

SITE ASSESSMENT REPORT

BRNAK 34-28 FACILITY

ECMC SPILL TRACKING # 485280

ECMC REMEDIATION # 29712

Prepared for:



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

TABLES

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - BRNAK 34-28 FACILITY

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL¹					
		6 - 8.3	<6	<4mmhos/cm	2
AST01@0.5'	09/22/23	7.94	0.693	0.561	0.0941
FS01@5'	09/22/23	8.01	15.0	8.28	0.795
MH01@1'	09/22/23	8.36	0.187	0.140	0.0482
SEP01-DL@3'	09/22/23	8.39	0.609	0.256	0.301
SEP01-FL@3'	09/22/23	8.14	2.18	0.647	0.312
SS02@2.5'	09/22/23	8.09	0.231	0.255	0.208
BH01@1'	10/18/23	8.35	0.458	0.201	<2.00
BH01@5'	10/18/23	7.92	1.99	1.92	<2.00
BH01@10'	10/18/23	7.69	5.64	3.76	<2.00
BH02@1'	10/18/23	8.26	0.776	0.314	<2.00
BH02@5'	10/18/23	8.02	6.68	3.27	<2.00
BH02@10'	10/18/23	10.1	4.66	0.898	<2.00
BH03@1'	10/18/23	8.13	0.447	0.206	<2.00
BH03@5'	10/18/23	7.96	4.32	3.02	<2.00
BH03@10'	10/18/23	7.85	8.93	4.94	<2.00
BH04@1'	10/18/23	8.37	1.41	0.313	<2.00
BH04@5'	10/18/23	9.28	21.5	1.54	<2.00
BH04@10'	10/18/23	7.97	11.1	5.60	<2.00
BH05@1'	10/18/23	8.35	0.131	0.202	<2.00
BH05@5'	10/18/23	7.85	1.43	1.84	<2.00
BH05@10'	10/18/23	7.75	5.62	2.92	<2.00
BH06@2.5'	10/18/23	7.93	0.458	0.977	<2.00
BH06@5'	10/18/23	9.05	0.762	0.219	<2.00
BH06@10'	10/18/23	7.82	3.59	3.22	<2.00
BH07@2.5'	10/18/23	8.13	0.473	0.287	<2.00
BH07@5'	10/18/23	8.02	2.32	1.49	<2.00
BH07@10'	10/18/23	8.07	9.74	5.19	<2.00
BH08@2.5'	10/18/23	8.37	0.459	0.175	<2.00
BH08@5'	10/18/23	9.75	1.35	0.328	<2.00
BH08@10'	10/18/23	8.16	6.32	2.30	<2.00
BH09@2.5'	10/18/23	8.59	0.472	0.146	<2.00
BH09@5'	10/18/23	7.91	2.23	2.50	<2.00
BH09@10'	10/18/23	7.84	4.15	3.80	<2.00
BH02R@10-10.5'	08/01/24	7.93	13.5	8.63	NA
BH02R@12-13'	08/01/24	7.97	13.7	7.28	NA
BH04R@5-6'	08/01/24	8.08	12.4	5.06	NA
BH04R@10-10.5'	08/01/24	8.03	13.5	7.59	NA
BH04R@12-13'	08/01/24	7.95	14.3	7.44	NA
BH04R@14-15'	08/01/24	NA	7.48	4.57	NA
BH07R@9-10'	08/01/24	8.00	11.4	6.68	NA
BH07R@12-13'	08/01/24	8.41	5.54	3.63	NA
BH07R@14-15'	08/01/24	8.69	NA	NA	NA
BH12@5-6'	08/01/24	8.04	11.3	4.85	NA
BH12@10-10.5'	08/01/24	8.02	15.7	8.71	NA
BH12@12-13'	08/01/24	8.28	16.0	4.87	NA
BH12@14-15'	08/01/24	NA	7.02	1.91	NA
BH13@5-6'	08/01/24	7.93	7.98	5.09	NA
BH13@9-10'	08/01/24	7.94	14.8	7.96	NA
BH13@12-13'	08/01/24	7.93	13.7	6.98	NA
BH13@14-15'	08/01/24	NA	15.3	6.74	NA
BH14@5-5.5'	08/01/24	9.68	1.63	0.693	NA
BH14@6.5-7'	08/01/24	8.66	6.16	1.13	NA
BH15@5-5.5'	08/01/24	9.28	0.801	0.408	NA
BH15@6.5-7'	08/01/24	7.95	2.56	2.97	NA
BG01@2'	10/18/23	8.75	2.99	0.326	<2.00
BG01@5'	10/18/23	8.08	10.8	5.05	<2.00
BG01@10'	10/18/23	8.31	9.01	4.52	<2.00
BG02@2'	10/18/23	8.64	1.52	0.222	<2.00
BG02@5'	10/18/23	8.12	9.19	3.70	<2.00
BG02@10'	10/18/23	8.74	8.97	4.82	<2.00
BG03@2'	10/18/23	8.27	1.39	0.214	<2.00
BG03@5'	10/18/23	8.46	12.5	3.80	<2.00
BG03@10'	10/18/23	9.42	8.58	3.90	<2.00
BG04@2'	10/18/23	8.30	4.23	0.426	<2.00
BG04@5'	10/18/23	8.78	8.53	2.60	<2.00
BG04@10'	10/18/23	9.25	18.6	2.94	<2.00
BG05@2'	10/18/23	8.59	5.58	0.502	<2.00
BG05@5'	10/18/23	8.37	11.4	3.23	<2.00
BG05@10'	10/18/23	8.72	11.5	3.46	<2.00
Highest Soil Boring Concentration		10.1	21.5	8.71	-
Highest Background		9.42	18.6	5.05	-

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 SSL¹											
		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL^{2,3}											
AST01@0.5'	09/22/23	1.09	69.2	<0.200	<0.30	2.29	4.97	2.05	<0.260	0.0316	6.69
FS01@5'	09/22/23	1.08	136	<0.200	<0.30	2.30	6.96	2.78	0.292	0.0352	10.2
MH01@1'	09/22/23	0.850	48.0	<0.200	<0.30	2.43	3.78	1.98	<0.260	<0.0200	7.51
SEP01-DL@3'	09/22/23	1.15	211	0.238	<0.30	2.22	9.34	3.00	<0.260	0.0448	9.65
SEP01-FL@3'	09/22/23	1.08	153	0.238	<0.30	2.39	8.49	2.81	<0.260	0.0486	9.11
SS02@2.5'	09/22/23	1.39	174	0.300	<0.30	3.22	11.0	3.26	0.316	0.0841	10.5
BH01@1'	10/18/23	1.98	124	NA	NA	NA	NA	NA	0.349	NA	NA
BH01@5'	10/18/23	1.76	162	NA	NA	NA	NA	NA	0.286	NA	NA
BH01@10'	10/18/23	0.878	7.48	NA	NA	NA	NA	NA	<0.260	NA	NA
BH02@1'	10/18/23	1.67	133	NA	NA	NA	NA	NA	<0.260	NA	NA
BH02@5'	10/18/23	1.72	131	NA	NA	NA	NA	NA	<0.260	NA	NA
BH02@10'	10/18/23	0.637	200	NA	NA	NA	NA	NA	<0.260	NA	NA
BH03@1'	10/18/23	1.80	123	NA	NA	NA	NA	NA	0.379	NA	NA
BH03@5'	10/18/23	1.76	77.4	NA	NA	NA	NA	NA	<0.260	NA	NA
BH03@10'	10/18/23	1.13	22.3	NA	NA	NA	NA	NA	0.408	NA	NA
BH04@1'	10/18/23	1.73	151	NA	NA	NA	NA	NA	0.281	NA	NA
BH04@5'	10/18/23	1.64	178	NA	NA	NA	NA	NA	0.998	NA	NA
BH04@10'	10/18/23	1.12	71.9	NA	NA	NA	NA	NA	0.540	NA	NA
BH05@1'	10/18/23	1.88	143	NA	NA	NA	NA	NA	0.321	NA	NA
BH05@5'	10/18/23	1.66	139	NA	NA	NA	NA	NA	<0.260	NA	NA
BH05@10'	10/18/23	1.20	10.0	NA	NA	NA	NA	NA	<0.260	NA	NA
BH06@2.5'	10/18/23	1.81	155	NA	NA	NA	NA	NA	0.268	NA	NA
BH06@5'	10/18/23	1.79	182	NA	NA	NA	NA	NA	0.306	NA	NA
BH06@10'	10/18/23	1.66	140	NA	NA	NA	NA	NA	0.368	NA	NA
BH07@2.5'	10/18/23	1.85	131	NA	NA	NA	NA	NA	0.311	NA	NA
BH07@5'	10/18/23	2.10	185	NA	NA	NA	NA	NA	0.290	NA	NA
BH07@10'	10/18/23	2.24	243	NA	NA	NA	NA	NA	<0.260	NA	NA
BH08@2.5'	10/18/23	6.69	150	NA	NA	NA	NA	NA	0.356	NA	NA
BH08@5'	10/18/23	4.98	182	NA	NA	NA	NA	NA	0.338	NA	NA
BH08@10'	10/18/23	4.12	176	NA	NA	NA	NA	NA	0.377	NA	NA
BH09@2.5'	10/18/23	6.23	146	NA	NA	NA	NA	NA	<0.260	NA	NA
BH09@5'	10/18/23	6.03	203	NA	NA	NA	NA	NA	0.554	NA	NA
BH09@10'	10/18/23	2.94	28.6	NA	NA	NA	NA	NA	0.995	NA	NA
BG01@2'	10/18/23	5.77	279	NA	NA	NA	NA	NA	<0.260	NA	NA
BG01@5'	10/18/23	5.60	180	NA	NA	NA	NA	NA	0.295	NA	NA
BG01@10'	10/18/23	2.53	185	NA	NA	NA	NA	NA	0.330	NA	NA
BG02@2'	10/18/23	6.53	162	NA	NA	NA	NA	NA	<0.260	NA	NA
BG02@5'	10/18/23	5.73	181	NA	NA	NA	NA	NA	0.320	NA	NA
BG02@10'	10/18/23	2.31	125	NA	NA	NA	NA	NA	0.269	NA	NA
BG03@2'	10/18/23	5.41	152	NA	NA	NA	NA	NA	<0.260	NA	NA
BG03@5'	10/18/23	7.44	104	NA	NA	NA	NA	NA	0.407	NA	NA
BG03@10'	10/18/23	2.23	105	NA	NA	NA	NA	NA	0.265	NA	NA
BG04@2'	10/18/23	5.46	235	NA	NA	NA	NA	NA	<0.260	NA	NA
BG04@5'	10/18/23	5.40	162	NA	NA	NA	NA	NA	0.345	NA	NA
BG04@10'	10/18/23	4.86	232	NA	NA	NA	NA	NA	0.731	NA	NA
BG05@2'	10/18/23	6.34	245	NA	NA	NA	NA	NA	0.306	NA	NA
BG05@5'	10/18/23	7.58	368	NA	NA	NA	NA	NA	0.515	NA	NA
BG05@10'	10/18/23	4.85	137	NA	NA	NA	NA	NA	0.630	NA	NA
Highest Background		7.58	368	-	-	-	-	-	0.731	-	-
Highest Background x1.25		9.48	460	-	-	-	-	-	0.914	-	-

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.
- Non-detect laboratory results are included in the mean calculation at the laboratory detection limit.

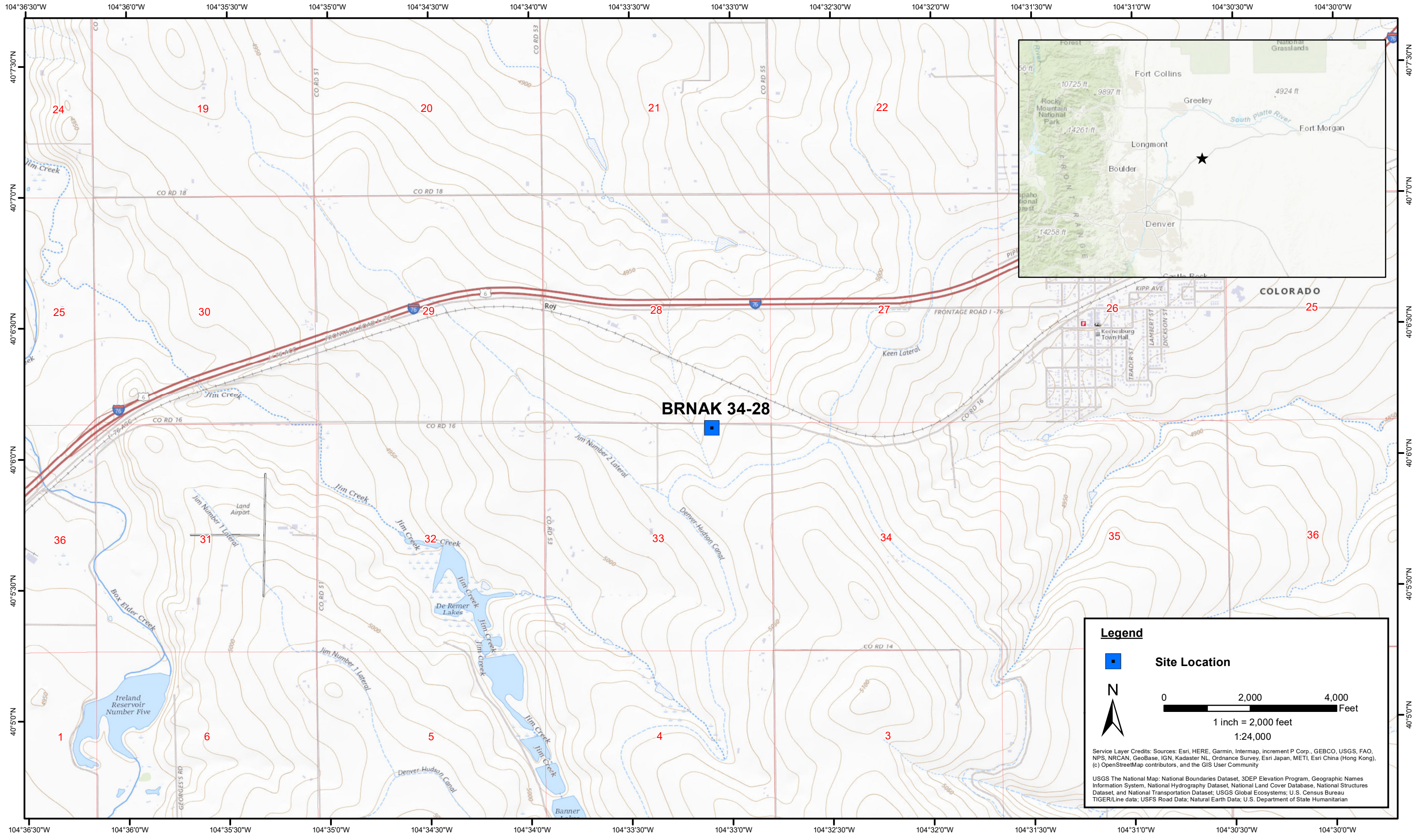
Definitions:

ECMC = Energy and Carbon Management 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

1,2,4 - TMB = 1,2,4 Trimethylbenzene
 1,3,5 - TMB = 1,3,5 Trimethylbenzene
 Benz(a) = Benzo(a)anthracene
 Benzo(a) = Benzo(a)pyrene
 Benzo(b) = Benzo(b)fluoranthene
 Benzo(k) = Benzo(k)fluoranthene
 A,H = Dibenzo(a,h)anthracene
 1,2,3-CD = Indeno[1,2,3-cd]pyrene
 1-M = 1-methylnaphthalene
 2-M = 2-methylnaphthalene
 NA = Not analyzed

Highlighted results are equal

FIGURES



DATE:	October 2023
DESIGNED BY:	J. Whritenour
DRAWN BY:	J. Clonts

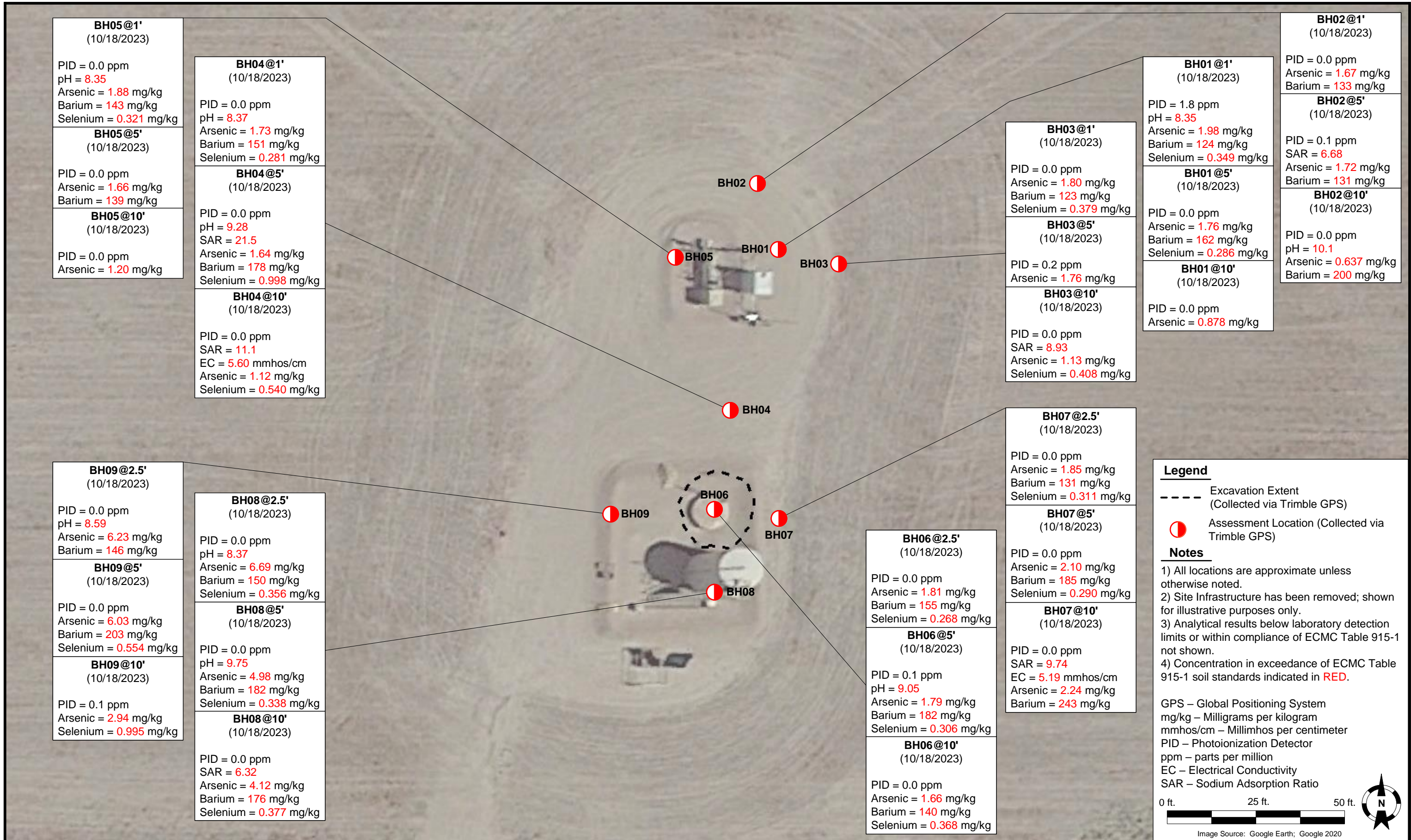


Tasman, Inc.
 6855 W. 119th Ave
 Broomfield, CO 80020

Noble Energy, Inc - DJ Basin
BRNAK 34-28 Facility
 SWSE, Section 28, Township 2 North, Range 64 West
 Weld County, Colorado

