

SITE ASSESSMENT REPORT
LOLOFF 2, 3, B35-19 FACILITY
COGCC SPILL TRACKING # 481084
COGCC REMEDIATION # 20046

Prepared for:



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

September 27, 2022

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

Re: **Site Assessment Report**
 Loloff 2, 3, B35-19 Facility
 Spill/Release Point ID: 481084
 Remediation #: 20046
 NWNW S35 T5N R64W
 Weld County, Colorado

Dear Mr. Peterson:

Below please find a copy of the above referenced Site Assessment Report (Report) for the Loloff 2, 3, B35-19 Facility (Site) located in Weld County, Colorado. The text below describes decommissioning, assessment, and associated soil and groundwater sampling conducted by Tasman, Inc. (Tasman), on behalf of Noble Energy, Inc. (Noble) between October 29, 2021, and June 22, 2022.

Introduction

This document describes the results of soil and groundwater sampling activities conducted at the Site to evaluate potential subsurface impacts. The activities described below were performed in response to the discovery of impacted material below the separator flowline during decommissioning activities at the Site and confirmed on November 9, 2021.

Site Background

The Site is located approximately 2.7 miles southwest of Kersey in Weld County, Colorado. The Site legal description is the northwest quarter of the northwest quarter of Section 35, Township 5 North, Range 64 West, 6th Principal Meridian. The Site is on terrain that slopes gradually to the south at latitude 40.363328° and longitude -104.521721° [North American Datum of 1983(NAD83)] and is approximately 0.25 miles east of the intersection of County Road 57 and County Road 52 (Figure 1).

Tasman was retained by Noble on October 29, 2021, to complete soil sampling and documentation during Site decommissioning and abandonment activities at the facility. As reported in the initial Form 19, historical impacts were confirmed below the separator flowline on November 9, 2021. The Form 19 was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on November 10, 2021. The COGCC subsequently issued Spill/Release Point ID Number 481084 for this event. The COGCC assigned Remediation Number 20046 for the project.

Site Decommissioning Activities

Between October 29, 2021, and February 28, 2022, Tasman completed decommissioning soil sampling and documentation for the Loloff 2, 3, B35-19 Facility. Soil samples were collected throughout the Site targeting the following different areas and pieces of production equipment:

Area of Site	Sampling	Sample description
Aboveground storage tank (AST)	AST01@0.5'	Surface soil sample below former tank location.
Horizontal separators	SEP01-FL@3', and SEP01-DL@3'	Sample beneath separator flowline riser and separator dump line riser.
Meter house	MH01@0.5'	Surface sample beneath aboveground run of meter piping.
Flare stack	FLARE01@0.5'	Surface sample at former flare stack location.
Partially buried produced water vault (PWV)	SS01@2.5' through SS06@2.5', FS01@5', and FS02@5'	Six sidewall samples and two excavation floor samples.
Background area	BG01@3', and BG01@5'	Vegetated area north of the Site.

All soil samples collected were field screened for volatile organic compounds (VOC) using a photoionization detector (PID) and standard headspace sampling techniques. Seven soil samples, SS02@2.5', SS04@2.5', FS01@5', FS02@5', AST01@0.5', SEP01-FL@3', and SEP01-DL@3' were submitted to Origins Laboratory Inc. (Origins) in Denver, Colorado for laboratory analysis. The samples were submitted for laboratory analysis of the COGCC Table 915-1 list of organics in soil using United States Environmental Protection Agency (USEPA) Method 8260B and USEPA Method 8270D, and total petroleum hydrocarbons (TPH) using USEPA Methods 8260B and 8015D. The samples were also submitted for laboratory analysis of pH, electrical conductivity (EC), sodium absorption ratio (SAR) using USEPA saturated paste extraction method, and boron using the hot water-soluble soil extract method. Soil sample SEP01-FL@3', collected from the source, was also submitted to Origins for laboratory analysis of COGCC Table 915-1 metals in soil using USEPA Method 6020B. On February 28, 2022, Tasman collected two background samples from a vegetated area north of the Site using a hand auger, and field screened both samples for VOCs using a PID and standard headspace sampling techniques. The background samples were submitted to Origins for laboratory analysis of pH using USEPA saturated paste extraction method, and sample BG01@3' was also submitted for analysis of COGCC Table 915-1 metals in soil using USEPA Method 6020B. Groundwater was not encountered during decommissioning activities at the Site. Decommissioning soil analytical results are summarized in Table 1 and illustrated on Figure 2. Decommissioning soil laboratory analytical reports are included in Attachment A.

Site Assessment Activities

Between June 17 and June 22, 2022, Tasman completed site assessment activities to delineate potential subsurface soil and groundwater impacts identified during decommissioning activities at the facility. Tasman advanced a total of five boreholes (BH01 through BH05) in the area of the former separator flowline to 13.5-15 feet below ground surface (ft bgs) using a hand auger and an AMS Power Probe via direct push. During soil boring operations, soil samples were collected, and field screened for VOCs using a PID and standard headspace sampling techniques. The following soil samples were collected at depths corresponding to initial observed impacts, and the terminal depth of the borings:

BH01@9-10'	BH02@3-4'	BH03@3-4'	BH04@3-4'	BH05@3-4'
BH01@12-14.5'	BH02@13-14'	BH03@12-13.5'	BH04@13-14'	BH05@13-15'

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

During soil boring activities groundwater was encountered in borings BH01 through BH04 at approximately 8 ft bgs, and no groundwater was encountered while advancing boring BH05. While advancing all five borings a hard clay layer was encountered from 13.5-15 ft bgs resulting in drill rig refusal. Soil boring BH01, advanced in the source area, was converted to a temporary groundwater monitoring well set at approximately 14.5 ft bgs. On June 22, 2022, Tasman collected a groundwater sample from groundwater monitoring well BH01 to evaluate dissolved phase petroleum hydrocarbon groundwater impacts in the source area. The groundwater sample was submitted to Summit for laboratory analysis of benzene, toluene, ethylbenzene, total xylenes, naphthalene, 1,2,4-trimethylbenzene (1,2,4-TMB), and 1,3,5-trimethylbenzene (1,3,5-TMB) using USEPA Method 8260B. The groundwater sample was also analyzed for inorganic parameters total dissolved solids (TDS) using Method SM2540C, as well as chloride and sulfate ion using USEPA Method 300.0. On September 16, 2022, Tasman collected a groundwater sample from groundwater monitoring well BH01, which was submitted to Summit for laboratory analysis of benz(a)anthracene (Benz(a)) using USEPA Method 8270D SIM. During groundwater sampling activities the groundwater level in BH01 was measured and recorded using an interface probe and subsequently converted to an elevation which is presented in Table 2. The groundwater analytical results are summarized in Table 3, shown on Figure 4, and the laboratory groundwater analytical report is included in Attachment C. At the conclusion of the site assessment boreholes BH02 through BH05 were backfilled with bentonite.

Results

Laboratory analytical results for soil samples collected during initial facility decommissioning and the subsequent site assessment activities indicate all samples are compliant with COGCC Table 915-1 Protection of Groundwater Soil Screening Level (GW SSL) standards for hydrocarbon compounds, except for decommissioning sample SEP01-FL@3'. Laboratory analytical results from soil sample SEP01-FL@3' indicate that (Benz(a)) was detected above the COGCC Table 915-1 GW SSL

standard. Laboratory analytical results indicate all soil samples collected during facility decommissioning and subsequent site assessment activities are compliant with COGCC Table 915-1 Soil Suitability for Reclamation (SSR) standards, except for pH in decommissioning samples FS01@5', and FS02@5', as well as in site assessment samples BH02@3-4', and BH05@3-4'. Laboratory analytical results for decommissioning waste characterization soil sample SEP01-FL@3' and all 10 soil samples collected during the site assessment indicate metal impacts above applicable COGCC Table 915-1 GW SSL standards and consisted of a combination of arsenic and selenium. Additionally, laboratory analytical results for soil sample BH04@13-14', collected during the site assessment, indicate barium was above applicable COGCC Table 915-1 GW SSL standards. Background soil sample results for arsenic and selenium indicate elevated levels are present in adjacent native soil and that they are comparable to those observed in the source area. Although background barium concentrations were below COGCC Table 915-1 GW SSL standards, elevated background concentrations were detected at 53.9 milligrams per kilogram (mg/kg). Soil sample analytical results from facility decommissioning and the site assessment are summarized in Table 1.

Groundwater laboratory analytical results from temporary monitoring well BH01, installed during the site assessment, indicate groundwater in the source area is compliant with COGCC Table 915-1 Organic Compounds in Groundwater (OCG) standards. Groundwater analytical results are summarized in Table 3 and shown on Figure 4.

Conclusions

Soil hydrocarbon impacts first identified during facility decommissioning at sample location SEP01-FL@3' have been delineated vertically and horizontally by the site assessment soil boring samples. Soil hydrocarbon impacts were below laboratory detection in all five soil borings bounding the previously decommissioned separator flowline (Figure 3). Laboratory results from the background soil samples collected during decommissioning indicate that adjacent native soils contain elevated arsenic and selenium concentrations comparable to those observed in the source area.

Organic compounds, including Benz(a), were not detected above laboratory reporting limits in the groundwater sample collected from monitoring well BH01, advanced in the source area. A hard clay layer was encountered from 13.5-15 ft bgs at the site, resulting in drill rig refusal in each of the five site assessment borings. Although groundwater was encountered in four of the five borings at approximately 8 ft bgs, the static water level observed in monitoring well BH01, two days post-development, was measured at 11.54 ft bgs, but rose to 8.94 ft bgs after one quarter of stabilization (Table 2).

Based on the lack of evidence to suggest that the Benz(a) impacts have migrated to the water table, Noble proposes to cease future groundwater sampling and remove the impacted soils identified at SEP01-FL@3' through a remedial excavation. Prior to conducting the remedial excavation, additional background samples will be collected to determine if pH, arsenic, barium, and selenium are contaminants of concern at the site. Pending the receipt of compliant excavation confirmatory sampling results, Noble will request a No Further Action (NFA) designation for the Site from COGCC. Following NFA approval by the COGCC, Site reclamation will be completed in accordance with COGCC Rule 1004.

Remarks

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

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

Sincerely,
Tasman, Inc.



Jake Whritenour, Program Manager

Attachments:

Table 1 – Soil Analytical Data

Table 2 – Groundwater Elevation Data

Table 3 – Groundwater Analytical Data

Figure 1 – Site Location Map

Figure 2 – Site Decommissioning Soil Analytical Results Map (10/29/2022 & 02/28/2022)

Figure 3 – Site Assessment Soil Analytical Results Map (06/17/2022)

Figure 4 – Site Assessment Groundwater Analytical Results Map (06/22/2022 & 09/16/2022)

Attachment A – Laboratory Soil Analytical Data Reports

Attachment B – Boring Logs

Attachment C – Laboratory Groundwater Analytical Data Reports

TABLES

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - LOLOFF 2,3, B35-19 FACILITY

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS02@2.5'	10/29/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
SS04@2.5'	10/29/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	25.6	<100	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
FS01@5'	10/29/21	<0.00200	<0.00200	<0.00200	<0.00200	0.00256	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	0.00129	0.00425	0.00453	0.0123	0.00549	0.0115	0.00147	0.0124	<0.00067	0.00426	0.0109	0.000832	0.00141
FS02@5'	10/29/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
AST01@0.5'	10/29/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
SEP01-FL@3'	10/29/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	0.000842	<0.200	<25.0	<100	0.00718	0.0183	0.0329	0.0205	0.0253	0.00737	0.0278	0.00221	0.0874	0.00951	0.00955	0.0669	<0.00067	<0.00067
SEP01-DL@3'	10/29/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<25.0	<100	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067	<0.00067
BH01@9-10'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH01@12-14.5'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@3-4'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@13-14'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH03@3-4'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH03@12-13.5'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH04@3-4'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH04@13-14'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH05@3-4'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH05@13-15'	06/17/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
SS02@2.5'	10/29/21	8.14	0.618	0.524	<0.199
SS04@2.5'	10/29/21	7.91	0.334	0.659	<0.198
FS01@5'	10/29/21	8.39	1.05	0.471	<0.199
FS02@5'	10/29/21	8.52	3.43	0.559	0.318
AST01@0.5'	10/29/21	7.63	0.676	0.433	<0.198
SEP01-FL@3'	10/29/21	7.94	0.253	0.368	<0.200
SEP01-DL@3'	10/29/21	7.97	0.404	0.398	<0.199
BG01@3'	02/28/22	7.78	NA	NA	NA
BG01@5'	02/28/22	7.67	NA	NA	NA
BH01@9-10'	06/17/22	8.04	0.563	0.773	0.0645
BH01@12-14.5'	06/17/22	8.05	1.05	0.962	0.211
BH02@3-4'	06/17/22	8.45	0.0755	0.152	0.0487
BH02@13-14'	06/17/22	7.95	1.66	1.19	0.226
BH03@3-4'	06/17/22	8.18	0.152	0.362	0.0641
BH03@12-13.5'	06/17/22	7.98	1.28	0.886	0.152
BH04@3-4'	06/17/22	8.25	0.0998	0.170	0.0722
BH04@13-14'	06/17/22	8.16	1.66	0.850	0.203
BH05@3-4'	06/17/22	8.51	0.448	0.286	0.326
BH05@13-15'	06/17/22	8.17	1.39	0.586	0.186

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^{2,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
SEP01-FL@3'	10/29/21	1.43	56	<0.25	<1.03	4.4	5.89	5.21	0.283	<0.25	23
BG01@3'	02/28/22	1.3	53.9	<0.25	<0.505	4.35	4.25	4.81	0.298	<0.25	17.9
BH01@9-10'	06/17/22	2.82	73.6	<0.230	<0.30	5.65	5.97	7.61	0.603	<0.0230	28.8
BH01@12-14.5'	06/17/22	7.46	26.3	<0.238	<0.30	13.8	11.6	14.7	1.14	0.0285	65.1
BH02@3-4'	06/17/22	1.51	47.0	<0.210	<0.30	4.11	3.75	4.46	0.513	<0.0210	17.3
BH02@13-14'	06/17/22	5.58	28.2	<0.236	<0.30	11.4	10.0	13.4	0.922	<0.0236	58.6
BH03@3-4'	06/17/22	2.80	81.9	<0.220	<0.30	6.42	5.99	8.02	0.640	0.0337	28.1
BH03@12-13.5'	06/17/22	5.37	29.4	<0.234	<0.30	13.7	12.6	14.3	1.08	0.0274	67.1
BH04@3-4'	06/17/22	1.52	55.3	<0.213	<0.30	4.13	4.49	4.90	0.482	<0.0213	19.1
BH04@13-14'	06/17/22	7.01	83.1	<0.238	<0.30	12.3	12.4	13.1	1.04	0.0260	63.6
BH05@3-4'	06/17/22	1.80	58.0	<0.219	<0.30	4.50	4.40	4.58	0.474	0.0228	18.1
BH05@13-15'	06/17/22	6.20	24.4	<0.237	<0.30	13.4	12.1	14.7	1.03	0.0251	64.8

Notes:

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

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/cm = Millimhos per centimeter

mg/L = Milligrams per liter

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

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

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

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

Benz(a) = Benzanthracene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

Benzo(a) = Benzopyrene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

NA = Not analyzed

TABLE 2
GROUNDWATER ELEVATION DATA
NOBLE ENERGY, INC. -LOLOFF 2, 3, B35-19 FACILITY

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) ⁽¹⁾	Depth to LNAPL (ft.) ⁽¹⁾	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01	06/22/22	4656.96	17.03	11.54	ND	ND	4642.53
BH01	09/16/22	4656.96	17.04	8.94	ND	ND	4645.13

Notes:

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

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

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

LNAPL relative density was estimated to be 0.75

Definitions:

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

TABLE 3
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - LOLOFF 2, 3, B35-19 FACILITY

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Benz(a) (µg/L)	TDS (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Standard		5	560	700	1,400	140	67	67	No Standard	<1.25 x Background	250 or <1.25 x Background	250 or <1.25 x Background
BH01	06/22/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	2,850	897	760
BH01	09/16/22	NA	NA	NA	NA	NA	NA	NA	<0.100	NA	NA	NA

Notes:

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

Definitions:

< = Analytical result is less than the indicated laboratory reporting limit
COGCC = Colorado Oil and Gas Conservation Commission
mg/L = Milligrams per liter
µg/L = Micrograms per liter
NA = Not Analyzed
Benz(a) = Benz(a)anthracene
1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
TDS = Total Dissolved Solids

