

SITE ASSESSMENT REPORT

CARPIO A26-05 FACILITY

COGCC SPILL TRACKING # 481904

COGCC REMEDIATION # 20996

Prepared for:



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

September 6, 2022

Mr. Dan Peterson
Environmental Specialist,
Chevron Rockies Business Unit
Noble Energy Inc.
2115 117th Avenue
Greeley, CO 80631

Re: Site Assessment Report
Carpio A26-05 Facility
Spill/Release Point ID: 481904
Remediation #: 20996
SWNE S26 T6N R64W
Weld County, Colorado

Dear Mr. Peterson:

Below please find a copy of the above referenced Site Assessment Report (Report) for the Carpio A26-05 Facility (Site) in Weld County, Colorado. The text below describes decommissioning, assessment, and associated soil and groundwater sampling conducted by Tasman, Inc. (Tasman), on behalf of Noble Energy, Inc. (Noble) between March 11 and June 22, 2022.

Introduction

This document describes the results of soil and groundwater sampling activities conducted at the Site to evaluate potential subsurface impacts. The activities described below were performed in response to the discovery of impacts to groundwater below the partially buried produced water vessel (PWV) during decommissioning activities at the Site and confirmed on April 3, 2022.

Facility Background

The Site is located approximately 1 mile east-northeast of Gill in Weld County, Colorado. The Site legal description is the southwest quarter of the northeast quarter of Section 26, Township 6 North, Range 64 West, 6th Principal Meridian. The Site is on terrain that slopes gradually to the east, at latitude 40.458760° and longitude -104.526499° [North American Datum of 1983(NAD83)] and is approximately 0.1 miles north of the intersection of County Road 57 and County Road 64½ (Figure 1).

Tasman was retained by Noble on March 11, 2022, to complete soil sampling and documentation during Site decommissioning and abandonment activities at the facility. As reported in the initial Form 19, impacts to groundwater were confirmed below the PWV on April 3, 2022. The Form 19 was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on April 4, 2022. The COGCC subsequently issued Spill/Release Point ID Number 481904 for this event. The COGCC assigned Remediation Number 20996 for the project.

Site Decommissioning Activities

On March 11, 2022, Tasman completed decommissioning soil sampling and documentation for the Carpio A26-05 Facility. Soil samples were collected throughout the Site targeting the following different areas and pieces of production equipment:

Area of Site	Sampling	Sample description
Aboveground storage tank (AST)	AST01@0.5'	Surface soil sample below former tank location.
Horizontal separators	SEP01-FL01@3', SEP01-DL01@3', and SEP02-DL02@3'	One sample beneath separator flowline riser and one sample beneath each separator dump line riser.
Meter house	MH01@0.5'	Surface sample beneath aboveground run of meter piping.
Flare stacks	FLARE01@0.5', and FLARE02@0.5'	Surface sample at each former flare stack location.
Partially buried PWV	SS01@2.5' through SS04@2.5', and FS01@3.5'	Four sidewall samples and one excavation floor sample.
Partially buried PWV	GW01@3.5'	Groundwater grab sample collected from PWV excavation.
Background area	BG01@3'	Vegetated area north of the Site.

All soil samples collected were field screened for volatile organic compounds (VOC) using a photoionization detector (PID) and standard headspace sampling techniques. Nine soil samples, AST01@0.5', SS01@2.5', SS02@2.5', SS03@2.5', SS04@2.5', FS01@3.5', SEP01-FL01@3', SEP01-DL01@3' and SEP02-DL02@3' were submitted to Summit Scientific (Summit) in Golden, Colorado for laboratory analysis. The samples were submitted for laboratory analysis of the COGCC Table 915-1 list of organics in soil using United States Environmental Protection Agency (USEPA) Method 8260B and USEPA Method 8270D, and total petroleum hydrocarbons (TPH) using USEPA Methods 8260B and 8015D. The samples were also submitted for laboratory analysis of pH, electrical conductivity (EC), sodium absorption ratio (SAR) using USEPA saturated paste extraction method, and boron using the hot water-soluble soil extract method. Groundwater grab sample, GW01@3.5', was also submitted to Summit for laboratory analysis of organic compounds benzene, toluene, ethylbenzene, total xylenes, naphthalene, 1,2,4-trimethylbenzene (1,2,4-TMB), and 1,3,5-trimethylbenzene (1,3,5-TMB) using USEPA Method 8260B. Decommissioning soil analytical results are summarized in Table 1 and illustrated on Figure 2. Decommissioning groundwater analytical

results are summarized in Table 2 and also illustrated on Figure 2. The decommissioning soil and groundwater laboratory analytical report is included in Attachment A.

Site Assessment Activities

Between June 16 and 22, 2022, Tasman completed site assessment activities to delineate potential subsurface soil and groundwater impacts identified during decommissioning activities at the facility. Tasman advanced a total of five boreholes, BH01 through BH05, to 13 feet below ground surface (ft bgs) using a hand auger and an AMS Power Probe via direct push, in the area of the former PWV. During soil boring operations, soil samples were collected, and field screened for VOCs using a PID and standard headspace sampling techniques. The following soil samples were collected at depths corresponding to where elevated PID readings were observed, and/or the terminal depth of the borings:

BH01@4-5' BH02@4-5' BH03@3.5-6' BH04@4-5' BH05@4-5'
BH05@9-13'

All soil boring samples, shown above, were submitted to Summit for laboratory analysis of the COGCC Table 915-1 list of organics in soil using USEPA Methods 8260B and 8270D, and TPH using USEPA Methods 8260B and 8015D. Additionally, the soil boring samples were also submitted to Summit for analysis of COGCC Table 915-1 metals in soil using USEPA Method 6020B as well as analysis of pH, EC, SAR using USEPA saturated paste extraction method, and boron using the hot water-soluble soil extract method. Soil sample analytical results are summarized in Table 1 and illustrated on Figure 3. Laboratory analytical reports are included in Attachment A and the boring logs are included in Attachment B.

During soil boring activities groundwater was encountered at approximately 3 ft bgs. All five soil borings were converted to temporary groundwater monitoring wells set at approximately 13 ft bgs. On June 22, 2022, Tasman collected groundwater samples from the five groundwater monitoring wells to evaluate dissolved phase petroleum hydrocarbon groundwater impacts. Groundwater samples were submitted to Summit for laboratory analysis of organic compounds benzene, toluene, ethylbenzene, total xylenes, naphthalene, 1,2,4-TMB, and 1,3,5-TMB using USEPA Method 8260B. Groundwater samples were also analyzed for inorganic parameters total dissolved solids (TDS) using Method SM2540C, as well as chloride and sulfate ion using USEPA Method 300.0. Groundwater analytical results are summarized in Table 2, shown on Figure 4, and the laboratory groundwater analytical report is included in Attachment C. During groundwater sampling activities, groundwater levels were recorded using an interface probe and subsequently converted to elevations which are presented in Table 3. A groundwater potentiometric surface contour map is shown on Figure 5.

Results

Laboratory analytical results for the soil samples collected during initial facility decommissioning and subsequent site assessment activities indicate all samples are compliant with COGCC Table 915-1 Protection of Groundwater Soil Screening Levels (GW SSL) for hydrocarbon compounds, as well as being compliant with COGCC Table 915-1 Soil Suitability for Reclamation (SSR) standards. Laboratory analytical results for all six soil samples collected during the site assessment indicate metal impacts above applicable COGCC Table 915-1 GW SSL standards and consisted of a combination of arsenic, barium, lead, and selenium. Soil sample analytical results from facility decommissioning and the site assessment are summarized in Table 1.

Groundwater laboratory analytical results from grab sample GW01@3.5', collected during decommissioning, indicate that benzene is in exceedance of the COGCC Table 915-1 Organic Compounds in Groundwater (OCG) standard and that all other analytes are in compliance with their respective standards. Groundwater laboratory analytical results from site assessment monitoring well BH03 indicate that benzene, total xylenes, 1,2,4-TMB, and 1,3,5-TMB are in exceedance of COGCC Table 915-1 OCG standards. Groundwater laboratory analytical results from monitoring wells BH01, BH02, BH04, and BH05 were all below laboratory detection for hydrocarbon compounds. Based on the groundwater surface contour observed during the site assessment, monitoring well BH04 was selected as the background location for inorganic levels due to its up and cross-gradient location (Figure 5). All groundwater samples were compliant with COGCC Table 915-1 Groundwater Inorganic Parameters (GIP) standards or within 1.25x BH04's concentrations. Groundwater analytical results are summarized in Table 2.

Conclusions

Soil hydrocarbon impacts were below laboratory detection in all soil samples collected during initial facility decommissioning and the subsequent site assessment. Laboratory results indicate a combination of arsenic, barium, lead and selenium in exceedance of applicable COGCC Table 915-1 GW SSL standards in soil samples collected during the site assessment.

Groundwater hydrocarbon impacts were first identified during facility decommissioning and also observed during the subsequent site assessment. Additional lateral delineation of the groundwater impacts observed in monitoring well BH03 will be conducted down-gradient to establish a point of compliance. Additional wells will be installed to delineate groundwater impacts and background soil samples will be collected to assess metal concentrations in adjacent vegetated soil.

Remarks

The discussion and conclusions contained in this report represent the professional opinions of Tasman, Inc. These opinions are based on currently available information and are arrived at in accordance with currently accepted geologic and engineering practices.

Please contact me at (720) 616-8383 or at jwhritenour@tasman-geo.com if you require additional information.

Sincerely,
Tasman, Inc.



Jake Whritenour, Program Manager

Attachments:

Table 1 – Soil Analytical Data

Table 2 – Groundwater Analytical Data

Table 3 – Groundwater Elevation Data

Figure 1 – Site Location Map

Figure 2 – Decommissioning & Soil Analytical Results Map (03/11/2022)

Figure 3 – Site Assessment Soil Analytical Results Map (06/16/2022)

Figure 4 – Site Assessment Groundwater Analytical Results Map (06/22/2022)

Figure 5 – Site Assessment Groundwater Potentiometric Surface Contour Map (06/22/2022)

Attachment A – Laboratory Soil Analytical Data Reports

Attachment B – Boring Logs

Attachment C – Laboratory Groundwater Analytical Data Reports

TABLES

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - CARPIO A26-05 FACILITY

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
AST01@0.5'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS01@2.5'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS02@2.5'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS03@2.5'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS04@2.5'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@3.5'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL01@3'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-FL01@3'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP02-DL02@3'	03/11/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH01@4-5'	06/16/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@4-5'	06/16/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH03@3.5-6'	06/16/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH04@4-5'	06/16/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH05@4-5'	06/16/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH05@9-13'	06/16/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.00038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
AST01@0.5'	03/11/22	7.90	1.17	0.592	0.0373
SS01@2.5'	03/11/22	7.68	1.21	0.528	0.0638
SS02@2.5'	03/11/22	8.00	0.720	0.317	0.0209
SS03@2.5'	03/11/22	7.73	1.16	0.599	0.0623
SS04@2.5'	03/11/22	7.80	1.80	1.10	0.0800
FS01@3.5'	03/11/22	7.94	1.41	0.659	0.0574
SEP01-DL01@3'	03/11/22	7.70	1.35	3.06	0.582
SEP01-FL01@3'	03/11/22	7.79	1.11	2.30	0.259
SEP02-DL02@3'	03/11/22	7.80	1.78	2.72	0.203
BH01@4-5'	06/16/22	7.82	0.609	0.989	0.0996
BH02@4-5'	06/16/22	7.79	0.536	0.976	0.110
BH03@3.5-6'	06/16/22	7.74	0.310	0.868	0.0633
BH04@4-5'	06/16/22	7.93	0.885	0.838	0.147
BH05@4-5'	06/16/22	7.48	0.341	1.48	0.0722
BH05@9-13'	06/16/22	7.77	0.207	0.881	0.0388

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^{2,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
BH01@4-5'	06/16/22	2.30	152	<0.251	<0.30	12.6	10.3	10.3	1.37	0.0552	54.7
BH02@4-5'	06/16/22	1.82	95.1	<0.233	<0.30	13.1	11.3	7.81	1.01	0.0824	48.1
BH03@3.5-6'	06/16/22	2.53	96.8	0.353	<0.30	15.2	14.8	7.92	0.922	0.142	53.9
BH04@4-5'	06/16/22	2.08	94.8	<0.235	<0.30	12.2	10.8	8.32	1.05	0.0759	51.5
BH05@4-5'	06/16/22	3.94	52.7	<0.254	<0.30	5.70	7.00	7.21	0.597	0.0258	32.8
BH05@9-13'	06/16/22	5.16	294	<0.242	<0.30	7.55	8.75	10.1	0.829	0.0462	37.9

Notes:

- Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/cm = Millimhos per centimeter

mg/L = Milligrams per liter

< = Analytical result is less than the indicated laboratory reporting limit

Highlighted results are equal to or exceed the COGCC Table 915-1 standard

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benz(a) = Benzanthracene

Benzo(b) = Benzo(a)fluoranthene

Benzo(k) = Benzo(a)fluoranthene

Benzo(a) = Benzo(a)pyrene

A,H = Dibenzo(a,h)anthracene

1,2,3-CD = Indeno(1,2,3-cd)pyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

TABLE 2
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - CARPIO A26-05 FACILITY

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	TDS (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Standard		5	560	700	1,400	140	67	67	<1.25 x Background	250 or <1.25 x Background	250 or <1.25 x Background
GW01@3.5'	03/11/22	21	91	9.3	97	3.0	22	9.3	NA	NA	NA
BH01	06/22/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,730	67.8	1,510
BH02	06/22/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,350	34.8	1,280
BH03	06/22/22	100	110	92	5,600	9.6	170	74	1,620	64.6	1,290
BH04 ⁽²⁾	06/22/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,700	69.0	1,460
BH05	06/22/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,730	37.0	1,660

Notes:

⁽¹⁾ Groundwater standards referenced from 2 CCR 404-1, Table 915-1 (January 15, 2021).

⁽²⁾ Monitoring well used for inorganic background levels.