Site Location Map

Figure
1



BH05@1'
(10/18/2023)
 PID = 0.0 ppm
 pH = **8.35**
 Arsenic = **1.88** mg/kg
 Barium = **143** mg/kg
 Selenium = **0.321** mg/kg

BH05@5'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.66** mg/kg
 Barium = **139** mg/kg

BH05@10'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.20** mg/kg

BH04@1'
(10/18/2023)
 PID = 0.0 ppm
 pH = **8.37**
 Arsenic = **1.73** mg/kg
 Barium = **151** mg/kg
 Selenium = **0.281** mg/kg

BH04@5'
(10/18/2023)
 PID = 0.0 ppm
 pH = **9.28**
 SAR = **21.5**
 Arsenic = **1.64** mg/kg
 Barium = **178** mg/kg
 Selenium = **0.998** mg/kg

BH04@10'
(10/18/2023)
 PID = 0.0 ppm
 SAR = **11.1**
 EC = **5.60** mmhos/cm
 Arsenic = **1.12** mg/kg
 Selenium = **0.540** mg/kg

BH03@1'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.80** mg/kg
 Barium = **123** mg/kg
 Selenium = **0.379** mg/kg

BH03@5'
(10/18/2023)
 PID = 0.2 ppm
 Arsenic = **1.76** mg/kg

BH03@10'
(10/18/2023)
 PID = 0.0 ppm
 SAR = **8.93**
 Arsenic = **1.13** mg/kg
 Selenium = **0.408** mg/kg

BH01@1'
(10/18/2023)
 PID = 1.8 ppm
 pH = **8.35**
 Arsenic = **1.98** mg/kg
 Barium = **124** mg/kg
 Selenium = **0.349** mg/kg

BH01@5'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.76** mg/kg
 Barium = **162** mg/kg
 Selenium = **0.286** mg/kg

BH01@10'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **0.878** mg/kg

BH02@1'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.67** mg/kg
 Barium = **133** mg/kg

BH02@5'
(10/18/2023)
 PID = 0.1 ppm
 SAR = **6.68**
 Arsenic = **1.72** mg/kg
 Barium = **131** mg/kg

BH02@10'
(10/18/2023)
 PID = 0.0 ppm
 pH = **10.1**
 Arsenic = **0.637** mg/kg
 Barium = **200** mg/kg

BH09@2.5'
(10/18/2023)
 PID = 0.0 ppm
 pH = **8.59**
 Arsenic = **6.23** mg/kg
 Barium = **146** mg/kg

BH09@5'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **6.03** mg/kg
 Barium = **203** mg/kg
 Selenium = **0.554** mg/kg

BH09@10'
(10/18/2023)
 PID = 0.1 ppm
 Arsenic = **2.94** mg/kg
 Selenium = **0.995** mg/kg

BH08@2.5'
(10/18/2023)
 PID = 0.0 ppm
 pH = **8.37**
 Arsenic = **6.69** mg/kg
 Barium = **150** mg/kg
 Selenium = **0.356** mg/kg

BH08@5'
(10/18/2023)
 PID = 0.0 ppm
 pH = **9.75**
 Arsenic = **4.98** mg/kg
 Barium = **182** mg/kg
 Selenium = **0.338** mg/kg

BH08@10'
(10/18/2023)
 PID = 0.0 ppm
 SAR = **6.32**
 Arsenic = **4.12** mg/kg
 Barium = **176** mg/kg
 Selenium = **0.377** mg/kg

BH07@2.5'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.85** mg/kg
 Barium = **131** mg/kg
 Selenium = **0.311** mg/kg

BH07@5'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **2.10** mg/kg
 Barium = **185** mg/kg
 Selenium = **0.290** mg/kg

BH07@10'
(10/18/2023)
 PID = 0.0 ppm
 SAR = **9.74**
 EC = **5.19** mmhos/cm
 Arsenic = **2.24** mg/kg
 Barium = **243** mg/kg

BH06@2.5'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.81** mg/kg
 Barium = **155** mg/kg
 Selenium = **0.268** mg/kg

BH06@5'
(10/18/2023)
 PID = 0.1 ppm
 pH = **9.05**
 Arsenic = **1.79** mg/kg
 Barium = **182** mg/kg
 Selenium = **0.306** mg/kg

BH06@10'
(10/18/2023)
 PID = 0.0 ppm
 Arsenic = **1.66** mg/kg
 Barium = **140** mg/kg
 Selenium = **0.368** mg/kg

DATE:	03/28/2024
DESIGNED BY:	JW
DRAWN BY:	JB

TASMAN
 Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin
 BRNAK 34-28 Facility**
 SWSE, Section 28, Township 2 North, Range 64 West
 Weld County, Colorado

Site Assessment
 Soil Analytical Results Map
 (10/18/2023)

FIGURE
 2

BG02@2' (10/18/2023) PID = 0.0 ppm pH = 8.64 Arsenic = 6.53 mg/kg Barium = 162 mg/kg
BG02@5' (10/18/2023) PID = 0.0 ppm SAR = 9.19 Arsenic = 5.73 mg/kg Barium = 181 mg/kg Selenium = 0.320 mg/kg
BG02@10' (10/18/2023) PID = 0.0 ppm pH = 8.74 SAR = 8.97 EC = 4.82 mmhos/cm Arsenic = 2.31 mg/kg Barium = 125 mg/kg Selenium = 0.269 mg/kg

BG03

BG03@2' (10/18/2023) PID = 0.0 ppm Arsenic = 5.41 mg/kg Barium = 152 mg/kg
BG03@5' (10/18/2023) PID = 0.0 ppm pH = 8.46 SAR = 12.5 Arsenic = 7.44 mg/kg Barium = 104 mg/kg Selenium = 0.407 mg/kg
BG03@10' (10/18/2023) PID = 0.0 ppm pH = 9.42 SAR = 8.58 Arsenic = 2.23 mg/kg Barium = 105 mg/kg Selenium = 0.265 mg/kg

BG02

BG01

BG01@2' (10/18/2023) PID = 0.0 ppm pH = 8.75 Arsenic = 5.77 mg/kg Barium = 279 mg/kg
BG01@5' (10/18/2023) PID = 0.0 ppm SAR = 10.8 EC = 5.05 mmhos/cm Arsenic = 5.60 mg/kg Barium = 180 mg/kg Selenium = 0.295 mg/kg
BG01@10' (10/18/2023) PID = 0.0 ppm pH = 8.31 SAR = 9.01 EC = 4.52 mmhos/cm Arsenic = 2.53 mg/kg Barium = 185 mg/kg Selenium = 0.330 mg/kg

BG04

BG04@2' (10/18/2023) PID = 0.0 ppm pH = 8.30 Arsenic = 5.46 mg/kg Barium = 235 mg/kg
BG04@5' (10/18/2023) PID = 0.0 ppm pH = 8.78 SAR = 8.53 Arsenic = 5.40 mg/kg Barium = 162 mg/kg Selenium = 0.345 mg/kg
BG04@10' (10/18/2023) PID = 0.0 ppm pH = 9.25 SAR = 18.6 Arsenic = 4.86 mg/kg Barium = 232 mg/kg Selenium = 0.731 mg/kg

BG05

BG05@2' (10/18/2023) PID = 0.0 ppm pH = 8.59 Arsenic = 6.34 mg/kg Barium = 245 mg/kg Selenium = 0.306 mg/kg
BG05@5' (10/18/2023) PID = 0.0 ppm pH = 8.37 SAR = 11.4 Arsenic = 7.58 mg/kg Barium = 368 mg/kg Selenium = 0.515 mg/kg
BG05@10' (10/18/2023) PID = 0.0 ppm pH = 8.72 SAR = 11.5 Arsenic = 4.85 mg/kg Barium = 137 mg/kg Selenium = 0.630 mg/kg

Legend

- Excavation Extent (Collected via Trimble GPS)
- Assessment Location (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Site infrastructure has been removed; shown for illustrative purposes only.
- 3) Analytical results below laboratory detection limits or within compliance of ECMC Table 915-1 not shown.

GPS – Global Positioning System
mg/kg – Milligrams per kilogram
mmhos/cm – Millimhos per centimeter
PID – Photoionization Detector
ppm – parts per million
EC – Electrical Conductivity
SAR – Sodium Adsorption Ratio

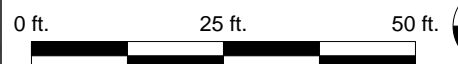


Image Source: Google Earth; Google 2020

DATE:	03/28/2024
DESIGNED BY:	JW
DRAWN BY:	JB

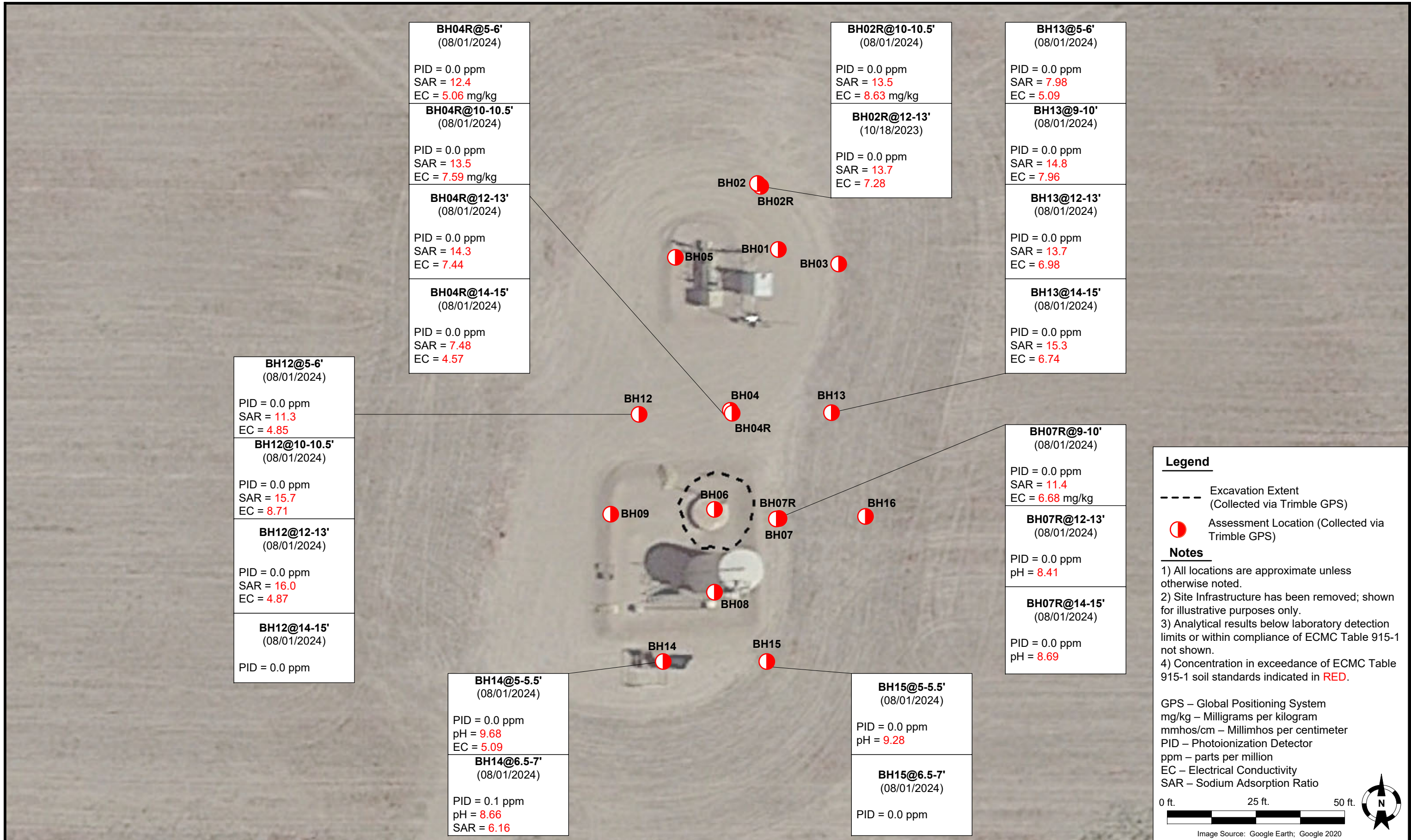


Tasman, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
BRNAK 34-28 Facility
SWSE, Section 28, Township 2 North, Range 64 West
Weld County, Colorado

Site Assessment
Background Soil
Analytical Results Map
(10/18/2023)

FIGURE
3



Legend

- Excavation Extent (Collected via Trimble GPS)
- Assessment Location (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Site Infrastructure has been removed; shown for illustrative purposes only.
- 3) Analytical results below laboratory detection limits or within compliance of ECMC Table 915-1 not shown.
- 4) Concentration in exceedance of ECMC Table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System
 mg/kg – Milligrams per kilogram
 mmhos/cm – Millimhos per centimeter
 PID – Photoionization Detector
 ppm – parts per million
 EC – Electrical Conductivity
 SAR – Sodium Adsorption Ratio

0 ft. 25 ft. 50 ft.

Image Source: Google Earth; Google 2020

DATE: 09/24/2024

DESIGNED BY: J. Whritenour

DRAWN BY: L. Moran

TASMAN
 Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
BRNAK 34-28 Facility
 SWSE, Section 28, Township 2 North, Range 64 West
 Weld County, Colorado

Soil Boring Locations Map

FIGURE 4

ATTACHMENT A
LABORATORY SOIL ANALYTICAL DATA REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 31, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

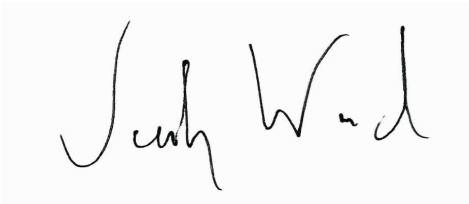
Broomfield, CO 80020

RE: Noble - BRNAK 34-28

Work Order #2310353

Enclosed are the results of analyses for samples received by Summit Scientific on 10/18/23 17:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a long horizontal stroke at the end.

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@1'	2310353-01	Soil	10/18/23 10:00	10/18/23 17:40
BH01@5'	2310353-02	Soil	10/18/23 10:05	10/18/23 17:40
BH01@10'	2310353-03	Soil	10/18/23 10:10	10/18/23 17:40
BH02@1'	2310353-04	Soil	10/18/23 10:45	10/18/23 17:40
BH02@5'	2310353-05	Soil	10/18/23 10:50	10/18/23 17:40
BH02@10'	2310353-06	Soil	10/18/23 10:55	10/18/23 17:40
BH03@1'	2310353-07	Soil	10/18/23 10:30	10/18/23 17:40
BH03@5'	2310353-08	Soil	10/18/23 10:35	10/18/23 17:40
BH03@10'	2310353-09	Soil	10/18/23 10:40	10/18/23 17:40
BH04@1'	2310353-10	Soil	10/18/23 11:15	10/18/23 17:40
BH04@5'	2310353-11	Soil	10/18/23 11:20	10/18/23 17:40
BH04@10'	2310353-12	Soil	10/18/23 11:25	10/18/23 17:40
BH05@1'	2310353-13	Soil	10/18/23 11:00	10/18/23 17:40
BH05@5'	2310353-14	Soil	10/18/23 11:05	10/18/23 17:40
BH05@10'	2310353-15	Soil	10/18/23 11:10	10/18/23 17:40
BH06@2.5'	2310353-16	Soil	10/18/23 13:00	10/18/23 17:40
BH06@5'	2310353-17	Soil	10/18/23 13:05	10/18/23 17:40
BH06@10'	2310353-18	Soil	10/18/23 13:10	10/18/23 17:40
BH07@2.5'	2310353-19	Soil	10/18/23 11:30	10/18/23 17:40
BH07@5'	2310353-20	Soil	10/18/23 11:35	10/18/23 17:40
BH07@10'	2310353-21	Soil	10/18/23 11:40	10/18/23 17:40
BH08@2.5'	2310353-22	Soil	10/18/23 12:40	10/18/23 17:40
BH08@5'	2310353-23	Soil	10/18/23 12:45	10/18/23 17:40
BH08@10'	2310353-24	Soil	10/18/23 12:50	10/18/23 17:40
BH09@2.5'	2310353-25	Soil	10/18/23 13:15	10/18/23 17:40
BH09@5'	2310353-26	Soil	10/18/23 13:20	10/18/23 17:40
BH09@10'	2310353-27	Soil	10/18/23 13:25	10/18/23 17:40

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01@2'	2310353-28	Soil	10/18/23 13:30	10/18/23 17:40
BG01@5'	2310353-29	Soil	10/18/23 13:32	10/18/23 17:40
BG01@10'	2310353-30	Soil	10/18/23 13:34	10/18/23 17:40
BG02@2'	2310353-31	Soil	10/18/23 13:36	10/18/23 17:40
BG02@5'	2310353-32	Soil	10/18/23 13:38	10/18/23 17:40
BG02@10'	2310353-33	Soil	10/18/23 13:40	10/18/23 17:40
BG03@2'	2310353-34	Soil	10/18/23 13:42	10/18/23 17:40
BG03@5'	2310353-35	Soil	10/18/23 13:44	10/18/23 17:40
BG03@10'	2310353-36	Soil	10/18/23 13:46	10/18/23 17:40
BG04@2'	2310353-37	Soil	10/18/23 13:48	10/18/23 17:40
BG04@5'	2310353-38	Soil	10/18/23 13:50	10/18/23 17:40
BG04@10'	2310353-39	Soil	10/18/23 13:52	10/18/23 17:40
BG05@2'	2310353-40	Soil	10/18/23 13:54	10/18/23 17:40
BG05@5'	2310353-41	Soil	10/18/23 13:56	10/18/23 17:40
BG05@10'	2310353-42	Soil	10/18/23 13:58	10/18/23 17:40

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.