FIGURES

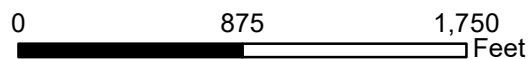
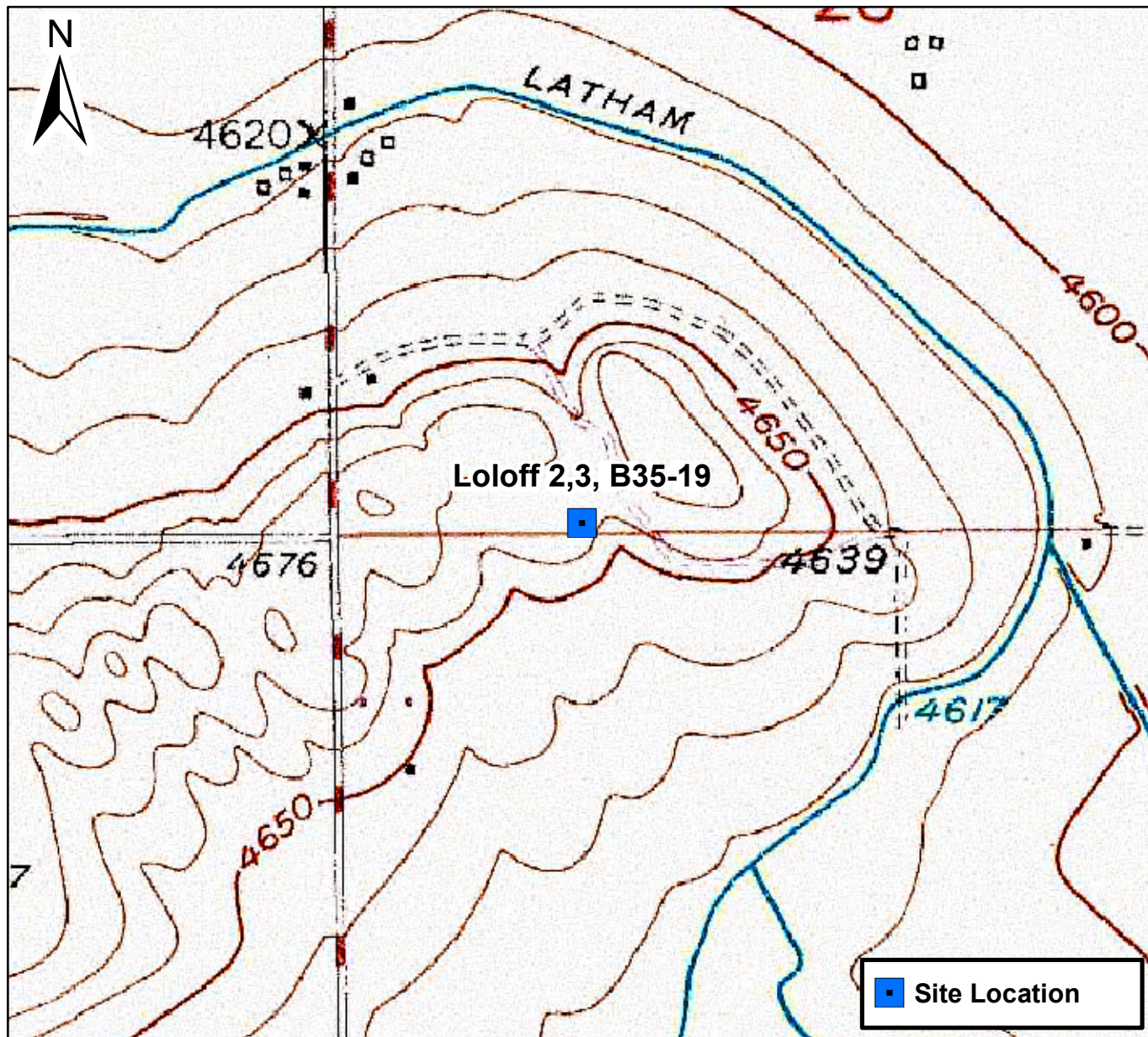
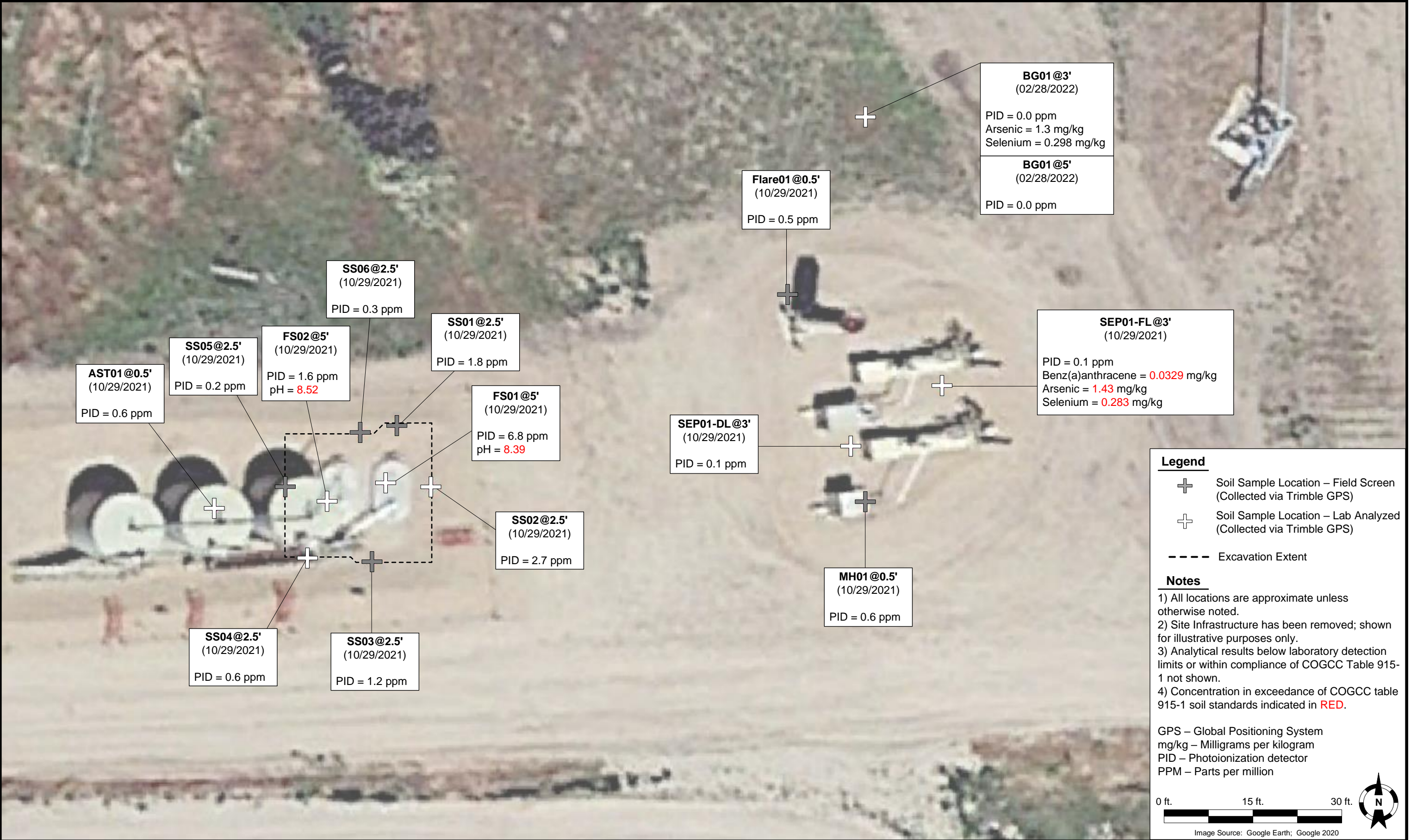



Figure 1


Site Location Map
 Loloff 2, 3, B35-19 Facility
 NWNW S35 T5N R64W
 Weld County, Colorado





DATE:	11/3/2021	 TASMAN Tasman, Inc. 6855 W 119 th Avenue Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Loloff 2, 3, B35-19 Facility NWNW, Section 35, Township 5 North, Range 64 West Weld County, Colorado	Decommissioning & Soil Analytical Results Map (10/29/2021 & 02/28/2022)	FIGURE 2
DESIGNED BY:	JW				
DRAWN BY:	AD				



DATE:	09/08/2022	 TASMAN Tasman, Inc. 6855 W 119 th Avenue Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Loloff 2, 3, B35-19 Facility NWNW, Section 35, Township 5 North, Range 64 West Weld County, Colorado	Site Assessment Soil Analytical Results Map (06/17/2022)	FIGURE 3
DESIGNED BY:	JW				
DRAWN BY:	JB				



DATE:	09/27/2022
DESIGNED BY:	JW
DRAWN BY:	AE



TASMAN

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

Noble Energy, Inc. – DJ Basin
Loloff 2, 3, B35-19 Facility
NWNW, Section 35, Township 5 North, Range 64 West
Weld County, Colorado

Site Assessment
Groundwater Analytical
Results Map
(06/22/2022 & 09/16/2022)

FIGURE
4

ATTACHMENT A
LABORATORY SOIL ANALYTICAL DATA REPORTS

November 11, 2021

Tasman Geosciences

Jake Whritenour

6855 West 119th Avenue

Broomfield CO 80020

Project Name - Noble - Loloff 2,3 B35-19

Project Number - 815901465

Attached are your analytical results for Noble - Loloff 2,3 B35-19 received by Origins Laboratory, Inc. October 29, 2021. This project is associated with Origins project number Y111018-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS02@2.5'	Y111018-01	Soil	October 29, 2021 12:55	10/29/2021 17:00
SS04@2.5'	Y111018-02	Soil	October 29, 2021 13:05	10/29/2021 17:00
FS01@5'	Y111018-03	Soil	October 29, 2021 13:20	10/29/2021 17:00
FS02@5'	Y111018-04	Soil	October 29, 2021 13:25	10/29/2021 17:00
ASf01@0.5'	Y111018-05	Soil	October 29, 2021 13:45	10/29/2021 17:00
SEP01-FL@3'	Y111018-06	Soil	October 29, 2021 14:40	10/29/2021 17:00
SEP01-DL@3'	Y111018-07	Soil	October 29, 2021 14:50	10/29/2021 17:00

Origins Laboratory, Inc.



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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

www.originslaboratory.com

page 1 of 2

11014

ORIGINS
LABORATORY, INC

Client: Noble/Tasman Geosciences
Address: 6855 W 119th Ave
Telephone Number: 303-827-1511
Email Address: jwhritenour@tasman-geo.com

Project Manager: Jake Whritenour, Invoice: L&L
Project Name: Loloff 2,3 B35-19
Project Number: 22-4244-815901465
Samples Collected By: Daniel Quin, Hunter Merlo

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative	Matrix	Analysis	Sample Instructions
SS0202.5'	10/20/10	1255	2	Unpreserved	Soil	VOC-q15 PAH-q15 SAR, EC, pH Boron-plus Hol D	SAR, EC, pH by saturated paste
SS0402.5'		1305					
F50102.5'		1320					915 metals
F50202.5'		1325					added to
AST0100.5'		1345					SEP01-FL05 p8c4
SEP01-FL03'		1440					Kilian's email
SEP01-DL03'		1450					6N 1/10
SS0102.5'		1250					
SS0302.5'		1300					Hold All Analytes
SS0502.5'		1310					
Relinquished By: [Signature]	Date: 10/20/10	Time: 1700		Received By: [Signature]	Date: 10/20/10	Time: 1700	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>
Relinquished By: [Signature]	Date:	Time:		Received By:	Date:	Time:	

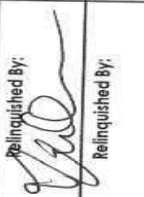


Origins Laboratory, Inc.

Jordan A. Merrill

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.

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

ORIGINS LABORATORY, INC		www.originslaboratory.com	
Client: Noble/Tasman Geosciences		Project Manager: Jake Whittenour; Invoice: Wed 2	
Address: 6855 W 119th Ave		Project Name: Loeff 23 B35-19	
Telephone Number: 303-827-1511		Project Number: EC: 815901465 Task: 247037	
Email Address: jwhittenour@tasman-geo.com		Samples Collected By: Daniel Qua, Hunter Merlo	

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix			Analysis					Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other	VOC-q15	TPH-q15	PAH-q15	SAR, EC, pH	Barren-flus	
550622.5'	10/29/12	1315	2	X						X			X	X	X	X	HOLD All Analytes
																	2
																	3
																	4
																	5
																	6
																	7
																	8
																	9
																	10
Relinquished By: 	Date: 10/29/12	Time: 1700		Received By: 								Date: 10/29/12	Time: 1700	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>			
Relinquished By: 	Date:	Time:		Received By:								Date:	Time:				

Origins Laboratory, Inc.

Men

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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y111018

Client: Tasman

Client/Project ID: Loloff 2-3 B35-19

Checklist Completed by: JG

Shipped Via: HD

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 11/11/12

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid

☐ Water

☐ Other:

Cooler Number/Temperature: 1 16.6 °C

1 °C 1 °C 1 °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Same Day</u>
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) JM

11-2-21
Date/Time Reviewed

Origins Laboratory, Inc.

Jordan A. Merrill

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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SS02@2.5'

10/29/2021 12:55:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.199	mg/L	1	B1K0110	11/01/2021	11/02/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1K0219	11/02/2021	11/06/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	39.9 %	50-150			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B1K0220	11/02/2021	11/05/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"
----------------------------------	-------	--------	--	--	---	---	---

Origins Laboratory, Inc.



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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SS02@2.5'

10/29/2021 12:55:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y111018-01 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	97.9 %	70-130	B1K02 20	11/02/2021	11/05/2021
Surrogate: 4-Bromofluorobenzene	100 %	70-130	"	"	"

Metals by Saturated Paste

Calcium	3.28	0.499	meq/L	10	[CALC]	11/01/2021	11/02/2021
Magnesium	1.13	0.823	"	"	"	"	"
Sodium	0.918	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	0.000346	0.00033	0.00067	mg/Kg	1	L582591	11/03/2021	11/03/2021	J
2-Methylnaphthalene	0.000547	0.00039	0.00067	"	"	"	"	"	J
Acenaphthene	ND	0.0003	0.00067	"	"	"	"	"	
Anthracene	ND	0.00033	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00041	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.00014	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.00021	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.00013	0.00067	"	"	"	"	"	
Chrysene	ND	0.00027	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00036	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.00039	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.

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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SS02@2.5'

10/29/2021 12:55:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Waypoint Analytical, Inc.
Y111018-01 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.00029	0.00067	mg/Kg	1	L582591	11/03/2021	11/03/2021
Indeno(1,2,3-cd)pyrene	ND	0.00029	0.00067	"	"	"	"	"
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"
Pyrene	ND	0.00059	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	39.5 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	47.4 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	31.6 %		29-110			"	"	"

pH in Soil by 9045D

pH	8.14			pH Units	1	B1K0121	11/01/2021	11/02/2021
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SAR by 20B Saturated Paste

SAR	0.618			SAR	1	B1K0113	11/01/2021	11/02/2021
-----	-------	--	--	-----	---	---------	------------	------------

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.524		0.00500	mmhos/cm	1	B1K0313	11/03/2021	11/04/2021
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Origins Laboratory, Inc.



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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SS04@2.5'

10/29/2021 1:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y111018-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.198	mg/L	1	B1K0110	11/01/2021	11/02/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	25.6	25.0	mg/kg	1	B1K0219	11/02/2021	11/06/2021	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	39.7 %	50-150			"	"	"	
------------------------	--------	--------	--	--	---	---	---	--

GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B1K0220	11/02/2021	11/05/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"	
----------------------------------	-------	--------	--	--	---	---	---	--

Origins Laboratory, Inc.



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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SS04@2.5'

10/29/2021 1:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y111018-02 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	98.1 %		70-130			B1K02 20	11/02/2021	11/05/2021	
Surrogate: 4-Bromofluorobenzene	98.4 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	3.99		0.499	meq/L	10	[CALC]	11/01/2021	11/02/2021	
Magnesium	1.40		0.823	"	"	"	"	"	
Sodium	0.548		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00033	0.00067	mg/Kg	1	L582591	11/03/2021	11/03/2021	
2-Methylnaphthalene	ND	0.00039	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.0003	0.00067	"	"	"	"	"	
Anthracene	ND	0.00033	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00041	0.00067	"	"	"	"	"	
Benzo(a)pyrene	0.000207	0.00014	0.00067	"	"	"	"	"	J
Benzo(b)fluoranthene	0.000307	0.00021	0.00067	"	"	"	"	"	J
Benzo(k)fluoranthene	ND	0.00013	0.00067	"	"	"	"	"	
Chrysene	ND	0.00027	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00036	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.00039	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.