Definitions:

< = Analytical result is less than the indicated laboratory reporting limit

COGCC = Colorado Oil and Gas Conservation Commission

mg/L = Milligrams per liter

µg/L = Micrograms per liter

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

TDS = Total Dissolved Solids

NA = Not analyzed

Highlighted results are equal to or exceed the COGCC Table 915-1 standard

TABLE 3
GROUNDWATER ELEVATION DATA
NOBLE ENERGY, INC. - CARPIO A26-05 FACILITY

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) ⁽¹⁾	Depth to LNAPL (ft.) ⁽¹⁾	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01	06/22/22	4654.84	11.49	3.26	ND	ND	4651.64
BH02	06/22/22	4654.43	12.12	2.85	ND	ND	4651.64
BH03	06/22/22	4653.56	11.71	2.07	ND	ND	4651.62
BH04	06/22/22	4654.90	11.36	3.32	ND	ND	4651.64
BH05	06/22/22	4655.16	10.00	2.22	ND	ND	4653.10

Notes:

⁽¹⁾ Depth to water measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

* Groundwater elevation was corrected for product thickness (when present) using the following calculation:

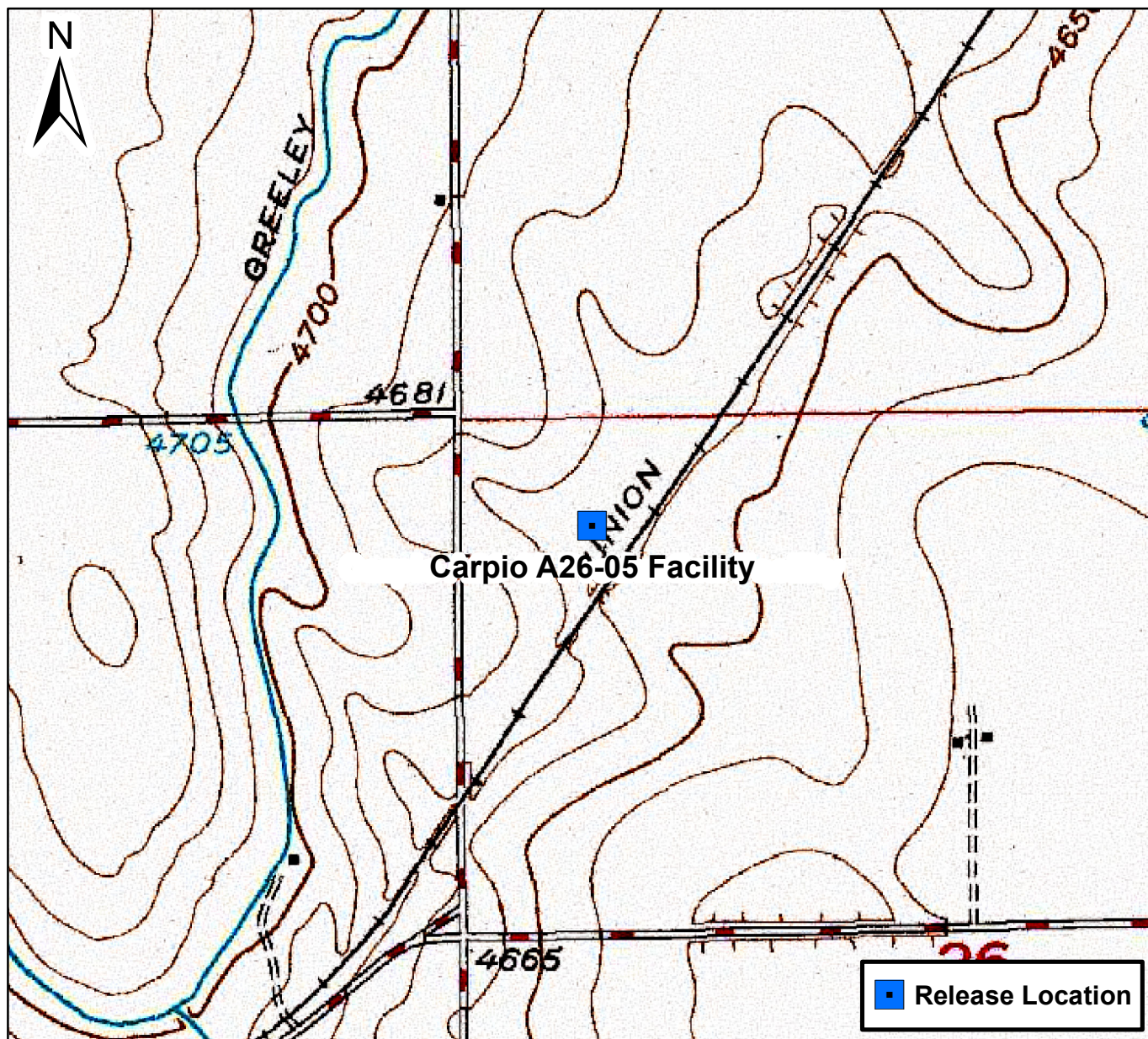
Groundwater elevation = (TOC Elevation - Measured Depth to Water)+(LNAPL Thickness in Well x LNAPL Relative Density)

LNAPL relative density was estimated to be 0.75

Definitions:

ft. = Feet
 AMSL = Above mean sea level
 BTOC = Below top of casing
 BGS = Below ground surface
 LNAPL = Light non-aqueous phase liquid
 ND = No LNAPL detected

FIGURES



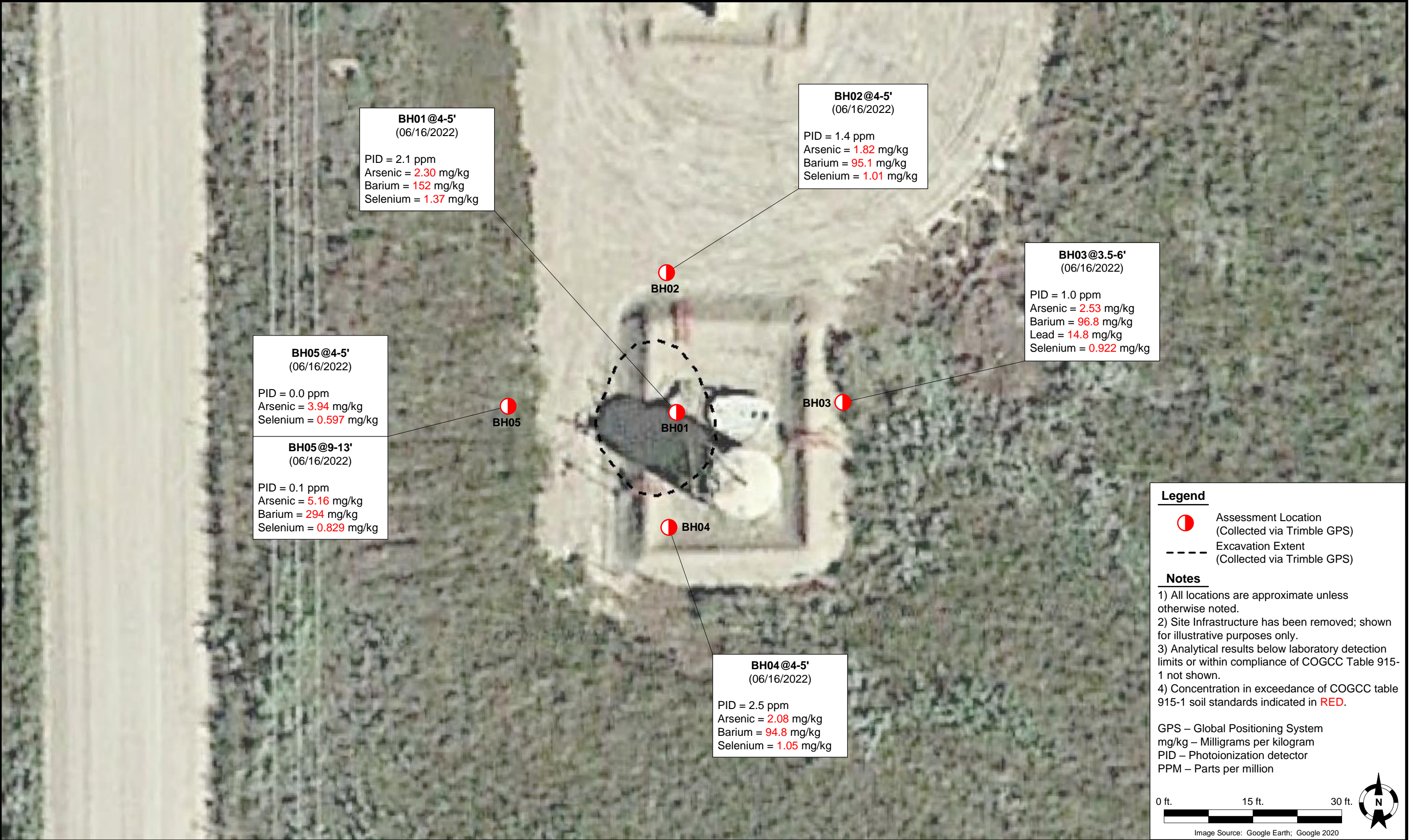
0 1,000 2,000 Feet


Figure 1

Site Location Map
Carpio A26-05 Facility
SWNE S26 T6N R64W
Weld County, Colorado

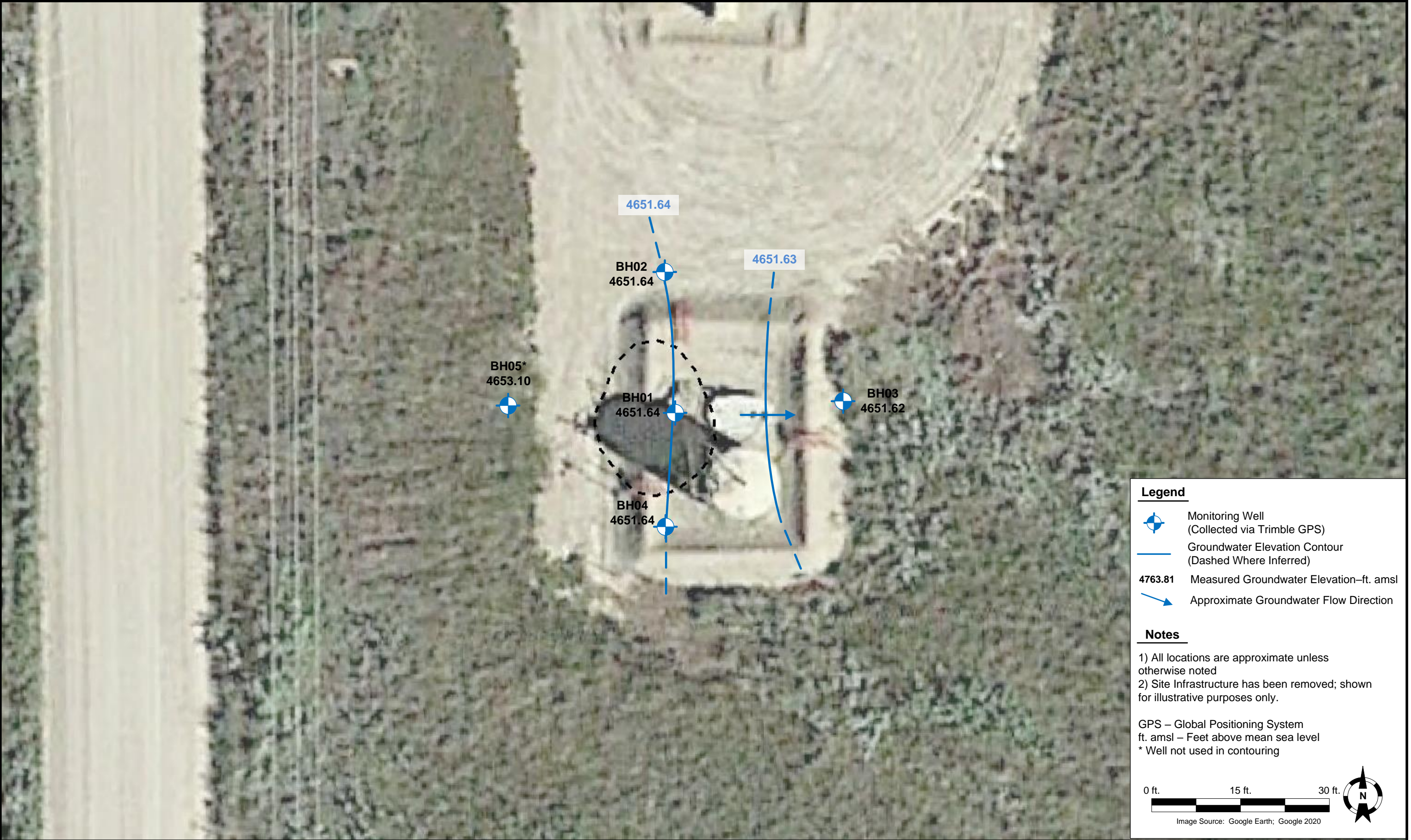







DATE:	07/11/2022	 TASMAN Tasman, Inc. 6855 W 119 th Avenue Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Carpio A26-05 Facility SWNE, Section 26, Township 6 North, Range 64 West Weld County, Colorado	Site Assessment Soil Analytical Results Map (06/16/2022)	FIGURE 3
DESIGNED BY:	JW				
DRAWN BY:	JK				





DATE: 8/31/2022	 TASMAN Tasman, Inc. 6855 W 119 th Ave. Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Carpio A26-05 Facility SWNE, Section 26, Township 6 North, Range 64 West Weld County, Colorado	Site Assessment Groundwater Potentiometric Surface Contour Map (06/22/2022)	FIGURE 5
DESIGNED BY: JW				
DRAWN BY: JC				

ATTACHMENT A
LABORATORY SOIL ANALYTICAL DATA REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 12, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Carpio A26-05 FAC

Work Order #2203187

Enclosed are the results of analyses for samples received by Summit Scientific on 03/11/22 15:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0.5'	2203187-01	Soil	03/11/22 12:20	03/11/22 15:15
SS01@2.5'	2203187-02	Soil	03/11/22 12:00	03/11/22 15:15
SS02@2.5'	2203187-03	Soil	03/11/22 12:02	03/11/22 15:15
SS03@2.5'	2203187-04	Soil	03/11/22 12:04	03/11/22 15:15
SS04@2.5'	2203187-05	Soil	03/11/22 12:06	03/11/22 15:15
FS01@3.5'	2203187-06	Soil	03/11/22 12:08	03/11/22 15:15
SEP01-DL01@3'	2203187-07	Soil	03/11/22 12:33	03/11/22 15:15
SEP01-FL01@3'	2203187-08	Soil	03/11/22 12:36	03/11/22 15:15
SEP02-DL02@3'	2203187-09	Soil	03/11/22 12:40	03/11/22 15:15
GW01@3.5'	2203187-11	Water	03/11/22 12:10	03/11/22 15:15

Summit Scientific

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

Summit Scientific

2203187.1

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Client: Noble / Tasman Geosciences Project Manager: Jake Whritenour, Invoice: Jeff White
Address: 6855 W. 119th Ave. E-Mail: Jwhritenour@tasman-geo.com

City/State/Zip: Broomfield / CO/ 80020

Phone: 303 829 0530 / 720 616 8383

Project Name: Corpio A26-05 FAC

Sampler Name: Halina North

Project Number: UWIRWE - A1698 - ABN

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions		
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD				
1	ASTO1@0.5'	3/11/22	12:20	2			X			X				X	X	X	X	X				
2	SSO1@2.5'		12:00															X			HOLD	
3	SSO2@2.5'		12:02																			
4	SSO3@2.5'		12:04																X		HOLD	
5	SSO4@2.5'		12:06																X		HOLD	
6	FSO1@3.5'		12:08																			
7	SEPO1-DLO1@3'		12:33																			
8	SEPO1-FL01@3'		12:36																			
9	SEPO2-DLO2@3'		12:40																			
10	B601@3'		12:50	1														X	X	X		HOLD

Relinquished by: <u>Halina North</u>	Date/Time: <u>3/11/22 15:15</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>3/11/22 15:15</u>	Turn Around Time (Check) ___ Same Day ___ 24 hours ___ 48 hours ___ 72 hours ___ Standard Sample Integrity: Temperature Upon Receipt: <u>3.2</u> Samples Intact: <u>Yes</u> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>3/11/22 15:15</u>	Received by: <u>[Signature]</u>	Date/Time: <u>3/11/22 15:15</u>		
Relinquished by: <u></u>	Date/Time: <u></u>	Received by: <u></u>	Date/Time: <u></u>		

Summit Scientific

2203187.2

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 2 of 2

Client: Noble / Tasman Geosciences

Project Manager: Jake Whritenour

Address: 6855 W. 119th Ave.