Send Data To:		Send Invoice To:	
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Chevron	
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Brnck 34-28	
City/State/Zip: Broomfield/CO/ 80020		AFE#:	
Phone: 602-881-5716	Project Name: Brnck 34-28	PO/Billing Codes:	
Sampler Name: Dennis Gray	Project Number:	Contact: <u>Don Peterson</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil			Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD		Arsenic, Barium, Selenium
1	BH06 @ 2.5'	10-18-23	1300	2			X			X			X	X	X	X	X	X	X		SAR, EC, pH by saturated paste
2	BH06 @ 5'		1305																		
3	BH06 @ 10'		1310																		
4	BH07 @ 2.5'		1130																		
5	BH07 @ 5'		1135																		
6	BH07 @ 10'		1140																		
7	BH08 @ 2.5'		1240																		
8	BH08 @ 5'		1245																		
9	BH08 @ 10'		1250																		
10	BH09 @ 2.5'		1315																		
11	BH09 @ 5'		1320																		
12	BH09 @ 10'		1325																		
13	BG01 @ 2'		1330	1																	
14	BG01 @ 5'		1332																		
15	BG01 @ 10'		1334																		

Relinquished by: <u>Don Peterson</u>	Date/Time: 10-18-23 1600	Received by: Tasman Lock Box	Date/Time: 10-18-23 1600	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>Tasman Lock Box</u>	Date/Time: 10/18/23 1740	Received by: <u>[Signature]</u>	Date/Time: 10/18/23 1740	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 11.1	Corrected Temperature: 9	IR gun #: 1	HNO3 lot #:			

Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Chevron
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Brnak 34-28
City/State/Zip: Broomfield/CO/ 80020		AFE#:
Phone: 602-881-5716	Project Name: Brnak 34-28	PO/Billing Codes:
Sampler Name: Dennis Gray	Project Number:	Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested										Special Instructions
					HCl	HNO3	None	Other	Water	Soil			Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD	Arsenic, Barium, Selenium			
1	BG02@ 2'	10-18-23	1336	1			X			X								X	X		X	SAR, EC, pH by saturated paste	
2	BG02@ 5'		1338				X											X	X		X		
3	BG02@ 10'		1340				X											X	X		X		
4	BG03@ 2'		1342				X											X	X		X		
5	BG03@ 5'		1344				X											X	X		X		
6	BG03@ 10'		1346				X											X	X		X		
7	BG04@ 2'		1348				X											X	X		X		
8	BG04@ 5'		1350				X											X	X		X		
9	BG04@ 10'		1352				X											X	X		X		
10	BG05@ 2'		1354				X											X	X		X		
11	BG05@ 5'		1356				X											X	X		X		
12	BG05@ 10'		1358				X											X	X		X		
13							X											X	X		X		
14							X											X	X		X		
15							X											X	X		X		

Relinquished by: <i>Dennis Gray</i>	Date/Time: 10-18-23 1600	Received by: Tasman Lock Box	Date/Time: 10-18-23 1600	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 10/18/23 1740	Received by: <i>[Signature]</i>	Date/Time: 10/18/23 1740	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb. <input checked="" type="checkbox"/>	
Temperature Upon Receipt: 11.1	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:			

S₂

3/3
Sample Receipt Checklist

S2 Work Order# 2316353

Client: Noble Haseman

Client Project ID: Brnak 34-28

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

Airbill #: _____

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

Thermometer #

	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.	<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"/>	on ZOE
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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	<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"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

AS

Custodian Printed Name

10/18/23

Date/Time



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@1'
2310353-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/19/23	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: **10/18/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0432	108 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0373	93.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.0	88.3 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@1'
2310353-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0217	65.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0189	56.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:00**

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

Summit Scientific

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



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@1'
2310353-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.98	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	124	0.400	"	"	"	"	"	"	
Selenium	0.349	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.9	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	6.94	0.0500	"	"	"	"	"	"	
Sodium	12.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.458	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.5		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.201	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH01@1'
2310353-01 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.35		pH Units	1	BGJ1019	10/25/23	10/25/23	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@5'
2310353-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0479	120 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0415	104 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.1	89.0 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@5'
2310353-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0135	40.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:05**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@5'
2310353-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.76	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	162	0.400	"	"	"	"	"	"	
Selenium	0.286	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	208	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	75.3	0.0500	"	"	"	"	"	"	
Sodium	132	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.99	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.0		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.92	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH01@5'
2310353-02 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.92		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@10'
2310353-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0795	10/19/23	10/19/23	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: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0499	125 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	96.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.4	99.5 %	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@10'
2310353-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0266	79.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0216	64.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:10**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH01@10'
2310353-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.878	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	7.48	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	342	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	116	0.0500	"	"	"	"	"	"	
Sodium	473	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.64	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.6		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.76	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH01@10'
2310353-03 (Soil)

Summit Scientific

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

Date Sampled: **10/18/23 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.69		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@1'
2310353-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/19/23	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: **10/18/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0421	105 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	96.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.4	91.4 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@1'
2310353-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0211	63.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0177	53.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:45**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@1'
2310353-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.67	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	133	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.1	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	8.65	0.0500	"	"	"	"	"	"	
Sodium	20.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.776	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.9		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.314	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@1'
2310353-04 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.26		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@5'
2310353-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/19/23	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: **10/18/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0475	119 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0417	104 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0367	91.6 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.1	88.6 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@5'
2310353-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0214	64.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0172	51.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:50**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@5'
2310353-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.72	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	131	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	201	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	110	0.0500	"	"	"	"	"	"	
Sodium	474	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.68	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.9		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.27	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH02@5'
2310353-05 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.02		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@10'
2310353-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/19/23	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: **10/18/23 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0479	120 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.0	80.1 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@10'
2310353-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0201	60.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0151	45.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:55**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@10'
2310353-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.637	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	200	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	144	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	52.4	0.0500	"	"	"	"	"	"	
Sodium	257	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.66	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.9		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.898	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH02@10'
2310353-06 (Soil)

Summit Scientific

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

Date Sampled: **10/18/23 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	10.1		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@1'
2310353-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/19/23	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: **10/18/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0503	126 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0419	105 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	13.1	104 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@1'
2310353-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0224	67.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0198	59.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:30**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@1'
2310353-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.80	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	123	0.400	"	"	"	"	"	"	
Selenium	0.379	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.2	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	7.40	0.0500	"	"	"	"	"	"	
Sodium	9.66	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.447	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.206	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH03@1'
2310353-07 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.13		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@5'
2310353-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0452	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0426	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0489	122 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.1	88.6 %	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@5'
2310353-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0237	71.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	51.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:35**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@5'
2310353-08 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.76	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	77.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	235	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	104	0.0500	"	"	"	"	"	"	
Sodium	316	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.32	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.3		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.02	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@5'
2310353-08 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.96		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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6855 W. 119th Ave.
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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@10'
2310353-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0416	104 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.8	86.4 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@10'
2310353-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/20/23	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: **10/18/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0216	64.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 10:40**

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH03@10'
2310353-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.13	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	22.3	0.400	"	"	"	"	"	"	
Selenium	0.408	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	333	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	156	0.0500	"	"	"	"	"	"	
Sodium	788	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.93	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.2		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.94	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH03@10'
2310353-09 (Soil)

Summit Scientific

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

Date Sampled: **10/18/23 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.85		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@1'
2310353-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0450	112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0414	103 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.8	86.1 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@1'
2310353-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0194	58.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0182	54.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@1'
2310353-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.73	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	151	0.400	"	"	"	"	"	"	
Selenium	0.281	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.6	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	7.59	0.0500	"	"	"	"	"	"	
Sodium	34.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.41	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.8		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.313	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@1'
2310353-10 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.37		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@5'
2310353-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0440	110 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.2 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	11.1	89.0 %	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@5'
2310353-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0205	61.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:20**

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@5'
2310353-11 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.64	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	178	0.400	"	"	"	"	"	"	
Selenium	0.998	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	11.4	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	7.44	0.0500	"	"	"	"	"	"	
Sodium	380	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	21.5	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.5		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.54	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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 6855 W. 119th Ave.
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Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH04@5'
2310353-11 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.28		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@10'
2310353-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0429	107 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	98.9 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.0	96.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@10'
2310353-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0228	68.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0180	54.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:25**

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH04@10'
2310353-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.12	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	71.9	0.400	"	"	"	"	"	"	
Selenium	0.540	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	323	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	156	0.0500	"	"	"	"	"	"	
Sodium	970	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	11.1	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.5		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.60	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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Tasman Geosciences
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 Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH04@10'
2310353-12 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.97		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@1'
2310353-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0370	92.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.2	89.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@1'
2310353-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0220	66.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:00**

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@1'
2310353-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.88	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	143	0.400	"	"	"	"	"	"	
Selenium	0.321	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.1	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	8.29	0.0500	"	"	"	"	"	"	
Sodium	3.69	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.131	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.5		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.202	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH05@1'
2310353-13 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.35		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@5'
2310353-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0400	99.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.7	85.9 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@5'
2310353-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0201	60.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	51.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:05**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@5'
2310353-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.66	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	139	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	261	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	42.4	0.0500	"	"	"	"	"	"	
Sodium	94.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.43	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.1		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.84	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH05@5'
2310353-14 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 11:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.85		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@10'
2310353-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0438	110 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.9	87.1 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@10'
2310353-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0231	69.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0180	54.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:10**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@10'
2310353-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.20	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	10.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	233	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	99.0	0.0500	"	"	"	"	"	"	
Sodium	406	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.62	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.0		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.92	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH05@10'
2310353-15 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.75		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@2.5'
2310353-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0389	97.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0796	10/19/23	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.2	89.3 %	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@2.5'
2310353-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0211	63.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0166	49.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:00**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@2.5'
2310353-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.81	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	155	0.400	"	"	"	"	"	"	
Selenium	0.268	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	110	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	44.2	0.0500	"	"	"	"	"	"	
Sodium	22.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.458	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.1		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.977	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH06@2.5'
2310353-16 (Soil)

Summit Scientific

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

Date Sampled: **10/18/23 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.93		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@5'
2310353-17 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0436	109 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0796	10/19/23	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	11.6	93.1 %	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@5'
2310353-17 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0226	67.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0163	49.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:05**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@5'
2310353-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.79	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	182	0.400	"	"	"	"	"	"	
Selenium	0.306	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	236	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	33.3	0.0500	"	"	"	"	"	"	
Sodium	47.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.762	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.219	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH06@5'
2310353-17 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.05		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@10'
2310353-18 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0467	117 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0796	10/19/23	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.9	87.4 %	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@10'
2310353-18 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0231	69.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:10**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH06@10'
2310353-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.66	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	140	0.400	"	"	"	"	"	"	
Selenium	0.368	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	365	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	107	0.0500	"	"	"	"	"	"	
Sodium	303	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.59	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.3		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.22	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH06@10'
2310353-18 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.82		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@2.5'
2310353-19 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0517	129 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0414	104 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0416	104 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0796	10/19/23	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.0	88.2 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@2.5'
2310353-19 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0158	47.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:30**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@2.5'
2310353-19 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.85	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	131	0.400	"	"	"	"	"	"	
Selenium	0.311	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.2	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	7.07	0.0500	"	"	"	"	"	"	
Sodium	11.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.473	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.7		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.287	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@2.5'
2310353-19 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.13		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@5'
2310353-20 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0795	10/19/23	10/20/23	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: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0439	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0796	10/19/23	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.9	87.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@5'
2310353-20 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0768	10/19/23	10/21/23	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: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0234	70.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0189	56.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0949	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:35**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@5'
2310353-20 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.10	0.200	mg/kg dry	1	BGJ0992	10/25/23	10/26/23	EPA 6020B	
Barium	185	0.400	"	"	"	"	"	"	
Selenium	0.290	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	118	0.0500	mg/L dry	1	BGJ0943	10/24/23	10/26/23	EPA 6020B	
Magnesium	64.3	0.0500	"	"	"	"	"	"	
Sodium	126	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.32	0.00100	units	1	BGJ1119	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.2		%	1	BGJ0994	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.49	0.0100	mmhos/cm	1	BGJ1018	10/25/23	10/25/23	EPA 120.1	

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

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@5'
2310353-20 (Soil)


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

Date Sampled: **10/18/23 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.02		pH Units	1	BGJ1019	10/25/23	10/25/23	EPA 9045D	

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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@10'
2310353-21 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0804	10/19/23	10/20/23	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: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0433	108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0428	107 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0805	"	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.54	68.3 %	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@10'
2310353-21 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0770	10/19/23	10/19/23	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: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0271	81.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0199	59.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 11:40**

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH07@10'
2310353-21 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.24	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	243	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	375	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	177	0.0500	"	"	"	"	"	"	
Sodium	913	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.74	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.6		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.19	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH07@10'
2310353-21 (Soil)

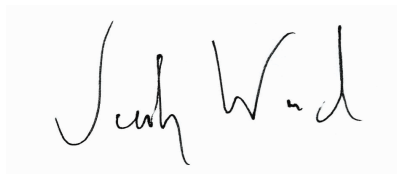
Summit Scientific

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

Date Sampled: **10/18/23 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.07		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@2.5'
2310353-22 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0804	10/19/23	10/20/23	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: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0406	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0457	114 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0442	111 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0805	"	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.14	65.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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6855 W. 119th Ave.
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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@2.5'
2310353-22 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0770	10/19/23	10/19/23	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: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0200	60.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0164	49.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 12:40**

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@2.5'
2310353-22 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.69	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	150	0.400	"	"	"	"	"	"	
Selenium	0.356	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	47.7	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	6.86	0.0500	"	"	"	"	"	"	
Sodium	12.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.459	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.3		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.175	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

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Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH08@2.5'
2310353-22 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.37		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@5'
2310353-23 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0804	10/19/23	10/20/23	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: **10/18/23 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0419	105 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0444	111 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0432	108 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0805	"	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.02	64.1 %		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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@5'
2310353-23 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0770	10/19/23	10/19/23	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: **10/18/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0185	55.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 12:45**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@5'
2310353-23 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.98	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	182	0.400	"	"	"	"	"	"	
Selenium	0.338	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	368	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	71.2	0.0500	"	"	"	"	"	"	
Sodium	108	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.35	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.9		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.328	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@5'
2310353-23 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 12:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.75		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@10'
2310353-24 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0804	10/19/23	10/20/23	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: **10/18/23 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0391	97.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0451	113 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0446	111 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0805	"	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.66	69.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@10'
2310353-24 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0770	10/19/23	10/19/23	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: **10/18/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0246	73.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0183	55.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 12:50**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH08@10'
2310353-24 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.12	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	176	0.400	"	"	"	"	"	"	
Selenium	0.377	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	158	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	69.7	0.0500	"	"	"	"	"	"	
Sodium	379	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.32	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.9		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.30	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH08@10'
2310353-24 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.16		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@2.5'
2310353-25 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGJ0804	10/19/23	10/20/23	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: **10/18/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0451	113 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0432	108 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0805	"	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	7.59	60.7 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@2.5'
2310353-25 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0770	10/19/23	10/19/23	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: **10/18/23 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0223	67.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0196	58.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:15**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@2.5'
2310353-25 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.23	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	146	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.6	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	10.8	0.0500	"	"	"	"	"	"	
Sodium	13.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.472	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.1		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.146	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH09@2.5'
2310353-25 (Soil)


Summit Scientific

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

Date Sampled: **10/18/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.59		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@5'
2310353-26 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0804	10/19/23	10/20/23	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: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0439	110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0432	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0805	"	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.93	63.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@5'
2310353-26 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0770	10/19/23	10/19/23	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: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0213	63.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0176	52.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:20**

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@5'
2310353-26 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.03	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	203	0.400	"	"	"	"	"	"	
Selenium	0.554	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	394	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	63.5	0.0500	"	"	"	"	"	"	
Sodium	181	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.23	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.4		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.50	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

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Tasman Geosciences
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Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH09@5'
2310353-26 (Soil)


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

Date Sampled: **10/18/23 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.91		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@10'
2310353-27 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGJ0804	10/19/23	10/20/23	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: **10/18/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0445	111 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0436	109 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0805	"	10/21/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	6.48	51.9 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@10'
2310353-27 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0770	10/19/23	10/19/23	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: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0259	77.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0180	53.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BH09@10'
2310353-27 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.94	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	28.6	0.400	"	"	"	"	"	"	
Selenium	0.995	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	459	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	159	0.0500	"	"	"	"	"	"	
Sodium	405	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.15	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.8		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.80	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

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

Project: Noble - BRNAK 34-28

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/31/23 14:31

BH09@10'
2310353-27 (Soil)


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

Date Sampled: **10/18/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.84		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG01@2'
2310353-28 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	5.77	0.200		mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	279	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	15.5	0.0500		mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	9.62	0.0500		"	"	"	"	"	"	
Sodium	60.9	0.0500		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	2.99	0.00100		units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.0			%	1	BGJ0995	10/25/23	10/25/23	Calculation	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG01@2'
2310353-28 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:30**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.326	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.75			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG01@5'
2310353-29 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.60	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	180	0.400	"	"	"	"	"	"	
Selenium	0.295	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	269	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	146	0.0500	"	"	"	"	"	"	
Sodium	885	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	10.8	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.0		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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6855 W. 119th Ave.
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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG01@5'
2310353-29 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:32**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	5.05	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.08			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG01@10'
2310353-30 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.53	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	185	0.400	"	"	"	"	"	"	
Selenium	0.330	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	267	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	146	0.0500	"	"	"	"	"	"	
Sodium	738	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	9.01	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	86.5		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG01@10'
2310353-30 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:34**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	4.52	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.31			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG02@2'
2310353-31 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	6.53	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	162	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	17.4	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	9.06	0.0500	"	"	"	"	"	"	
Sodium	31.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.52	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.2		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG02@2'
2310353-31 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:36**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.222	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.64			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG02@5'
2310353-32 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	5.73	0.200		mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	181	0.400		"	"	"	"	"	"	
Selenium	0.320	0.260		"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	182	0.0500		mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	91.7	0.0500		"	"	"	"	"	"	
Sodium	609	0.0500		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	9.19	0.00100		units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.6			%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG02@5'
2310353-32 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:38**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	3.70	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.12			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG02@10'
2310353-33 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.31	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	125	0.400	"	"	"	"	"	"	
Selenium	0.269	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	300	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	155	0.0500	"	"	"	"	"	"	
Sodium	768	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	8.97	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	86.5		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG02@10'
2310353-33 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:40**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	4.82	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.74			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG03@2'
2310353-34 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.41	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/30/23	EPA 6020B	
Barium	152	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	20.5	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	8.50	0.0500	"	"	"	"	"	"	
Sodium	29.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.39	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.4		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG03@2'
2310353-34 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:42**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.214	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.27			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG03@5'
2310353-35 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	7.44	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	104	0.400	"	"	"	"	"	"	
Selenium	0.407	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	129	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	94.3	0.0500	"	"	"	"	"	"	
Sodium	766	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	12.5	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.4		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG03@5'
2310353-35 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:44**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	3.80	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.46			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG03@10'
2310353-36 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.23	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	105	0.400	"	"	"	"	"	"	
Selenium	0.265	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	209	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	118	0.0500	"	"	"	"	"	"	
Sodium	626	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	8.58	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	86.2		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG03@10'
2310353-36 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:46**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	3.90	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.42			pH Units	1	BGJ1016	10/25/23	10/25/23	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG04@2'
2310353-37 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	5.46	0.200		mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	235	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	21.6	0.0500		mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	10.1	0.0500		"	"	"	"	"	"	
Sodium	95.0	0.0500		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	4.23	0.00100		units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.5			%	1	BGJ0995	10/25/23	10/25/23	Calculation	

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG04@2'
2310353-37 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:48**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.426	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.30			pH Units	1	BGJ1016	10/25/23	10/25/23	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG04@5'
2310353-38 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	5.40	0.200		mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	162	0.400		"	"	"	"	"	"	
Selenium	0.345	0.260		"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	114	0.0500		mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	57.7	0.0500		"	"	"	"	"	"	
Sodium	449	0.0500		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	8.53	0.00100		units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.5			%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG04@5'
2310353-38 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:50**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	2.60	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.78			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG04@10'
2310353-39 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.86	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	232	0.400	"	"	"	"	"	"	
Selenium	0.731	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	36.1	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	44.3	0.0500	"	"	"	"	"	"	
Sodium	706	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	18.6	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	82.2		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG04@10'
2310353-39 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:52**


Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	2.94	0.0100	mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.25		pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG05@2'
2310353-40 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0950	10/24/23	10/27/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	6.34	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	245	0.400	"	"	"	"	"	"	
Selenium	0.306	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	17.1	0.0500	mg/L dry	1	BGJ0944	10/24/23	10/26/23	EPA 6020B	
Magnesium	8.82	0.0500	"	"	"	"	"	"	
Sodium	114	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	5.58	0.00100	units	1	BGJ1118	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.4		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG05@2'
2310353-40 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:54**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.502	0.0100		mmhos/cm	1	BGJ1017	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.59			pH Units	1	BGJ1016	10/25/23	10/25/23	EPA 9045D	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG05@5'
2310353-41 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0974	10/25/23	10/26/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	7.58	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	368	0.400	"	"	"	"	"	"	
Selenium	0.515	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	141	0.0500	mg/L dry	1	BGJ0945	10/24/23	10/26/23	EPA 6020B	
Magnesium	74.3	0.0500	"	"	"	"	"	"	
Sodium	673	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	11.4	0.00100	units	1	BGJ1109	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	82.5		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG05@5'
2310353-41 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:56**


Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	3.23	0.0100		mmhos/cm	1	BGJ0990	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.37			pH Units	1	BGJ0989	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG05@10'
2310353-42 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/23 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0974	10/25/23	10/26/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/23 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.85	0.200	mg/kg dry	1	BGJ0993	10/25/23	10/31/23	EPA 6020B	
Barium	137	0.400	"	"	"	"	"	"	
Selenium	0.630	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/18/23 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	142	0.0500	mg/L dry	1	BGJ0945	10/24/23	10/26/23	EPA 6020B	
Magnesium	88.9	0.0500	"	"	"	"	"	"	
Sodium	707	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/23 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	11.5	0.00100	units	1	BGJ1109	10/27/23	10/27/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/23 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.2		%	1	BGJ0995	10/25/23	10/25/23	Calculation	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

BG05@10'
2310353-42 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/23 13:58**


Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	3.46	0.0100	mmhos/cm	1	BGJ0990	10/25/23	10/25/23	EPA 120.1	

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

Date Sampled: **10/18/23 13:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.72		pH Units	1	BGJ0989	10/25/23	10/25/23	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0795 - EPA 5030 Soil MS

Blank (BGJ0795-BLK1)

Prepared & Analyzed: 10/19/23

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0388		"	0.0400		97.1	50-150			
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.7	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0388		"	0.0400		97.0	50-150			

LCS (BGJ0795-BS1)

Prepared & Analyzed: 10/19/23

Benzene	0.100	0.0020	mg/kg	0.100		100	70-130			
Toluene	0.0977	0.0050	"	0.100		97.7	70-130			
Ethylbenzene	0.0969	0.0050	"	0.100		96.9	70-130			
m,p-Xylene	0.192	0.010	"	0.200		96.0	70-130			
o-Xylene	0.0916	0.0050	"	0.100		91.6	70-130			
1,2,4-Trimethylbenzene	0.0917	0.0050	"	0.100		91.7	70-130			
1,3,5-Trimethylbenzene	0.0932	0.0050	"	0.100		93.2	70-130			
Naphthalene	0.0740	0.0038	"	0.100		74.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0379		"	0.0400		94.7	50-150			
<i>Surrogate: Toluene-d8</i>	0.0394		"	0.0400		98.4	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0402		"	0.0400		100	50-150			

Matrix Spike (BGJ0795-MS1)

Source: 2310353-01

Prepared & Analyzed: 10/19/23

Benzene	0.0894	0.0020	mg/kg	0.100	ND	89.4	70-130			
Toluene	0.0848	0.0050	"	0.100	ND	84.8	70-130			
Ethylbenzene	0.0800	0.0050	"	0.100	ND	80.0	70-130			
m,p-Xylene	0.160	0.010	"	0.200	ND	80.0	70-130			
o-Xylene	0.0787	0.0050	"	0.100	ND	78.7	70-130			
1,2,4-Trimethylbenzene	0.0716	0.0050	"	0.100	ND	71.6	70-130			
1,3,5-Trimethylbenzene	0.0714	0.0050	"	0.100	ND	71.4	70-130			
Naphthalene	0.0572	0.0038	"	0.100	ND	57.2	70-130			QLCS-01
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0428		"	0.0400		107	50-150			
<i>Surrogate: Toluene-d8</i>	0.0404		"	0.0400		101	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0415		"	0.0400		104	50-150			

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0795 - EPA 5030 Soil MS

Matrix Spike Dup (BGJ0795-MSD1)	Source: 2310353-01			Prepared & Analyzed: 10/19/23						
Benzene	0.0816	0.0020	mg/kg	0.100	ND	81.6	70-130	9.16	30	
Toluene	0.0757	0.0050	"	0.100	ND	75.7	70-130	11.3	30	
Ethylbenzene	0.0704	0.0050	"	0.100	ND	70.4	70-130	12.7	30	
m,p-Xylene	0.141	0.010	"	0.200	ND	70.3	70-130	12.9	30	
o-Xylene	0.0699	0.0050	"	0.100	ND	69.9	70-130	11.8	30	QLCS-01
1,2,4-Trimethylbenzene	0.0621	0.0050	"	0.100	ND	62.1	70-130	14.1	30	QLCS-01
1,3,5-Trimethylbenzene	0.0622	0.0050	"	0.100	ND	62.2	70-130	13.8	30	QLCS-01
Naphthalene	0.0532	0.0038	"	0.100	ND	53.2	70-130	7.22	30	QLCS-01
Surrogate: 1,2-Dichloroethane-d4	0.0505		"	0.0400		126	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	50-150			

Batch BGJ0804 - EPA 5030 Soil MS

Blank (BGJ0804-BLK1)	Prepared: 10/19/23 Analyzed: 10/20/23									
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	0.0347		"	0.0400		86.8	50-150			
Surrogate: Toluene-d8	0.0504		"	0.0400		126	50-150			
Surrogate: 4-Bromofluorobenzene	0.0473		"	0.0400		118	50-150			

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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

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

Batch BGJ0804 - EPA 5030 Soil MS

LCS (BGJ0804-BS1)

Prepared: 10/19/23 Analyzed: 10/20/23

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.123	0.0050	"	0.100		123	70-130			
Ethylbenzene	0.112	0.0050	"	0.100		112	70-130			
m,p-Xylene	0.228	0.010	"	0.200		114	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100		108	70-130			
Naphthalene	0.0880	0.0038	"	0.100		88.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0339</i>		<i>"</i>	<i>0.0400</i>		<i>84.8</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0463</i>		<i>"</i>	<i>0.0400</i>		<i>116</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.3</i>	<i>50-150</i>			

Matrix Spike (BGJ0804-MS1)

Source: 2310351-01

Prepared: 10/19/23 Analyzed: 10/20/23

Benzene	0.0933	0.0020	mg/kg	0.100	ND	93.3	70-130			
Toluene	0.115	0.0050	"	0.100	ND	115	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.212	0.010	"	0.200	ND	106	70-130			
o-Xylene	0.0942	0.0050	"	0.100	ND	94.2	70-130			
1,2,4-Trimethylbenzene	0.0929	0.0050	"	0.100	ND	92.9	70-130			
1,3,5-Trimethylbenzene	0.0984	0.0050	"	0.100	ND	98.4	70-130			
Naphthalene	0.0743	0.0038	"	0.100	ND	74.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0331</i>		<i>"</i>	<i>0.0400</i>		<i>82.6</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0456</i>		<i>"</i>	<i>0.0400</i>		<i>114</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

Matrix Spike Dup (BGJ0804-MSD1)

Source: 2310351-01

Prepared: 10/19/23 Analyzed: 10/20/23

Benzene	0.104	0.0020	mg/kg	0.100	ND	104	70-130	10.8	30	
Toluene	0.121	0.0050	"	0.100	ND	121	70-130	5.20	30	
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	1.90	30	
m,p-Xylene	0.207	0.010	"	0.200	ND	103	70-130	2.31	30	
o-Xylene	0.0928	0.0050	"	0.100	ND	92.8	70-130	1.44	30	
1,2,4-Trimethylbenzene	0.0896	0.0050	"	0.100	ND	89.6	70-130	3.55	30	
1,3,5-Trimethylbenzene	0.0950	0.0050	"	0.100	ND	95.0	70-130	3.54	30	
Naphthalene	0.0681	0.0038	"	0.100	ND	68.1	70-130	8.72	30	QLCS-01
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0378</i>		<i>"</i>	<i>0.0400</i>		<i>94.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0461</i>		<i>"</i>	<i>0.0400</i>		<i>115</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGJ0796 - EPA 3550A

Blank (BGJ0796-BLK1)

Prepared: 10/19/23 Analyzed: 10/20/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.0		"	12.5		96.2	30-150				

LCS (BGJ0796-BS1)

Prepared: 10/19/23 Analyzed: 10/20/23

C10-C28 (DRO)	417	50	mg/kg	500		83.4	70-130				
Surrogate: <i>o</i> -Terphenyl	10.1		"	12.5		81.1	30-150				

Matrix Spike (BGJ0796-MS1)

Source: 2310353-01

Prepared: 10/19/23 Analyzed: 10/20/23

C10-C28 (DRO)	405	50	mg/kg	500	29.2	75.1	70-130				
Surrogate: <i>o</i> -Terphenyl	9.53		"	12.5		76.3	30-150				

Matrix Spike Dup (BGJ0796-MSD1)

Source: 2310353-01

Prepared: 10/19/23 Analyzed: 10/20/23

C10-C28 (DRO)	426	50	mg/kg	500	29.2	79.4	70-130	5.12	20		
Surrogate: <i>o</i> -Terphenyl	9.65		"	12.5		77.2	30-150				

Batch BGJ0805 - EPA 3550A

Blank (BGJ0805-BLK1)

Prepared: 10/19/23 Analyzed: 10/21/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.7		"	12.5		109	30-150				

LCS (BGJ0805-BS1)

Prepared: 10/19/23 Analyzed: 10/21/23

C10-C28 (DRO)	401	50	mg/kg	500		80.3	70-130				
Surrogate: <i>o</i> -Terphenyl	9.91		"	12.5		79.2	30-150				

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGJ0805 - EPA 3550A

Matrix Spike (BGJ0805-MS1)

Source: 2310351-01

Prepared: 10/19/23 Analyzed: 10/21/23

C10-C28 (DRO)	468	50	mg/kg	500	32.0	87.2	70-130			
Surrogate: o-Terphenyl	9.74		"	12.5		77.9	30-150			


Matrix Spike Dup (BGJ0805-MSD1)

Source: 2310351-01

Prepared: 10/19/23 Analyzed: 10/21/23

C10-C28 (DRO)	492	50	mg/kg	500	32.0	92.0	70-130	4.95	20	
Surrogate: o-Terphenyl	10.1		"	12.5		80.7	30-150			

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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BGJ0768 - EPA 5030 Soil MS

Blank (BGJ0768-BLK1)

Prepared: 10/19/23 Analyzed: 10/20/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0375</i>		"	<i>0.0333</i>		<i>112</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0281</i>		"	<i>0.0333</i>		<i>84.4</i>	<i>40-150</i>			

LCS (BGJ0768-BS1)

Prepared: 10/19/23 Analyzed: 10/20/23

Acenaphthene	0.0371	0.00500	mg/kg	0.0333	111	31-137
Anthracene	0.0320	0.00500	"	0.0333	96.0	30-120
Benzo (a) anthracene	0.0284	0.00500	"	0.0333	85.2	30-120
Benzo (a) pyrene	0.0267	0.00500	"	0.0333	80.0	30-120
Benzo (b) fluoranthene	0.0271	0.00500	"	0.0333	81.3	30-120
Benzo (k) fluoranthene	0.0292	0.00500	"	0.0333	87.7	30-120
Chrysene	0.0325	0.00500	"	0.0333	97.4	30-120
Dibenz (a,h) anthracene	0.0354	0.00500	"	0.0333	106	30-120
Fluoranthene	0.0315	0.00500	"	0.0333	94.4	30-120
Fluorene	0.0344	0.00500	"	0.0333	103	30-120
Indeno (1,2,3-cd) pyrene	0.0372	0.00500	"	0.0333	112	30-120
Pyrene	0.0366	0.00500	"	0.0333	110	35-142
1-Methylnaphthalene	0.0251	0.00500	"	0.0333	75.2	35-142
2-Methylnaphthalene	0.0282	0.00500	"	0.0333	84.7	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0297</i>		"	<i>0.0333</i>	<i>89.2</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0310</i>		"	<i>0.0333</i>	<i>92.9</i>	<i>40-150</i>

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BGJ0768 - EPA 5030 Soil MS

Matrix Spike (BGJ0768-MS1)		Source: 2310353-01			Prepared: 10/19/23		Analyzed: 10/20/23	
Acenaphthene	0.0137	0.00500	mg/kg	0.0333	ND	41.0	31-137	
Anthracene	0.0136	0.00500	"	0.0333	ND	40.9	30-120	
Benzo (a) anthracene	0.0159	0.00500	"	0.0333	ND	47.8	30-120	
Benzo (a) pyrene	0.0153	0.00500	"	0.0333	ND	46.0	30-120	
Benzo (b) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.3	30-120	
Benzo (k) fluoranthene	0.0147	0.00500	"	0.0333	ND	44.1	30-120	
Chrysene	0.0157	0.00500	"	0.0333	ND	47.1	30-120	
Dibenz (a,h) anthracene	0.0146	0.00500	"	0.0333	ND	43.9	30-120	
Fluoranthene	0.0148	0.00500	"	0.0333	ND	44.4	30-120	
Fluorene	0.0154	0.00500	"	0.0333	ND	46.1	30-120	
Indeno (1,2,3-cd) pyrene	0.0163	0.00500	"	0.0333	ND	48.9	30-120	
Pyrene	0.0183	0.00500	"	0.0333	ND	55.0	35-142	
1-Methylnaphthalene	0.0141	0.00500	"	0.0333	ND	42.4	15-130	
2-Methylnaphthalene	0.0141	0.00500	"	0.0333	ND	42.2	15-130	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0144</i>		"	<i>0.0333</i>		<i>43.1</i>	<i>40-150</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0133</i>		"	<i>0.0333</i>		<i>40.0</i>	<i>40-150</i>	

Matrix Spike Dup (BGJ0768-MSD1)		Source: 2310353-01			Prepared: 10/19/23		Analyzed: 10/20/23	
Acenaphthene	0.0152	0.00500	mg/kg	0.0333	ND	45.5	31-137	10.5 30
Anthracene	0.0136	0.00500	"	0.0333	ND	40.9	30-120	0.0562 30
Benzo (a) anthracene	0.0140	0.00500	"	0.0333	ND	42.1	30-120	12.6 30
Benzo (a) pyrene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	22.0 30
Benzo (b) fluoranthene	0.0155	0.00500	"	0.0333	ND	46.5	30-120	9.59 30
Benzo (k) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.2	30-120	10.9 30
Chrysene	0.0138	0.00500	"	0.0333	ND	41.5	30-120	12.8 30
Dibenz (a,h) anthracene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	24.3 30
Fluoranthene	0.0136	0.00500	"	0.0333	ND	40.8	30-120	8.46 30
Fluorene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	0.600 30
Indeno (1,2,3-cd) pyrene	0.0146	0.00500	"	0.0333	ND	43.8	30-120	10.8 30
Pyrene	0.0168	0.00500	"	0.0333	ND	50.4	35-142	8.86 30
1-Methylnaphthalene	0.0147	0.00500	"	0.0333	ND	44.1	15-130	3.99 50
2-Methylnaphthalene	0.0148	0.00500	"	0.0333	ND	44.3	15-130	4.86 50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0137</i>		"	<i>0.0333</i>		<i>41.2</i>	<i>40-150</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0135</i>		"	<i>0.0333</i>		<i>40.4</i>	<i>40-150</i>	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BGJ0770 - EPA 5030 Soil MS

Blank (BGJ0770-BLK1)

Prepared & Analyzed: 10/19/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0366</i>		"	<i>0.0333</i>		<i>110</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0279</i>		"	<i>0.0333</i>		<i>83.7</i>		<i>40-150</i>		

LCS (BGJ0770-BS1)

Prepared & Analyzed: 10/19/23

Acenaphthene	0.0303	0.00500	mg/kg	0.0333	90.8	31-137
Anthracene	0.0317	0.00500	"	0.0333	95.1	30-120
Benzo (a) anthracene	0.0230	0.00500	"	0.0333	69.1	30-120
Benzo (a) pyrene	0.0292	0.00500	"	0.0333	87.7	30-120
Benzo (b) fluoranthene	0.0304	0.00500	"	0.0333	91.2	30-120
Benzo (k) fluoranthene	0.0334	0.00500	"	0.0333	100	30-120
Chrysene	0.0308	0.00500	"	0.0333	92.4	30-120
Dibenz (a,h) anthracene	0.0298	0.00500	"	0.0333	89.3	30-120
Fluoranthene	0.0298	0.00500	"	0.0333	89.4	30-120
Fluorene	0.0323	0.00500	"	0.0333	97.0	30-120
Indeno (1,2,3-cd) pyrene	0.0297	0.00500	"	0.0333	89.2	30-120
Pyrene	0.0337	0.00500	"	0.0333	101	35-142
1-Methylnaphthalene	0.0286	0.00500	"	0.0333	85.8	35-142
2-Methylnaphthalene	0.0331	0.00500	"	0.0333	99.4	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0281</i>		"	<i>0.0333</i>	<i>84.3</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0297</i>		"	<i>0.0333</i>	<i>89.1</i>	<i>40-150</i>

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Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGJ0770 - EPA 5030 Soil MS

Matrix Spike (BGJ0770-MS1)	Source: 2310353-21			Prepared & Analyzed: 10/19/23						
Acenaphthene	0.0193	0.00500	mg/kg	0.0333	ND	58.0	31-137			
Anthracene	0.0205	0.00500	"	0.0333	ND	61.5	30-120			
Benzo (a) anthracene	0.0170	0.00500	"	0.0333	ND	51.1	30-120			
Benzo (a) pyrene	0.0193	0.00500	"	0.0333	ND	57.8	30-120			
Benzo (b) fluoranthene	0.0197	0.00500	"	0.0333	ND	59.1	30-120			
Benzo (k) fluoranthene	0.0214	0.00500	"	0.0333	ND	64.1	30-120			
Chrysene	0.0190	0.00500	"	0.0333	ND	57.1	30-120			
Dibenz (a,h) anthracene	0.0177	0.00500	"	0.0333	ND	53.1	30-120			
Fluoranthene	0.0205	0.00500	"	0.0333	ND	61.4	30-120			
Fluorene	0.0213	0.00500	"	0.0333	ND	64.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333	ND	51.0	30-120			
Pyrene	0.0223	0.00500	"	0.0333	ND	66.8	35-142			
1-Methylnaphthalene	0.0216	0.00500	"	0.0333	ND	64.8	15-130			
2-Methylnaphthalene	0.0208	0.00500	"	0.0333	ND	62.4	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0197</i>		<i>"</i>	<i>0.0333</i>		<i>59.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0206</i>		<i>"</i>	<i>0.0333</i>		<i>61.7</i>	<i>40-150</i>			