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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SS04@2.5'

10/29/2021 1:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Waypoint Analytical, Inc.

Y111018-02 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.00029	0.00067	mg/Kg	1	L582591	11/03/2021	11/03/2021	
Indeno(1,2,3-cd)pyrene	0.00031	0.00029	0.00067	"	"	"	"	"	J
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.00059	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	40.4 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	45 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	30.7 %		29-110			"	"	"	

pH in Soil by 9045D

pH	7.91			pH Units	1	B1K0121	11/01/2021	11/02/2021	
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SAR by 20B Saturated Paste

SAR	0.334			SAR	1	B1K0113	11/01/2021	11/02/2021	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.659		0.00500	mmhos/cm	1	B1K0313	11/03/2021	11/04/2021	
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Origins Laboratory, Inc.



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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

FS01@5'

10/29/2021 1:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.199	mg/L	1	B1K0207	11/02/2021	11/03/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1K0219	11/02/2021	11/06/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	57.9 %	50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	0.00256	0.00200	mg/kg	1	B1K0220	11/02/2021	11/05/2021	
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

FS01@5'

10/29/2021 1:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-03 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	98.0 %		70-130			B1K02 20	11/02/2021	11/05/2021	
Surrogate: 4-Bromofluorobenzene	99.6 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	2.17		0.499	meq/L	10	[CALC]	11/01/2021	11/02/2021	
Magnesium	0.987		0.823	"	"	"	"	"	
Sodium	1.31		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	0.000832	0.00033	0.00067	mg/Kg	1	L582591	11/03/2021	11/03/2021	
2-Methylnaphthalene	0.00141	0.00039	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.0003	0.00067	"	"	"	"	"	
Anthracene	0.00129	0.00033	0.00067	"	"	"	"	"	
Benzo(a)anthracene	0.00425	0.00041	0.00067	"	"	"	"	"	
Benzo(a)pyrene	0.00453	0.00014	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.0123	0.00021	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	0.00549	0.00013	0.00067	"	"	"	"	"	
Chrysene	0.0115	0.00027	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	0.00147	0.00036	0.00067	"	"	"	"	"	
Fluoranthene	0.0124	0.00039	0.00067	"	"	"	"	"	
Fluorene	0.000364	0.00029	0.00067	"	"	"	"	"	J
Indeno(1,2,3-cd)pyrene	0.00426	0.00029	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.

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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

FS01@5'

10/29/2021 1:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y111018-03 (Soil)

PAH by 8270D SIM

Naphthalene	ND	0.000467	0.00067	mg/Kg	1	L582591	11/03/2021	11/03/2021	
Pyrene	0.0109	0.00059	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	37.2 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	46.3 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	30.3 %		29-110			"	"	"	

pH in Soil by 9045D

pH	8.39			pH Units	1	B1K0121	11/01/2021	11/02/2021	
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SAR by 20B Saturated Paste

SAR	1.05			SAR	1	B1K0113	11/01/2021	11/02/2021	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.471		0.00500	mmhos/cm	1	B1K0313	11/03/2021	11/04/2021	
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

FS02@5'

10/29/2021 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.318	0.199	mg/L	1	B1K0207	11/02/2021	11/03/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1K0219	11/02/2021	11/06/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	38.6 %	50-150	"	"	"
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B1K0220	11/02/2021	11/05/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130	"	"	"
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

FS02@5'

10/29/2021 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-04 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	98.1 %		70-130			B1K02 20	11/02/2021	11/05/2021	
Surrogate: 4-Bromofluorobenzene	99.9 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	0.559		0.499	meq/L	10	[CALC]	11/01/2021	11/02/2021	
Magnesium	1.56		0.823	"	"	"	"	"	
Sodium	3.54		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00033	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021	
2-Methylnaphthalene	ND	0.00039	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.0003	0.00067	"	"	"	"	"	
Anthracene	ND	0.00033	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00041	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.00014	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.00021	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.00013	0.00067	"	"	"	"	"	
Chrysene	ND	0.00027	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00036	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.00039	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

FS02@5'

10/29/2021 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y111018-04 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.00029	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021
Indeno(1,2,3-cd)pyrene	ND	0.00029	0.00067	"	"	"	"	"
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"
Pyrene	ND	0.00059	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	49.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	60.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	37.8 %	29-110	"	"	"

pH in Soil by 9045D

pH	8.52	pH Units	1	B1K0121	11/01/2021	11/02/2021
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SAR by 20B Saturated Paste

SAR	3.43	SAR	1	B1K0113	11/01/2021	11/02/2021
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.559	0.00500	mmhos/cm	1	B1K0313	11/03/2021	11/04/2021
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

AST01@0.5'

10/29/2021 1:45:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-05 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.198	mg/L	1	B1K0207	11/02/2021	11/03/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1K0219	11/02/2021	11/04/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	36.3 %	50-150	"	"	"
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B1K0220	11/02/2021	11/05/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130	"	"	"
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

AS101@0.5'

10/29/2021 1:45:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-05 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	97.0 %		70-130			B1K02 20	11/02/2021	11/05/2021	
Surrogate: 4-Bromofluorobenzene	99.3 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	2.25		0.499	meq/L	10	[CALC]	11/01/2021	11/02/2021	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	0.813		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00033	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021	
2-Methylnaphthalene	0.000618	0.00039	0.00067	"	"	"	"	"	J
Acenaphthene	ND	0.0003	0.00067	"	"	"	"	"	
Anthracene	ND	0.00033	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00041	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.00014	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.000424	0.00021	0.00067	"	"	"	"	"	J
Benzo(k)fluoranthene	ND	0.00013	0.00067	"	"	"	"	"	
Chrysene	ND	0.00027	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00036	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.00039	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

AST01@0.5'

10/29/2021 1:45:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.

Y111018-05 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.00029	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021
Indeno(1,2,3-cd)pyrene	ND	0.00029	0.00067	"	"	"	"	"
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"
Pyrene	ND	0.00059	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	54.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	67.6 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	44.8 %	29-110	"	"	"

pH in Soil by 9045D

pH	7.63	pH Units	1	B1K0121	11/01/2021	11/02/2021
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SAR by 20B Saturated Paste

SAR	0.676	SAR	1	B1K0113	11/01/2021	11/02/2021
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.433	0.00500	mmhos/cm	1	B1K0313	11/03/2021	11/04/2021
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Origins Laboratory, Inc.

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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SEP01-FL@3'

10/29/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-06 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.200	mg/L	1	B1K0207	11/02/2021	11/03/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1K0219	11/02/2021	11/06/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	38.6 %	50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B1K0220	11/02/2021	11/05/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SEP01-FL@3'

10/29/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-06 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	98.0 %		70-130			B1K02 20	11/02/2021	11/05/2021	
Surrogate: 4-Bromofluorobenzene	99.6 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	2.36		0.499	meq/L	10	[CALC]	11/01/2021	11/02/2021	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00033	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021	
2-Methylnaphthalene	0.00064	0.00039	0.00067	"	"	"	"	"	J
Acenaphthene	0.00718	0.0003	0.00067	"	"	"	"	"	
Anthracene	0.0183	0.00033	0.00067	"	"	"	"	"	
Benzo(a)anthracene	0.0329	0.00041	0.00067	"	"	"	"	"	
Benzo(a)pyrene	0.0205	0.00014	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.0253	0.00021	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	0.00737	0.00013	0.00067	"	"	"	"	"	
Chrysene	0.0278	0.00027	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	0.00221	0.00036	0.00067	"	"	"	"	"	
Fluoranthene	0.0874	0.00039	0.00067	"	"	"	"	"	
Fluorene	0.00951	0.00029	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.

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 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SEP01-FL@3'

10/29/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y111018-06 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	0.00955	0.00029	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021	
Naphthalene	0.000842	0.000467	0.00067	"	"	"	"	"	
Pyrene	0.0669	0.00059	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	54.2 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	64.6 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	44.3 %		29-110			"	"	"	

pH in Soil by 9045D

pH	7.94			pH Units	1	B1K0121	11/01/2021	11/02/2021	
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SAR by 20B Saturated Paste

SAR	0.253			SAR	1	B1K0113	11/01/2021	11/02/2021	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.368		0.00500	mmhos/cm	1	B1K0313	11/03/2021	11/04/2021	
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Total Metals by 6020B

Arsenic	1.43	0.0855	0.25	mg/Kg	5	L583871	11/10/2021	11/10/2021	
Barium	56	0.042	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SEP01-FL@3'

10/29/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y111018-06 (Soil)

Total Metals by 6020B

Cadmium	0.0531	0.0259	0.25	mg/Kg	5	L583871	11/10/2021	11/10/2021	J
Copper	4.4	0.0806	0.25	"	"	"	"	"	
Lead	5.89	0.031	0.25	"	"	"	"	"	
Nickel	5.21	0.0633	0.25	"	"	"	"	"	
Selenium	0.283	0.103	0.25	"	"	"	"	"	
Silver	0.0257	0.0067	0.25	"	"	"	"	"	J
Zinc	23	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.502	1.03	mg/Kg	2	L583964	10/29/2021	11/10/2021	
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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SEP01-DL@3'

10/29/2021 2:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-07 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.199	mg/L	1	B1K0207	11/02/2021	11/03/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1K0219	11/02/2021	11/06/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	39.7 %	50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B1K0220	11/02/2021	11/05/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"	
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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SEP01-DL@3'

10/29/2021 2:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y111018-07 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	97.2 %		70-130			B1K02 20	11/02/2021	11/05/2021	
Surrogate: 4-Bromofluorobenzene	100 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	2.31		0.499	meq/L	10	[CALC]	11/01/2021	11/02/2021	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	0.500		0.435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00033	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021	
2-Methylnaphthalene	0.000622	0.00039	0.00067	"	"	"	"	"	J
Acenaphthene	ND	0.0003	0.00067	"	"	"	"	"	
Anthracene	ND	0.00033	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00041	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.00014	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.000389	0.00021	0.00067	"	"	"	"	"	J
Benzo(k)fluoranthene	ND	0.00013	0.00067	"	"	"	"	"	
Chrysene	ND	0.00027	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00036	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.00039	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

SEP01-DL@3'

10/29/2021 2:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y111018-07 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.00029	0.00067	mg/Kg	1	L582760	11/03/2021	11/03/2021
Indeno(1,2,3-cd)pyrene	ND	0.00029	0.00067	"	"	"	"	"
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"
Pyrene	ND	0.00059	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	49.4 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	64.6 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	39.3 %	29-110	"	"	"

pH in Soil by 9045D

pH	7.97	pH Units	1	B1K0121	11/01/2021	11/02/2021
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SAR by 20B Saturated Paste

SAR	0.404	SAR	1	B1K0113	11/01/2021	11/02/2021
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.398	0.00500	mmhos/cm	1	B1K0313	11/03/2021	11/04/2021
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1K0219 - EPA 3550B										
Blank (B1K0219-BLK1)					Prepared: 11/02/2021 Analyzed: 11/09/2021					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		92.4	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1K0219 - EPA 3550B

LCS (B1K0219-BS1)

Prepared: 11/02/2021 Analyzed: 11/09/2021

Diesel (C10-C28)	795	50.0	mg/kg	1000		79.5	70-130			
Residual Range Organics (C28-C40)	832	200	"	1000		83.2	70-130			
Surrogate: o-Terphenyl	46		"	49.8		93.1	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
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Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1K0219 - EPA 3550B

Matrix Spike (B1K0219-MS1)		Source: Y111058-01			Prepared: 11/02/2021 Analyzed: 11/09/2021					
Diesel (C10-C28)	812	50.0	mg/kg	1000	ND	81.2	70-130			
Residual Range Organics (C28-C40)	854	200	"	1000	ND	85.4	70-130			
Surrogate: o-Terphenyl	45		"	49.8		91.2	50-150			

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Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1K0219 - EPA 3550B										
Matrix Spike Dup (B1K0219-MSD1)		Source: Y111058-01			Prepared: 11/02/2021 Analyzed: 11/02/2021					
Diesel (C10-C28)	794	50.0	mg/kg	1000	ND	79.4	70-130	2.26	35	
Residual Range Organics (C28-C40)	882	200	"	1000	ND	88.2	70-130	3.20	35	
Surrogate: o-Terphenyl	23		"	49.8		45.7	50-150			QM-07

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Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1K0220 - EPA 5030 (soil)										
Blank (B1K0220-BLK1)					Prepared: 11/02/2021 Analyzed: 11/05/2021					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
Naphthalene	ND	0.0100	"							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.8	70-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1K0220 - EPA 5030 (soil)

LCS (B1K0220-BS1)

Prepared: 11/02/2021 Analyzed: 11/05/2021

1,2,4-Trimethylbenzene	0.106	0.00200	mg/kg	0.100		106	70-130			
Naphthalene	0.0855	0.0100	"	0.100		85.5	70-130			
1,3,5-Trimethylbenzene	0.109	0.00200	"	0.100		109	70-130			
Benzene	0.110	0.00200	"	0.100		110	70-130			
Ethylbenzene	0.107	0.00200	"	0.100		107	70-130			
m,p-Xylene	0.214	0.00400	"	0.200		107	70-130			
o-Xylene	0.107	0.00200	"	0.100		107	70-130			
Toluene	0.108	0.00200	"	0.100		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.9	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1K0220 - EPA 5030 (soil)										
Matrix Spike (B1K0220-MS1)		Source: Y111058-01			Prepared: 11/02/2021 Analyzed: 11/05/2021					
1,2,4-Trimethylbenzene	0.0714	0.00200	mg/kg	0.100	ND	71.4	70-130			
Naphthalene	0.0728	0.0100	"	0.100	0.00354	69.3	70-130			QM-07
1,3,5-Trimethylbenzene	0.0743	0.00200	"	0.100	ND	74.3	70-130			
Benzene	0.0849	0.00200	"	0.100	ND	84.9	70-130			
Ethylbenzene	0.0747	0.00200	"	0.100	ND	74.7	70-130			
m,p-Xylene	0.148	0.00400	"	0.200	ND	73.9	70-130			
o-Xylene	0.0785	0.00200	"	0.100	ND	78.5	70-130			
Toluene	0.0783	0.00200	"	0.100	ND	78.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.7	70-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1K0220 - EPA 5030 (soil)										
Matrix Spike Dup (B1K0220-MSD1)		Source: Y111058-01			Prepared: 11/02/2021 Analyzed: 11/05/2021					
1,2,4-Trimethylbenzene	0.0831	0.00200	mg/kg	0.100	ND	83.1	70-130	15.2	20	
Naphthalene	0.0761	0.0100	"	0.100	0.00354	72.6	70-130	4.43	20	
1,3,5-Trimethylbenzene	0.0878	0.00200	"	0.100	ND	87.8	70-130	16.7	20	
Benzene	0.101	0.00200	"	0.100	ND	101	70-130	17.8	20	
Ethylbenzene	0.0897	0.00200	"	0.100	ND	89.7	70-130	18.3	20	
m,p-Xylene	0.176	0.00400	"	0.200	ND	88.1	70-130	17.5	20	
o-Xylene	0.0904	0.00200	"	0.100	ND	90.4	70-130	14.2	20	
Toluene	0.0949	0.00200	"	0.100	ND	94.9	70-130	19.1	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.4	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Saturated Paste - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1K0121 - NO PREP

Duplicate (B1K0121-DUP1)

Source: Y111012-01

Prepared: 11/01/2021 Analyzed: 11/02/2021

pH	7.61	pH Units	7.78	2.21	25
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Batch B1K0313 - NO PREP

Blank (B1K0313-BLK1)

Prepared: 11/03/2021 Analyzed: 11/04/2021

Specific Conductance (EC)	0.00100	0.00500	mmhos/cm
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Duplicate (B1K0313-DUP1)