E-Mail: jwhritenour@tasman-geo.com

City/State/Zip: Broomfield / CO/ 80020

Phone: 303-487-1228

Project Name: Carpio A26-05 FAC

Sampler Name: Halina North

Project Number: UWRWE-A1698-ABN

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate		
1	GW01@35'	3/11/22	12:10	3	X				X					X	X	X	X	X	X		
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Halina North</u>	Date/Time: <u>3/11/22 15:15</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>3/11/22 15:15</u>	Turn Around Time (Check) ___ Same Day ___ 72 hours ___ 24 hours <input checked="" type="checkbox"/> Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: <u>3.2</u> Samples Intact: <input checked="" type="radio"/> Yes No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>3/11/22 15:15</u>	Received by: <u>[Signature]</u>	Date/Time: <u>3/11/22 15:15</u>		
Relinquished by: <u></u>	Date/Time: <u></u>	Received by: <u></u>	Date/Time: <u></u>		

S₂2/2
Sample Receipt Checklist

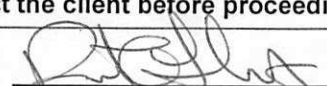
S2 Work Order# 2203187

Client: Noble-Tasman Client Project ID: Carpio A2C-03 FACShipped Via: ☐ H.D. ☒ P.U. ☐ FedEx ☐ UPS ☐ USPS ☐ Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)Temp (°C) 3.2

Thermometer ID: G86A9201901378

	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 if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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


 Custodian Printed Name or Initials
3-11-22
Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

AST01@0.5'
2203187-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFC0238	03/14/22	03/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0239	03/14/22	03/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

AST01@0.5'
2203187-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0241	03/14/22	03/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		67.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0373	0.0100	mg/L	1	BFC0273	03/25/22	03/31/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

AST01@0.5'
2203187-01 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	39.5	0.0528	mg/L dry	1	BFC0251	03/14/22	03/16/22	EPA 6020B
Magnesium	13.0	0.0528	"	"	"	"	"	"
Sodium	33.2	0.0528	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.17	0.00100	units	1	BFC0362	03/17/22	03/17/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.7		%	1	BFC0343	03/17/22	03/17/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.592	0.0100	mmhos/cm	1	BFC0284	03/15/22	03/15/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.90		pH Units	1	BFC0283	03/15/22	03/15/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS01@2.5'
2203187-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

I-02

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0074	04/05/22	04/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		129 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

I-02

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0075	04/05/22	04/06/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		109 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

I-02

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS01@2.5'
2203187-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

I-02

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFD0077	04/05/22	04/05/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0638	0.0100	mg/L	1	BFD0148	04/07/22	04/12/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:00**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS01@2.5'
2203187-02 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	30.1	0.0525	mg/L dry	1	BFD0109	04/06/22	04/09/22	EPA 6020B
Magnesium	9.83	0.0525	"	"	"	"	"	"
Sodium	29.8	0.0525	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.21	0.00100	units	1	BFD0182	04/10/22	04/10/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.2		%	1	BFD0162	04/08/22	04/08/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.528	0.0100	mmhos/cm	1	BFD0145	04/07/22	04/07/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.68		pH Units	1	BFD0143	04/07/22	04/07/22	EPA 9045D	I-02

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS02@2.5'
2203187-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFC0238	03/14/22	03/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0239	03/14/22	03/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		87.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS02@2.5'
2203187-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0241	03/14/22	03/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		73.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		73.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0209	0.0100	mg/L	1	BFC0273	03/25/22	03/31/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS02@2.5'
2203187-03 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	20.9	0.0525	mg/L dry	1	BFC0251	03/14/22	03/16/22	EPA 6020B
Magnesium	6.77	0.0525	"	"	"	"	"	"
Sodium	14.8	0.0525	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.720	0.00100	units	1	BFC0362	03/17/22	03/17/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.2		%	1	BFC0343	03/17/22	03/17/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.317	0.0100	mmhos/cm	1	BFC0284	03/15/22	03/15/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BFC0283	03/15/22	03/15/22	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS03@2.5'
2203187-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

I-02

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0074	04/05/22	04/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		149 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

I-02

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0075	04/05/22	04/06/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

I-02

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Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS03@2.5'
2203187-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

I-02

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFD0077	04/05/22	04/05/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0623	0.0100	mg/L	1	BFD0148	04/07/22	04/12/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS03@2.5'
2203187-04 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	36.8	0.0532	mg/L dry	1	BFD0109	04/06/22	04/09/22	EPA 6020B
Magnesium	11.4	0.0532	"	"	"	"	"	"
Sodium	31.4	0.0532	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.16	0.00100	units	1	BFD0182	04/10/22	04/10/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	1	BFD0162	04/08/22	04/08/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.599	0.0100	mmhos/cm	1	BFD0145	04/07/22	04/07/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BFD0143	04/07/22	04/07/22	EPA 9045D	I-02

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS04@2.5'
2203187-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

I-02

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0074	04/05/22	04/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		145 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

I-02

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0075	04/05/22	04/06/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

I-02

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS04@2.5'
2203187-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

I-02

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFD0077	04/05/22	04/05/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		67.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0800	0.0100	mg/L	1	BFD0148	04/07/22	04/12/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SS04@2.5'
2203187-05 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	65.8	0.0540	mg/L dry	1	BFD0109	04/06/22	04/09/22	EPA 6020B
Magnesium	25.2	0.0540	"	"	"	"	"	"
Sodium	67.9	0.0540	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.80	0.00100	units	1	BFD0182	04/10/22	04/10/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.5		%	1	BFD0162	04/08/22	04/08/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.10	0.0100	mmhos/cm	1	BFD0145	04/07/22	04/07/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.80		pH Units	1	BFD0143	04/07/22	04/07/22	EPA 9045D	I-02

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

FS01@3.5'
2203187-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFC0238	03/14/22	03/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0239	03/14/22	03/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		94.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

FS01@3.5'
2203187-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0241	03/14/22	03/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		61.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0574	0.0100	mg/L	1	BFC0273	03/25/22	03/31/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:08**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

FS01@3.5'
2203187-06 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	46.8	0.0590	mg/L dry	1	BFC0251	03/14/22	03/16/22	EPA 6020B
Magnesium	16.6	0.0590	"	"	"	"	"	"
Sodium	44.0	0.0590	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.41	0.00100	units	1	BFC0362	03/17/22	03/17/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.7		%	1	BFC0343	03/17/22	03/17/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.659	0.0100	mmhos/cm	1	BFC0284	03/15/22	03/15/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BFC0283	03/15/22	03/15/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP01-DL01@3'
2203187-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFC0238	03/14/22	03/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0239	03/14/22	03/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		87.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP01-DL01@3'
2203187-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0241	03/14/22	03/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		58.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.582	0.0100	mg/L	1	BFC0273	03/25/22	03/31/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP01-DL01@3'
2203187-07 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	319	0.0610	mg/L dry	1	BFC0251	03/14/22	03/16/22	EPA 6020B
Magnesium	168	0.0610	"	"	"	"	"	"
Sodium	120	0.0610	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.35	0.00100	units	1	BFC0362	03/17/22	03/17/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.0		%	1	BFC0343	03/17/22	03/17/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.06	0.0100	mmhos/cm	1	BFC0284	03/15/22	03/15/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.70		pH Units	1	BFC0283	03/15/22	03/15/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP01-FL01@3'
2203187-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFC0238	03/14/22	03/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0239	03/14/22	03/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP01-FL01@3'
2203187-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0241	03/14/22	03/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.259	0.0100	mg/L	1	BFC0273	03/25/22	03/31/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP01-FL01@3'
2203187-08 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	268	0.0607	mg/L dry	1	BFC0251	03/14/22	03/16/22	EPA 6020B
Magnesium	96.1	0.0607	"	"	"	"	"	"
Sodium	83.1	0.0607	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.11	0.00100	units	1	BFC0362	03/17/22	03/17/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.3		%	1	BFC0343	03/17/22	03/17/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.30	0.0100	mmhos/cm	1	BFC0284	03/15/22	03/15/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.79		pH Units	1	BFC0283	03/15/22	03/15/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP02-DL02@3'
2203187-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFC0238	03/14/22	03/15/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0239	03/14/22	03/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		86.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP02-DL02@3'
2203187-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0241	03/14/22	03/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.203	0.0100	mg/L	1	BFC0273	03/25/22	03/31/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

SEP02-DL02@3'
2203187-09 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Calcium	316	0.0607	mg/L dry	1	BFC0251	03/14/22	03/16/22	EPA 6020B
Magnesium	104	0.0607	"	"	"	"	"	"
Sodium	143	0.0607	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.78	0.00100	units	1	BFC0362	03/17/22	03/17/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.3		%	1	BFC0343	03/17/22	03/17/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.72	0.0100	mmhos/cm	1	BFC0284	03/15/22	03/15/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/11/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.80		pH Units	1	BFC0283	03/15/22	03/15/22	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

GW01@3.5'
2203187-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/22 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	21	1.0		ug/l	1	BFC0291	03/15/22	03/16/22	EPA 8260B	
Toluene	91	1.0		"	"	"	"	"	"	
Ethylbenzene	9.3	1.0		"	"	"	"	"	"	
Xylenes (total)	97	2.0		"	"	"	"	"	"	
Naphthalene	3.0	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	22	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	9.3	1.0		"	"	"	"	"	"	

Date Sampled: **03/11/22 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		118 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		125 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFC0238 - EPA 5030 Soil MS

Blank (BFC0238-BLK1)

Prepared: 03/14/22 Analyzed: 03/15/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0388		"	0.0400		97.0	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.5	50-150			

LCS (BFC0238-BS1)

Prepared: 03/14/22 Analyzed: 03/15/22

Benzene	0.0573	0.0020	mg/kg	0.0750		76.4	70-130			
Toluene	0.0616	0.0050	"	0.0750		82.1	70-130			
Ethylbenzene	0.0586	0.0050	"	0.0750		78.2	70-130			
m,p-Xylene	0.125	0.010	"	0.150		83.2	70-130			
o-Xylene	0.0602	0.0050	"	0.0750		80.2	70-130			
1,2,4-Trimethylbenzene	0.0662	0.0050	"	0.0750		88.2	70-130			
1,3,5-Trimethylbenzene	0.0631	0.0050	"	0.0750		84.1	70-130			
Naphthalene	0.0604	0.0038	"	0.0750		80.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0421		"	0.0400		105	50-150			

Matrix Spike (BFC0238-MS1)

Source: 2203187-01

Prepared: 03/14/22 Analyzed: 03/15/22

Benzene	0.0589	0.0020	mg/kg	0.0750	ND	78.5	70-130			
Toluene	0.0647	0.0050	"	0.0750	ND	86.3	70-130			
Ethylbenzene	0.0634	0.0050	"	0.0750	ND	84.6	70-130			
m,p-Xylene	0.135	0.010	"	0.150	ND	90.3	70-130			
o-Xylene	0.0661	0.0050	"	0.0750	ND	88.1	70-130			
1,2,4-Trimethylbenzene	0.0726	0.0050	"	0.0750	ND	96.8	70-130			
1,3,5-Trimethylbenzene	0.0696	0.0050	"	0.0750	ND	92.8	70-130			
Naphthalene	0.0736	0.0038	"	0.0750	ND	98.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0395		"	0.0400		98.8	50-150			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

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

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

Batch BFC0238 - EPA 5030 Soil MS

Matrix Spike Dup (BFC0238-MSD1)		Source: 2203187-01		Prepared: 03/14/22 Analyzed: 03/15/22						
Benzene	0.0603	0.0020	mg/kg	0.0750	ND	80.4	70-130	2.37	30	
Toluene	0.0647	0.0050	"	0.0750	ND	86.3	70-130	0.0464	30	
Ethylbenzene	0.0662	0.0050	"	0.0750	ND	88.3	70-130	4.35	30	
m,p-Xylene	0.142	0.010	"	0.150	ND	94.6	70-130	4.65	30	
o-Xylene	0.0683	0.0050	"	0.0750	ND	91.0	70-130	3.31	30	
1,2,4-Trimethylbenzene	0.0751	0.0050	"	0.0750	ND	100	70-130	3.33	30	
1,3,5-Trimethylbenzene	0.0715	0.0050	"	0.0750	ND	95.3	70-130	2.68	30	
Naphthalene	0.0848	0.0038	"	0.0750	ND	113	70-130	14.1	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0400		96.8	50-150			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	50-150			

Batch BFC0291 - EPA 5030 Water MS

Blank (BFC0291-BLK1)		Prepared & Analyzed: 03/15/22								
Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	11.8		"	13.3		88.6	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.3	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	21-167			

LCS (BFC0291-BS1)		Prepared & Analyzed: 03/15/22								
Benzene	48.2	1.0	ug/l	50.0		96.3	51-132			
Toluene	43.1	1.0	"	50.0		86.2	51-138			
Ethylbenzene	43.5	1.0	"	50.0		86.9	58-146			
m,p-Xylene	86.9	2.0	"	100		86.9	57-144			
o-Xylene	46.8	1.0	"	50.0		93.6	53-146			
Naphthalene	45.3	1.0	"	50.0		90.5	70-130			
1,2,4-Trimethylbenzene	48.2	1.0	"	50.0		96.4	70-130			
1,3,5-Trimethylbenzene	51.4	1.0	"	50.0		103	70-130			
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.3		86.0	23-173			
Surrogate: Toluene-d8	12.5		"	13.3		93.5	20-170			
Surrogate: 4-Bromofluorobenzene	11.9		"	13.3		89.0	21-167			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

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

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

Batch BFC0291 - EPA 5030 Water MS

Matrix Spike (BFC0291-MS1)		Source: 2203187-11			Prepared & Analyzed: 03/15/22					
Benzene	66.4	1.0	ug/l	50.0	21.0	90.8	34-141			
Toluene	112	1.0	"	50.0	91.0	41.1	27-151			
Ethylbenzene	57.9	1.0	"	50.0	9.34	97.1	29-160			
m,p-Xylene	161	2.0	"	100	69.9	90.9	20-166			
o-Xylene	77.5	1.0	"	50.0	26.6	102	33-159			
Naphthalene	45.8	1.0	"	50.0	3.04	85.5	70-130			
1,2,4-Trimethylbenzene	76.4	1.0	"	50.0	21.7	109	70-130			
1,3,5-Trimethylbenzene	67.8	1.0	"	50.0	9.33	117	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.1	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.0	21-167			

Matrix Spike Dup (BFC0291-MSD1)		Source: 2203187-11			Prepared & Analyzed: 03/15/22					
Benzene	69.1	1.0	ug/l	50.0	21.0	96.2	34-141	3.97	30	QM-07
Toluene	80.4	1.0	"	50.0	91.0	NR	27-151	32.4	30	
Ethylbenzene	59.6	1.0	"	50.0	9.34	100	29-160	2.88	30	
m,p-Xylene	163	2.0	"	100	69.9	93.6	20-166	1.63	30	
o-Xylene	79.0	1.0	"	50.0	26.6	105	33-159	1.92	30	
Naphthalene	46.4	1.0	"	50.0	3.04	86.7	70-130	1.30	30	
1,2,4-Trimethylbenzene	78.0	1.0	"	50.0	21.7	112	70-130	2.02	30	
1,3,5-Trimethylbenzene	69.7	1.0	"	50.0	9.33	121	70-130	2.76	30	
Surrogate: 1,2-Dichloroethane-d4	11.2		"	13.3		84.2	23-173			
Surrogate: Toluene-d8	9.24		"	13.3		69.3	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.5	21-167			

Batch BFD0074 - EPA 5030 Soil MS

Blank (BFD0074-BLK1)		Prepared: 04/05/22 Analyzed: 04/07/22								
Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0560		"	0.0400		140	50-150			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