Matrix Spike Dup (BGJ0770-MSD1)	Source: 2310353-21			Prepared & Analyzed: 10/19/23						
Acenaphthene	0.0168	0.00500	mg/kg	0.0333	ND	50.3	31-137	14.3	30	
Anthracene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	7.51	30	
Benzo (a) anthracene	0.0148	0.00500	"	0.0333	ND	44.4	30-120	14.0	30	
Benzo (a) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	10.0	30	
Benzo (b) fluoranthene	0.0175	0.00500	"	0.0333	ND	52.4	30-120	11.9	30	
Benzo (k) fluoranthene	0.0191	0.00500	"	0.0333	ND	57.2	30-120	11.4	30	
Chrysene	0.0178	0.00500	"	0.0333	ND	53.5	30-120	6.50	30	
Dibenz (a,h) anthracene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	9.24	30	
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.8	30-120	16.8	30	
Fluorene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	9.11	30	
Indeno (1,2,3-cd) pyrene	0.0160	0.00500	"	0.0333	ND	48.1	30-120	5.74	30	
Pyrene	0.0228	0.00500	"	0.0333	ND	68.5	35-142	2.52	30	
1-Methylnaphthalene	0.0211	0.00500	"	0.0333	ND	63.2	15-130	2.53	50	
2-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.7	15-130	7.92	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0189</i>		<i>"</i>	<i>0.0333</i>		<i>56.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0174</i>		<i>"</i>	<i>0.0333</i>		<i>52.2</i>	<i>40-150</i>			

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

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

Batch BGJ0949 - EPA 3050B

Blank (BGJ0949-BLK1)

Prepared: 10/24/23 Analyzed: 10/27/23

Boron ND 2.00 mg/L

LCS (BGJ0949-BS1)

Prepared: 10/24/23 Analyzed: 10/27/23

Boron 4.62 2.00 mg/L 5.00 92.5 80-120

Duplicate (BGJ0949-DUP1)

Source: 2310353-01

Prepared: 10/24/23 Analyzed: 10/27/23

Boron 0.487 2.00 mg/L 0.505 3.64 20

Matrix Spike (BGJ0949-MS1)

Source: 2310353-01

Prepared: 10/24/23 Analyzed: 10/27/23

Boron 5.32 2.00 mg/L 5.00 0.505 96.2 75-125

Matrix Spike Dup (BGJ0949-MSD1)

Source: 2310353-01

Prepared: 10/24/23 Analyzed: 10/27/23

Boron 5.54 2.00 mg/L 5.00 0.505 101 75-125 4.19 25

Batch BGJ0950 - EPA 3050B

Blank (BGJ0950-BLK1)

Prepared: 10/24/23 Analyzed: 10/27/23

Boron ND 2.00 mg/L

LCS (BGJ0950-BS1)

Prepared: 10/24/23 Analyzed: 10/27/23

Boron 5.52 2.00 mg/L 5.00 110 80-120

Duplicate (BGJ0950-DUP1)

Source: 2310353-21

Prepared: 10/24/23 Analyzed: 10/27/23

Boron 0.410 2.00 mg/L 0.356 14.1 20

Matrix Spike (BGJ0950-MS1)

Source: 2310353-21

Prepared: 10/24/23 Analyzed: 10/27/23

Boron 5.14 2.00 mg/L 5.00 0.356 95.8 75-125

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

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

Batch BGJ0950 - EPA 3050B

Matrix Spike Dup (BGJ0950-MSD1)		Source: 2310353-21			Prepared: 10/24/23 Analyzed: 10/27/23					
Boron	5.23	2.00	mg/L	5.00	0.356	97.6	75-125	1.75	25	

Batch BGJ0974 - EPA 3050B

Blank (BGJ0974-BLK1)					Prepared: 10/25/23 Analyzed: 10/26/23					
Boron	ND	2.00	mg/L							

LCS (BGJ0974-BS1)					Prepared: 10/25/23 Analyzed: 10/26/23					
Boron	5.72	2.00	mg/L	5.00		114	80-120			

Duplicate (BGJ0974-DUP1)		Source: 2308318-01			Prepared: 10/25/23 Analyzed: 10/26/23					
Boron	0.351	2.00	mg/L		0.335			4.52	20	

Matrix Spike (BGJ0974-MS1)		Source: 2308318-01			Prepared: 10/25/23 Analyzed: 10/26/23					
Boron	6.85	2.00	mg/L	5.00	0.335	130	75-125			QM-07

Matrix Spike Dup (BGJ0974-MSD1)		Source: 2308318-01			Prepared: 10/25/23 Analyzed: 10/26/23					
Boron	7.09	2.00	mg/L	5.00	0.335	135	75-125	3.38	25	QM-07

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0992 - EPA 3050B

Blank (BGJ0992-BLK1)

Prepared: 10/25/23 Analyzed: 10/26/23

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Selenium	ND	0.260	"							

LCS (BGJ0992-BS1)

Prepared: 10/25/23 Analyzed: 10/26/23

Arsenic	44.9	0.200	mg/kg wet	40.0	112	80-120				
Barium	34.5	0.400	"	40.0	86.1	80-120				
Selenium	4.35	0.260	"	4.00	109	80-120				

Duplicate (BGJ0992-DUP1)

Source: 2310353-01

Prepared: 10/25/23 Analyzed: 10/26/23

Arsenic	2.01	0.200	mg/kg dry	1.98			1.07	20		
Barium	158	0.400	"	124			24.6	20		QM-04
Selenium	0.377	0.260	"	0.349			7.70	20		

Matrix Spike (BGJ0992-MS1)

Source: 2310353-01

Prepared: 10/25/23 Analyzed: 10/26/23

Arsenic	16.2	0.200	mg/kg dry	47.3	1.98	30.0	75-125			QM-07
Barium	169	0.400	"	47.3	124	95.8	75-125			
Selenium	5.32	0.260	"	4.73	0.349	105	75-125			

Matrix Spike Dup (BGJ0992-MSD1)

Source: 2310353-01

Prepared: 10/25/23 Analyzed: 10/26/23

Arsenic	16.4	0.200	mg/kg dry	47.3	1.98	30.5	75-125	1.48	25	QM-07
Barium	166	0.400	"	47.3	124	89.7	75-125	1.73	25	
Selenium	5.51	0.260	"	4.73	0.349	109	75-125	3.38	25	

Batch BGJ0993 - EPA 3050B

Blank (BGJ0993-BLK1)

Prepared: 10/25/23 Analyzed: 10/30/23

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Selenium	ND	0.260	"							

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0993 - EPA 3050B

LCS (BGJ0993-BS1)

Prepared: 10/25/23 Analyzed: 10/30/23

Arsenic	41.6	0.200	mg/kg wet	40.0		104	80-120			
Barium	45.2	0.400	"	40.0		113	80-120			
Selenium	4.58	0.260	"	4.00		114	80-120			

Duplicate (BGJ0993-DUP1)

Source: 2310353-21

Prepared: 10/25/23 Analyzed: 10/30/23

Arsenic	2.79	0.200	mg/kg dry		2.24			22.0	20	QR-04
Barium	262	0.400	"		243			7.55	20	
Selenium	0.304	0.260	"		0.254			17.9	20	

Matrix Spike (BGJ0993-MS1)

Source: 2310353-21

Prepared: 10/25/23 Analyzed: 10/30/23

Arsenic	63.5	0.200	mg/kg dry	49.0	2.24	125	75-125			
Barium	232	0.400	"	49.0	243	NR	75-125			QM-07
Selenium	8.36	0.260	"	4.90	0.254	165	75-125			QM-07

Matrix Spike Dup (BGJ0993-MSD1)

Source: 2310353-21

Prepared: 10/25/23 Analyzed: 10/30/23

Arsenic	63.5	0.200	mg/kg dry	49.0	2.24	125	75-125	0.0818	25	
Barium	234	0.400	"	49.0	243	NR	75-125	0.515	25	QM-07
Selenium	8.59	0.260	"	4.90	0.254	170	75-125	2.63	25	QM-07

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

Summit Scientific

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

Batch BGJ0943 - General Preparation

Blank (BGJ0943-BLK1)

Prepared: 10/24/23 Analyzed: 10/26/23

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

LCS (BGJ0943-BS1)

Prepared: 10/24/23 Analyzed: 10/26/23

Calcium	4.14	0.0500	mg/L wet	5.00	82.8	70-130
Magnesium	5.20	0.0500	"	5.00	104	70-130
Sodium	5.53	0.0500	"	5.00	111	70-130

Batch BGJ0944 - General Preparation

Blank (BGJ0944-BLK1)

Prepared: 10/24/23 Analyzed: 10/26/23

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

LCS (BGJ0944-BS1)

Prepared: 10/24/23 Analyzed: 10/26/23

Calcium	4.89	0.0500	mg/L wet	5.00	97.7	70-130
Magnesium	5.15	0.0500	"	5.00	103	70-130
Sodium	5.30	0.0500	"	5.00	106	70-130

Batch BGJ0945 - General Preparation

Blank (BGJ0945-BLK1)

Prepared: 10/24/23 Analyzed: 10/26/23

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

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

Summit Scientific

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


Batch BGJ0945 - General Preparation

LCS (BGJ0945-BS1)

Prepared: 10/24/23 Analyzed: 10/26/23

Calcium	5.45	0.0500	mg/L wet	5.00		109	70-130			
Magnesium	5.33	0.0500	"	5.00		107	70-130			
Sodium	5.49	0.0500	"	5.00		110	70-130			

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

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

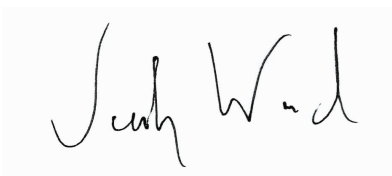
Batch BGJ0994 - General Preparation

Duplicate (BGJ0994-DUP1)		Source: 2310353-01			Prepared & Analyzed: 10/25/23					
% Solids	84.6		%		84.5			0.140	20	

Batch BGJ0995 - General Preparation

Duplicate (BGJ0995-DUP1)		Source: 2310353-21			Prepared & Analyzed: 10/25/23					
% Solids	81.5		%		81.6			0.164	20	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

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

Batch BGJ0990 - General Preparation

Blank (BGJ0990-BLK1)

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGJ0990-BS1)

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 99.7 95-105

Duplicate (BGJ0990-DUP1)

Source: 2310190-01

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) 0.0971 0.0100 mmhos/cm 0.0971 0.00 20

Batch BGJ1017 - General Preparation

Blank (BGJ1017-BLK1)

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGJ1017-BS1)

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 99.7 95-105

Duplicate (BGJ1017-DUP1)

Source: 2310353-21

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) 5.19 0.0100 mmhos/cm 5.19 0.00 20

Batch BGJ1018 - General Preparation

Blank (BGJ1018-BLK1)

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGJ1018-BS1)

Prepared & Analyzed: 10/25/23

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 99.7 95-105

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

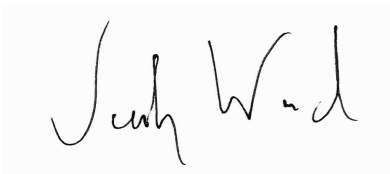
Summit Scientific

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

Batch BGJ1018 - General Preparation

Duplicate (BGJ1018-DUP1)	Source: 2310353-01			Prepared & Analyzed: 10/25/23							
Specific Conductance (EC)	0.201	0.0100	mmhos/cm		0.201				0.0497	20	

Summit Scientific



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

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

Summit Scientific

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

Batch BGJ0989 - General Preparation

LCS (BGJ0989-BS1)

Prepared & Analyzed: 10/25/23

pH 9.01 pH Units 9.18 98.1 95-105

Duplicate (BGJ0989-DUP1)

Source: 2310190-01

Prepared & Analyzed: 10/25/23

pH 7.91 pH Units 7.91 0.00 20

Batch BGJ1016 - General Preparation

LCS (BGJ1016-BS1)

Prepared & Analyzed: 10/25/23

pH 9.01 pH Units 9.18 98.1 95-105

Duplicate (BGJ1016-DUP1)

Source: 2310353-21

Prepared & Analyzed: 10/25/23

pH 8.07 pH Units 8.07 0.00 20

Batch BGJ1019 - General Preparation

LCS (BGJ1019-BS1)

Prepared & Analyzed: 10/25/23

pH 9.01 pH Units 9.18 98.1 95-105

Duplicate (BGJ1019-DUP1)

Source: 2310353-01

Prepared & Analyzed: 10/25/23

pH 8.35 pH Units 8.35 0.00 20

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/31/23 14:31

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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.
- QM-04 Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
- QLCS-01 The spike recovery was outside acceptance limits for this analyte indicating a potential high bias. The corresponding samples did not exhibit concentrations above reporting level for this analyte. Data quality is not affected.
- 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

August 16, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - BRNAK 34-28

Work Order #2408012

Enclosed are the results of analyses for samples received by Summit Scientific on 08/01/24 17:59. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH02R@10-10.5'	2408012-01	Soil	08/01/24 11:55	08/01/24 17:59
BH02R@12-13'	2408012-02	Soil	08/01/24 11:57	08/01/24 17:59
BH04R@5-6'	2408012-03	Soil	08/01/24 12:30	08/01/24 17:59
BH04R@10-10.5'	2408012-04	Soil	08/01/24 12:35	08/01/24 17:59
BH04R@12-13'	2408012-05	Soil	08/01/24 12:37	08/01/24 17:59
BH04R@14-15'	2408012-06	Soil	08/01/24 12:39	08/01/24 17:59
BH07R@9-10'	2408012-07	Soil	08/01/24 10:10	08/01/24 17:59
BH07R@12-13'	2408012-08	Soil	08/01/24 10:12	08/01/24 17:59
BH07R@14-15'	2408012-09	Soil	08/01/24 10:14	08/01/24 17:59
BH12@5-6'	2408012-10	Soil	08/01/24 12:10	08/01/24 17:59
BH12@12-13'	2408012-11	Soil	08/01/24 12:17	08/01/24 17:59
BH12@10-10.5'	2408012-12	Soil	08/01/24 12:15	08/01/24 17:59
BH12@14-15'	2408012-13	Soil	08/01/24 12:19	08/01/24 17:59
BH13@5-6'	2408012-14	Soil	08/01/24 10:46	08/01/24 17:59
BH13@9-10'	2408012-15	Soil	08/01/24 10:48	08/01/24 17:59
BH13@12-13'	2408012-16	Soil	08/01/24 10:50	08/01/24 17:59
BH13@14-15'	2408012-17	Soil	08/01/24 10:52	08/01/24 17:59
BH14@5-5.5'	2408012-18	Soil	08/01/24 09:40	08/01/24 17:59
BH14@6.5-7'	2408012-19	Soil	08/01/24 09:44	08/01/24 17:59
BH15@5-5.5'	2408012-20	Soil	08/01/24 09:45	08/01/24 17:59
BH15@6.5-7'	2408012-21	Soil	08/01/24 09:47	08/01/24 17:59

Case Narrative

Hunter Merlo has taken BH04R@14-15', BH12@14-15' and BH13@14-15' off hold for EC and SAR on 8/7/24.
This report includes those results.

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

Hunter Merlo has taken BH07R@14-15' off hold for pH on 8/14/24.
This report includes those results.

This is a revision of the report originally sent on 8/7/24 at 11:53 MT.

S₂

2/2

Sample Receipt Checklist

S2 Work Order# 2408012

Client: Nick Tasman Client Project ID: Brnak 34-28

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

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) Thermometer #

	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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK 2CE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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	<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"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2 extra samples
Do the sample IDs on the bottle labels match the COC? ⁽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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):
BH16@9-10' 10:35, BH16@12-13' 10:37 - 1 jar each

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

AS
Custodian Printed Name

8/1/24
Date/Time



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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH02R@10-10.5'
2408012-01 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	497	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	227	0.0500	"	"	"	"	"	"	
Sodium	1450	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	13.5	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	80.4		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	8.63	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.93		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH02R@12-13'
2408012-02 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 11:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	573	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	218	0.0500	"	"	"	"	"	"	
Sodium	1520	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 11:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	13.7	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 11:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	79.7		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 11:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	7.28	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 11:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.97		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH04R@5-6'
2408012-03 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	548	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	224	0.0500	"	"	"	"	"	"	
Sodium	1360	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	12.4	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.2		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.06	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH04R@10-10.5'
2408012-04 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	579	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	205	0.0500	"	"	"	"	"	"	
Sodium	1480	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	13.5	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	81.5		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	7.59	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 12:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.03		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH04R@12-13'
2408012-05 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	586	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	201	0.0500	"	"	"	"	"	"	
Sodium	1570	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	14.3	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.9		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	7.44	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH04R@14-15'
2408012-06 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	223	0.0500	mg/L dry	1	BHH0222	08/08/24	08/13/24	EPA 6020B	
Magnesium	174	0.0500	"	"	"	"	"	"	
Sodium	613	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	7.48	0.00100	units	1	BHH0353	08/14/24	08/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	76.9		%	1	BHH0201	08/08/24	08/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	4.57	0.0100	mmhos/cm	1	BHH0225	08/08/24	08/09/24	EPA 120.1	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH07R@9-10'
2408012-07 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	620	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	214	0.0500	"	"	"	"	"	"	
Sodium	1290	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	11.4	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	82.6		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	6.68	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.00		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH07R@12-13'
2408012-08 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	531	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	172	0.0500	"	"	"	"	"	"	
Sodium	574	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	5.54	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	80.8		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	3.63	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.41		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH07R@14-15'
2408012-09 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 10:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.69		pH Units	1	BHH0379	08/15/24	08/15/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH12@5-6'
2408012-10 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	571	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	239	0.0500	"	"	"	"	"	"	
Sodium	1270	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	11.3	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	82.5		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	4.85	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.04		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH12@12-13'
2408012-11 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	374	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	167	0.0500	"	"	"	"	"	"	
Sodium	1480	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16.0	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.5		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.87	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH12@10-10.5'
2408012-12 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	599	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	260	0.0500	"	"	"	"	"	"	
Sodium	1830	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	15.7	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	81.1		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	8.71	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.02		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH12@14-15'
2408012-13 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	258	0.0500	mg/L dry	1	BHH0222	08/08/24	08/13/24	EPA 6020B	
Magnesium	235	0.0500	"	"	"	"	"	"	
Sodium	648	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	7.02	0.00100	units	1	BHH0353	08/14/24	08/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	84.4		%	1	BHH0201	08/08/24	08/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	1.91	0.0100	mmhos/cm	1	BHH0225	08/08/24	08/09/24	EPA 120.1	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH13@5-6'
2408012-14 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	625	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	190	0.0500	"	"	"	"	"	"	
Sodium	888	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	7.98	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	84.5		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	5.09	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.93		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH13@9-10'
2408012-15 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	603	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	243	0.0500	"	"	"	"	"	"	
Sodium	1700	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	14.8	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	82.6		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	7.96	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.94		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH13@12-13'
2408012-16 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	544	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	189	0.0500	"	"	"	"	"	"	
Sodium	1450	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	13.7	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	78.6		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	6.98	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.93		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH13@14-15'
2408012-17 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	500	0.0500	mg/L dry	1	BHH0222	08/08/24	08/13/24	EPA 6020B	
Magnesium	210	0.0500	"	"	"	"	"	"	
Sodium	1620	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	15.3	0.00100	units	1	BHH0353	08/14/24	08/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	78.4		%	1	BHH0201	08/08/24	08/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	6.74	0.0100	mmhos/cm	1	BHH0225	08/08/24	08/09/24	EPA 120.1	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH14@5-5.5'
2408012-18 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2450	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	247	0.0500	"	"	"	"	"	"	
Sodium	317	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.63	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.3		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.693	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.68		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH14@6.5-7'
2408012-19 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 09:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	88.5	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	19.1	0.0500	"	"	"	"	"	"	
Sodium	245	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 09:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	6.16	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 09:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	87.7		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 09:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	1.13	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 09:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.66		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH15@5-5.5'
2408012-20 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	3450	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	306	0.0500	"	"	"	"	"	"	
Sodium	183	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.801	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.2		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.408	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.28		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