Source: Y111018-01

Prepared: 11/03/2021 Analyzed: 11/04/2021

Specific Conductance (EC)	0.514	0.00500	mmhos/cm	0.524	1.91	25
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Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L583871 - 3050B										
MSD (L 95758-MSD-L583871)			Source: 95758		Prepared: 11/10/2021 Analyzed: 11/10/2021					
Copper	4.66	0.0806	mg/Kg	2.45	2.28	97	75-125	15	80	
Arsenic	3.89	0.0855	"	2.45	2.01	77	75-125	47.8	80	
Cadmium	0.457	0.0259	"	0.49	<0.0259	93	75-125	0.6	80	
Lead	5.93	0.031	"	2.45	3.51	99	75-125	11.4	80	
Nickel	5.32	0.0633	"	2.45	2.89	99	75-125	7.4	80	
Selenium	4.34	0.103	"	4.9	0.198	89	75-125	11.7	80	
Silver	0.491	0.0067	"	0.49	0.00904	100	75-125	7.3	80	
Zinc	36.7	0.534	"	24.5	12.1	100	75-125	2.4	80	
Barium	49.6	0.042	"	4.9	50.9	NR	75-125	0.4	80	*
MS (L 95758-MS-L583871)			Source: 95758		Prepared: 11/10/2021 Analyzed: 11/11/2021					
Arsenic	6.34	0.0855	mg/Kg	2.37	2.01	183	75-125			*
Zinc	37.6	0.534	"	23.7	12.1	108	75-125			
Silver	0.456	0.0067	"	0.473	0.00904	96	75-125			
Selenium	3.86	0.103	"	4.73	0.198	82	75-125			
Nickel	5.73	0.0633	"	2.37	2.89	120	75-125			
Lead	6.65	0.031	"	2.37	3.51	133	75-125			*
Copper	5.42	0.0806	"	2.37	2.28	133	75-125			*
Barium	49.8	0.042	"	4.73	50.9	NR	75-125			*
Cadmium	0.46	0.0259	"	0.473	<0.0259	97	75-125			
LCS (LCS-L583871)			Prepared: 11/10/2021 Analyzed: 11/10/2021							
Barium	4.75	0.042	mg/Kg	5		95	80-120			
Nickel	2.36	0.0633	"	2.5		94	80-120			
Selenium	4.66	0.103	"	5		93	80-120			
Silver	0.473	0.0067	"	0.5		95	80-120			
Lead	2.48	0.031	"	2.5		99	80-120			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L583871 - 3050B

LCS (LCS-L583871)

Prepared: 11/10/2021 Analyzed: 11/10/2021

Zinc	22.6	0.534	mg/Kg	25		90	80-120			
Arsenic	2.47	0.0855	"	2.5		99	80-120			
Copper	2.38	0.0806	"	2.5		95	80-120			
Cadmium	0.483	0.0259	"	0.5		97	80-120			

LRB (LRB-L583871)

Prepared: 11/10/2021 Analyzed: 11/10/2021

Lead	0.263	0.25	mg/Kg				-			*
Zinc	ND	2.5	"				-			
Silver	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Arsenic	ND	0.25	"				-			
Barium	0.14	0.25	"				-			J
Selenium	ND	0.25	"				-			

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6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Total Metals by 7196A - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L583964 -										
DUP (L 91479-DUP)		Source: Y111018-06			Prepared: Analyzed: 11/10/2021					
Chromium, Hexavalent	ND	0.488	mg/Kg		<1.00	-		0	20	
MS (L 91479-MS)		Source: Y111018-06			Prepared: Analyzed: 11/10/2021					
Chromium, Hexavalent	5.91	0.488	mg/Kg	8.03	<0.488	74	75-125			*
LCS (LCS)					Prepared: Analyzed: 11/10/2021					
Chromium, Hexavalent	6.03	0.244	mg/Kg	8		75	75-125			
LRB (LRB)					Prepared: Analyzed: 11/10/2021					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L582760 - 3550B

MSD (L 91477-MSD-L582760)		Source: Y111018-04			Prepared: 11/03/2021 Analyzed: 11/03/2021					
Dibenz(a,h)anthracene	0.109	0.00036	mg/Kg	0.163	<0.000360	66.8	30-130	6.2	30	
Fluoranthene	0.114	0.00039	"	0.163	<0.000390	69.9	30-130	2.6	30	
Fluorene	0.109	0.00029	"	0.163	<0.000290	66.8	30-130	0.9	30	
Indeno(1,2,3-cd)pyrene	0.0935	0.00029	"	0.163	<0.000290	57.3	30-130	7.7	30	
Pyrene	0.113	0.00059	"	0.163	<0.000590	69.3	30-130	1.7	30	
Chrysene	0.11	0.00027	"	0.163	<0.000270	67.4	30-130	0	30	
2-Methylnaphthalene	0.0961	0.00039	"	0.163	<0.000390	58.9	30-130	0.6	30	
Naphthalene	0.0913	0.000467	"	0.163	<0.000467	56	30-130	2.7	30	
Benzo(k)fluoranthene	0.0837	0.00013	"	0.163	<0.000130	51.3	30-130	6.1	30	
Benzo(b)fluoranthene	0.0889	0.00021	"	0.163	<0.000210	54.5	30-130	2.2	30	
Benzo(a)pyrene	0.12	0.00014	"	0.163	<0.000140	73.6	30-130	1.6	30	
Benzo(a)anthracene	0.124	0.00041	"	0.163	<0.000410	76	30-130	2.4	30	
Anthracene	0.107	0.00033	"	0.163	<0.000330	65.6	30-130	0	30	
1-Methylnaphthalene	0.0948	0.00033	"	0.163	<0.000330	58.1	30-130	2	30	
Acenaphthene	0.107	0.0003	"	0.163	<0.000300	65.6	30-130	1.8	30	
Surrogate: Nitrobenzene-d5	36		"	0.327	125	36	29-110			
Surrogate: 4-Terphenyl-d14	61.4		"	0.327	199	61.4	33-122			
Surrogate: 2-Fluorobiphenyl	47.7		"	0.327	164	47.7	33-115			

MS (L 91477-MS-L582760)		Source: Y111018-04			Prepared: 11/03/2021 Analyzed: 11/03/2021					
Anthracene	0.107	0.00033	mg/Kg	0.165	<0.000330	64.8	30-130			
1-Methylnaphthalene	0.0968	0.00033	"	0.165	<0.000330	58.6	30-130			
2-Methylnaphthalene	0.0967	0.00039	"	0.165	<0.000390	58.6	30-130			
Indeno(1,2,3-cd)pyrene	0.101	0.00029	"	0.165	<0.000290	61.2	30-130			
Pyrene	0.111	0.00059	"	0.165	<0.000590	67.2	30-130			
Naphthalene	0.0938	0.000467	"	0.165	<0.000467	56.8	30-130			
Acenaphthene	0.109	0.0003	"	0.165	<0.000300	66	30-130			

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Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L582760 - 3550B

MS (L 91477-MS-L582760)		Source: Y111018-04			Prepared: 11/03/2021 Analyzed: 11/03/2021					
Fluorene	0.108	0.00029	mg/Kg	0.165	<0.000290	65.4	30-130			
Fluoranthene	0.111	0.00039	"	0.165	<0.000390	67.2	30-130			
Dibenz(a,h)anthracene	0.116	0.00036	"	0.165	<0.000360	70.3	30-130			
Chrysene	0.11	0.00027	"	0.165	<0.000270	66.6	30-130			
Benzo(k)fluoranthene	0.089	0.00013	"	0.165	<0.000130	53.9	30-130			
Benzo(b)fluoranthene	0.0909	0.00021	"	0.165	<0.000210	55	30-130			
Benzo(a)pyrene	0.118	0.00014	"	0.165	<0.000140	71.5	30-130			
Benzo(a)anthracene	0.121	0.00041	"	0.165	<0.000410	73.3	30-130			
Surrogate: 2-Fluorobiphenyl	48.1		"	0.33	164	48.1	33-115			
Surrogate: 4-Terphenyl-d14	60.6		"	0.33	199	60.6	33-122			
Surrogate: Nitrobenzene-d5	36.6		"	0.33	125	36.6	29-110			

LCS (LCS-L582760)		Prepared: 11/03/2021 Analyzed: 11/03/2021								
Benzo(b)fluoranthene	0.0997	0.00021	mg/Kg	0.167		59.7	30-130			
Naphthalene	0.0965	0.000467	"	0.167		57.7	30-130			
1-Methylnaphthalene	0.0996	0.00033	"	0.167		59.6	30-130			
Fluorene	0.112	0.00029	"	0.167		67	30-130			
Fluoranthene	0.115	0.00039	"	0.167		68.8	30-130			
Dibenz(a,h)anthracene	0.138	0.00036	"	0.167		82.6	30-130			
Chrysene	0.116	0.00027	"	0.167		69.4	30-130			
Benzo(k)fluoranthene	0.0963	0.00013	"	0.167		57.6	30-130			
Benzo(a)pyrene	0.13	0.00014	"	0.167		77.8	30-130			
Benzo(a)anthracene	0.126	0.00041	"	0.167		75.4	30-130			
Anthracene	0.11	0.00033	"	0.167		65.8	30-130			
Acenaphthene	0.11	0.0003	"	0.167		65.8	30-130			
Pyrene	0.114	0.00059	"	0.167		68.2	30-130			
2-Methylnaphthalene	0.1	0.00039	"	0.167		59.8	30-130			

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Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

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Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L582760 - 3550B

LCS (LCS-L582760)

Prepared: 11/03/2021 Analyzed: 11/03/2021

Indeno(1,2,3-cd)pyrene	0.117	0.00029	mg/Kg	0.167		70	30-130			
Surrogate: 4-Terphenyl-d14	68.4		"	0.333		68.4	33-122			
Surrogate: 2-Fluorobiphenyl	54.3		"	0.333		54.3	33-115			
Surrogate: Nitrobenzene-d5	40.2		"	0.333		40.2	29-110			

LRB (LRB-L582760)

Prepared: 11/03/2021 Analyzed: 11/03/2021

Benzo(a)pyrene	ND	0.00067	mg/Kg				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	45.3		"	0.333		45.3	29-110			
Surrogate: 4-Terphenyl-d14	66.3		"	0.333		66.3	33-122			
Surrogate: 2-Fluorobiphenyl	58.2		"	0.333		58.2	33-115			

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Project: Noble - Loloff 2,3 B35-19

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L582591 - 3550B

MSD (L 91816-MSD-L582591)		Source: 91816			Prepared: 11/03/2021 Analyzed: 11/03/2021					
Benzo(k)fluoranthene	0.08	0.00013	mg/Kg	0.165	<0.000130	48.4	30-130	5.8	30	
Naphthalene	0.0638	0.000467	"	0.165	<0.000467	38.6	30-130	14.5	30	
Indeno(1,2,3-cd)pyrene	0.0677	0.00029	"	0.165	<0.000290	41	30-130	12.3	30	
Fluorene	0.073	0.00029	"	0.165	<0.000290	44.2	30-130	16.8	30	
Fluoranthene	0.0877	0.00039	"	0.165	<0.000390	53.1	30-130	7.9	30	
Dibenz(a,h)anthracene	0.0699	0.00036	"	0.165	<0.000360	42.3	30-130	5.1	30	
Chrysene	0.0833	0.00027	"	0.165	<0.000270	50.4	30-130	7.1	30	
Pyrene	0.0878	0.00059	"	0.165	<0.000590	53.2	30-130	7	30	
Benzo(b)fluoranthene	0.0735	0.00021	"	0.165	<0.000210	44.5	30-130	2.8	30	
Benzo(a)pyrene	0.0854	0.00014	"	0.165	<0.000140	51.7	30-130	5.9	30	
Benzo(a)anthracene	0.0811	0.00041	"	0.165	<0.000410	49.1	30-130	7.8	30	
Anthracene	0.0812	0.00033	"	0.165	<0.000330	49.2	30-130	10.8	30	
Acenaphthene	0.0707	0.0003	"	0.165	<0.000300	42.8	30-130	16.7	30	
2-Methylnaphthalene	0.0654	0.00039	"	0.165	<0.000390	39.6	30-130	14.2	30	
1-Methylnaphthalene	0.0701	0.00033	"	0.165	<0.000330	42.4	30-130	6.6	30	
Surrogate: Nitrobenzene-d5	25.1		"	0.33	107	25.1	29-110			*
Surrogate: 2-Fluorobiphenyl	33		"	0.33	133	33	33-115			
Surrogate: 4-Terphenyl-d14	42.7		"	0.33	161	42.7	33-122			

MS (L 91816-MS-L582591)		Source: 91816			Prepared: 11/03/2021 Analyzed: 11/03/2021					
Chrysene	0.0895	0.00027	mg/Kg	0.166	<0.000270	53.9	30-130			
Benzo(b)fluoranthene	0.0756	0.00021	"	0.166	<0.000210	45.5	30-130			
1-Methylnaphthalene	0.0749	0.00033	"	0.166	<0.000330	45.1	30-130			
2-Methylnaphthalene	0.0754	0.00039	"	0.166	<0.000390	45.4	30-130			
Acenaphthene	0.0836	0.0003	"	0.166	<0.000300	50.3	30-130			
Anthracene	0.0905	0.00033	"	0.166	<0.000330	54.5	30-130			
Fluoranthene	0.095	0.00039	"	0.166	<0.000390	57.2	30-130			

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Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

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Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L582591 - 3550B

MS (L 91816-MS-L582591)		Source: 91816			Prepared: 11/03/2021 Analyzed: 11/03/2021					
Benzo(a)pyrene	0.0906	0.00014	mg/Kg	0.166	<0.000140	54.5	30-130			
Pyrene	0.0942	0.00059	"	0.166	<0.000590	56.7	30-130			
Benzo(k)fluoranthene	0.0848	0.00013	"	0.166	<0.000130	51	30-130			
Dibenz(a,h)anthracene	0.0736	0.00036	"	0.166	<0.000360	44.3	30-130			
Fluorene	0.0864	0.00029	"	0.166	<0.000290	52	30-130			
Indeno(1,2,3-cd)pyrene	0.0766	0.00029	"	0.166	<0.000290	46.1	30-130			
Naphthalene	0.0738	0.000467	"	0.166	<0.000467	44.4	30-130			
Benzo(a)anthracene	0.0877	0.00041	"	0.166	<0.000410	52.8	30-130			
Surrogate: 2-Fluorobiphenyl	46.5		"	0.331	133	46.5	33-115			
Surrogate: 4-Terphenyl-d14	54.6		"	0.331	161	54.6	33-122			
Surrogate: Nitrobenzene-d5	35.6		"	0.331	107	35.6	29-110			

LCS (LCS-L582591)		Prepared: 11/03/2021 Analyzed: 11/03/2021								
Chrysene	0.0833	0.00027	mg/Kg	0.167		49.8	30-130			
Benzo(a)anthracene	0.082	0.00041	"	0.167		49.1	30-130			
Naphthalene	0.0664	0.000467	"	0.167		39.7	30-130			
Indeno(1,2,3-cd)pyrene	0.0655	0.00029	"	0.167		39.2	30-130			
Fluorene	0.0743	0.00029	"	0.167		44.4	30-130			
Dibenz(a,h)anthracene	0.0668	0.00036	"	0.167		40	30-130			
Benzo(k)fluoranthene	0.0793	0.00013	"	0.167		47.4	30-130			
Fluoranthene	0.0859	0.00039	"	0.167		51.4	30-130			
Benzo(a)pyrene	0.0824	0.00014	"	0.167		49.3	30-130			
Pyrene	0.0859	0.00059	"	0.167		51.4	30-130			
Anthracene	0.0809	0.00033	"	0.167		48.4	30-130			
Acenaphthene	0.0734	0.0003	"	0.167		43.9	30-130			
2-Methylnaphthalene	0.0675	0.00039	"	0.167		40.4	30-130			
1-Methylnaphthalene	0.0724	0.00033	"	0.167		43.3	30-130			

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Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L582591 - 3550B

LCS (LCS-L582591)

Prepared: 11/03/2021 Analyzed: 11/03/2021

Benzo(b)fluoranthene	0.0756	0.00021	mg/Kg	0.167		45.2	30-130			
Surrogate: Nitrobenzene-d5	33		"	0.333		33	29-110			
Surrogate: 4-Terphenyl-d14	52.2		"	0.333		52.2	33-122			
Surrogate: 2-Fluorobiphenyl	43.8		"	0.333		43.8	33-115			

LRB (LRB-L582591)

Prepared: 11/03/2021 Analyzed: 11/03/2021

Chrysene	ND	0.00067	mg/Kg				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Surrogate: 4-Terphenyl-d14	50.1		"	0.333		50.1	33-122			
Surrogate: Nitrobenzene-d5	34.8		"	0.333		34.8	29-110			
Surrogate: 2-Fluorobiphenyl	45.3		"	0.333		45.3	33-115			

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Broomfield CO 80020

Jake Whritenour
Project Number: 815901465
Project: Noble - Loloff 2,3 B35-19

Notes and Definitions

U Sample is Non-Detect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

J Estimated Value. Analyte below reported quantitation limit.

* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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March 10, 2022

Tasman Geosciences

Jake Whritenour

6855 West 119th Avenue

Broomfield CO 80020

Project Name - Noble - Loloff 2,3 B35-19

Project Number - [none]

Attached are your analytical results for Noble - Loloff 2,3 B35-19 received by Origins Laboratory, Inc. February 28, 2022. This project is associated with Origins project number Y203003-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01@3'	Y203003-01	Soil	February 28, 2022 11:35	02/28/2022 16:30
BG01@5'	Y203003-02	Soil	February 28, 2022 11:40	02/28/2022 16:30

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

www.originslaboratory.com

page 1 of 1

1725 Eik Place
Denver, CO 80211
Phone: 303.433.1322
Fax: 303.265.9645

1725 Eik Place
Denver, CO 80211
Phone: 303.433.1322
Fax: 303.265.9645

Client: Noble / Tasman

Address: 6855 W. 119th Ave

Telephone Number: 303-887-1511

Email Address: jwhritenour@tasman-geo.com

Project Manager: Jake Whritenour

Project Name: Loloff 2,3, B35-19

Project Number:

Samples Collected By: Hater Mark

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #			Other
B60103	2/28/12	1135	2	X				X				1	
B60105	2/28/12	1146	2	X				X				2	
												3	
												4	
												5	
												6	
												7	
												8	
												9	
												10	

Relinquished By: [Signature]

Date: 2/28/12

Time: 1130

Received By: [Signature]

Date: 2/28/12

Time: 1630

Turnaround Time:

Same Day ☐ 24 Hr ☐

48 Hr ☐ 72 Hr ☐

Standard ☒

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y203003 Client: Tasman
Client Project ID: Loloff 2,3 B35-19
Checklist Completed by: SG Shipped Via: HD
Date/time completed: 3/1/22 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: NTA
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____
Cooler Number/Temperature: 1, 13.3 °C / _____ °C / _____ °C (Describe)
Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Same Day</u>
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) JP

Date/Time Reviewed 3/2/22

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

BG01@3'

2/28/2022 11:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	---------------------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y203003-01 (Soil)

pH in Soil by 9045D

pH	7.78			pH Units	1	B2C0204	03/02/2022	03/03/2022
----	------	--	--	----------	---	---------	------------	------------

Total Metals by 6020B

Arsenic	1.3	0.0855	0.25	mg/Kg	5	L602557	03/02/2022	03/07/2022
Barium	53.9	0.042	0.25	"	"	"	"	"
Cadmium	ND	0.0259	0.25	"	"	"	"	"
Copper	4.35	0.0806	0.25	"	"	"	"	"
Lead	4.25	0.031	0.25	"	"	"	"	"
Nickel	4.81	0.0633	0.25	"	"	"	"	"
Selenium	0.298	0.103	0.25	"	"	"	"	"
Silver	ND	0.0067	0.25	"	"	"	"	"
Zinc	17.9	0.534	2.5	"	"	"	"	"

Total Metals by 7196A

Chromium, Hexavalent	ND	0.246	0.505	mg/Kg	1	L603495	02/28/2022	03/08/2022
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

BG01@5'

2/28/2022 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203003-02 (Soil)

pH in Soil by 9045D

pH	7.67		pH Units	1	B2C0204	03/02/2022	03/03/2022
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

Saturated Paste - Quality Control
Origins Laboratory, Inc.

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

Batch B2C0204 - NO PREP

Duplicate (B2C0204-DUP1)

Source: Y202612-09

Prepared: 03/02/2022 Analyzed: 03/03/2022

pH	9.02		pH Units		9.10			0.883	25	
----	------	--	----------	--	------	--	--	-------	----	--

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L602557 - 3050B										
MSD (L 99871-MSD-L602557)			Source: 99871		Prepared: 03/02/2022 Analyzed: 03/07/2022					
Zinc	61	0.534	mg/Kg	23.7	39.3	92	75-125	200	80	
Arsenic	4.96	0.0855	"	2.37	2.93	86	75-125	200	80	
Barium	93.1	0.042	"	4.73	112	NR	75-125	200	80	*
Cadmium	0.567	0.0259	"	0.473	0.122	94	75-125	200	80	
Copper	9.65	0.0806	"	2.37	7.72	82	75-125	1.5	80	
Lead	10.6	0.031	"	2.37	8.49	89	75-125	200	80	
Nickel	12.1	0.0633	"	2.37	10.1	84	75-125	4.8	80	
Selenium	3.85	0.103	"	4.73	0.281	75	75-125	200	80	
Silver	0.52	0.0067	"	0.473	0.0456	100	75-125	200	80	
MS (L 99871-MS-L602557)			Source: 99871		Prepared: 03/02/2022 Analyzed: 03/09/2022					
Zinc	60.6	0.534	mg/Kg	24.7	37.7	93	75-125			
Silver	0.516	0.0067	"	0.495	0.0436	96	75-125			
Selenium	3.87	0.103	"	4.95	0.325	72	75-125			*
Nickel	12.7	0.0633	"	2.47	10.1	105	75-125			
Lead	10.9	0.031	"	2.47	8.52	96	75-125			
Copper	9.8	0.0806	"	2.47	7.72	84	75-125			
Cadmium	0.609	0.0259	"	0.495	0.131	97	75-125			
Arsenic	5.03	0.0855	"	2.47	3.19	74	75-125			*
Barium	116	0.042	"	4.95	114	40	75-125			*
LCS (LCS-L602557)			Prepared: 03/02/2022 Analyzed: 03/07/2022							
Cadmium	0.513	0.0259	mg/Kg	0.5		103	80-120			
Copper	2.56	0.0806	"	2.5		102	80-120			
Lead	2.46	0.031	"	2.5		98	80-120			
Nickel	2.66	0.0633	"	2.5		106	80-120			
Selenium	5.04	0.103	"	5		101	80-120			

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

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

Batch L602557 - 3050B

LCS (LCS-L602557)

Prepared: 03/02/2022 Analyzed: 03/07/2022

Silver	0.515	0.0067	mg/Kg	0.5		103	80-120			
Zinc	24.5	0.534	"	25		98	80-120			
Barium	5.14	0.042	"	5		103	80-120			
Arsenic	2.46	0.0855	"	2.5		98	80-120			

LRB (LRB-L602557)

Prepared: 03/02/2022 Analyzed: 03/07/2022

Barium	0.0611	0.25	mg/Kg				-			J
Zinc	ND	2.5	"				-			
Silver	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Arsenic	ND	0.25	"				-			
Copper	ND	0.25	"				-			

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

Total Metals by 7196A - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L603495 -										
DUP (L 99333-DUP)		Source: 99333			Prepared: Analyzed: 03/08/2022					
Chromium, Hexavalent	ND	0.244	mg/Kg		99333	-		0	20	
MS (L 99333-MS)		Source: 99333			Prepared: Analyzed: 03/08/2022					
Chromium, Hexavalent	7.26	0.25	mg/Kg	8.22	99333	88	75-125			
LCS (LCS)					Prepared: Analyzed: 03/08/2022					
Chromium, Hexavalent	7.31	0.244	mg/Kg	8		91	75-125			
LRB (LRB)					Prepared: Analyzed: 03/08/2022					
Chromium, Hexavalent	ND	0.5	mg/Kg							

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Loloff 2,3 B35-19

Notes and Definitions

J Estimated Value. Analyte below reported quantitation limit.

* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 27, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Loloff 2,3,B35-19

Work Order #2206285

Enclosed are the results of analyses for samples received by Summit Scientific on 06/17/22 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@9-10'	2206285-01	Soil	06/17/22 10:10	06/17/22 15:00
BH01@12-14.5'	2206285-02	Soil	06/17/22 10:20	06/17/22 15:00
BH02@3-4'	2206285-03	Soil	06/17/22 09:10	06/17/22 15:00
BH02@13-14'	2206285-04	Soil	06/17/22 11:20	06/17/22 15:00
BH03@3-4'	2206285-05	Soil	06/17/22 09:20	06/17/22 15:00
BH03@12-13.5'	2206285-06	Soil	06/17/22 11:40	06/17/22 15:00
BH04@3-4'	2206285-07	Soil	06/17/22 09:35	06/17/22 15:00
BH04@13-14'	2206285-08	Soil	06/17/22 12:00	06/17/22 15:00
BH05@3-4'	2206285-09	Soil	06/17/22 09:00	06/17/22 15:00
BH05@13-15'	2206285-10	Soil	06/17/22 11:00	06/17/22 15:00

Summit Scientific

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Summit Scientific

S₂

2206285

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

Page 1 of 1

Client:	Noble / Tasman Geosciences	Project Manager:	Jake Whritenour, Invoice: <u>Erika Zuniga</u>
Address:	6855 W. 119th Ave.	E-Mail:	jwhritenour@tasman-geo.com/ Noble Group
City/State/Zip:	Broomfield / CO/ 80020		
Phone:	303-827-1511	Project Name:	<u>LoloFF 2, 3, B35-19</u>
Sampler Name:	Hunter Merlo	Project Number:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	Metals - 915		
1	BH01 @ 9-10'	6/17/22	1010	2			X			X				X	X	X	X	X	X		pH, EC, SAR by saturated paste
2	BH01 @ 12-14.5'		1020																		
3	BH02 @ 3-4'		0910																		
4	BH02 @ 13-14'		1120																		
5	BH03 @ 3-4'		0920																		
6	BH02 @ 12-13.5'		1140																		
7	BH04 @ 3-4'		0935																		
8	BH04 @ 13-14'		1200																		
9	BH05 @ 3-4'		0900																		
10	BH05 @ 13-15'	↓	1100	↓			↓			↓				↓	↓	↓	↓	↓	↓		

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check) ___ Same Day ___ 72 hours ___ 24 hours <u>X</u> Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: <u>6.1</u> Samples Intact: <u>Yes</u> No	Notes:
<u>[Signature]</u>	6/17/22 1315	Summit	6/17/22 1315		
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Summit	6/17/22 1500	<u>[Signature]</u>	6/17/22 1500		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

2206285

Sample Receipt Checklist

S2 Work Order#

Client: Noble/Tasman Client Project ID: Loloff 2,3,B35-19Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☐ Other ☐Temp (°C) 6.1 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				

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

Custodian Printed Name

6/12/22
Date/Time



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@9-10'
2206285-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		90.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/20/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		101 %	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@9-10'
2206285-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		64.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0645	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 10:10**

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

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



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@9-10'
2206285-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.82	0.230	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	73.6	0.459	"	"	"	"	"	"
Cadmium	ND	0.230	"	"	"	"	"	"
Copper	5.65	0.459	"	"	"	"	"	"
Lead	5.97	0.230	"	"	"	"	"	"
Nickel	7.61	0.459	"	"	"	"	"	"
Selenium	0.603	0.298	"	"	"	"	"	"
Silver	ND	0.0230	"	"	"	"	"	"
Zinc	28.8	0.459	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1450	0.0574	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	556	0.0574	"	"	"	"	"	"	
Sodium	99.5	0.0574	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.563	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@9-10'
2206285-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.1		%	1	BFF0550	06/21/22	06/22/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.773	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@12-14.5'
2206285-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		91.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/20/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.9 %	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@12-14.5'
2206285-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		64.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		61.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.211	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 10:20**

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@12-14.5'
2206285-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	7.46	0.238	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	26.3	0.476	"	"	"	"	"	"
Cadmium	ND	0.238	"	"	"	"	"	"
Copper	13.8	0.476	"	"	"	"	"	"
Lead	11.6	0.238	"	"	"	"	"	"
Nickel	14.7	0.476	"	"	"	"	"	"
Selenium	1.14	0.310	"	"	"	"	"	"
Silver	0.0285	0.0238	"	"	"	"	"	"
Zinc	65.1	0.476	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2430	0.0595	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	531	0.0595	"	"	"	"	"	"	
Sodium	220	0.0595	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.05	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 10:20**

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH01@12-14.5'
2206285-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.0	%	1	BFF0550	06/21/22	06/22/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.962	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@3-4'
2206285-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		94.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.4 %	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@3-4'
2206285-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		64.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		62.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0487	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 09:10**

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

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@3-4'
2206285-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.51	0.210	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	47.0	0.421	"	"	"	"	"	"
Cadmium	ND	0.210	"	"	"	"	"	"
Copper	4.11	0.421	"	"	"	"	"	"
Lead	3.75	0.210	"	"	"	"	"	"
Nickel	4.46	0.421	"	"	"	"	"	"
Selenium	0.513	0.274	"	"	"	"	"	"
Silver	ND	0.0210	"	"	"	"	"	"
Zinc	17.3	0.421	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1580	0.0526	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	165	0.0526	"	"	"	"	"	"	
Sodium	11.8	0.0526	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0755	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@3-4'
2206285-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.1		%	1	BFF0550	06/21/22	06/22/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.152	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.45		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@13-14'
2206285-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		92.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@13-14'
2206285-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		60.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.226	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 11:20**

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@13-14'
2206285-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	5.58	0.236	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	28.2	0.472	"	"	"	"	"	"
Cadmium	ND	0.236	"	"	"	"	"	"
Copper	11.4	0.472	"	"	"	"	"	"
Lead	10.0	0.236	"	"	"	"	"	"
Nickel	13.4	0.472	"	"	"	"	"	"
Selenium	0.922	0.307	"	"	"	"	"	"
Silver	ND	0.0236	"	"	"	"	"	"
Zinc	58.6	0.472	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	832	0.0590	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	453	0.0590	"	"	"	"	"	"	
Sodium	239	0.0590	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.66	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Broomfield CO, 80020

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH02@13-14'

2206285-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.8		%	1	BFF0550	06/21/22	06/22/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.19	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@3-4'
2206285-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@3-4'
2206285-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0641	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 09:20**

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@3-4'
2206285-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.80	0.220	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	81.9	0.440	"	"	"	"	"	"
Cadmium	ND	0.220	"	"	"	"	"	"
Copper	6.42	0.440	"	"	"	"	"	"
Lead	5.99	0.220	"	"	"	"	"	"
Nickel	8.02	0.440	"	"	"	"	"	"
Selenium	0.640	0.286	"	"	"	"	"	"
Silver	0.0337	0.0220	"	"	"	"	"	"
Zinc	28.1	0.440	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	980	0.0550	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	212	0.0550	"	"	"	"	"	"	
Sodium	20.1	0.0550	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.152	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 09:20**

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@3-4'
2206285-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.9	%	1	BFF0550	06/21/22	06/22/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.362	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.18		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

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Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@12-13.5'
2206285-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		101 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@12-13.5'
2206285-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		65.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.152	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@12-13.5'
2206285-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	5.37	0.234	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	29.4	0.467	"	"	"	"	"	"
Cadmium	ND	0.234	"	"	"	"	"	"
Copper	13.7	0.467	"	"	"	"	"	"
Lead	12.6	0.234	"	"	"	"	"	"
Nickel	14.3	0.467	"	"	"	"	"	"
Selenium	1.08	0.304	"	"	"	"	"	"
Silver	0.0274	0.0234	"	"	"	"	"	"
Zinc	67.1	0.467	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	924	0.0584	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	479	0.0584	"	"	"	"	"	"	
Sodium	193	0.0584	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.28	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 11:40**

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH03@12-13.5'
2206285-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.6	%	1	BFF0550	06/21/22	06/22/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.886	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.98		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@3-4'
2206285-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		91.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.7 %	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@3-4'
2206285-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0722	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 09:35**

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@3-4'
2206285-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.52	0.213	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	55.3	0.425	"	"	"	"	"	"
Cadmium	ND	0.213	"	"	"	"	"	"
Copper	4.13	0.425	"	"	"	"	"	"
Lead	4.49	0.213	"	"	"	"	"	"
Nickel	4.90	0.425	"	"	"	"	"	"
Selenium	0.482	0.276	"	"	"	"	"	"
Silver	ND	0.0213	"	"	"	"	"	"
Zinc	19.1	0.425	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	519	0.0531	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	156	0.0531	"	"	"	"	"	"	
Sodium	10.1	0.0531	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0998	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@3-4'
2206285-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	1	BFF0550	06/21/22	06/22/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.170	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.25		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@13-14'
2206285-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		92.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.5 %	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@13-14'
2206285-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.203	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 12:00**

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@13-14'
2206285-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	7.01	0.238	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	83.1	0.475	"	"	"	"	"	"
Cadmium	ND	0.238	"	"	"	"	"	"
Copper	12.3	0.475	"	"	"	"	"	"
Lead	12.4	0.238	"	"	"	"	"	"
Nickel	13.1	0.475	"	"	"	"	"	"
Selenium	1.04	0.309	"	"	"	"	"	"
Silver	0.0260	0.0238	"	"	"	"	"	"
Zinc	63.6	0.475	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 06/17/22 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: 06/17/22 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1070	0.0594	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	561	0.0594	"	"	"	"	"	"	
Sodium	270	0.0594	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 06/17/22 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.66	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 06/17/22 12:00