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

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

Batch BFD0074 - EPA 5030 Soil MS

Blank (BFD0074-BLK1)

Prepared: 04/05/22 Analyzed: 04/07/22

Surrogate: 4-Bromofluorobenzene	0.0422		mg/kg	0.0400		105	50-150
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LCS (BFD0074-BS1)

Prepared: 04/05/22 Analyzed: 04/07/22

Benzene	0.0946	0.0020	mg/kg	0.100		94.6	70-130
Toluene	0.103	0.0050	"	0.100		103	70-130
Ethylbenzene	0.0901	0.0050	"	0.100		90.1	70-130
m,p-Xylene	0.189	0.010	"	0.200		94.6	70-130
o-Xylene	0.0952	0.0050	"	0.100		95.2	70-130
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130
1,3,5-Trimethylbenzene	0.0964	0.0050	"	0.100		96.4	70-130
Naphthalene	0.106	0.0038	"	0.100		106	70-130
Surrogate: 1,2-Dichloroethane-d4	0.0543		"	0.0400		136	50-150
Surrogate: Toluene-d8	0.0410		"	0.0400		102	50-150
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0400		108	50-150

Matrix Spike (BFD0074-MS1)

Source: 2204037-04

Prepared: 04/05/22 Analyzed: 04/07/22

Benzene	0.0846	0.0020	mg/kg	0.100	ND	84.6	70-130
Toluene	0.0933	0.0050	"	0.100	ND	93.3	70-130
Ethylbenzene	0.0801	0.0050	"	0.100	ND	80.1	70-130
m,p-Xylene	0.167	0.010	"	0.200	ND	83.3	70-130
o-Xylene	0.0859	0.0050	"	0.100	ND	85.9	70-130
1,2,4-Trimethylbenzene	0.0917	0.0050	"	0.100	ND	91.7	70-130
1,3,5-Trimethylbenzene	0.0880	0.0050	"	0.100	ND	88.0	70-130
Naphthalene	0.102	0.0038	"	0.100	ND	102	70-130
Surrogate: 1,2-Dichloroethane-d4	0.0535		"	0.0400		134	50-150
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150
Surrogate: 4-Bromofluorobenzene	0.0424		"	0.0400		106	50-150

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

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

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

Batch BFD0074 - EPA 5030 Soil MS

Matrix Spike Dup (BFD0074-MSD1)		Source: 2204037-04			Prepared: 04/05/22 Analyzed: 04/07/22					
Benzene	0.0857	0.0020	mg/kg	0.100	ND	85.7	70-130	1.23	30	
Toluene	0.0955	0.0050	"	0.100	ND	95.5	70-130	2.32	30	
Ethylbenzene	0.0804	0.0050	"	0.100	ND	80.4	70-130	0.337	30	
m,p-Xylene	0.170	0.010	"	0.200	ND	84.8	70-130	1.71	30	
o-Xylene	0.0865	0.0050	"	0.100	ND	86.5	70-130	0.766	30	
1,2,4-Trimethylbenzene	0.0935	0.0050	"	0.100	ND	93.5	70-130	1.94	30	
1,3,5-Trimethylbenzene	0.0876	0.0050	"	0.100	ND	87.6	70-130	0.410	30	
Naphthalene	0.112	0.0038	"	0.100	ND	112	70-130	9.14	30	
Surrogate: 1,2-Dichloroethane-d4		0.0544	"	0.0400		136	50-150			
Surrogate: Toluene-d8		0.0425	"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene		0.0418	"	0.0400		105	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFC0239 - EPA 3550A

Blank (BFC0239-BLK1)

Prepared: 03/14/22 Analyzed: 03/15/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFC0239-BS1)

Prepared: 03/14/22 Analyzed: 03/15/22

C10-C28 (DRO)	465	50	mg/kg	500	93.0	70-130
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Matrix Spike (BFC0239-MS1)

Source: 2203187-01

Prepared: 03/14/22 Analyzed: 03/15/22

C10-C28 (DRO)	460	50	mg/kg	500	19.5	88.1	70-130
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Matrix Spike Dup (BFC0239-MSD1)

Source: 2203187-01

Prepared: 03/14/22 Analyzed: 03/15/22

C10-C28 (DRO)	508	50	mg/kg	500	19.5	97.6	70-130	9.81	20
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Batch BFD0075 - EPA 3550A

Blank (BFD0075-BLK1)

Prepared & Analyzed: 04/05/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFD0075-BS1)

Prepared: 04/05/22 Analyzed: 04/06/22

C10-C28 (DRO)	438	50	mg/kg	500	87.6	70-130
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Matrix Spike (BFD0075-MS1)

Source: 2204037-04

Prepared: 04/05/22 Analyzed: 04/06/22

C10-C28 (DRO)	405	50	mg/kg	500	14.3	78.1	70-130
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Matrix Spike Dup (BFD0075-MSD1)

Source: 2204037-04

Prepared: 04/05/22 Analyzed: 04/06/22

C10-C28 (DRO)	430	50	mg/kg	500	14.3	83.2	70-130	6.14	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFC0241 - EPA 5030 Soil MS

Blank (BFC0241-BLK1)

Prepared & Analyzed: 03/14/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0217		"	0.0333		65.0	40-150			
Surrogate: Fluoranthene-d10	0.0214		"	0.0333		64.1	40-150			

LCS (BFC0241-BS1)

Prepared & Analyzed: 03/14/22

Acenaphthene	0.0208	0.00500	mg/kg	0.0333		62.3	31-137			
Anthracene	0.0207	0.00500	"	0.0333		62.0	30-120			
Benzo (a) anthracene	0.0194	0.00500	"	0.0333		58.2	30-120			
Benzo (a) pyrene	0.0207	0.00500	"	0.0333		62.1	30-120			
Benzo (b) fluoranthene	0.0191	0.00500	"	0.0333		57.4	30-120			
Benzo (k) fluoranthene	0.0239	0.00500	"	0.0333		71.7	30-120			
Chrysene	0.0222	0.00500	"	0.0333		66.5	30-120			
Dibenz (a,h) anthracene	0.0259	0.00500	"	0.0333		77.7	30-120			
Fluoranthene	0.0224	0.00500	"	0.0333		67.2	30-120			
Fluorene	0.0215	0.00500	"	0.0333		64.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0319	0.00500	"	0.0333		95.7	30-120			
Pyrene	0.0225	0.00500	"	0.0333		67.6	35-142			
1-Methylnaphthalene	0.0189	0.00500	"	0.0333		56.6	35-142			
2-Methylnaphthalene	0.0219	0.00500	"	0.0333		65.7	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0215		"	0.0333		64.6	40-150			
Surrogate: Fluoranthene-d10	0.0232		"	0.0333		69.6	40-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFC0241 - EPA 5030 Soil MS

Matrix Spike (BFC0241-MS1)

Source: 2203182-01

Prepared: 03/14/22 Analyzed: 03/15/22

Acenaphthene	0.0303	0.00500	mg/kg	0.0333	ND	90.9	31-137			
Anthracene	0.0927	0.00500	"	0.0333	ND	278	30-120			QM-07
Benzo (a) anthracene	0.0108	0.00500	"	0.0333	ND	32.3	30-120			
Benzo (a) pyrene	0.00989	0.00500	"	0.0333	ND	29.7	30-120			QM-07
Benzo (b) fluoranthene	0.00752	0.00500	"	0.0333	ND	22.5	30-120			QM-07
Benzo (k) fluoranthene	0.00706	0.00500	"	0.0333	ND	21.2	30-120			QM-07
Chrysene	0.0185	0.00500	"	0.0333	0.00884	29.1	30-120			QM-07
Dibenz (a,h) anthracene	0.00849	0.00500	"	0.0333	ND	25.5	30-120			QM-07
Fluoranthene	0.0134	0.00500	"	0.0333	ND	40.1	30-120			
Fluorene	0.0658	0.00500	"	0.0333	0.0553	31.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0128	0.00500	"	0.0333	ND	38.5	30-120			
Pyrene	0.0121	0.00500	"	0.0333	ND	36.3	35-142			
1-Methylnaphthalene	0.187	0.00500	"	0.0333	0.310	NR	15-130			QM-07
2-Methylnaphthalene	0.503	0.00500	"	0.0333	0.552	NR	15-130			QM-07
Surrogate: 2-Methylnaphthalene-d10	0.0124		"	0.0333		37.2	40-150			S-02
Surrogate: Fluoranthene-d10	0.0114		"	0.0333		34.2	40-150			S-02

Matrix Spike Dup (BFC0241-MSD1)

Source: 2203182-01

Prepared: 03/14/22 Analyzed: 03/15/22

Acenaphthene	0.0149	0.00500	mg/kg	0.0333	ND	44.8	31-137	67.9	30	QM-07
Anthracene	0.0517	0.00500	"	0.0333	ND	155	30-120	56.8	30	QM-07
Benzo (a) anthracene	0.00802	0.00500	"	0.0333	ND	24.1	30-120	29.1	30	QM-07
Benzo (a) pyrene	0.00719	0.00500	"	0.0333	ND	21.6	30-120	31.5	30	QM-07
Benzo (b) fluoranthene	0.00525	0.00500	"	0.0333	ND	15.7	30-120	35.5	30	QM-07
Benzo (k) fluoranthene	0.00449	0.00500	"	0.0333	ND	13.5	30-120	44.5	30	QM-07
Chrysene	0.0145	0.00500	"	0.0333	0.00884	16.9	30-120	24.6	30	QM-07
Dibenz (a,h) anthracene	0.00536	0.00500	"	0.0333	ND	16.1	30-120	45.3	30	QM-07
Fluoranthene	0.00726	0.00500	"	0.0333	ND	21.8	30-120	59.1	30	QM-07
Fluorene	0.0316	0.00500	"	0.0333	0.0553	NR	30-120	70.1	30	QM-07
Indeno (1,2,3-cd) pyrene	0.00802	0.00500	"	0.0333	ND	24.1	30-120	46.2	30	QM-07
Pyrene	0.00841	0.00500	"	0.0333	ND	25.2	35-142	35.9	30	QM-07
1-Methylnaphthalene	0.0941	0.00500	"	0.0333	0.310	NR	15-130	65.9	50	QM-07
2-Methylnaphthalene	0.200	0.00500	"	0.0333	0.552	NR	15-130	86.2	50	QM-07
Surrogate: 2-Methylnaphthalene-d10	0.00818		"	0.0333		24.5	40-150			S-02
Surrogate: Fluoranthene-d10	0.00883		"	0.0333		26.5	40-150			S-02

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0077 - EPA 5030 Soil MS

Blank (BFD0077-BLK1)

Prepared & Analyzed: 04/05/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0206		"	0.0333		61.9	40-150			
Surrogate: Fluoranthene-d10	0.0180		"	0.0333		54.1	40-150			

LCS (BFD0077-BS1)

Prepared & Analyzed: 04/05/22

Acenaphthene	0.0176	0.00500	mg/kg	0.0333		52.9	31-137			
Anthracene	0.0179	0.00500	"	0.0333		53.8	30-120			
Benzo (a) anthracene	0.0167	0.00500	"	0.0333		50.2	30-120			
Benzo (a) pyrene	0.0197	0.00500	"	0.0333		59.0	30-120			
Benzo (b) fluoranthene	0.0194	0.00500	"	0.0333		58.3	30-120			
Benzo (k) fluoranthene	0.0215	0.00500	"	0.0333		64.4	30-120			
Chrysene	0.0179	0.00500	"	0.0333		53.6	30-120			
Dibenz (a,h) anthracene	0.0191	0.00500	"	0.0333		57.4	30-120			
Fluoranthene	0.0202	0.00500	"	0.0333		60.5	30-120			
Fluorene	0.0169	0.00500	"	0.0333		50.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0123	0.00500	"	0.0333		36.8	30-120			
Pyrene	0.0158	0.00500	"	0.0333		47.4	35-142			
1-Methylnaphthalene	0.0242	0.00500	"	0.0333		72.6	35-142			
2-Methylnaphthalene	0.0221	0.00500	"	0.0333		66.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0244		"	0.0333		73.1	40-150			
Surrogate: Fluoranthene-d10	0.0205		"	0.0333		61.5	40-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0077 - EPA 5030 Soil MS

Matrix Spike (BFD0077-MS1)

Source: 2203187-02

Prepared & Analyzed: 04/05/22

Acenaphthene	0.0160	0.00500	mg/kg	0.0333	ND	48.0	31-137		
Anthracene	0.0164	0.00500	"	0.0333	ND	49.3	30-120		
Benzo (a) anthracene	0.0161	0.00500	"	0.0333	ND	48.2	30-120		
Benzo (a) pyrene	0.0187	0.00500	"	0.0333	ND	56.1	30-120		
Benzo (b) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.7	30-120		
Benzo (k) fluoranthene	0.0203	0.00500	"	0.0333	ND	60.9	30-120		
Chrysene	0.0168	0.00500	"	0.0333	ND	50.3	30-120		
Dibenz (a,h) anthracene	0.0175	0.00500	"	0.0333	ND	52.4	30-120		
Fluoranthene	0.0190	0.00500	"	0.0333	ND	56.9	30-120		
Fluorene	0.0156	0.00500	"	0.0333	ND	46.9	30-120		
Indeno (1,2,3-cd) pyrene	0.0114	0.00500	"	0.0333	ND	34.3	30-120		
Pyrene	0.0160	0.00500	"	0.0333	ND	48.1	35-142		
1-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.2	15-130		
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0197		"	0.0333		59.0	40-150		
Surrogate: Fluoranthene-d10	0.0192		"	0.0333		57.5	40-150		

Matrix Spike Dup (BFD0077-MSD1)

Source: 2203187-02

Prepared & Analyzed: 04/05/22

Acenaphthene	0.0161	0.00500	mg/kg	0.0333	ND	48.2	31-137	0.537	30
Anthracene	0.0160	0.00500	"	0.0333	ND	48.0	30-120	2.70	30
Benzo (a) anthracene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	5.00	30
Benzo (a) pyrene	0.0175	0.00500	"	0.0333	ND	52.4	30-120	6.88	30
Benzo (b) fluoranthene	0.0178	0.00500	"	0.0333	ND	53.3	30-120	4.46	30
Benzo (k) fluoranthene	0.0193	0.00500	"	0.0333	ND	57.9	30-120	5.15	30
Chrysene	0.0157	0.00500	"	0.0333	ND	47.1	30-120	6.53	30
Dibenz (a,h) anthracene	0.0169	0.00500	"	0.0333	ND	50.6	30-120	3.55	30
Fluoranthene	0.0185	0.00500	"	0.0333	ND	55.4	30-120	2.60	30
Fluorene	0.0155	0.00500	"	0.0333	ND	46.6	30-120	0.762	30
Indeno (1,2,3-cd) pyrene	0.0109	0.00500	"	0.0333	ND	32.7	30-120	4.99	30
Pyrene	0.0151	0.00500	"	0.0333	ND	45.4	35-142	5.93	30
1-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.2	15-130	3.21	50
2-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.5	15-130	8.72	50
Surrogate: 2-Methylnaphthalene-d10	0.0222		"	0.0333		66.5	40-150		
Surrogate: Fluoranthene-d10	0.0186		"	0.0333		55.8	40-150		