BH15@6.5-7'
2408012-21 (Soil)

Summit Scientific

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

Date Sampled: **08/01/24 09:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	534	0.0500	mg/L dry	1	BHH0078	08/02/24	08/06/24	EPA 6020B	
Magnesium	150	0.0500	"	"	"	"	"	"	
Sodium	260	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/01/24 09:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.56	0.00100	units	1	BHH0165	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/01/24 09:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	81.7		%	1	BHH0050	08/02/24	08/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/01/24 09:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	2.97	0.0100	mmhos/cm	1	BHH0079	08/02/24	08/06/24	EPA 120.1	

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

Date Sampled: **08/01/24 09:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.95		pH Units	1	BHH0080	08/02/24	08/06/24	EPA 9045D	

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

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

Summit Scientific

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

Batch BHH0078 - General Preparation

Blank (BHH0078-BLK1)

Prepared: 08/02/24 Analyzed: 08/06/24

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

LCS (BHH0078-BS1)

Prepared: 08/02/24 Analyzed: 08/06/24

Calcium	5.58	0.0500	mg/L wet	5.00	112	70-130				
Magnesium	5.57	0.0500	"	5.00	111	70-130				
Sodium	5.37	0.0500	"	5.00	107	70-130				

Batch BHH0222 - General Preparation

Blank (BHH0222-BLK1)

Prepared: 08/08/24 Analyzed: 08/13/24

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

LCS (BHH0222-BS1)

Prepared: 08/08/24 Analyzed: 08/13/24

Calcium	5.61	0.0500	mg/L wet	5.00	112	70-130				
Magnesium	5.54	0.0500	"	5.00	111	70-130				
Sodium	5.50	0.0500	"	5.00	110	70-130				

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

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

Summit Scientific

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

Batch BHH0050 - General Preparation

Duplicate (BHH0050-DUP1)		Source: 2408011-02			Prepared & Analyzed: 08/02/24			
% Solids	87.7		%		87.1		0.710	20

Batch BHH0201 - General Preparation

Duplicate (BHH0201-DUP1)		Source: 2408012-06			Prepared & Analyzed: 08/08/24			
% Solids	77.3		%		76.9		0.537	20

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

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

Summit Scientific

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

Batch BHH0079 - General Preparation

Blank (BHH0079-BLK1)

Prepared: 08/02/24 Analyzed: 08/06/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHH0079-BS1)

Prepared: 08/02/24 Analyzed: 08/06/24

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BHH0079-DUP1)

Source: 2408012-01

Prepared: 08/02/24 Analyzed: 08/06/24

Specific Conductance (EC) 8.44 0.0100 mmhos/cm 8.63 2.20 20

Batch BHH0225 - General Preparation

Blank (BHH0225-BLK1)

Prepared: 08/08/24 Analyzed: 08/09/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHH0225-BS1)

Prepared: 08/08/24 Analyzed: 08/09/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BHH0225-DUP1)

Source: 2408012-06

Prepared: 08/08/24 Analyzed: 08/09/24

Specific Conductance (EC) 4.47 0.0100 mmhos/cm 4.57 2.19 20

Summit Scientific

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

Project: Noble - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

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

Summit Scientific

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

Batch BHH0080 - General Preparation

LCS (BHH0080-BS1)										
					Prepared: 08/02/24 Analyzed: 08/06/24					
pH	9.18		pH Units	9.18	100	95-105				
Duplicate (BHH0080-DUP1)										
					Source: 2408012-01 Prepared: 08/02/24 Analyzed: 08/06/24					
pH	7.99		pH Units	7.93	0.754	20				

Batch BHH0379 - General Preparation

LCS (BHH0379-BS1)										
					Prepared & Analyzed: 08/15/24					
pH	9.16		pH Units	9.18	99.8	95-105				
Duplicate (BHH0379-DUP1)										
					Source: 2408012-09 Prepared & Analyzed: 08/15/24					
pH	8.77		pH Units	8.69	0.916	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 - BRNAK 34-28

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/16/24 07:51

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

ATTACHMENT B
BORING LOGS



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Dennis Gray

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 10/18/23-10/18/23

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

BRNAK 34-28 Facility

BORING ID: BH01

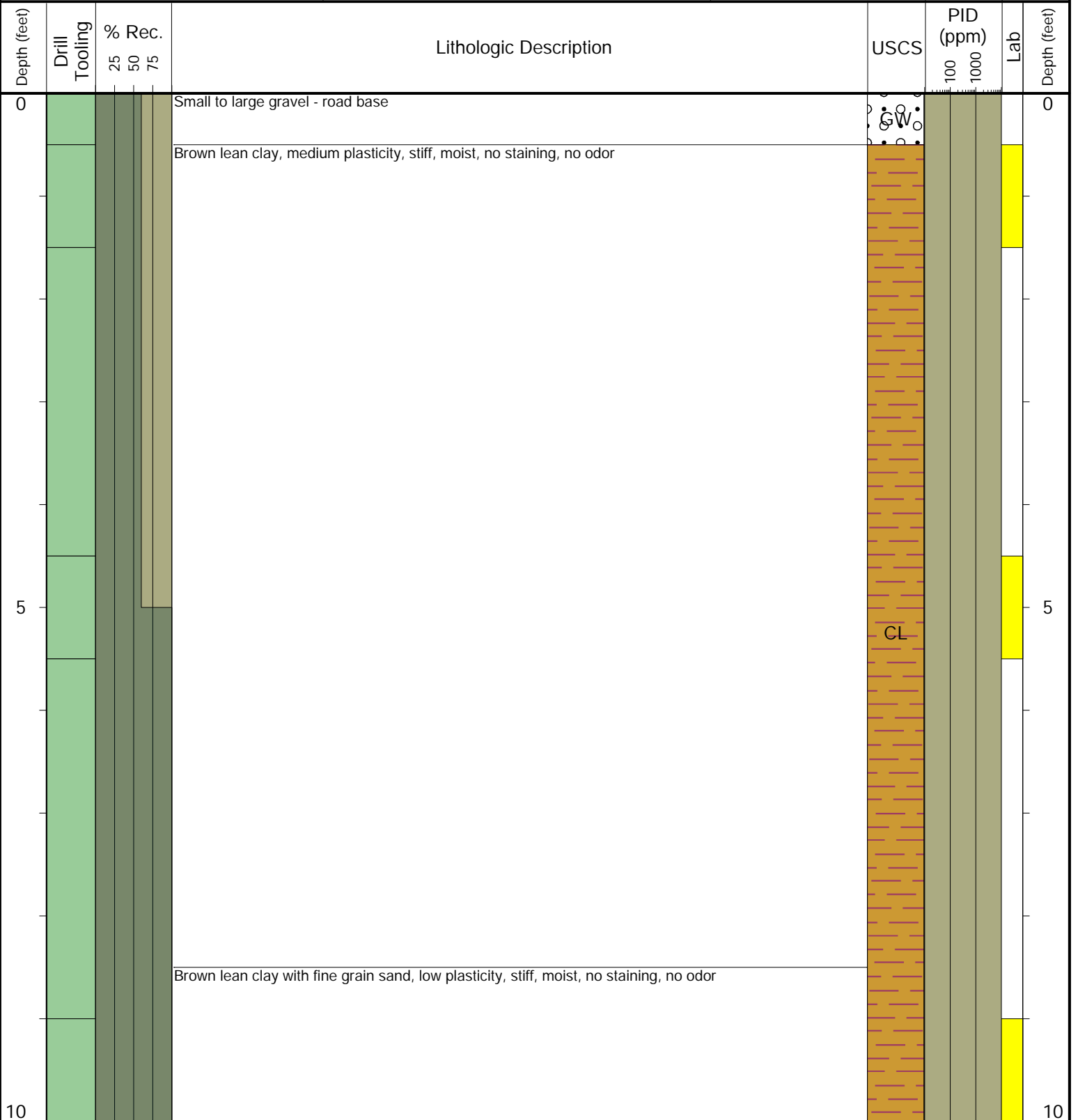
LOCATION: Weld County, CO

LATITUDE (NAD 83): 40.102635

LONGITUDE (NAD 83): -104.551629

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Dennis Gray

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 10/18/23-10/18/23

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

BRNAK 34-28 Facility

BORING ID: BH02

LOCATION: Weld County, CO

LATITUDE (NAD 83): 40.102686

LONGITUDE (NAD 83): -104.551647

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite

Depth (feet)	Drill Tooling	% Rec. 25 50 75	Lithologic Description	USCS	PID (ppm)		Lab	Depth (feet)
					100	1000		
0			Small to large gravel - road base	GW				0
			Brown lean clay, medium plasticity, hard, dry, no staining, no odor					
			Brown lean clay, stiff, moist, no staining, no odor					
5			Brown lean clay, medium stiff, moist, no staining, no odor	CL				5
			Brown to light gray lean clay, low plasticity, stiff, moist, no staining, no odor					
10								10

Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Dennis Gray

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 10/18/23-10/18/23

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

BRNAK 34-28 Facility

BORING ID: BH03

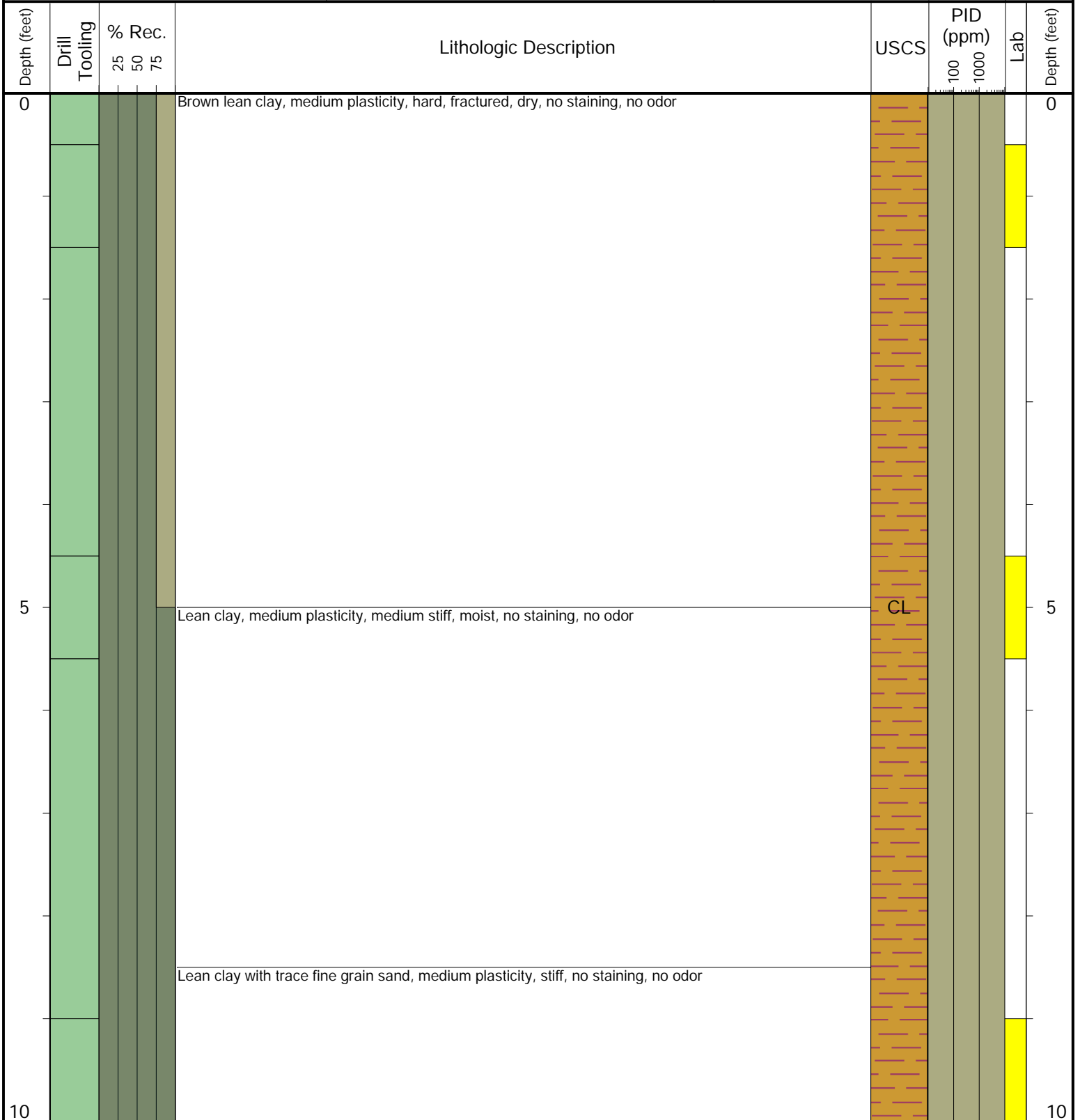
LOCATION: Weld County, CO

LATITUDE (NAD 83): 40.102626

LONGITUDE (NAD 83): -104.551566

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

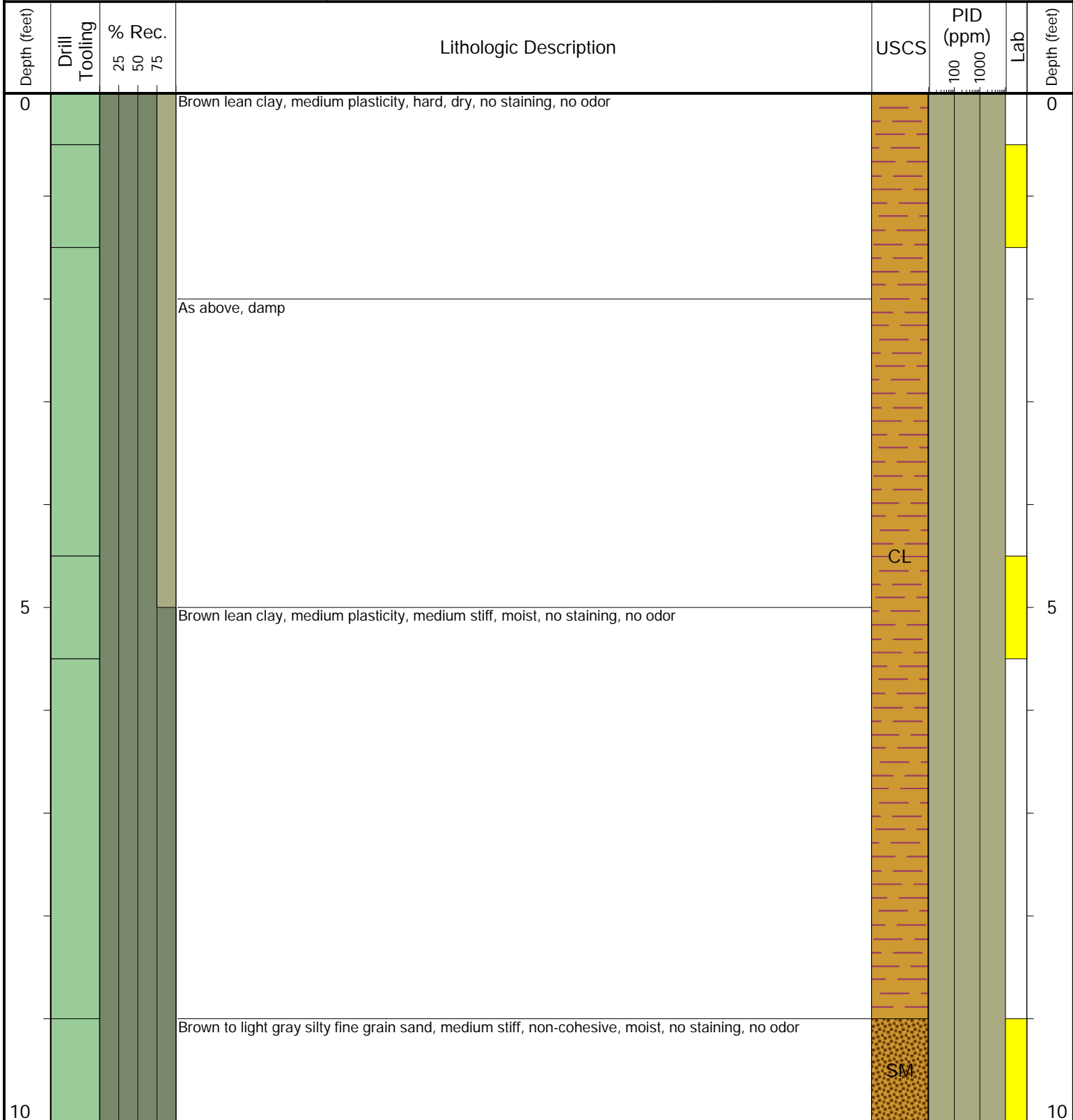
Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron	BRNAK 34-28 Facility
LOGGED BY: Dennis Gray	
PROJECT MANAGER: Jake Whritneour	BORING ID: BH04
DRILLING CONTRACTOR: Tasman	
DRILLING EQUIPMENT: Geoprobe	LOCATION: Weld County, CO
DRILL BIT SIZE (INCHES): 3.25	LATITUDE (NAD 83): 40.102512
DATE STARTED - COMPLETED: 10/18/23-10/18/23	LONGITUDE (NAD 83): -104.551675
TOTAL WELL DEPTH (FT. BGS): 10	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Dennis Gray