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH04@13-14'
2206285-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.2	%	1	BFF0550	06/21/22	06/22/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.850	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.16		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@3-4'
2206285-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		92.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		101 %	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@3-4'
2206285-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.326	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 09:00**

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

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@3-4'
2206285-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.80	0.219	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	58.0	0.438	"	"	"	"	"	"
Cadmium	ND	0.219	"	"	"	"	"	"
Copper	4.50	0.438	"	"	"	"	"	"
Lead	4.40	0.219	"	"	"	"	"	"
Nickel	4.58	0.438	"	"	"	"	"	"
Selenium	0.474	0.285	"	"	"	"	"	"
Silver	0.0228	0.0219	"	"	"	"	"	"
Zinc	18.1	0.438	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	4180	0.0547	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	397	0.0547	"	"	"	"	"	"	
Sodium	113	0.0547	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.448	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 09:00**

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

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@3-4'
2206285-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.3	%	1	BFF0550	06/21/22	06/22/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.286	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.51		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@13-15'
2206285-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0504	06/20/22	06/20/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0506	06/20/22	06/21/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@13-15'
2206285-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0529	06/21/22	06/23/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.186	0.0100	mg/L	1	BFF0556	06/21/22	06/23/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/17/22 11:00**

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

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@13-15'
2206285-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	6.20	0.237	mg/kg dry	1	BFF0596	06/22/22	06/24/22	EPA 6020B
Barium	24.4	0.475	"	"	"	"	"	"
Cadmium	ND	0.237	"	"	"	"	"	"
Copper	13.4	0.475	"	"	"	"	"	"
Lead	12.1	0.237	"	"	"	"	"	"
Nickel	14.7	0.475	"	"	"	"	"	"
Selenium	1.03	0.309	"	"	"	"	"	"
Silver	0.0251	0.0237	"	"	"	"	"	"
Zinc	64.8	0.475	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0575	06/22/22	06/22/22	EPA 7196A	

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

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	846	0.0593	mg/L dry	1	BFF0584	06/22/22	06/23/22	EPA 6020B	
Magnesium	484	0.0593	"	"	"	"	"	"	
Sodium	204	0.0593	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.39	0.00100	units	1	BFF0616	06/23/22	06/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/17/22 11:00**

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

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

BH05@13-15'
2206285-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.3	%	1	BFF0550	06/21/22	06/22/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.586	0.0100	mmhos/cm	1	BFF0586	06/22/22	06/22/22	EPA 120.1	

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

Date Sampled: **06/17/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17		pH Units	1	BFF0585	06/22/22	06/22/22	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFF0504 - EPA 5030 Soil MS

Blank (BFF0504-BLK1)

Prepared & Analyzed: 06/20/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0369		"	0.0400		92.3	50-150			
Surrogate: Toluene-d8	0.0365		"	0.0400		91.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.6	50-150			

LCS (BFF0504-BS1)

Prepared & Analyzed: 06/20/22

Benzene	0.0700	0.0020	mg/kg	0.0750		93.3	70-130			
Toluene	0.0727	0.0050	"	0.0750		97.0	70-130			
Ethylbenzene	0.0709	0.0050	"	0.0750		94.6	70-130			
m,p-Xylene	0.145	0.010	"	0.150		96.4	70-130			
o-Xylene	0.0734	0.0050	"	0.0750		97.9	70-130			
1,2,4-Trimethylbenzene	0.0720	0.0050	"	0.0750		96.0	70-130			
1,3,5-Trimethylbenzene	0.0745	0.0050	"	0.0750		99.4	70-130			
Naphthalene	0.0670	0.0038	"	0.0750		89.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.3	50-150			
Surrogate: Toluene-d8	0.0375		"	0.0400		93.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

Matrix Spike (BFF0504-MS1)

Source: 2206282-01

Prepared & Analyzed: 06/20/22

Benzene	0.0707	0.0020	mg/kg	0.0750	ND	94.3	70-130			
Toluene	0.0745	0.0050	"	0.0750	ND	99.4	70-130			
Ethylbenzene	0.0723	0.0050	"	0.0750	ND	96.4	70-130			
m,p-Xylene	0.149	0.010	"	0.150	ND	99.6	70-130			
o-Xylene	0.0761	0.0050	"	0.0750	ND	102	70-130			
1,2,4-Trimethylbenzene	0.0752	0.0050	"	0.0750	ND	100	70-130			
1,3,5-Trimethylbenzene	0.0755	0.0050	"	0.0750	ND	101	70-130			
Naphthalene	0.0742	0.0038	"	0.0750	ND	98.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0400		95.5	50-150			
Surrogate: Toluene-d8	0.0380		"	0.0400		95.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

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

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

Batch BFF0504 - EPA 5030 Soil MS

Matrix Spike Dup (BFF0504-MSD1)		Source: 2206282-01			Prepared & Analyzed: 06/20/22					
Benzene	0.0733	0.0020	mg/kg	0.0750	ND	97.8	70-130	3.62	30	
Toluene	0.0758	0.0050	"	0.0750	ND	101	70-130	1.76	30	
Ethylbenzene	0.0718	0.0050	"	0.0750	ND	95.8	70-130	0.666	30	
m,p-Xylene	0.148	0.010	"	0.150	ND	98.7	70-130	0.888	30	
o-Xylene	0.0755	0.0050	"	0.0750	ND	101	70-130	0.831	30	
1,2,4-Trimethylbenzene	0.0739	0.0050	"	0.0750	ND	98.5	70-130	1.77	30	
1,3,5-Trimethylbenzene	0.0743	0.0050	"	0.0750	ND	99.0	70-130	1.64	30	
Naphthalene	0.0773	0.0038	"	0.0750	ND	103	70-130	4.12	30	
Surrogate: 1,2-Dichloroethane-d4		0.0392	"	0.0400		98.0	50-150			
Surrogate: Toluene-d8		0.0374	"	0.0400		93.6	50-150			
Surrogate: 4-Bromofluorobenzene		0.0397	"	0.0400		99.3	50-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFF0506 - EPA 3550A

Blank (BFF0506-BLK1)

Prepared & Analyzed: 06/20/22

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

LCS (BFF0506-BS1)

Prepared & Analyzed: 06/20/22

C10-C28 (DRO)	472	50	mg/kg	500	94.4	70-130
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Matrix Spike (BFF0506-MS1)

Source: 2206282-01

Prepared & Analyzed: 06/20/22

C10-C28 (DRO)	497	50	mg/kg	500	23.8	94.6	70-130
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Matrix Spike Dup (BFF0506-MSD1)

Source: 2206282-01

Prepared & Analyzed: 06/20/22

C10-C28 (DRO)	470	50	mg/kg	500	23.8	89.2	70-130	5.57	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFF0529 - EPA 5030 Soil MS

Blank (BFF0529-BLK1)

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

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0309		"	0.0333		92.8	40-150			
Surrogate: Fluoranthene-d10	0.0252		"	0.0333		75.7	40-150			

LCS (BFF0529-BS1)

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

Acenaphthene	0.0339	0.00500	mg/kg	0.0333	102	31-137
Anthracene	0.0382	0.00500	"	0.0333	115	30-120
Benzo (a) anthracene	0.0331	0.00500	"	0.0333	99.3	30-120
Benzo (a) pyrene	0.0357	0.00500	"	0.0333	107	30-120
Benzo (b) fluoranthene	0.0354	0.00500	"	0.0333	106	30-120
Benzo (k) fluoranthene	0.0398	0.00500	"	0.0333	119	30-120
Chrysene	0.0379	0.00500	"	0.0333	114	30-120
Dibenz (a,h) anthracene	0.0358	0.00500	"	0.0333	107	30-120
Fluoranthene	0.0379	0.00500	"	0.0333	114	30-120
Fluorene	0.0337	0.00500	"	0.0333	101	30-120
Indeno (1,2,3-cd) pyrene	0.0227	0.00500	"	0.0333	68.1	30-120
Pyrene	0.0361	0.00500	"	0.0333	108	35-142
1-Methylnaphthalene	0.0418	0.00500	"	0.0333	126	35-142
2-Methylnaphthalene	0.0397	0.00500	"	0.0333	119	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0358		"	0.0333	107	40-150
Surrogate: Fluoranthene-d10	0.0348		"	0.0333	104	40-150

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFF0529 - EPA 5030 Soil MS

Matrix Spike (BFF0529-MS1)

Source: 2206282-01

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

Acenaphthene	0.0168	0.00500	mg/kg	0.0333	ND	50.4	31-137		
Anthracene	0.0149	0.00500	"	0.0333	ND	44.6	30-120		
Benzo (a) anthracene	0.0134	0.00500	"	0.0333	ND	40.3	30-120		
Benzo (a) pyrene	0.0134	0.00500	"	0.0333	ND	40.1	30-120		
Benzo (b) fluoranthene	0.0131	0.00500	"	0.0333	ND	39.3	30-120		
Benzo (k) fluoranthene	0.0148	0.00500	"	0.0333	ND	44.5	30-120		
Chrysene	0.0147	0.00500	"	0.0333	ND	44.0	30-120		
Dibenz (a,h) anthracene	0.0121	0.00500	"	0.0333	ND	36.4	30-120		
Fluoranthene	0.0152	0.00500	"	0.0333	ND	45.5	30-120		
Fluorene	0.0150	0.00500	"	0.0333	ND	45.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0110	0.00500	"	0.0333	ND	33.1	30-120		
Pyrene	0.0158	0.00500	"	0.0333	ND	47.4	35-142		
1-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	46.0	15-130		
2-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.8	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0160		"	0.0333		47.9	40-150		
Surrogate: Fluoranthene-d10	0.0166		"	0.0333		49.9	40-150		

Matrix Spike Dup (BFF0529-MSD1)

Source: 2206282-01

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

Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.0	31-137	15.7	30
Anthracene	0.0185	0.00500	"	0.0333	ND	55.6	30-120	22.1	30
Benzo (a) anthracene	0.0172	0.00500	"	0.0333	ND	51.5	30-120	24.5	30
Benzo (a) pyrene	0.0176	0.00500	"	0.0333	ND	52.7	30-120	27.2	30
Benzo (b) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.7	30-120	27.4	30
Benzo (k) fluoranthene	0.0196	0.00500	"	0.0333	ND	58.7	30-120	27.6	30
Chrysene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	23.6	30
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	48.8	30-120	29.1	30
Fluoranthene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	21.1	30
Fluorene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	22.2	30
Indeno (1,2,3-cd) pyrene	0.0147	0.00500	"	0.0333	ND	44.0	30-120	28.3	30
Pyrene	0.0190	0.00500	"	0.0333	ND	57.1	35-142	18.6	30
1-Methylnaphthalene	0.0212	0.00500	"	0.0333	ND	63.7	15-130	32.1	50
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.5	15-130	38.3	50
Surrogate: 2-Methylnaphthalene-d10	0.0203		"	0.0333		61.0	40-150		
Surrogate: Fluoranthene-d10	0.0197		"	0.0333		59.2	40-150		

Summit Scientific

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



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

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

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

Batch BFF0556 - EPA 3050B

Blank (BFF0556-BLK1)

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

Boron ND 0.0100 mg/L

LCS (BFF0556-BS1)

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

Boron 5.88 0.0100 mg/L 5.00 118 80-120

Duplicate (BFF0556-DUP1)

Source: 2206285-01

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

Boron 0.0615 0.0100 mg/L 0.0645 4.80 20

Matrix Spike (BFF0556-MS1)

Source: 2206285-01

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

Boron 5.84 0.0100 mg/L 5.00 0.0645 116 75-125

Matrix Spike Dup (BFF0556-MSD1)

Source: 2206285-01

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

Boron 5.84 0.0100 mg/L 5.00 0.0645 115 75-125 0.0811 25

Summit Scientific

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



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFF0596 - EPA 3050B

Blank (BFF0596-BLK1)

Prepared: 06/22/22 Analyzed: 06/24/22

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

LCS (BFF0596-BS1)

Prepared: 06/22/22 Analyzed: 06/24/22

Arsenic	42.0	0.200	mg/kg wet	40.0	105	80-120
Barium	42.0	0.400	"	40.0	105	80-120
Cadmium	2.02	0.200	"	2.00	101	80-120
Copper	40.8	0.400	"	40.0	102	80-120
Lead	20.1	0.200	"	20.0	100	80-120
Nickel	40.1	0.400	"	40.0	100	80-120
Selenium	4.00	0.260	"	4.00	99.9	80-120
Silver	1.96	0.0200	"	2.00	98.2	80-120
Zinc	42.7	0.400	"	40.0	107	80-120

Duplicate (BFF0596-DUP1)

Source: 2206285-01

Prepared: 06/22/22 Analyzed: 06/24/22

Arsenic	2.88	0.230	mg/kg dry	2.82	2.43	20
Barium	73.7	0.459	"	73.6	0.109	20
Cadmium	0.0605	0.230	"	0.0599	1.07	20
Copper	5.56	0.459	"	5.65	1.78	20
Lead	6.07	0.230	"	5.97	1.70	20
Nickel	7.49	0.459	"	7.61	1.58	20
Selenium	0.541	0.298	"	0.603	11.0	20
Silver	0.00880	0.0230	"	0.00851	3.31	20
Zinc	28.6	0.459	"	28.8	0.756	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFF0596 - EPA 3050B

Matrix Spike (BFF0596-MS1)

Source: 2206285-01

Prepared: 06/22/22 Analyzed: 06/24/22

Arsenic	48.6	0.230	mg/kg dry	45.9	2.82	99.7	75-125			
Barium	157	0.459	"	45.9	73.6	182	75-125			QM-02
Cadmium	2.28	0.230	"	2.30	0.0599	96.5	75-125			
Copper	50.3	0.459	"	45.9	5.65	97.3	75-125			
Lead	26.2	0.230	"	23.0	5.97	88.0	75-125			
Nickel	53.1	0.459	"	45.9	7.61	99.1	75-125			
Selenium	4.68	0.298	"	4.59	0.603	88.9	75-125			
Silver	2.14	0.0230	"	2.30	0.00851	93.0	75-125			
Zinc	76.1	0.459	"	45.9	28.8	103	75-125			

Matrix Spike Dup (BFF0596-MSD1)

Source: 2206285-01

Prepared: 06/22/22 Analyzed: 06/24/22

Arsenic	50.0	0.230	mg/kg dry	45.9	2.82	103	75-125	2.89	25	
Barium	162	0.459	"	45.9	73.6	193	75-125	3.14	25	QM-02
Cadmium	2.33	0.230	"	2.30	0.0599	98.7	75-125	2.16	25	
Copper	52.7	0.459	"	45.9	5.65	103	75-125	4.68	25	
Lead	26.8	0.230	"	23.0	5.97	90.6	75-125	2.27	25	
Nickel	54.7	0.459	"	45.9	7.61	102	75-125	2.86	25	
Selenium	4.64	0.298	"	4.59	0.603	88.0	75-125	0.888	25	
Silver	2.22	0.0230	"	2.30	0.00851	96.5	75-125	3.71	25	
Zinc	78.5	0.459	"	45.9	28.8	108	75-125	3.14	25	

Summit Scientific

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



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFF0575 - 3060A Mod

Blank (BFF0575-BLK1)

Prepared & Analyzed: 06/22/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFF0575-BS1)

Prepared & Analyzed: 06/22/22

Chromium, Hexavalent 27.8 0.30 mg/kg wet 25.0 111 80-120

Duplicate (BFF0575-DUP1)

Source: 2206285-01

Prepared & Analyzed: 06/22/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFF0575-MS1)

Source: 2206285-01

Prepared & Analyzed: 06/22/22

Chromium, Hexavalent 29.7 0.30 mg/kg dry 28.7 ND 104 75-125

Matrix Spike Dup (BFF0575-MSD1)

Source: 2206285-01

Prepared & Analyzed: 06/22/22

Chromium, Hexavalent 33.4 0.30 mg/kg dry 28.7 ND 116 75-125 11.6 20

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

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

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

Batch BFF0584 - General Preparation

Blank (BFF0584-BLK1)

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

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

LCS (BFF0584-BS1)

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

Calcium	589	0.0500	mg/L wet	500	118	70-130
Magnesium	615	0.0500	"	500	123	70-130
Sodium	561	0.0500	"	500	112	70-130