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFC0273 - EPA 3050B

Blank (BFC0273-BLK1)				Prepared: 03/25/22 Analyzed: 03/31/22						
Boron	ND	0.0100	mg/L							
LCS (BFC0273-BS1)				Prepared: 03/25/22 Analyzed: 03/31/22						
Boron	4.69	0.0100	mg/L	5.00		93.8	80-120			
Duplicate (BFC0273-DUP1)				Source: 2203162-04		Prepared: 03/25/22 Analyzed: 03/31/22				
Boron	0.609	0.0100	mg/L		0.587			3.65	20	
Matrix Spike (BFC0273-MS1)				Source: 2203162-04		Prepared: 03/25/22 Analyzed: 03/31/22				
Boron	5.42	0.0100	mg/L	5.00	0.587	96.6	75-125			
Matrix Spike Dup (BFC0273-MSD1)				Source: 2203162-04		Prepared: 03/25/22 Analyzed: 03/31/22				
Boron	5.71	0.0100	mg/L	5.00	0.587	102	75-125	5.24	25	

Batch BFD0148 - EPA 3050B

Blank (BFD0148-BLK1)				Prepared: 04/07/22 Analyzed: 04/12/22						
Boron	ND	0.0100	mg/L							
LCS (BFD0148-BS1)				Prepared: 04/07/22 Analyzed: 04/12/22						
Boron	5.07	0.0100	mg/L	5.00		101	80-120			
Duplicate (BFD0148-DUP1)				Source: 2203187-02		Prepared: 04/07/22 Analyzed: 04/12/22				
Boron	0.0553	0.0100	mg/L		0.0638			14.2	20	
Matrix Spike (BFD0148-MS1)				Source: 2203187-02		Prepared: 04/07/22 Analyzed: 04/12/22				
Boron	5.17	0.0100	mg/L	5.00	0.0638	102	75-125			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0148 - EPA 3050B

Matrix Spike Dup (BFD0148-MSD1)

Source: 2203187-02

Prepared: 04/07/22 Analyzed: 04/12/22

Boron	5.20	0.0100	mg/L	5.00	0.0638	103	75-125	0.647	25
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFC0251 - General Preparation

Blank (BFC0251-BLK1)

Prepared: 03/14/22 Analyzed: 03/16/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFC0251-BS1)

Prepared: 03/14/22 Analyzed: 03/16/22

Calcium	5.21	0.0500	mg/L wet	5.00	104	70-130
Magnesium	5.47	0.0500	"	5.00	109	70-130
Sodium	5.17	0.0500	"	5.00	103	70-130

Batch BFD0109 - General Preparation

Blank (BFD0109-BLK1)

Prepared: 04/06/22 Analyzed: 04/09/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0109-BS1)

Prepared: 04/06/22 Analyzed: 04/09/22

Calcium	5.42	0.0500	mg/L wet	5.00	108	70-130
Magnesium	5.27	0.0500	"	5.00	105	70-130
Sodium	5.16	0.0500	"	5.00	103	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

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

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

Batch BFC0343 - General Preparation

Duplicate (BFC0343-DUP1)		Source: 2202213-05			Prepared & Analyzed: 03/17/22					
% Solids	94.1		%		94.1			0.0248	20	

Batch BFD0162 - General Preparation

Duplicate (BFD0162-DUP1)		Source: 2203187-02			Prepared & Analyzed: 04/08/22					
% Solids	95.7		%		95.2			0.523	20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFC0284 - General Preparation

Blank (BFC0284-BLK1)

Prepared & Analyzed: 03/15/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFC0284-BS1)

Prepared & Analyzed: 03/15/22

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.7 95-105

Duplicate (BFC0284-DUP1)

Source: 2201167-06

Prepared & Analyzed: 03/15/22

Specific Conductance (EC) 0.494 0.0100 mmhos/cm 0.504 1.96 20

Batch BFD0145 - General Preparation

Blank (BFD0145-BLK1)

Prepared & Analyzed: 04/07/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0145-BS1)

Prepared & Analyzed: 04/07/22

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.2 95-105

Duplicate (BFD0145-DUP1)

Source: 2203187-02

Prepared & Analyzed: 04/07/22

Specific Conductance (EC) 0.529 0.0100 mmhos/cm 0.528 0.151 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC
Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFC0283 - General Preparation

LCS (BFC0283-BS1)

Prepared & Analyzed: 03/15/22

pH	9.07		pH Units	9.18	98.8	95-105
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Duplicate (BFC0283-DUP1)

Source: 2201167-06

Prepared & Analyzed: 03/15/22

pH	6.89		pH Units	6.74		2.20	20
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Batch BFD0143 - General Preparation

LCS (BFD0143-BS1)

Prepared & Analyzed: 04/07/22

pH	9.08		pH Units	9.18	98.9	95-105
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Duplicate (BFD0143-DUP1)

Source: 2203187-02

Prepared & Analyzed: 04/07/22

pH	7.66		pH Units	7.68		0.261	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05 FAC

Project Number: UWRWE-A1698-ABN
Project Manager: Jacob Whritenour

Reported:
04/12/22 13:34

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
I-02	This sample was analyzed outside of the recommended holding time.
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, 2022

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Carpio A26-05
Work Order #2206257

Enclosed are the results of analyses for samples received by Summit Scientific on 06/16/22 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@4-5'	2206257-01	Soil	06/16/22 10:00	06/16/22 15:00
BH02@4-5'	2206257-02	Soil	06/16/22 10:26	06/16/22 15:00
BH03@3.5-6'	2206257-03	Soil	06/16/22 12:26	06/16/22 15:00
BH04@4-5'	2206257-04	Soil	06/16/22 09:52	06/16/22 15:00
BH05@4-5'	2206257-05	Soil	06/16/22 09:30	06/16/22 15:00
BH05@9-13'	2206257-06	Soil	06/16/22 11:43	06/16/22 15:00

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

2206257

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

Page 1 of 1

Client: Nobk / Tasman

Project Manager: Take Whittenour

Address: 6855 W 119th Ave

E-Mail: jwhittenour@tasman-geo.com

City/State/Zip: Broomfield, CO 80020

Phone: 303-487-1228

Project Name: Carpio AZG-05 (FAC)

Sampler Name: Sarah Quattrochi

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	TPH -915	VOC -915	PAH -915	Metals -915	PH, EC, SAR	Boron		
1	BH01 @ 4-5'	6/16/22	1000	3			X			X				X	X	X	X	X	X	
2	BH02 @ 4-5'		1026	3			X			X										
3	BH03 @ 3.5-4'		1226	2			X			X										
4	BH04 @ 4-5'		952	3			X			X										
5	BH05 @ 4-5'		930	3			X			X										
6	BH05 @ 9-13'		1143	2			X			X										
7																				
8																				
9																				
10																				

Relinquished by: [Signature] Date/Time: 6/16/22 @ 1415

Relinquished by: _____ Date/Time: _____

Temperature Upon Receipt: 7.3

IR gun correction: 0

Received by: [Signature] Date/Time: 6/16/22 1500

Received by: _____ Date/Time: _____

Corrected Temperature 7.3

IR gun #: 1

HNO3 lot # _____

Turn Around Time (Check)

Same Day _____ 72 hours _____

24 hours _____ Standard X

48 hours _____

Sample Integrity:

Samples Intact: Yes No

Notes:

S₂

2206257

Sample Receipt Checklist

S2 Work Order#

Client: Novel Tisman Client Project ID: Carpio A26-05(FAC)

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

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 7.3 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			
Were all samples received intact ⁽¹⁾ ?	-			MIØ
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
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, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
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.				



Custodian Printed Name

6/16/22

Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH01@4-5'
2206257-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFF0473	06/17/22	06/17/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0427	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	99.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0474	06/17/22	06/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.91	79.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH01@4-5'
2206257-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0528	06/21/22	06/21/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0295	88.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0198	59.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0996	0.0100	mg/L	1	BFF0517	06/20/22	06/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/16/22 10:00**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH01@4-5'
2206257-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.30	0.251	mg/kg dry	1	BFF0549	06/21/22	06/23/22	EPA 6020B
Barium	152	0.503	"	"	"	"	"	"
Cadmium	ND	0.251	"	"	"	"	"	"
Copper	12.6	0.503	"	"	"	"	"	"
Lead	10.3	0.251	"	"	"	"	"	"
Nickel	10.3	0.503	"	"	"	"	"	"
Selenium	1.37	0.327	"	"	"	"	"	"
Silver	0.0552	0.0251	"	"	"	"	"	"
Zinc	54.7	0.503	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0512	06/20/22	06/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1120	0.0628	mg/L dry	1	BFF0484	06/17/22	06/19/22	EPA 6020B	
Magnesium	765	0.0628	"	"	"	"	"	"	
Sodium	108	0.0628	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.609	0.00100	units	1	BFF0513	06/20/22	06/21/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/16/22 10:00**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH01@4-5'
2206257-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.6	%	1	BFF0510	06/20/22	06/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.989	0.0100	mmhos/cm	1	BFF0485	06/17/22	06/20/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/16/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BFF0486	06/17/22	06/20/22	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH02@4-5'
2206257-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0473	06/17/22	06/17/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0342	85.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	96.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0474	06/17/22	06/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.8	110 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH02@4-5'
2206257-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0528	06/21/22	06/21/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0327	98.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0221	66.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.110	0.0100	mg/L	1	BFF0517	06/20/22	06/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/16/22 10:26**

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

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



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH02@4-5'
2206257-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.82	0.233	mg/kg dry	1	BFF0549	06/21/22	06/23/22	EPA 6020B
Barium	95.1	0.467	"	"	"	"	"	"
Cadmium	ND	0.233	"	"	"	"	"	"
Copper	13.1	0.467	"	"	"	"	"	"
Lead	11.3	0.233	"	"	"	"	"	"
Nickel	7.81	0.467	"	"	"	"	"	"
Selenium	1.01	0.304	"	"	"	"	"	"
Silver	0.0824	0.0233	"	"	"	"	"	"
Zinc	48.1	0.467	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0512	06/20/22	06/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1330	0.0584	mg/L dry	1	BFF0484	06/17/22	06/19/22	EPA 6020B	
Magnesium	540	0.0584	"	"	"	"	"	"	
Sodium	91.7	0.0584	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.536	0.00100	units	1	BFF0513	06/20/22	06/21/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/16/22 10:26**

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

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



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH02@4-5'
2206257-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.7	%	1	BFF0510	06/20/22	06/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.976	0.0100	mmhos/cm	1	BFF0485	06/17/22	06/20/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/16/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.79		pH Units	1	BFF0486	06/17/22	06/20/22	EPA 9045D	

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/24/22 08:51

BH03@3.5-6'
2206257-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0473	06/17/22	06/17/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0474	06/17/22	06/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.3	98.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH03@3.5-6'
2206257-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0528	06/21/22	06/21/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0254	76.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0633	0.0100	mg/L	1	BFF0517	06/20/22	06/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH03@3.5-6'
2206257-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.53	0.230	mg/kg dry	1	BFF0549	06/21/22	06/23/22	EPA 6020B
Barium	96.8	0.460	"	"	"	"	"	"
Cadmium	0.353	0.230	"	"	"	"	"	"
Copper	15.2	0.460	"	"	"	"	"	"
Lead	14.8	0.230	"	"	"	"	"	"
Nickel	7.92	0.460	"	"	"	"	"	"
Selenium	0.922	0.299	"	"	"	"	"	"
Silver	0.142	0.0230	"	"	"	"	"	"
Zinc	53.9	0.460	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0512	06/20/22	06/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1970	0.0575	mg/L dry	1	BFF0484	06/17/22	06/19/22	EPA 6020B	
Magnesium	502	0.0575	"	"	"	"	"	"	
Sodium	59.6	0.0575	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.310	0.00100	units	1	BFF0513	06/20/22	06/21/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/16/22 12:26**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH03@3.5-6'
2206257-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.0	%	1	BFF0510	06/20/22	06/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.868	0.0100	mmhos/cm	1	BFF0485	06/17/22	06/20/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/16/22 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.74		pH Units	1	BFF0486	06/17/22	06/20/22	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/24/22 08:51

BH04@4-5'
2206257-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0473	06/17/22	06/17/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0378	94.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0474	06/17/22	06/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.3	98.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/24/22 08:51

BH04@4-5'
2206257-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0528	06/21/22	06/22/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0246	73.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.147	0.0100	mg/L	1	BFF0517	06/20/22	06/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH04@4-5'
2206257-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.08	0.235	mg/kg dry	1	BFF0549	06/21/22	06/23/22	EPA 6020B
Barium	94.8	0.470	"	"	"	"	"	"
Cadmium	ND	0.235	"	"	"	"	"	"
Copper	12.2	0.470	"	"	"	"	"	"
Lead	10.8	0.235	"	"	"	"	"	"
Nickel	8.32	0.470	"	"	"	"	"	"
Selenium	1.05	0.306	"	"	"	"	"	"
Silver	0.0759	0.0235	"	"	"	"	"	"
Zinc	51.5	0.470	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0512	06/20/22	06/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1210	0.0588	mg/L dry	1	BFF0484	06/17/22	06/19/22	EPA 6020B	
Magnesium	536	0.0588	"	"	"	"	"	"	
Sodium	147	0.0588	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.885	0.00100	units	1	BFF0513	06/20/22	06/21/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH04@4-5'
2206257-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.1	%	1	BFF0510	06/20/22	06/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.838	0.0100	mmhos/cm	1	BFF0485	06/17/22	06/20/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/16/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.93		pH Units	1	BFF0486	06/17/22	06/20/22	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@4-5'
2206257-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0473	06/17/22	06/17/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0304	76.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	96.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0474	06/17/22	06/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.7	93.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@4-5'
2206257-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0528	06/21/22	06/22/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0274	82.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0167	50.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0722	0.0100	mg/L	1	BFF0517	06/20/22	06/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/16/22 09:30**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@4-5'
2206257-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.94	0.254	mg/kg dry	1	BFF0549	06/21/22	06/23/22	EPA 6020B
Barium	52.7	0.508	"	"	"	"	"	"
Cadmium	ND	0.254	"	"	"	"	"	"
Copper	5.70	0.508	"	"	"	"	"	"
Lead	7.00	0.254	"	"	"	"	"	"
Nickel	7.21	0.508	"	"	"	"	"	"
Selenium	0.597	0.330	"	"	"	"	"	"
Silver	0.0258	0.0254	"	"	"	"	"	"
Zinc	32.8	0.508	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0512	06/20/22	06/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1780	0.0635	mg/L dry	1	BFF0484	06/17/22	06/19/22	EPA 6020B	
Magnesium	420	0.0635	"	"	"	"	"	"	
Sodium	61.5	0.0635	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.341	0.00100	units	1	BFF0513	06/20/22	06/21/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/16/22 09:30**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@4-5'
2206257-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.8	%	1	BFF0510	06/20/22	06/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.48	0.0100	mmhos/cm	1	BFF0485	06/17/22	06/20/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/16/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.48		pH Units	1	BFF0486	06/17/22	06/20/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@9-13'
2206257-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0473	06/17/22	06/17/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0392	98.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0474	06/17/22	06/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.8	102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@9-13'
2206257-06 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0528	06/21/22	06/22/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0282	84.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0388	0.0100	mg/L	1	BFF0517	06/20/22	06/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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6855 W. 119th Ave.
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Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@9-13'
2206257-06 (Soil)