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 10/18/23-10/18/23

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

BRNAK 34-28 Facility

BORING ID: BH05

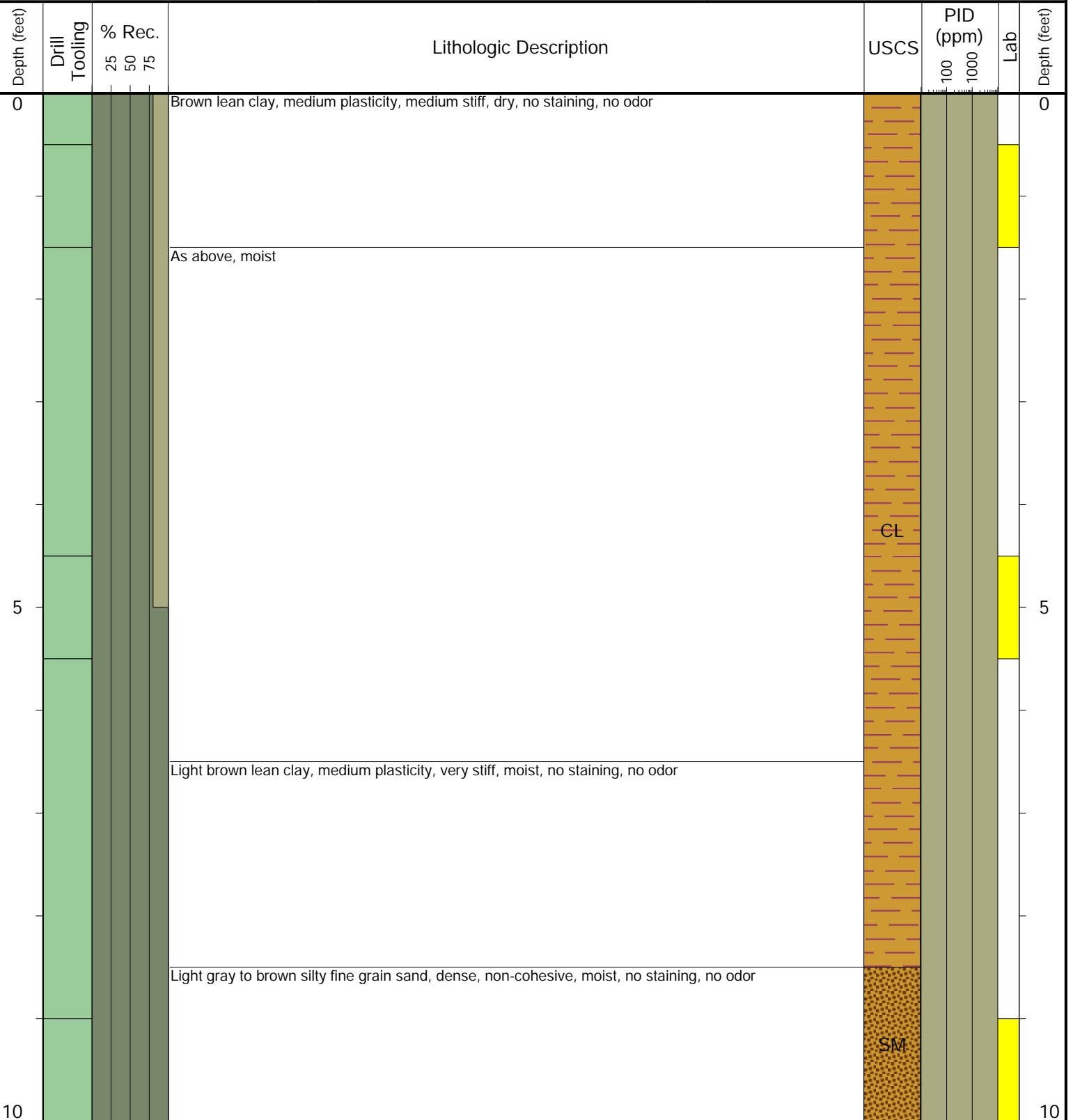
LOCATION: Weld County, CO

LATITUDE (NAD 83): 40.102629

LONGITUDE (NAD 83): -104.551732

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Dennis Gray

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 10/18/23-10/18/23

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

BRNAK 34-28 Facility

BORING ID: BH06

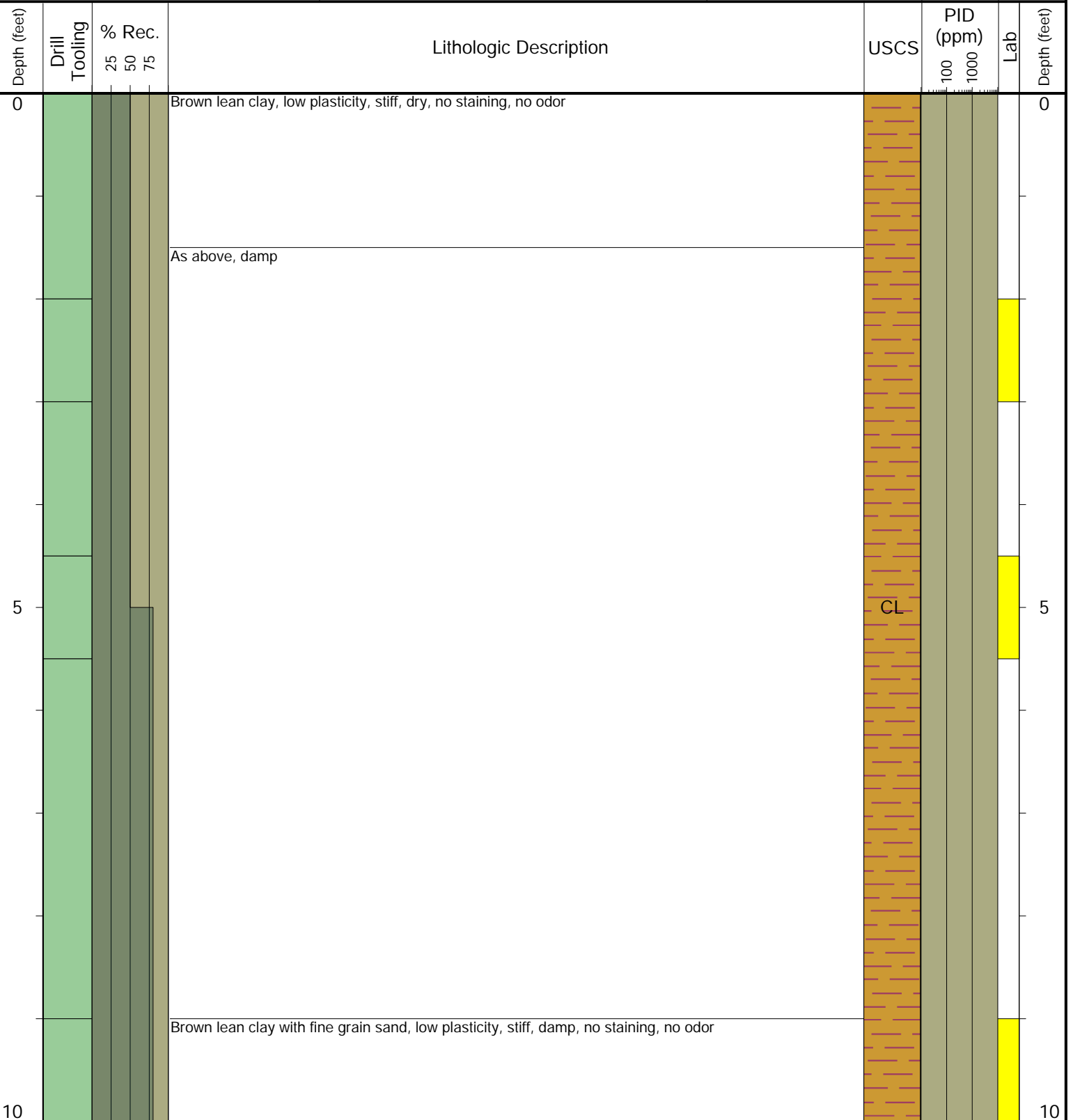
LOCATION: Weld County, CO

LATITUDE (NAD 83): 40.102434

LONGITUDE (NAD 83): -104.551692

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Dennis Gray

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 10/18/23-10/18/23

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

BRNAK 34-28 Facility

BORING ID: BH07

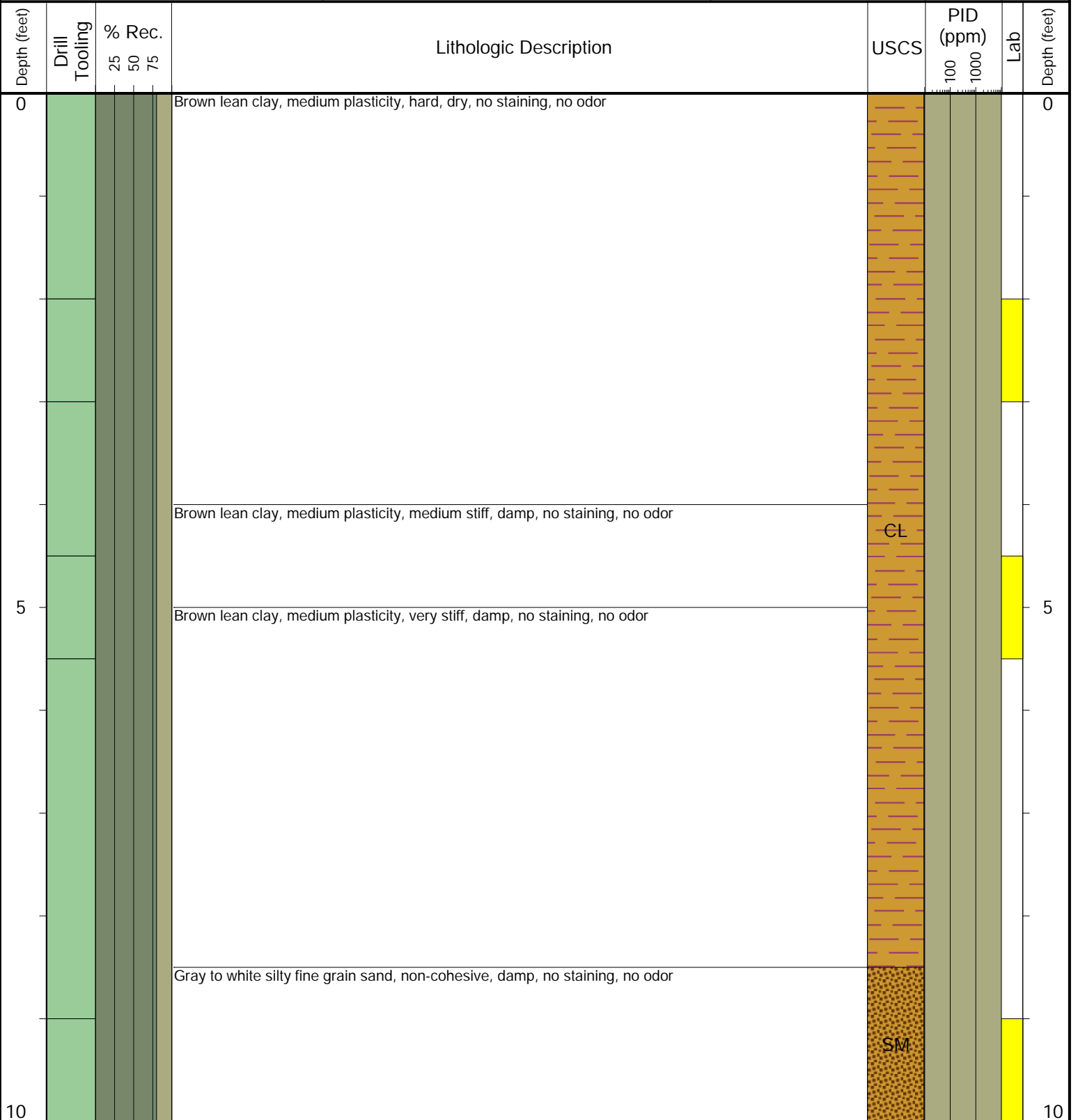
LOCATION: Weld County, CO

LATITUDE (NAD 83): 40.102429

LONGITUDE (NAD 83): -104.551628

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

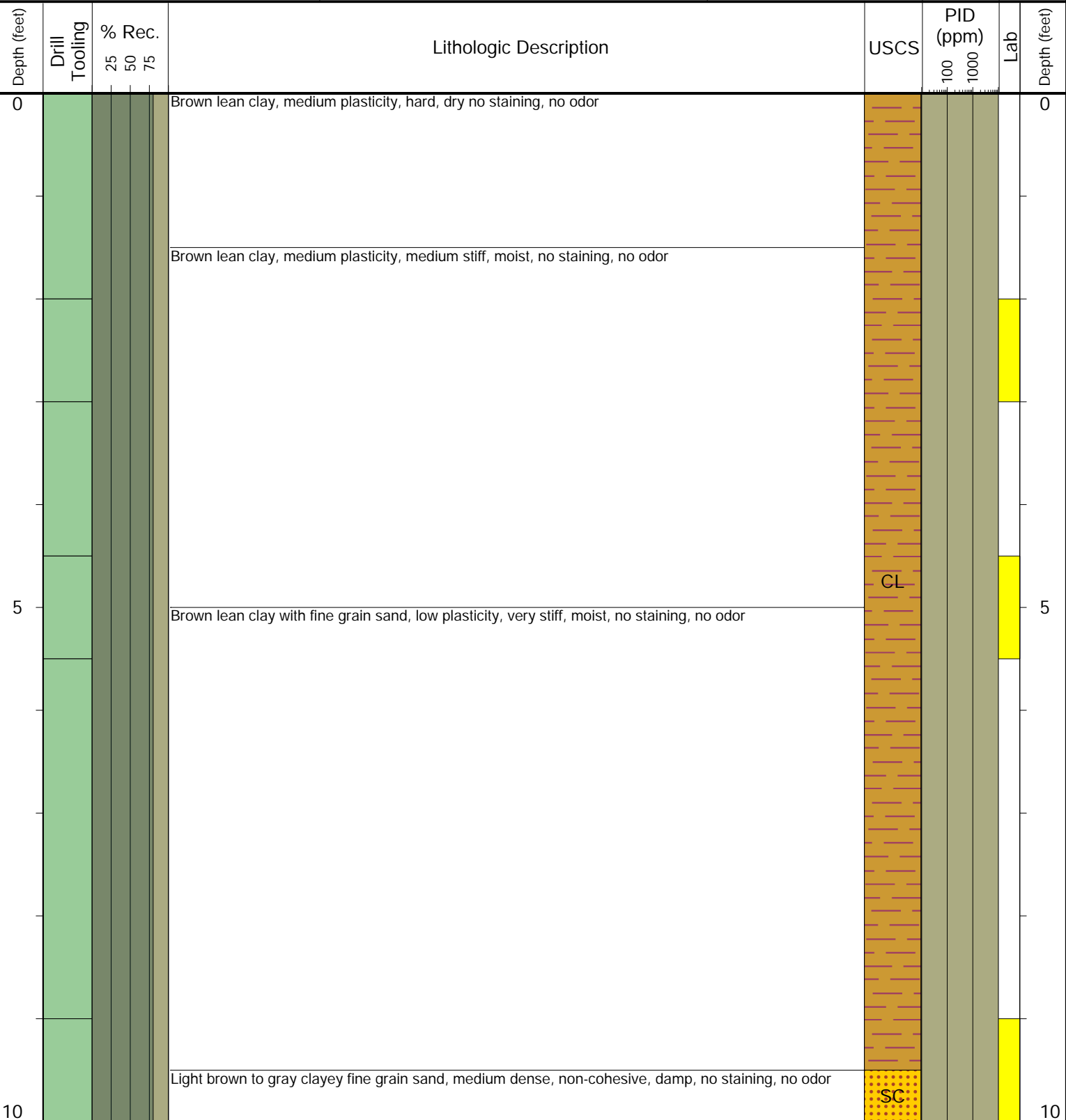
Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron	BRNAK 34-28 Facility
LOGGED BY: Dennis Gray	
PROJECT MANAGER: Jake Whritneour	BORING ID: BH08
DRILLING CONTRACTOR: Tasman	
DRILLING EQUIPMENT: Geoprobe	LOCATION: Weld County, CO
DRILL BIT SIZE (INCHES): 3.25	LATITUDE (NAD 83): 40.10237
DATE STARTED - COMPLETED: 10/18/23-10/18/23	LONGITUDE (NAD 83): -104.55169
TOTAL WELL DEPTH (FT. BGS): 10	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

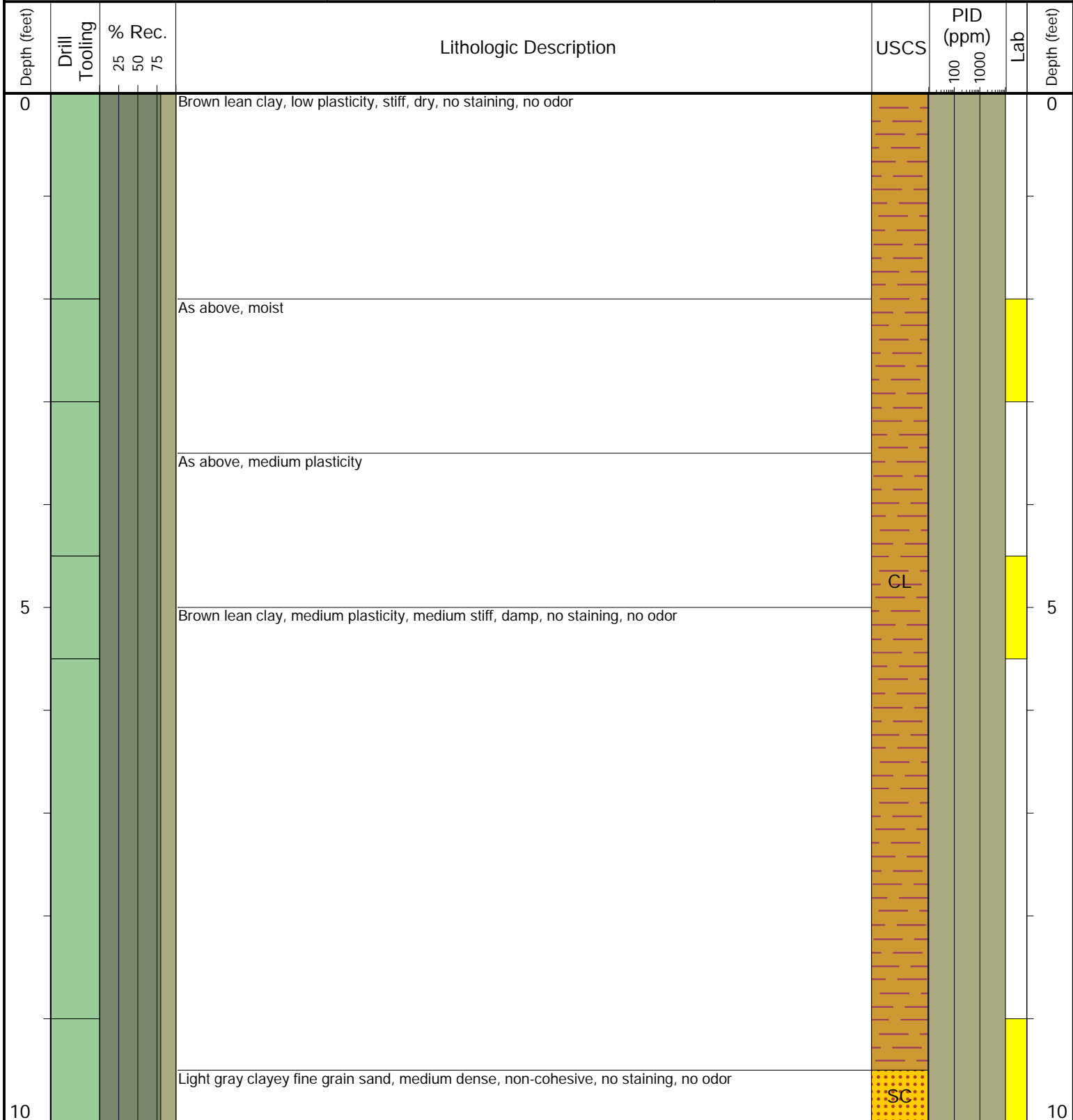
Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron	BRNAK 34-28 Facility
LOGGED BY: Dennis Gray	
PROJECT MANAGER: Jake Whritneour	BORING ID: BH09
DRILLING CONTRACTOR: Tasman	
DRILLING EQUIPMENT: Geoprobe	LOCATION: Weld County, CO
DRILL BIT SIZE (INCHES): 3.25	LATITUDE (NAD 83): 40.102432
DATE STARTED - COMPLETED: 10/18/23-10/18/23	LONGITUDE (NAD 83): -104.551797
TOTAL WELL DEPTH (FT. BGS): 10	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Lily Buck