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

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

Summit Scientific

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

Batch BFF0550 - General Preparation

Duplicate (BFF0550-DUP1)		Source: 2205069-01		Prepared: 06/21/22 Analyzed: 06/22/22						
% Solids	90.5		%		90.0			0.545	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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

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

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

Batch BFF0586 - General Preparation

Blank (BFF0586-BLK1)

Prepared & Analyzed: 06/22/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFF0586-BS1)

Prepared & Analyzed: 06/22/22

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

Duplicate (BFF0586-DUP1)

Source: 2206285-01

Prepared & Analyzed: 06/22/22

Specific Conductance (EC) 0.772 0.0100 mmhos/cm 0.773 0.0647 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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

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

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

Batch BFF0585 - General Preparation

LCS (BFF0585-BS1)

Prepared & Analyzed: 06/22/22

pH	9.11	pH Units	9.18	99.2	95-105
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Duplicate (BFF0585-DUP1)

Source: 2206285-01

Prepared & Analyzed: 06/22/22

pH	8.06	pH Units	8.04	0.248	20
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Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/27/22 12:53

Notes and Definitions

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

ATTACHMENT B
BORING LOGS



TASMAN

6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Tasman

LOGGED BY: Hunter Merlo & Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Hand Auger/Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/17/22 - 6/17/22

TOTAL WELL DEPTH (FT. BGS): 15

DEPTH TO WATER (FT. BGS): 9

Loloff 2, 3, B35-19 Facility

BORING / WELL ID: BH01

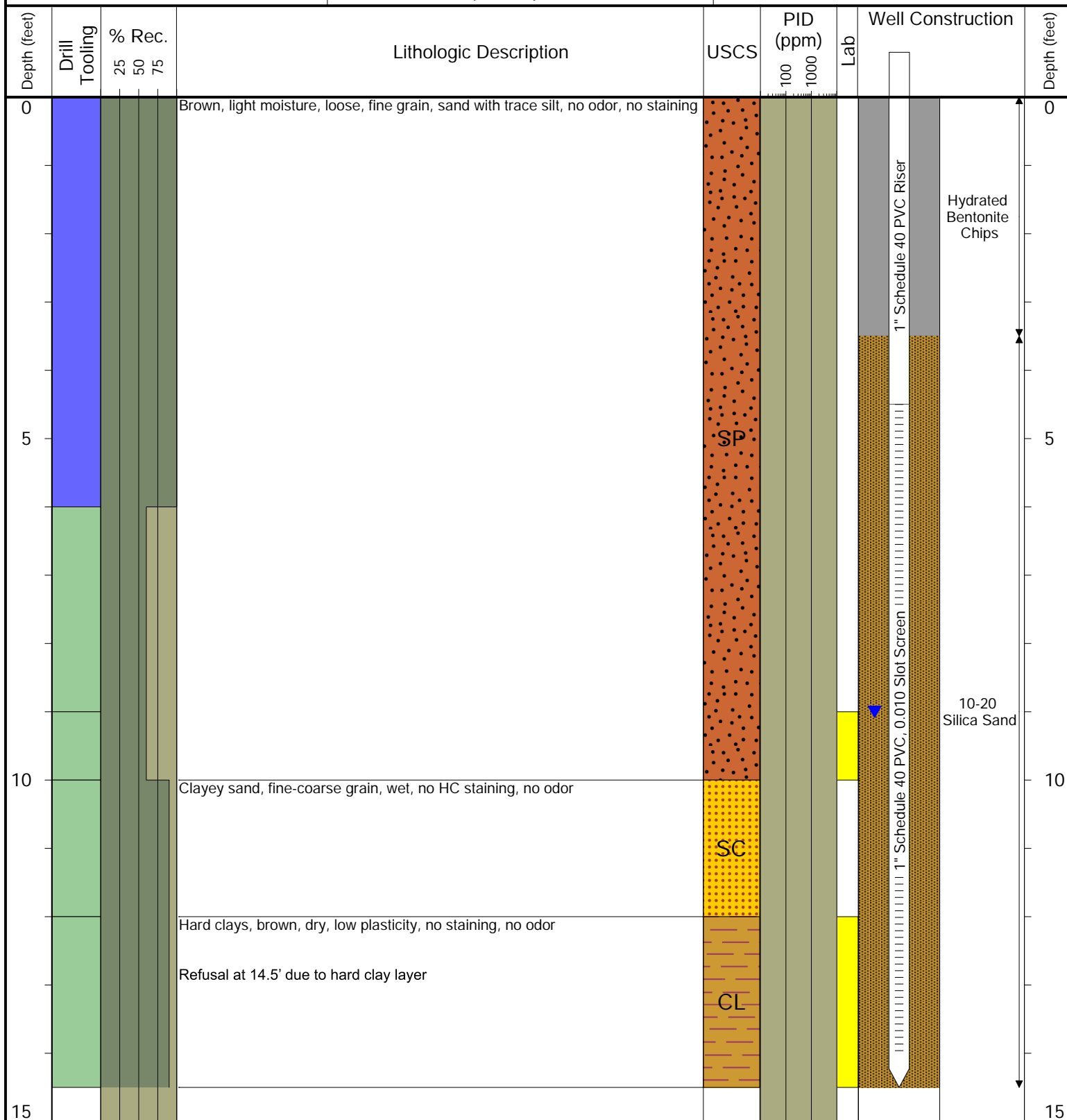
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.363332924

LONGITUDE (WGS 84): -104.521715395

CASING ELEVATION (FT. AMSL): 4654.067

GROUND ELEVATION (FT. AMSL): 4656.957



Drilling / Sample Method:

Macro-Core

Hollow Stem Auger

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Tasman

LOGGED BY: Hunter Merlo & Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Hand Auger/Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/17/22 - 6/17/22

TOTAL WELL DEPTH (FT. BGS): NM

DEPTH TO WATER (FT. BGS): 8

Loloff 2, 3, B35-19 Facility

BORING / WELL ID: BH02

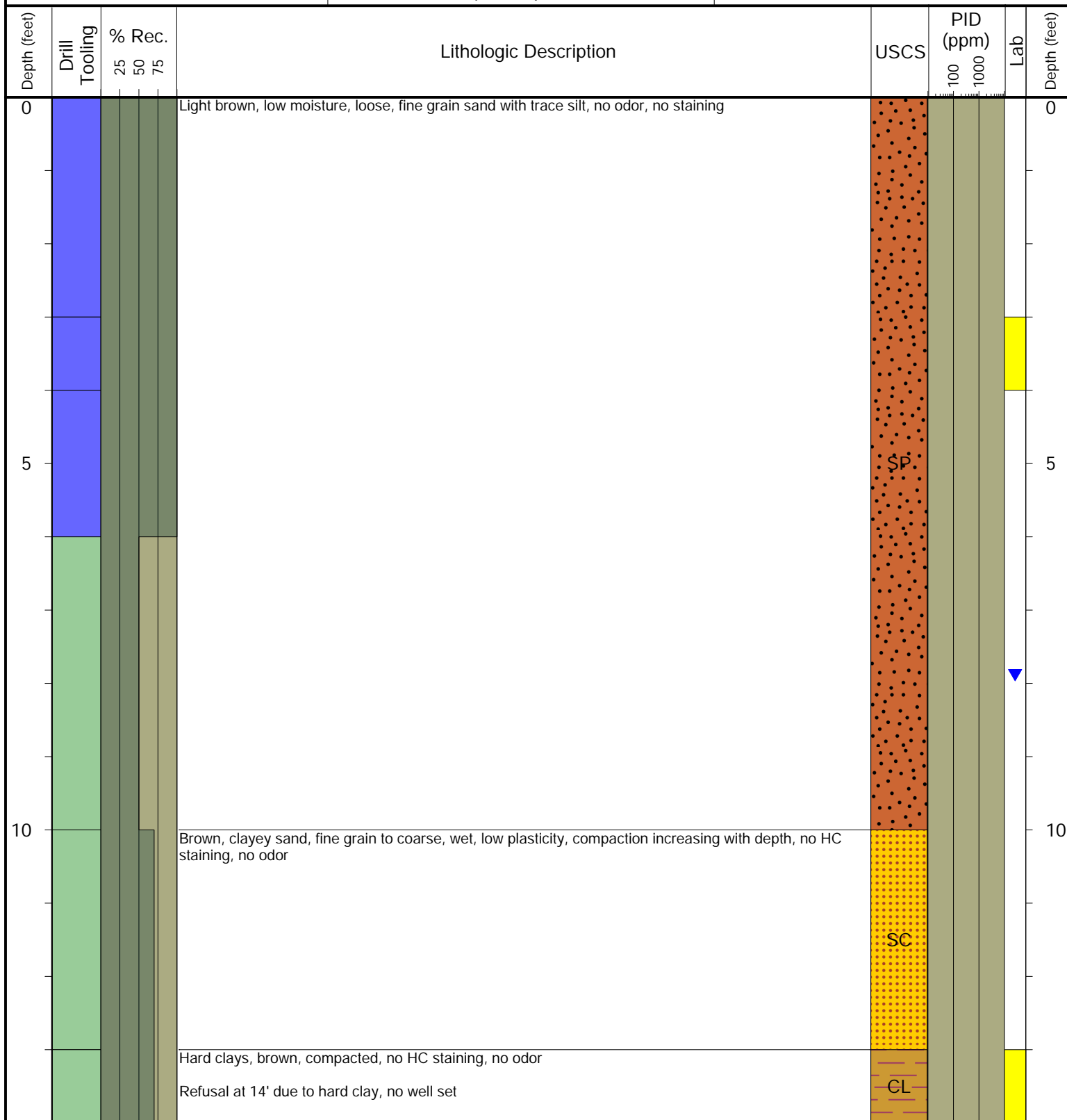
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.3633766429

LONGITUDE (WGS 84): -104.521722284

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Hollow-Stem Auger

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Tasman

LOGGED BY: Hunter Merlo & Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Hand Auger/Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/17/22 - 6/17/22

TOTAL WELL DEPTH (FT. BGS): NM

DEPTH TO WATER (FT. BGS): 8

Loloff 2, 3, B35-19 Facility

BORING / WELL ID: BH03

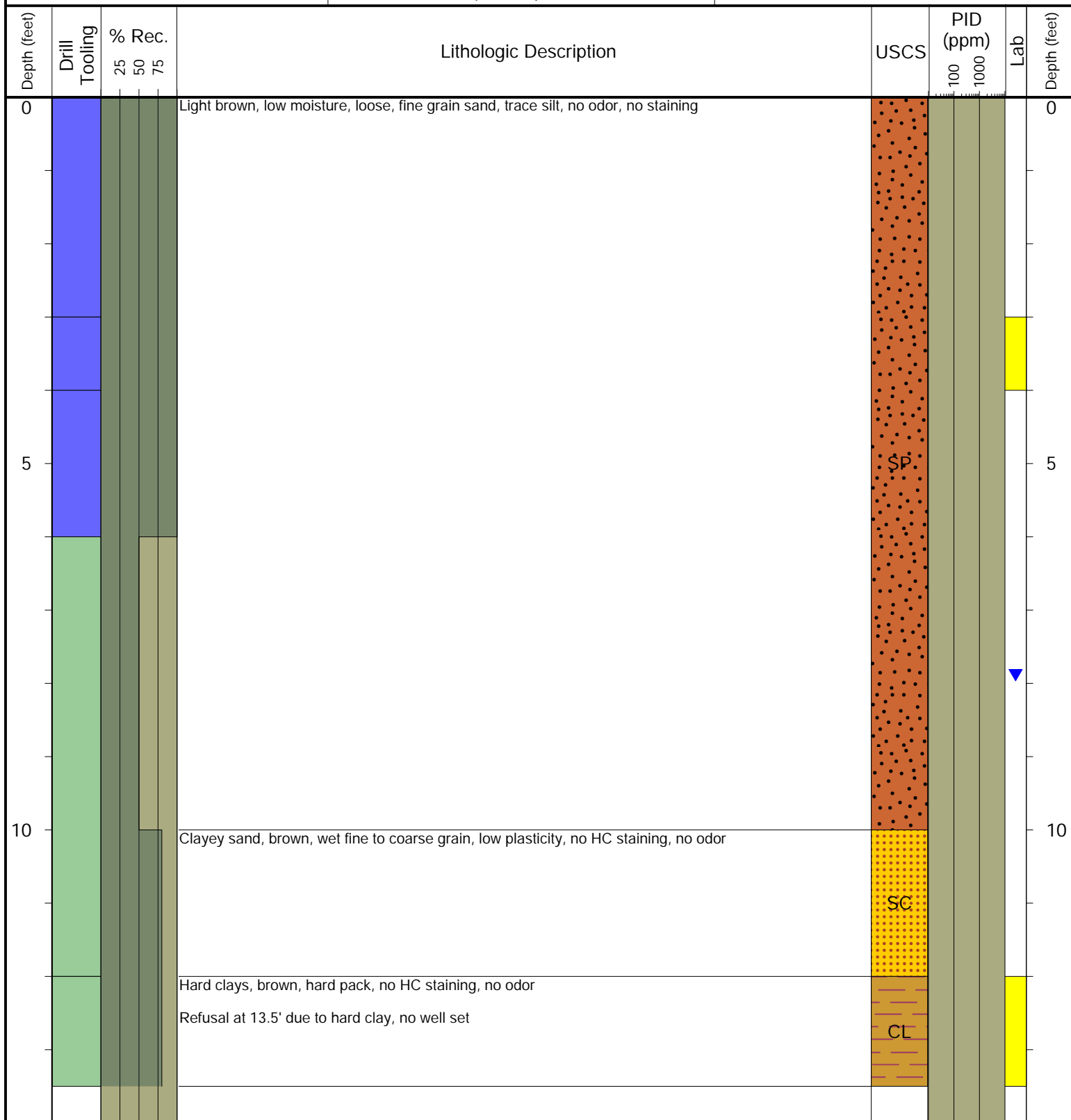
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.3633291947

LONGITUDE (WGS 84): -104.521661542

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Hollow-Stem Auger

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Tasman

LOGGED BY: Hunter Merlo & Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Hand Auger/Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/17/22 - 6/17/22

TOTAL WELL DEPTH (FT. BGS): NM

DEPTH TO WATER (FT. BGS): 8

Loloff 2, 3, B35-19 Facility

BORING / WELL ID: BH04

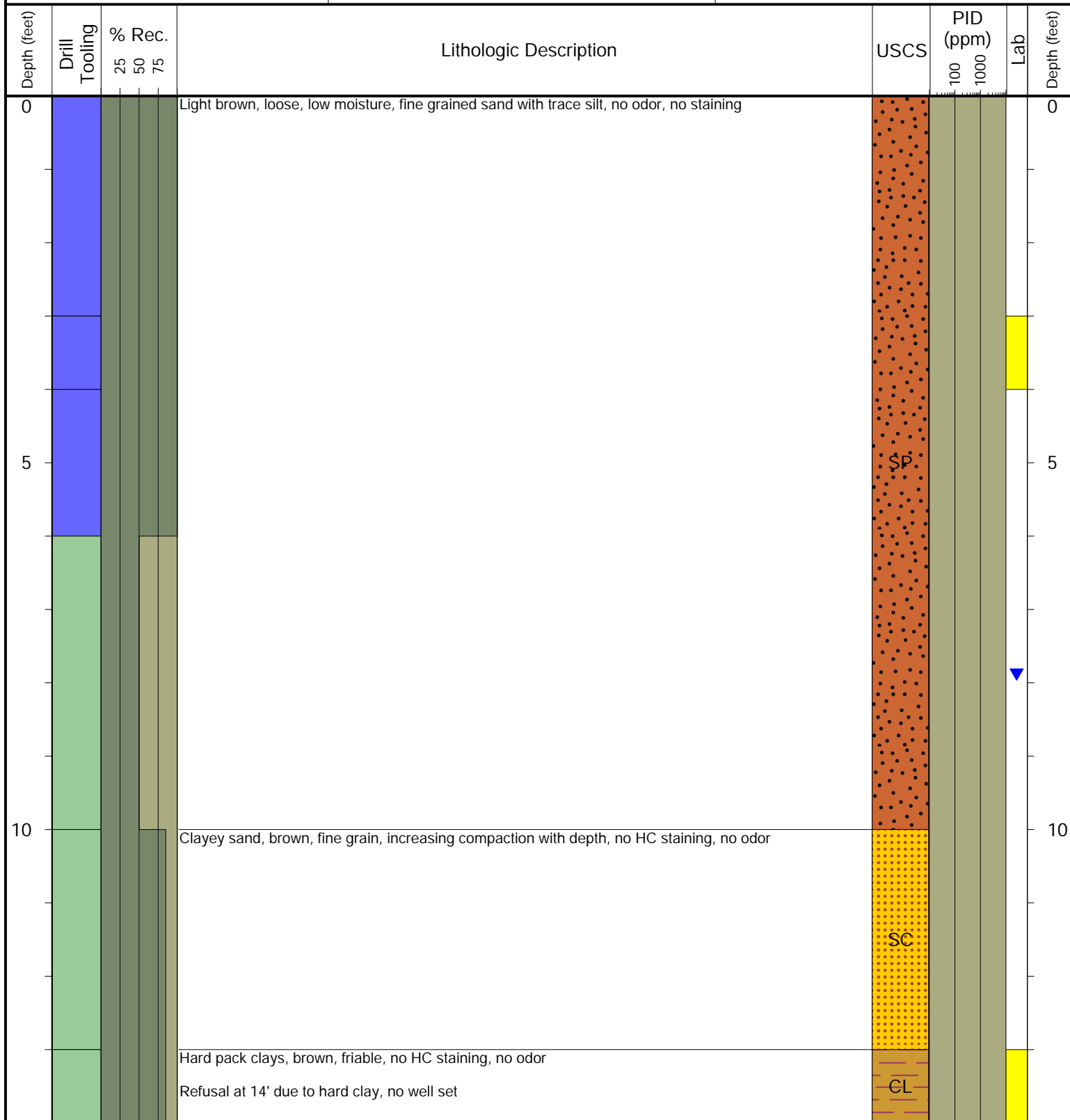
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.3632765362