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Total Metals by EPA 6020B

Arsenic	5.16	0.242	mg/kg dry	1	BFF0549	06/21/22	06/23/22	EPA 6020B
Barium	294	0.484	"	"	"	"	"	"
Cadmium	ND	0.242	"	"	"	"	"	"
Copper	7.55	0.484	"	"	"	"	"	"
Lead	8.75	0.242	"	"	"	"	"	"
Nickel	10.1	0.484	"	"	"	"	"	"
Selenium	0.829	0.315	"	"	"	"	"	"
Silver	0.0462	0.0242	"	"	"	"	"	"
Zinc	37.9	0.484	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0512	06/20/22	06/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	8080	0.0605	mg/L dry	1	BFF0484	06/17/22	06/19/22	EPA 6020B	
Magnesium	860	0.0605	"	"	"	"	"	"	
Sodium	73.1	0.0605	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.207	0.00100	units	1	BFF0513	06/20/22	06/21/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

BH05@9-13'
2206257-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.6	%	1	BFF0510	06/20/22	06/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.881	0.0100	mmhos/cm	1	BFF0485	06/17/22	06/20/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **06/16/22 11:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.77		pH Units	1	BFF0486	06/17/22	06/20/22	EPA 9045D	

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Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFF0473 - EPA 5030 Soil MS

Blank (BFF0473-BLK1)

Prepared & Analyzed: 06/17/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	50-150			

LCS (BFF0473-BS1)

Prepared & Analyzed: 06/17/22

Benzene	0.120	0.0020	mg/kg	0.125		96.0	70-130			
Toluene	0.0981	0.0050	"	0.125		78.5	70-130			
Ethylbenzene	0.148	0.0050	"	0.125		118	70-130			
m,p-Xylene	0.260	0.010	"	0.250		104	70-130			
o-Xylene	0.128	0.0050	"	0.125		102	70-130			
1,2,4-Trimethylbenzene	0.155	0.0050	"	0.125		124	70-130			
1,3,5-Trimethylbenzene	0.153	0.0050	"	0.125		123	70-130			
Naphthalene	0.146	0.0038	"	0.125		117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.1	50-150			

Matrix Spike (BFF0473-MS1)

Source: 2206257-02

Prepared & Analyzed: 06/17/22

Benzene	0.0904	0.0020	mg/kg	0.125	ND	72.3	70-130			
Toluene	0.0996	0.0050	"	0.125	ND	79.7	70-130			
Ethylbenzene	0.148	0.0050	"	0.125	ND	119	70-130			
m,p-Xylene	0.264	0.010	"	0.250	ND	106	70-130			
o-Xylene	0.130	0.0050	"	0.125	ND	104	70-130			
1,2,4-Trimethylbenzene	0.153	0.0050	"	0.125	ND	122	70-130			
1,3,5-Trimethylbenzene	0.152	0.0050	"	0.125	ND	121	70-130			
Naphthalene	0.155	0.0038	"	0.125	ND	124	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/24/22 08:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFF0473 - EPA 5030 Soil MS

Matrix Spike Dup (BFF0473-MSD1)

Source: 2206257-02

Prepared & Analyzed: 06/17/22

Benzene	0.120	0.0020	mg/kg	0.125	ND	95.8	70-130	27.9	30	
Toluene	0.101	0.0050	"	0.125	ND	80.7	70-130	1.29	30	
Ethylbenzene	0.148	0.0050	"	0.125	ND	119	70-130	0.202	30	
m,p-Xylene	0.264	0.010	"	0.250	ND	106	70-130	0.0681	30	
o-Xylene	0.129	0.0050	"	0.125	ND	103	70-130	0.902	30	
1,2,4-Trimethylbenzene	0.155	0.0050	"	0.125	ND	124	70-130	1.60	30	
1,3,5-Trimethylbenzene	0.154	0.0050	"	0.125	ND	123	70-130	1.14	30	
Naphthalene	0.160	0.0038	"	0.125	ND	128	70-130	2.80	30	
Surrogate: 1,2-Dichloroethane-d4	0.0428		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	50-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFF0474 - EPA 3550A

Blank (BFF0474-BLK1)

Prepared & Analyzed: 06/17/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFF0474-BS1)

Prepared & Analyzed: 06/17/22

C10-C28 (DRO)	539	50	mg/kg	500	108	70-130
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Matrix Spike (BFF0474-MS1)

Source: 2206257-02

Prepared & Analyzed: 06/17/22

C10-C28 (DRO)	470	50	mg/kg	500	33.1	87.4	70-130
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Matrix Spike Dup (BFF0474-MSD1)

Source: 2206257-02

Prepared & Analyzed: 06/17/22

C10-C28 (DRO)	430	50	mg/kg	500	33.1	79.4	70-130	8.80	20
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Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFF0528 - EPA 5030 Soil MS

Blank (BFF0528-BLK1)

Prepared & Analyzed: 06/21/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0351		"	0.0333		105	40-150			
Surrogate: Fluoranthene-d10	0.0242		"	0.0333		72.6	40-150			

LCS (BFF0528-BS1)

Prepared & Analyzed: 06/21/22

Acenaphthene	0.0288	0.00500	mg/kg	0.0333		86.5	31-137			
Anthracene	0.0302	0.00500	"	0.0333		90.7	30-120			
Benzo (a) anthracene	0.0262	0.00500	"	0.0333		78.6	30-120			
Benzo (a) pyrene	0.0276	0.00500	"	0.0333		82.7	30-120			
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333		70.8	30-120			
Benzo (k) fluoranthene	0.0258	0.00500	"	0.0333		77.3	30-120			
Chrysene	0.0295	0.00500	"	0.0333		88.6	30-120			
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333		43.4	30-120			
Fluoranthene	0.0270	0.00500	"	0.0333		81.0	30-120			
Fluorene	0.0282	0.00500	"	0.0333		84.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0154	0.00500	"	0.0333		46.1	30-120			
Pyrene	0.0186	0.00500	"	0.0333		55.7	35-142			
1-Methylnaphthalene	0.0341	0.00500	"	0.0333		102	35-142			
2-Methylnaphthalene	0.0318	0.00500	"	0.0333		95.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0339		"	0.0333		102	40-150			
Surrogate: Fluoranthene-d10	0.0271		"	0.0333		81.3	40-150			

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFF0528 - EPA 5030 Soil MS

Matrix Spike (BFF0528-MS1)

Source: 2206207-04

Prepared & Analyzed: 06/21/22

Acenaphthene	0.0219	0.00500	mg/kg	0.0333	ND	65.8	31-137			
Anthracene	0.0212	0.00500	"	0.0333	ND	63.7	30-120			
Benzo (a) anthracene	0.0230	0.00500	"	0.0333	ND	69.1	30-120			
Benzo (a) pyrene	0.0195	0.00500	"	0.0333	ND	58.6	30-120			
Benzo (b) fluoranthene	0.0303	0.00500	"	0.0333	ND	90.9	30-120			
Benzo (k) fluoranthene	0.0276	0.00500	"	0.0333	ND	82.9	30-120			
Chrysene	0.0212	0.00500	"	0.0333	ND	63.5	30-120			
Dibenz (a,h) anthracene	0.0140	0.00500	"	0.0333	ND	41.9	30-120			
Fluoranthene	0.0208	0.00500	"	0.0333	ND	62.2	30-120			
Fluorene	0.0211	0.00500	"	0.0333	ND	63.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0105	0.00500	"	0.0333	ND	31.4	30-120			
Pyrene	0.0349	0.00500	"	0.0333	0.00215	98.1	35-142			
1-Methylnaphthalene	0.0265	0.00500	"	0.0333	ND	79.4	15-130			
2-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.6	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0270		"	0.0333		81.1	40-150			
Surrogate: Fluoranthene-d10	0.0204		"	0.0333		61.1	40-150			

Matrix Spike Dup (BFF0528-MSD1)

Source: 2206207-04

Prepared & Analyzed: 06/21/22

Acenaphthene	0.0238	0.00500	mg/kg	0.0333	ND	71.4	31-137	8.17	30	
Anthracene	0.0239	0.00500	"	0.0333	ND	71.7	30-120	11.8	30	
Benzo (a) anthracene	0.0252	0.00500	"	0.0333	ND	75.5	30-120	8.78	30	
Benzo (a) pyrene	0.0215	0.00500	"	0.0333	ND	64.5	30-120	9.57	30	
Benzo (b) fluoranthene	0.0322	0.00500	"	0.0333	ND	96.6	30-120	6.11	30	
Benzo (k) fluoranthene	0.0294	0.00500	"	0.0333	ND	88.3	30-120	6.39	30	
Chrysene	0.0227	0.00500	"	0.0333	ND	68.0	30-120	6.89	30	
Dibenz (a,h) anthracene	0.0180	0.00500	"	0.0333	ND	53.9	30-120	25.1	30	
Fluoranthene	0.0227	0.00500	"	0.0333	ND	68.0	30-120	8.78	30	
Fluorene	0.0225	0.00500	"	0.0333	ND	67.5	30-120	6.44	30	
Indeno (1,2,3-cd) pyrene	0.0111	0.00500	"	0.0333	ND	33.2	30-120	5.45	30	
Pyrene	0.0363	0.00500	"	0.0333	0.00215	102	35-142	3.95	30	
1-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.4	15-130	14.9	50	
2-Methylnaphthalene	0.0227	0.00500	"	0.0333	ND	68.1	15-130	2.18	50	
Surrogate: 2-Methylnaphthalene-d10	0.0224		"	0.0333		67.1	40-150			
Surrogate: Fluoranthene-d10	0.0223		"	0.0333		66.9	40-150			

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFF0517 - EPA 3050B

Blank (BFF0517-BLK1)

Prepared: 06/20/22 Analyzed: 06/21/22

Boron ND 0.0100 mg/L

LCS (BFF0517-BS1)

Prepared: 06/20/22 Analyzed: 06/21/22

Boron 5.78 0.0100 mg/L 5.00 116 80-120

Duplicate (BFF0517-DUP1)

Source: 2206257-01

Prepared: 06/20/22 Analyzed: 06/21/22

Boron 0.107 0.0100 mg/L 0.0996 6.84 20

Matrix Spike (BFF0517-MS1)

Source: 2206257-01

Prepared: 06/20/22 Analyzed: 06/21/22

Boron 6.08 0.0100 mg/L 5.00 0.0996 120 75-125

Matrix Spike Dup (BFF0517-MSD1)

Source: 2206257-01

Prepared: 06/20/22 Analyzed: 06/21/22

Boron 6.09 0.0100 mg/L 5.00 0.0996 120 75-125 0.159 25

Summit Scientific

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



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BFF0549 - EPA 3050B

Blank (BFF0549-BLK1)

Prepared: 06/21/22 Analyzed: 06/23/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BFF0549-BS1)

Prepared: 06/21/22 Analyzed: 06/23/22

Arsenic	42.5	0.200	mg/kg wet	40.0	106	80-120
Barium	41.4	0.400	"	40.0	103	80-120
Cadmium	2.16	0.200	"	2.00	108	80-120
Copper	42.6	0.400	"	40.0	106	80-120
Lead	20.9	0.200	"	20.0	104	80-120
Nickel	39.6	0.400	"	40.0	99.1	80-120
Selenium	3.95	0.260	"	4.00	98.9	80-120
Silver	2.12	0.0200	"	2.00	106	80-120
Zinc	43.3	0.400	"	40.0	108	80-120

Duplicate (BFF0549-DUP1)

Source: 2206253-31

Prepared: 06/21/22 Analyzed: 06/23/22

Arsenic	2.74	0.225	mg/kg dry	2.67	2.33	20
Barium	87.6	0.450	"	83.1	5.25	20
Cadmium	0.160	0.225	"	0.159	0.580	20
Copper	8.42	0.450	"	8.69	3.15	20
Lead	10.7	0.225	"	10.3	3.28	20
Nickel	7.44	0.450	"	7.74	3.96	20
Selenium	0.651	0.292	"	0.657	0.904	20
Silver	0.0407	0.0225	"	0.0407	0.0394	20
Zinc	35.3	0.450	"	37.4	6.02	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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFF0549 - EPA 3050B

Matrix Spike (BFF0549-MS1)		Source: 2206253-31			Prepared: 06/21/22 Analyzed: 06/23/22					
Arsenic	48.5	0.225	mg/kg dry	45.0	2.67	102	75-125			
Barium	140	0.450	"	45.0	83.1	126	75-125			QM-02
Cadmium	2.54	0.225	"	2.25	0.159	106	75-125			
Copper	51.4	0.450	"	45.0	8.69	95.1	75-125			
Lead	30.3	0.225	"	22.5	10.3	89.0	75-125			
Nickel	50.0	0.450	"	45.0	7.74	93.9	75-125			
Selenium	4.60	0.292	"	4.50	0.657	87.8	75-125			
Silver	2.31	0.0225	"	2.25	0.0407	101	75-125			
Zinc	81.0	0.450	"	45.0	37.4	96.8	75-125			

Matrix Spike Dup (BFF0549-MSD1)		Source: 2206253-31			Prepared: 06/21/22 Analyzed: 06/23/22					
Arsenic	49.0	0.225	mg/kg dry	45.0	2.67	103	75-125	1.00	25	
Barium	142	0.450	"	45.0	83.1	130	75-125	1.42	25	QM-02
Cadmium	2.57	0.225	"	2.25	0.159	107	75-125	1.35	25	
Copper	51.5	0.450	"	45.0	8.69	95.3	75-125	0.154	25	
Lead	31.3	0.225	"	22.5	10.3	93.2	75-125	3.10	25	
Nickel	50.1	0.450	"	45.0	7.74	94.1	75-125	0.222	25	
Selenium	4.56	0.292	"	4.50	0.657	86.7	75-125	1.05	25	
Silver	2.34	0.0225	"	2.25	0.0407	102	75-125	1.17	25	
Zinc	81.2	0.450	"	45.0	37.4	97.3	75-125	0.303	25	

Summit Scientific

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



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFF0512 - 3060A Mod

Blank (BFF0512-BLK1)

Prepared & Analyzed: 06/20/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFF0512-BS1)

Prepared & Analyzed: 06/20/22

Chromium, Hexavalent 29.2 0.30 mg/kg wet 25.0 117 80-120

Duplicate (BFF0512-DUP1)

Source: 2206227-01

Prepared & Analyzed: 06/20/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFF0512-MS1)

Source: 2206227-01

Prepared & Analyzed: 06/20/22

Chromium, Hexavalent 35.9 0.30 mg/kg dry 30.1 ND 119 75-125

Matrix Spike Dup (BFF0512-MSD1)

Source: 2206227-01

Prepared & Analyzed: 06/20/22

Chromium, Hexavalent 36.3 0.30 mg/kg dry 30.1 ND 120 75-125 1.00 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/24/22 08:51

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFF0484 - General Preparation

Blank (BFF0484-BLK1)

Prepared: 06/17/22 Analyzed: 06/19/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFF0484-BS1)

Prepared: 06/17/22 Analyzed: 06/19/22

Calcium	590	0.0500	mg/L wet	500	118	70-130
Magnesium	595	0.0500	"	500	119	70-130
Sodium	537	0.0500	"	500	107	70-130

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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

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

Summit Scientific

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

Batch BFF0510 - General Preparation

Duplicate (BFF0510-DUP1)

Source: 2206244-01

Prepared & Analyzed: 06/20/22

% Solids	86.4	%	86.4	0.0340	20
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Summit Scientific

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



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFF0485 - General Preparation

Blank (BFF0485-BLK1)

Prepared: 06/17/22 Analyzed: 06/20/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFF0485-BS1)

Prepared: 06/17/22 Analyzed: 06/20/22

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BFF0485-DUP1)

Source: 2206257-01

Prepared: 06/17/22 Analyzed: 06/20/22

Specific Conductance (EC) 0.985 0.0100 mmhos/cm 0.989 0.415 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.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFF0486 - General Preparation