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 08/01/24-08/01/24

TOTAL WELL DEPTH (FT. BGS): 15

DEPTH WATER ENCOUNTERED (FT. BGS): NA

BRNAK 34-28 Facility

BORING ID: BH02R

LOCATION: Weld, CO

LATITUDE (NAD 83): 40.102684

LONGITUDE (NAD 83): -104.551644

GROUND ELEVATION (FT. AMSL):

ABANDONMENT METHOD: Native Soils

Depth (feet)	Drill Tooling	% Rec. 25 50 75	Lithologic Description	USCS	PID (ppm)		Lab	Depth (feet)
					100	1000		
0			Light brown, well graded gravel, dry, fine grained, no staining, no odor	GW				0
			Dark brown, lean clay w/ fine grain sand, low plasticity, no staining, no odor	CL				
			No recovery	NA				
5			Gray, silty sand, poorly graded, fine grained, moist, no staining, no odor	SM				5
			Brown, lean clay, low plasticity, moist, no staining, no odor	CL				
			Gray/red, siltstone residuum with sand, poorly graded, fine grained, moist, no staining, no odor	SM				
			No recovery	NA				
10			Brown, sandstone residuum with silt, poorly graded, fine grained, moist, iron staining, no odor	SM				10
			No recovery	NA				
15								15

Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY:

PROJECT MANAGER:

DRILLING CONTRACTOR:

DRILLING EQUIPMENT:

DRILL BIT SIZE (INCHES):

DATE STARTED - COMPLETED:

TOTAL WELL DEPTH (FT. BGS):

DEPTH WATER ENCOUNTERED (FT. BGS):

BRNAK 34-28 Facility

BORING ID: BH04R

LOCATION:

LATITUDE (NAD 83):

LONGITUDE (NAD 83):

GROUND ELEVATION (FT. AMSL):

ABANDONMENT METHOD:

Depth (feet)	Drill Tooling	% Rec. 25 50 75	Lithologic Description	USCS	PID (ppm)		Lab	Depth (feet)
					100	1000		
0			Brown, silty sand w/ clay, poorly graded, fine grained, low plasticity, dry, no staining, no odor	SM				0
			No recovery	NA				
5			Brown, silt w/ clay, low plasticity, moist, no staining, no odor	ML				5
			Gray, siltstone residuum, low plasticity, moist, no staining, no odor	SM				
			No Recovery	NA				
10			Gray, siltstone residuum w/ clay, low plasticity, moist, no staining, no odor	SM				10
			As above, organic staining	SM				
15								15

Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Jeff Rollins

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 08/01/24-08/01/24

TOTAL WELL DEPTH (FT. BGS): 15

DEPTH WATER ENCOUNTERED (FT. BGS): NA

BRNAK 34-28 Facility

BORING ID: BH07R

LOCATION: Weld, CO

LATITUDE (NAD 83): 40.102427

LONGITUDE (NAD 83): -104.55163

GROUND ELEVATION (FT. AMSL):

ABANDONMENT METHOD: Native Soils

Depth (feet)	Drill Tooling	% Rec. 25 50 75	Lithologic Description	USCS	PID (ppm)		Lab	Depth (feet)
					100	1000		
0			Brown, clayey sand, poorly graded, fine grained, no plasticity, dry, no odor, no staining	SC				0
			Brown, silt w/ clay, low plasticity, moist, no staining, no odor	ML				
			No recovery	NA				
			As above	ML				
5			No Recovery	NA				5
			Light Gray, sandstone residuum, poorly graded, fine grained, some organic staining, no staining, no odor	SW				
10			Olive gray, Claystone residuum w/ sand, poorly graded, fine grained, low plasticity, medium consistency, iron staining, no odor	CL				10
			Olive gray, Claystone residuum w/ sand, poorly graded, fine grained, low plasticity, stiff consistency, iron staining, no odor					
			As above, v. stiff consistency					
15								15

Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Lily Buck

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 08/01/24-08/01/24

TOTAL WELL DEPTH (FT. BGS): 15

DEPTH WATER ENCOUNTERED (FT. BGS): NA

BRNAK 34-28 Facility

BORING ID: BH12

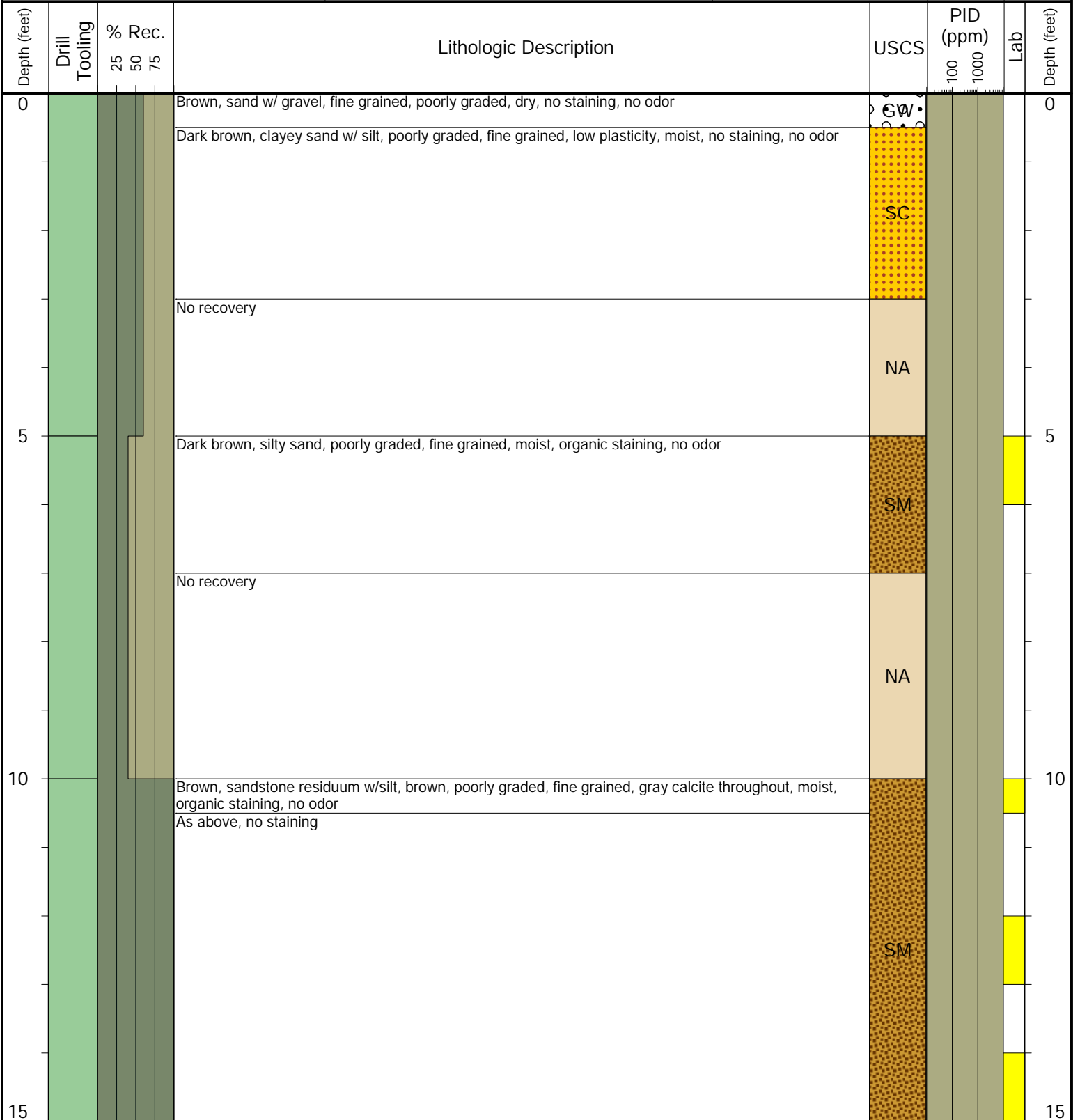
LOCATION: Weld, CO

LATITUDE (NAD 83): 40.102508

LONGITUDE (NAD 83): -104.551767

GROUND ELEVATION (FT. AMSL):

ABANDONMENT METHOD: Native Soils



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Jeff Rollins

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 08/01/24-08/01/24

TOTAL WELL DEPTH (FT. BGS): 15

DEPTH WATER ENCOUNTERED (FT. BGS): NA

BRNAK 34-28 Facility

BORING ID: BH13

LOCATION: Weld, CO

LATITUDE (NAD 83): 40.102508

LONGITUDE (NAD 83): -104.551574

GROUND ELEVATION (FT. AMSL):

ABANDONMENT METHOD: Native Soils

Depth (feet)	Drill Tooling	% Rec. 25 50 75	Lithologic Description	USCS	PID (ppm)		Lab	Depth (feet)
					100	1000		
0			Brown, clayey sand, poorly graded, fine grained, no plasticity, dry, no staining, no odor (backfill w/ clasts of residuum, and plant matter)	SC				0
			No recovery	NA				
5			Brown/olive brown, claystone residuum, low plasticity, moist, no staining, no odor	CL				5
			Gray, Sandstone residuum w/ thin lenses of claystone, poorly graded, fine grained, moist, iron staining, no odor	SP				
			No recovery					
10			No Recovery	NA				10
15								15

Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Lily Buck

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 08/01/24-08/01/24

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NA

BRNAK 34-28 Facility

BORING ID: BH14

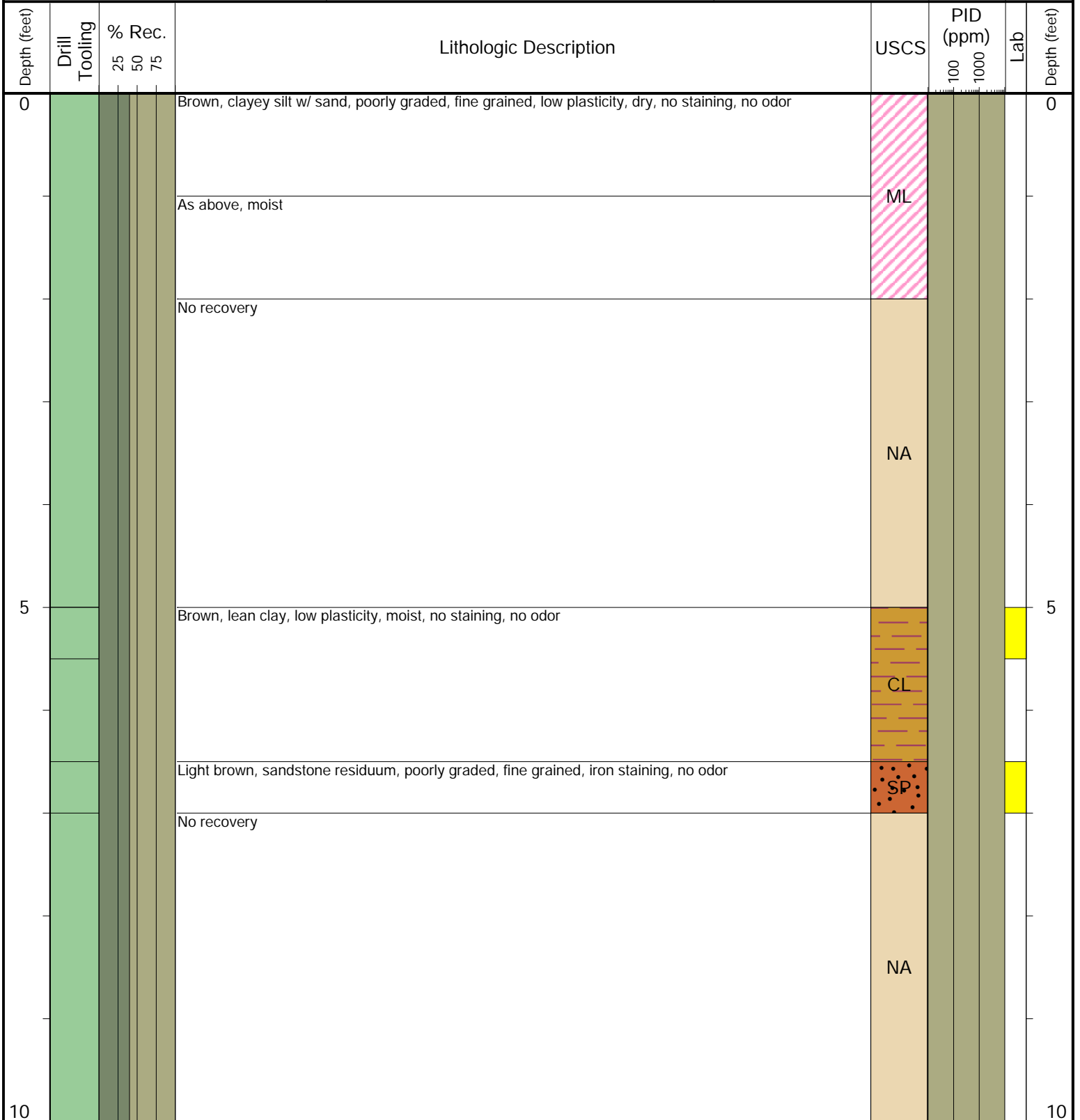
LOCATION: Weld, CO

LATITUDE (NAD 83): 40.102316

LONGITUDE (NAD 83): -104.551744

GROUND ELEVATION (FT. AMSL):

ABANDONMENT METHOD: Native Soils



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Lily Buck

PROJECT MANAGER: Jake Whritneour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 08/01/24-08/01/24

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NA

BRNAK 34-28 Facility

BORING ID: BH15

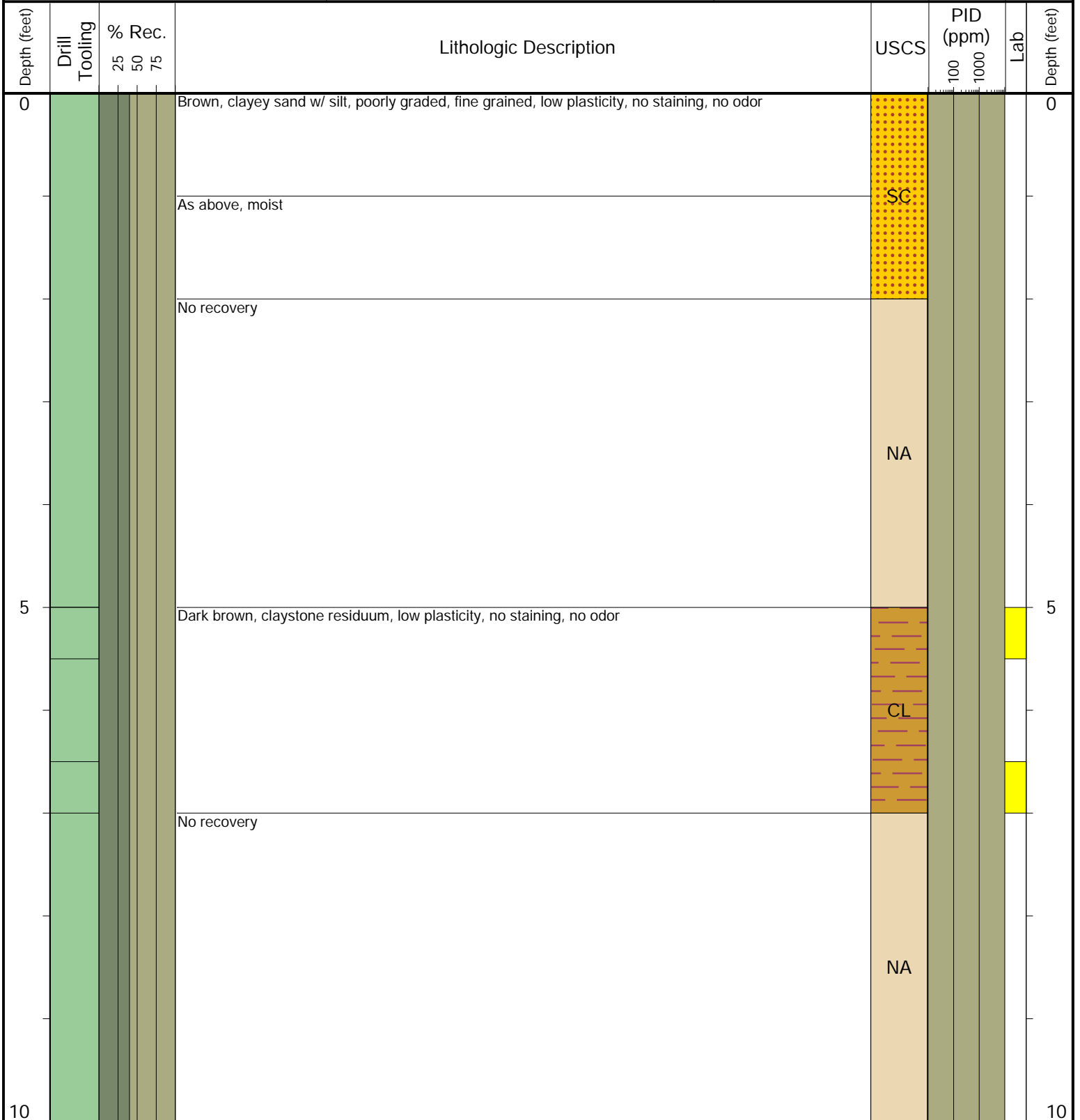
LOCATION: Weld, CO

LATITUDE (NAD 83): 40.102316

LONGITUDE (NAD 83): -104.551638

GROUND ELEVATION (FT. AMSL):

ABANDONMENT METHOD: Native Soils



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Chevron	BRNAK 34-28 Facility
LOGGED BY: Jeff Rollins	
PROJECT MANAGER: Jake Whritneour	BORING ID: BH16
DRILLING CONTRACTOR: Tasman	
DRILLING EQUIPMENT: Geoprobe	LOCATION: Weld, CO
DRILL BIT SIZE (INCHES): 3.25	LATITUDE (NAD 83): 40.102428
DATE STARTED - COMPLETED: 08/01/24-08/01/24	LONGITUDE (NAD 83): -104.55154
TOTAL WELL DEPTH (FT. BGS): 12	GROUND ELEVATION (FT. AMSL):
DEPTH WATER ENCOUNTERED (FT. BGS): NA	ABANDONMENT METHOD: Native Soils

Depth (feet)	Drill Tooling	% Rec. 25 50 75	Lithologic Description	USCS	PID (ppm)		Lab	Depth (feet)
					100	1000		
0			Brown, clayey sand, poorly graded, fine grained, no plasticity, dry, no staining, no odor (backfill w/ plant matter)	SC				0
			No recovery	NA				
5			As above	SC				5
			Light gray, claystone residuum w/ thin lenses of claystone, fine grained, poorly graded, moist, no staining, no odor	CL				
			No recovery	NA				
10			Light gray, claystone residuum w/ thin lenses of claystone, fine grained, poorly graded, moist, no staining, no odor	CL				10

Drilling / Sample Method:

- Macro-Core
- Hand Auger
- Expendable Well Tip
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab