(STOCK02)

Aliquot 5

View Northeast