LCS (BFF0486-BS1)

Prepared: 06/17/22 Analyzed: 06/20/22

pH	9.16	pH Units	9.18	99.8	95-105
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Duplicate (BFF0486-DUP1)

Source: 2206257-01

Prepared: 06/17/22 Analyzed: 06/20/22

pH	7.83	pH Units	7.82	0.128	20
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Summit Scientific

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



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/24/22 08:51

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

ATTACHMENT B
BORING LOGS



TASMAN

6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Sarah Quattrochi

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: AMS Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/16/22 - 6/16/22

TOTAL WELL DEPTH (FT. BGS): 13

DEPTH TO WATER (FT. BGS): 2.5

Carpio A26-05 Facility

BORING / WELL ID: BH01

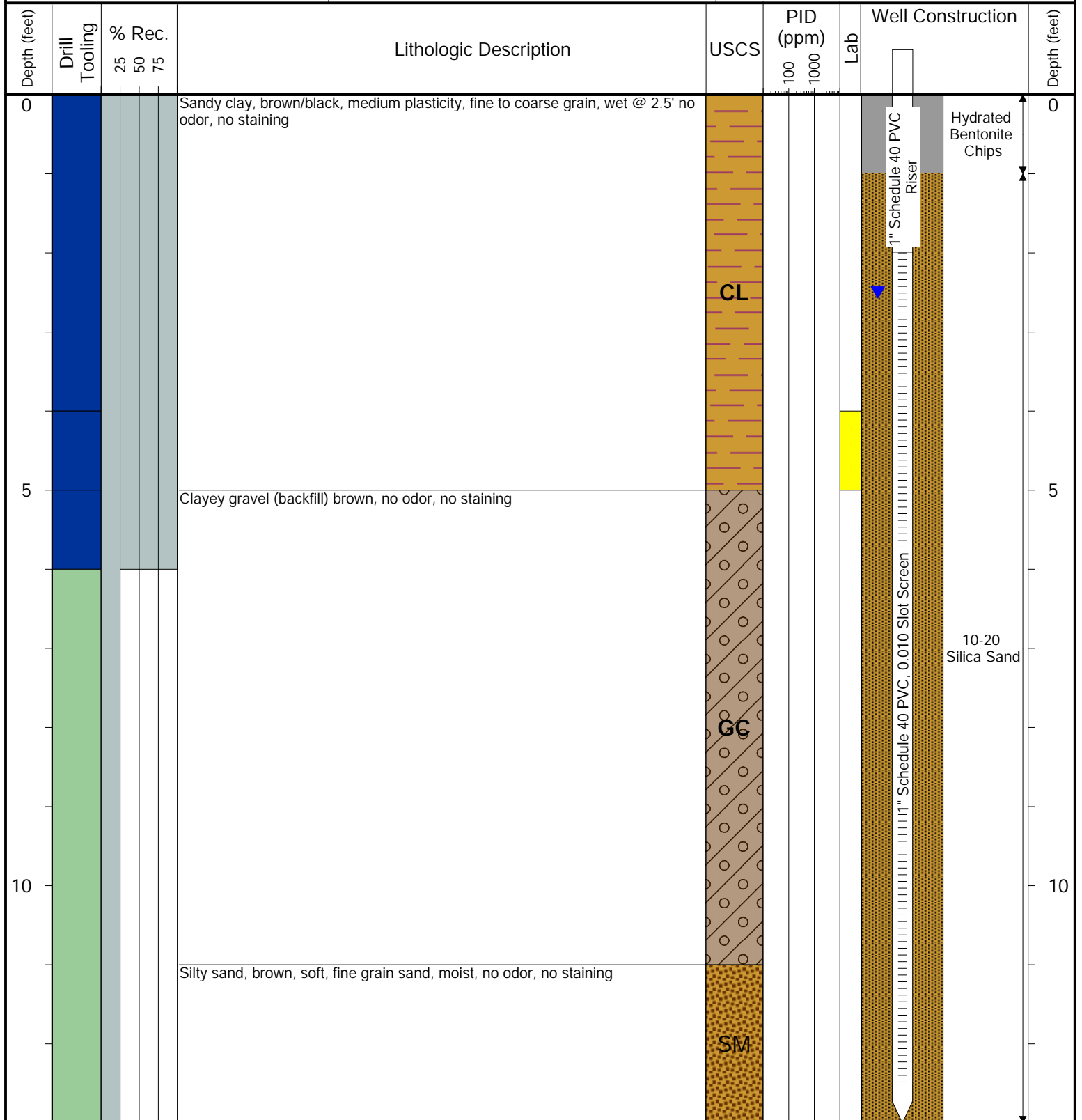
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.458764588

LONGITUDE (WGS 84): -104.52647349

CASING ELEVATION (FT. AMSL): 4654.835

GROUND ELEVATION (FT. AMSL): 4654.895



Drilling / Sample Method:

Macro-Core

Solid Stem Auger

Hollow Stem Auger

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Sarah Quattrochi

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: AMS Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/16/22 - 6/16/22

TOTAL WELL DEPTH (FT. BGS): 13

DEPTH TO WATER (FT. BGS): 3

Carpio A26-05 Facility

BORING / WELL ID: BH02

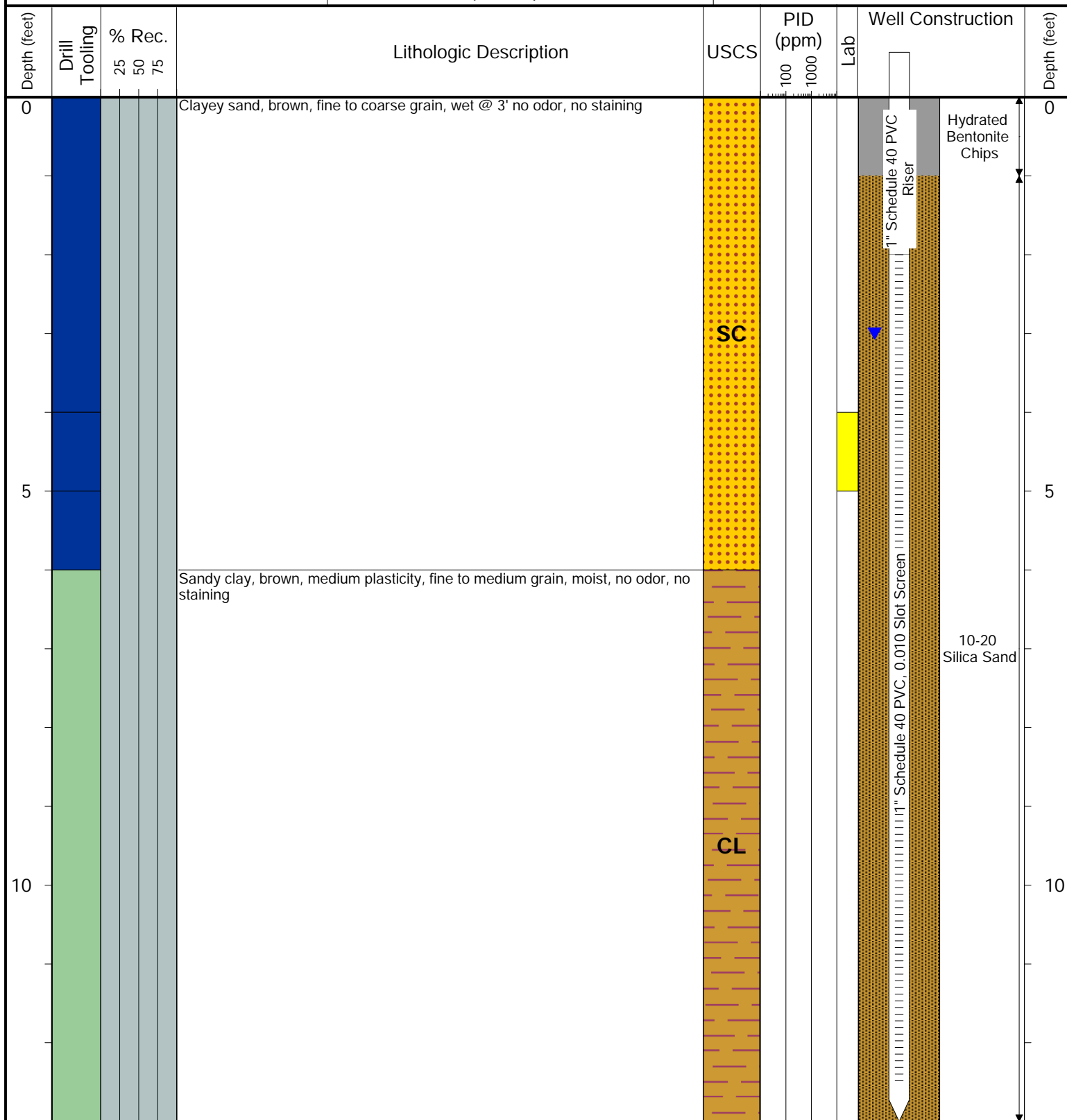
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.458829672

LONGITUDE (WGS 84): -104.526479565

CASING ELEVATION (FT. AMSL): 4654.425

GROUND ELEVATION (FT. AMSL): 4654.485



Drilling / Sample Method:

Macro-Core

Solid Stem Auger

Hollow Stem Auger

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Sarah Quattrochi

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: AMS Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/16/22 - 6/16/22

TOTAL WELL DEPTH (FT. BGS): 13

DEPTH TO WATER (FT. BGS): 3

Carpio A26-05 Facility

BORING / WELL ID: BH03

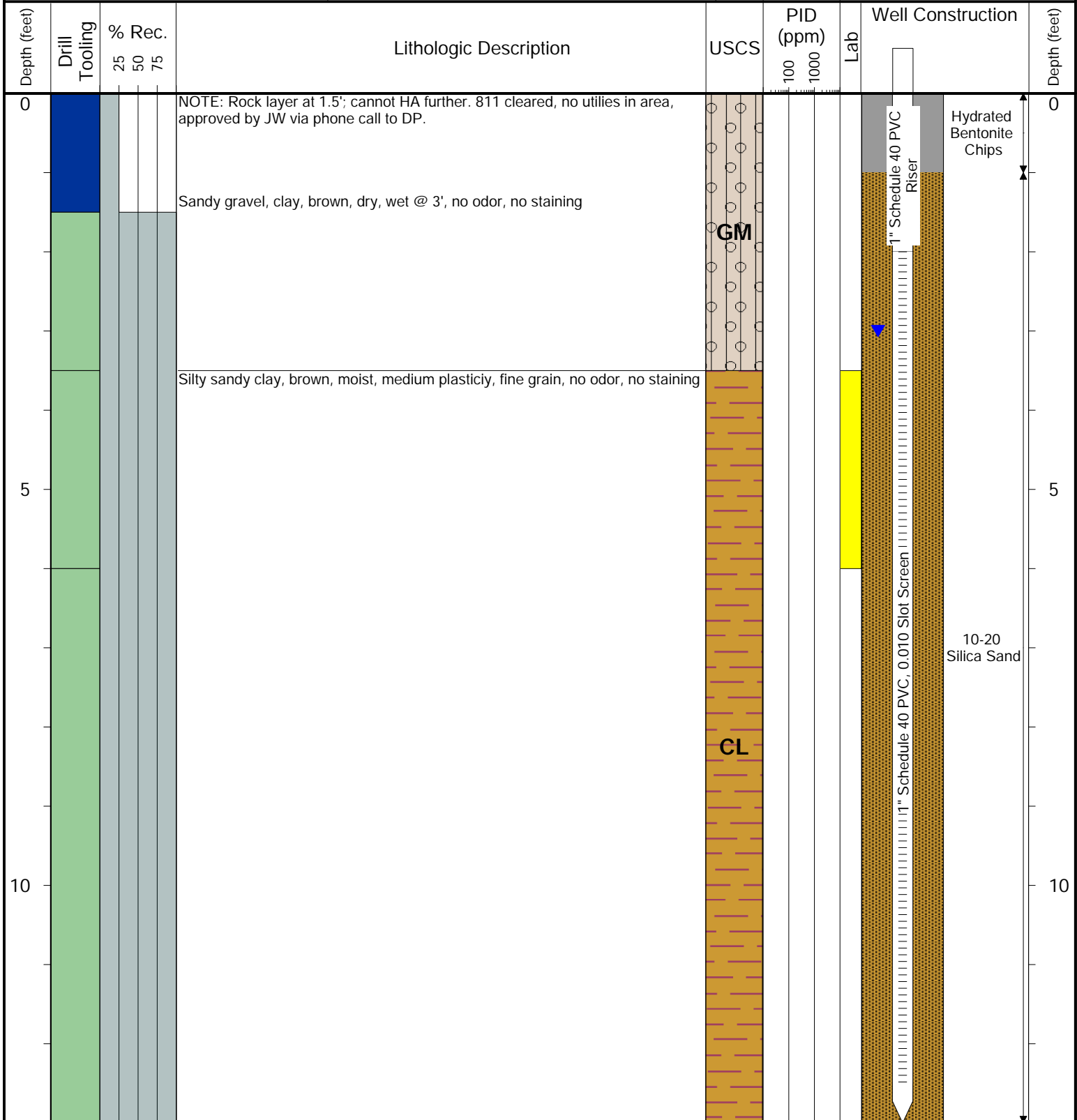
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.458768563

LONGITUDE (WGS 84): -104.526372691

CASING ELEVATION (FT. AMSL): 4653.555

GROUND ELEVATION (FT. AMSL): 4653.685



Drilling / Sample Method:

Macro-Core

Hollow Stem Auger

Solid Stem Auger

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Sarah Quattrochi

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: AMS Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/16/22 - 6/16/22

TOTAL WELL DEPTH (FT. BGS): 13

DEPTH TO WATER (FT. BGS): 3

Carpio A26-05 Facility

BORING / WELL ID: BH04

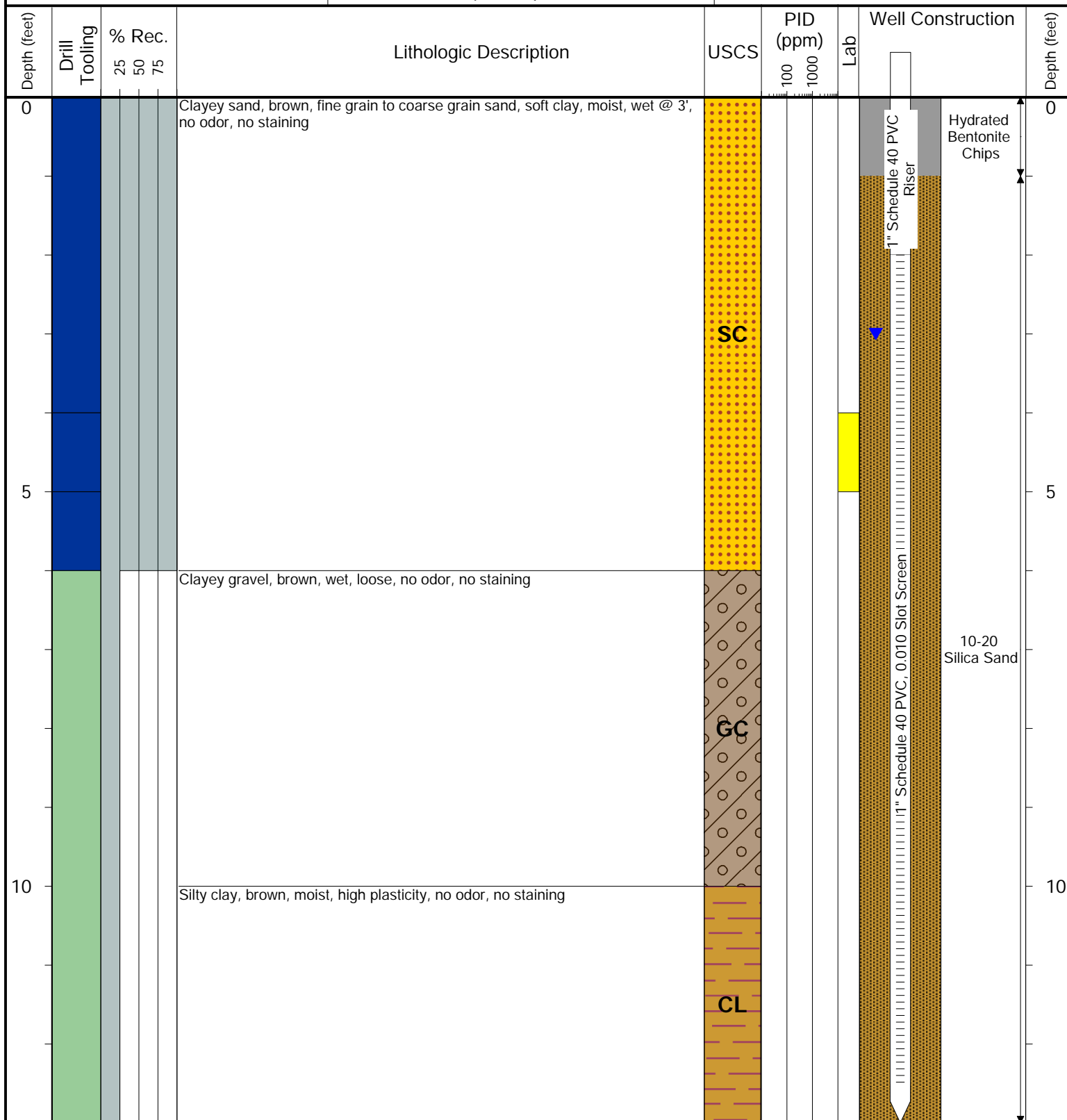
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.458710886

LONGITUDE (WGS 84): -104.526478905

CASING ELEVATION (FT. AMSL): 4654.895

GROUND ELEVATION (FT. AMSL): 4654.955



Drilling / Sample Method:

Macro-Core

Hollow Stem Auger

Solid Stem Auger

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Sarah Quattrochi

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: AMS Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/16/22 - 6/16/22

TOTAL WELL DEPTH (FT. BGS): 13

DEPTH TO WATER (FT. BGS): 2

Carpio A26-05 Facility

BORING / WELL ID: BH05

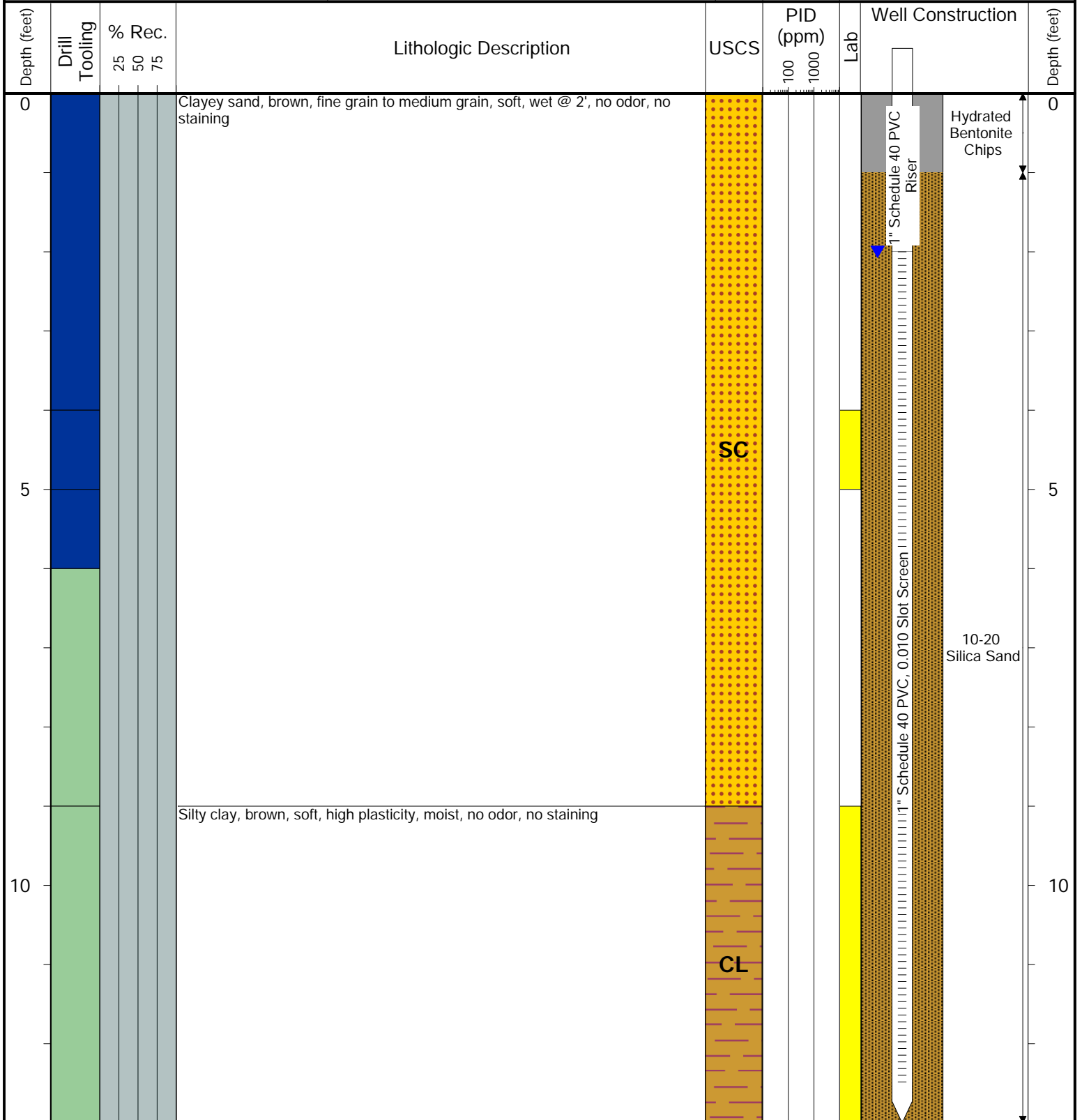
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.458767577

LONGITUDE (WGS 84): -104.526576264

CASING ELEVATION (FT. AMSL): 4655.155

GROUND ELEVATION (FT. AMSL): 4655.315



Drilling / Sample Method:

Macro-Core

Hollow Stem Auger

Solid Stem Auger

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab

ATTACHMENT C

LABORATORY GROUNDWATER ANALYTICAL REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 28, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Carpio A26-05

Work Order #2206367

Enclosed are the results of analyses for samples received by Summit Scientific on 06/22/22 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2206367-01	Water	06/22/22 11:02	06/22/22 17:25
BH02	2206367-02	Water	06/22/22 10:37	06/22/22 17:25
BH03	2206367-03	Water	06/22/22 10:41	06/22/22 17:25
BH04	2206367-04	Water	06/22/22 10:48	06/22/22 17:25
BH05	2206367-05	Water	06/22/22 11:00	06/22/22 17:25

Summit Scientific

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

Summit Scientific

S₂

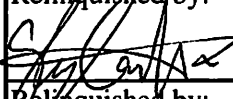
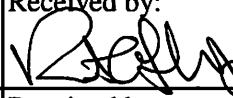
2206367

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

Page 1 of 1

Client: Noble / Tasman Project Manager: Jake Whritenour, Invoice: Erica Zuniga
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-261-6247 Project Name: Carpio A26-05 FAC
Sampler Name: Stanley Gilbert Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested					Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	\$260B BTEX	Naphthalene	1,2,4-trimethylbenzene	1,3,5 trimethylbenzene	TDS, chloride ion, sulfate ion	
1	BH01	6/22/22	11:02	4	X				X				X	X	X	X	X	
2	BH02		10:37															
3	BH03		10:41															
4	BH04		10:48															
5	BH05		11:00															
6																		
7																		
8																		
9																		
10																		

Relinquished by: 	Date/Time: 6/22/22 15:30	Received by: Tasman's Lock Box	Date/Time: 6/22/22 15:30	Turn Around Time (Check) Same Day <input type="checkbox"/> 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 6/22/22 1725	Received by: 	Date/Time: 6/22/22 1725	Sample Integrity: Temperature Upon Receipt: 0.9 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order#

2206367

Client: Noble/TasmanianClient Project ID: Carpio A2C6-05 FAC

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

	-			
--	---	--	--	--

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☒

Other

☐


Temp (°C)

0.9

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if 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 due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
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, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	-			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.


Custodian Printed Name

02222

Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

BH01
2206367-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/22 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFF0648	06/24/22	06/27/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/22/22 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		131 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		88.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.7 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **06/22/22 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	67.8	12.0	mg/L	200	BFF0655	06/25/22	06/25/22	EPA 300.0	
Sulfate	1510	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **06/22/22 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	1730	10.0	mg/L	1	BFF0617	06/23/22	06/23/22	SM2540C	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

BH02
2206367-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/22 10:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFF0648	06/24/22	06/27/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/22/22 10:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		130 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.6 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **06/22/22 10:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	34.8	12.0	mg/L	200	BFF0655	06/25/22	06/25/22	EPA 300.0	
Sulfate	1280	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **06/22/22 10:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1350	10.0	mg/L	1	BFF0617	06/23/22	06/23/22	SM2540C	

Summit Scientific

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6855 W. 119th Ave.
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Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

BH03
2206367-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/22 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	100	1.0	ug/l	1	BFF0648	06/24/22	06/27/22	EPA 8260B	
Toluene	110	1.0	"	"	"	"	"	"	
Ethylbenzene	92	1.0	"	"	"	"	"	"	
Xylenes (total)	5600	20	"	10	"	"	"	"	
Naphthalene	9.6	1.0	"	1	"	"	"	"	
1,2,4-Trimethylbenzene	170	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	74	1.0	"	"	"	"	"	"	

Date Sampled: **06/22/22 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **06/22/22 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	64.6	12.0	mg/L	200	BFF0655	06/25/22	06/25/22	EPA 300.0	
Sulfate	1290	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **06/22/22 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	1620	10.0	mg/L	1	BFF0617	06/23/22	06/23/22	SM2540C	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

BH04
2206367-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/22 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFF0648	06/24/22	06/27/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/22/22 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		128 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		88.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.8 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **06/22/22 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	69.0	12.0	mg/L	200	BFF0655	06/25/22	06/25/22	EPA 300.0	
Sulfate	1460	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **06/22/22 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1700	10.0	mg/L	1	BFF0617	06/23/22	06/23/22	SM2540C	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

BH05
2206367-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFF0648	06/24/22	06/27/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/22/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		133 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		88.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.7 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **06/22/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	37.0	12.0	mg/L	200	BFF0655	06/25/22	06/25/22	EPA 300.0	
Sulfate	1660	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **06/22/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1730	10.0	mg/L	1	BFF0617	06/23/22	06/23/22	SM2540C	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFF0648 - EPA 5030 Water MS

Blank (BFF0648-BLK1)

Prepared: 06/24/22 Analyzed: 06/27/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.4		"	13.3		100	20-170			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	21-167			

LCS (BFF0648-BS1)

Prepared: 06/24/22 Analyzed: 06/27/22

Benzene	33.9	1.0	ug/l	41.7		81.3	51-132			
Toluene	31.9	1.0	"	41.7		76.5	51-138			
Ethylbenzene	50.4	1.0	"	41.7		121	58-146			
m,p-Xylene	90.8	2.0	"	83.3		109	57-144			
o-Xylene	45.5	1.0	"	41.7		109	53-146			
Naphthalene	44.2	1.0	"	41.7		106	70-130			
1,2,4-Trimethylbenzene	46.4	1.0	"	41.7		111	70-130			
1,3,5-Trimethylbenzene	45.7	1.0	"	41.7		110	70-130			
Surrogate: 1,2-Dichloroethane-d4	15.1		"	13.3		113	23-173			
Surrogate: Toluene-d8	13.7		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

Matrix Spike (BFF0648-MS1)

Source: 2206371-01

Prepared: 06/24/22 Analyzed: 06/27/22

Benzene	33.0	1.0	ug/l	41.7	ND	79.1	34-141			
Toluene	30.2	1.0	"	41.7	ND	72.4	27-151			
Ethylbenzene	48.9	1.0	"	41.7	ND	117	29-160			
m,p-Xylene	87.7	2.0	"	83.3	ND	105	20-166			
o-Xylene	44.4	1.0	"	41.7	ND	107	33-159			
Naphthalene	48.4	1.0	"	41.7	ND	116	70-130			
1,2,4-Trimethylbenzene	44.9	1.0	"	41.7	ND	108	70-130			
1,3,5-Trimethylbenzene	44.5	1.0	"	41.7	ND	107	70-130			
Surrogate: 1,2-Dichloroethane-d4	15.7		"	13.3		118	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFF0648 - EPA 5030 Water MS

Matrix Spike Dup (BFF0648-MSD1)

Source: 2206371-01

Prepared: 06/24/22 Analyzed: 06/27/22

Benzene	32.6	1.0	ug/l	41.7	ND	78.3	34-141	0.976	30	
Toluene	30.4	1.0	"	41.7	ND	72.9	27-151	0.693	30	
Ethylbenzene	50.2	1.0	"	41.7	ND	121	29-160	2.72	30	
m,p-Xylene	90.2	2.0	"	83.3	ND	108	20-166	2.78	30	
o-Xylene	45.3	1.0	"	41.7	ND	109	33-159	2.01	30	
Naphthalene	54.2	1.0	"	41.7	ND	130	70-130	11.4	30	
1,2,4-Trimethylbenzene	47.1	1.0	"	41.7	ND	113	70-130	4.91	30	
1,3,5-Trimethylbenzene	46.5	1.0	"	41.7	ND	112	70-130	4.38	30	
Surrogate: 1,2-Dichloroethane-d4	16.4		"	13.3		123	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	21-167			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BFF0655 - General Preparation

Blank (BFF0655-BLK1)

Prepared & Analyzed: 06/25/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFF0655-BS1)

Prepared & Analyzed: 06/25/22

Chloride	3.25	0.0600	mg/L	3.00	108	90-110
Sulfate	16.2	0.300	"	15.0	108	90-110

Duplicate (BFF0655-DUP1)

Source: 2206367-01

Prepared & Analyzed: 06/25/22

Chloride	68.2	12.0	mg/L	67.8	0.588	20
Sulfate	1500	60.0	"	1510	1.25	20

Matrix Spike (BFF0655-MS1)

Source: 2206367-01

Prepared & Analyzed: 06/25/22

Chloride	664	12.0	mg/L	600	67.8	99.4	80-120
Sulfate	4700	60.0	"	3000	1510	106	80-120

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/28/22 09:51

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

Batch BFF0617 - General Preparation

Blank (BFF0617-BLK1)

Prepared & Analyzed: 06/23/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFF0617-DUP1)

Source: 2206335-01

Prepared & Analyzed: 06/23/22

Total Dissolved Solids 2040 10.0 mg/L 1970 3.49 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Carpio A26-05

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/28/22 09:51

Notes and Definitions

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