LONGITUDE (WGS 84): -104.521724238

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Hollow-Stem Auger

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

6855 W. 119th Ave.
Broomfield, CO 80020

CLIENT: Tasman

LOGGED BY: Hunter Merlo & Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Hand Auger/Powerprobe

DRILL BIT SIZE (INCHES): 2.375"

DATE STARTED - COMPLETED: 6/17/22 - 6/17/22

TOTAL WELL DEPTH (FT. BGS): NM

DEPTH TO WATER (FT. BGS): NM

Loloff 2, 3, B35-19 Facility

BORING / WELL ID: BH05

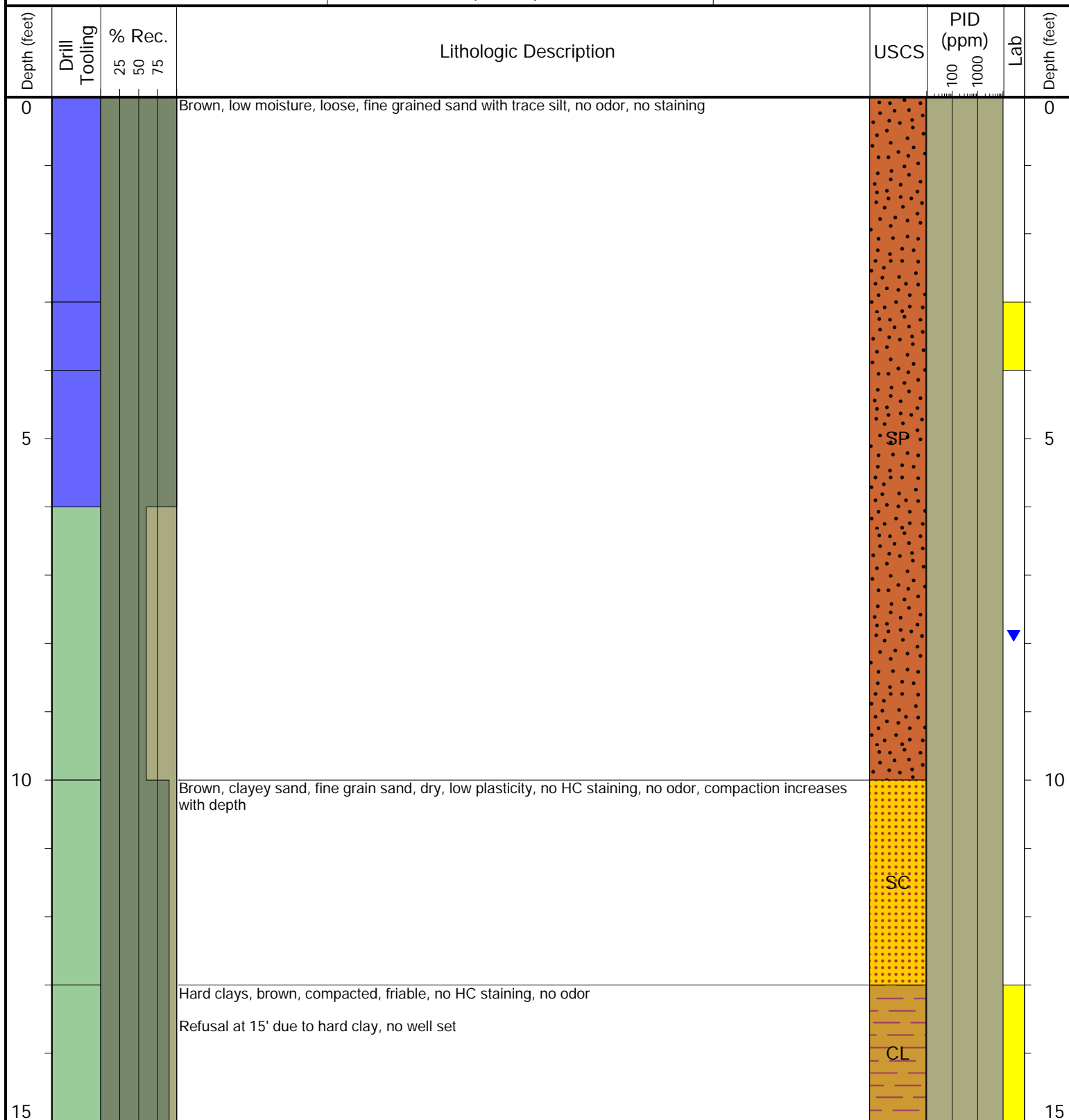
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.3633299344

LONGITUDE (WGS 84): -104.521782756

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Hollow-Stem Auger

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab

ATTACHMENT C

LABORATORY GROUNDWATER ANALYTICAL DATA REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 06, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Loloff 2,3,B35-19

Work Order #2206368

Enclosed are the results of analyses for samples received by Summit Scientific on 06/22/22 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/06/22 11:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2206368-01	Water	06/22/22 12:03	06/22/22 17:25

Summit Scientific

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

Summit Scientific

S₂

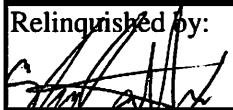
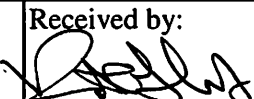
7706368

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

Page 1 of 1

Client: Noble / Tasman Project Manager: Jake Whritenour, Invoice: Erica Zuniga
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-261-6247 Project Name: LOLOFF 2,3 B35-19 FAC
Sampler Name: Stanley Gilbert Project Number:

					Preservative				Matrix				Analysis Requested					Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260B BTEX	Naphthalene	1,2,4-trimethylbenzene	1,3,5 trimethylbenzene	TDS, chloride ion, sulfate ion	
1	BH01	6/22/22	12:03	4	X				X				X	X	X	X	X	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Relinquished by: 	Date/Time: 6/22/22 15:30	Received by: Tasman's Lock Box	Date/Time: 6/22/22 15:30	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: Temperature Upon Receipt: 0.9 Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 6/22/22 1725	Received by: 	Date/Time: 6/22/22 1725		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order# 2206368Client: Noble Gasman Client Project ID: LOLOFT 2.3 B 35-19 FACShipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #:

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☒ Other ☐Temp (°C) 09 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ice
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		-		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	-			HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				

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

Custodian Printed Name

62222
Date/Time



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/06/22 11:12

BH01
2206368-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFF0649	06/24/22	06/25/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	897	12.0	mg/L	200	BFF0655	06/25/22	06/25/22	EPA 300.0	
Sulfate	760	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

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

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	2850	10.0	mg/L	1	BFF0617	06/23/22	06/23/22	SM2540C	

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/06/22 11:12

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFF0649 - EPA 5030 Water MS

Blank (BFF0649-BLK1)

Prepared: 06/24/22 Analyzed: 06/25/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		116	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106	21-167			

LCS (BFF0649-BS1)

Prepared: 06/24/22 Analyzed: 06/25/22

Benzene	27.3	1.0	ug/l	25.0		109	51-132			
Toluene	25.8	1.0	"	25.0		103	51-138			
Ethylbenzene	23.0	1.0	"	25.0		92.0	58-146			
m,p-Xylene	45.2	2.0	"	50.0		90.4	57-144			
o-Xylene	23.6	1.0	"	25.0		94.4	53-146			
Naphthalene	31.9	1.0	"	25.0		128	70-130			
1,2,4-Trimethylbenzene	22.2	1.0	"	25.0		89.0	70-130			
1,3,5-Trimethylbenzene	22.4	1.0	"	25.0		89.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	15.2		"	13.3		114	23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.4	20-170			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	21-167			

Matrix Spike (BFF0649-MS1)

Source: 2206372-01

Prepared: 06/24/22 Analyzed: 06/25/22

Benzene	27.1	1.0	ug/l	25.0	ND	109	34-141			
Toluene	25.9	1.0	"	25.0	ND	104	27-151			
Ethylbenzene	23.3	1.0	"	25.0	ND	93.3	29-160			
m,p-Xylene	46.0	2.0	"	50.0	ND	92.1	20-166			
o-Xylene	24.4	1.0	"	25.0	ND	97.4	33-159			
Naphthalene	30.8	1.0	"	25.0	ND	123	70-130			
1,2,4-Trimethylbenzene	23.2	1.0	"	25.0	ND	92.6	70-130			
1,3,5-Trimethylbenzene	23.3	1.0	"	25.0	ND	93.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.3		99.1	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.1	20-170			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	21-167			

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/06/22 11:12

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFF0649 - EPA 5030 Water MS

Matrix Spike Dup (BFF0649-MSD1)	Source: 2206372-01			Prepared: 06/24/22 Analyzed: 06/25/22						
Benzene	27.4	1.0	ug/l	25.0	ND	109	34-141	0.771	30	
Toluene	25.8	1.0	"	25.0	ND	103	27-151	0.426	30	
Ethylbenzene	23.3	1.0	"	25.0	ND	93.1	29-160	0.258	30	
m,p-Xylene	46.3	2.0	"	50.0	ND	92.5	20-166	0.520	30	
o-Xylene	24.1	1.0	"	25.0	ND	96.6	33-159	0.907	30	
Naphthalene	30.3	1.0	"	25.0	ND	121	70-130	1.70	30	
1,2,4-Trimethylbenzene	23.2	1.0	"	25.0	ND	93.0	70-130	0.431	30	
1,3,5-Trimethylbenzene	22.9	1.0	"	25.0	ND	91.6	70-130	1.65	30	
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.3		94.4	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	21-167			

Summit Scientific

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



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/06/22 11:12

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

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

Batch BFF0655 - General Preparation

Blank (BFF0655-BLK1)

Prepared & Analyzed: 06/25/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFF0655-BS1)

Prepared & Analyzed: 06/25/22

Chloride	3.25	0.0600	mg/L	3.00	108	90-110
Sulfate	16.2	0.300	"	15.0	108	90-110

Duplicate (BFF0655-DUP1)

Source: 2206367-01

Prepared & Analyzed: 06/25/22

Chloride	68.2	12.0	mg/L	67.8	0.588	20
Sulfate	1500	60.0	"	1510	1.25	20

Matrix Spike (BFF0655-MS1)

Source: 2206367-01

Prepared & Analyzed: 06/25/22

Chloride	664	12.0	mg/L	600	67.8	99.4	80-120
Sulfate	4700	60.0	"	3000	1510	106	80-120

Summit Scientific

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/06/22 11:12

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BFF0617 - General Preparation

Blank (BFF0617-BLK1)

Prepared & Analyzed: 06/23/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFF0617-DUP1)

Source: 2206335-01

Prepared & Analyzed: 06/23/22

Total Dissolved Solids 2040 10.0 mg/L 1970 3.49 20

Summit Scientific

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 - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/06/22 11:12

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 22, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Loloff 2,3,B35-19

Work Order #2209341

Enclosed are the results of analyses for samples received by Summit Scientific on 09/16/22 17:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
09/22/22 13:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2209341-01	Water	09/16/22 10:40	09/16/22 17:10

Summit Scientific

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

Summit Scientific

S₂

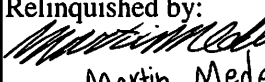

2209341

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

Page | of |

Client: Noble / Tasman Project Manager: Jacob Whritenour
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 503-915-3046 Project Name: Loloff 2,3 B35-19
Sampler Name: Martin Medeiros Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Benzanthracene								
1	BH01	09/16/22	10:40	1			X		X					X							
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by:  Martin Medeiros	Date/Time: 09/16/22	Received by: Tasman's Lock Box	Date/Time:	Turn Around Time (Check) Same Day <input type="checkbox"/> 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 9/16/22 1710	Received by: 	Date/Time: 9/16/22 1710	Sample Integrity: Temperature Upon Receipt: 5.3	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 2209341

Client: Noblefzaman Client Project ID: Loloff 2,3 B35-19Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☒ Other ☐Temp (°C) 53Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
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 type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.

Custodian Printed Name

Date/Time

9-16-22

19:25



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
09/22/22 13:45

BH01
2209341-01 (Water)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/16/22 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzo (a) anthracene	ND	0.100	ug/l	1	BFI0479	09/20/22	09/21/22	EPA 8270D SIM	

Date Sampled: **09/16/22 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: Fluoranthene-d10		64.0 %	40-150		"	"	"	"	

Summit Scientific

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



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
09/22/22 13:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFI0479 - EPA 5030 Water MS

Blank (BFI0479-BLK1)

Prepared: 09/20/22 Analyzed: 09/21/22

Acenaphthene	ND	0.500	ug/l							
Acenaphthylene	ND	0.200	"							
Anthracene	ND	0.200	"							
Benzo (a) anthracene	ND	0.100	"							
Benzo (b) fluoranthene	ND	0.200	"							
Benzo (k) fluoranthene	ND	0.200	"							
Benzo (g,h,i) perylene	ND	0.200	"							
Benzo (a) pyrene	ND	0.200	"							
Chrysene	ND	0.200	"							
Dibenz (a,h) anthracene	ND	0.200	"							
Fluoranthene	ND	2.00	"							
Fluorene	ND	0.200	"							
Indeno (1,2,3-cd) pyrene	ND	0.300	"							
Phenanthrene	ND	0.500	"							
Pyrene	ND	1.00	"							
1-Methylnaphthalene	ND	0.500	"							
2-Methylnaphthalene	ND	0.500	"							
Surrogate: 2-Methylnaphthalene-d10	2.32		"	2.00		116	40-150			
Surrogate: Fluoranthene-d10	1.74		"	2.00		86.9	40-150			

LCS (BFI0479-BS1)

Prepared: 09/20/22 Analyzed: 09/21/22

Acenaphthene	1.88	0.500	ug/l	2.00		94.1	30-120			
Acenaphthylene	1.90	0.200	"	2.00		95.1	30-120			
Anthracene	1.99	0.200	"	2.00		99.6	30-120			
Benzo (a) anthracene	1.93	0.100	"	2.00		96.5	30-120			
Benzo (b) fluoranthene	2.37	0.200	"	2.00		118	30-120			
Benzo (k) fluoranthene	2.28	0.200	"	2.00		114	30-120			
Benzo (g,h,i) perylene	2.03	0.200	"	2.00		101	30-120			
Benzo (a) pyrene	2.23	0.200	"	2.00		112	30-120			
Chrysene	1.53	0.200	"	2.00		76.4	30-120			
Dibenz (a,h) anthracene	1.90	0.200	"	2.00		95.2	30-120			
Fluoranthene	2.12	2.00	"	2.00		106	30-120			
Fluorene	1.78	0.200	"	2.00		88.9	30-120			
Indeno (1,2,3-cd) pyrene	2.19	0.300	"	2.00		110	30-120			
Phenanthrene	2.14	0.500	"	2.00		107	30-120			
Pyrene	1.94	1.00	"	2.00		96.9	30-120			
1-Methylnaphthalene	2.01	0.500	"	2.00		100	30-120			
2-Methylnaphthalene	2.06	0.500	"	2.00		103	0-200			

Summit Scientific

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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
09/22/22 13:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFI0479 - EPA 5030 Water MS

LCS (BFI0479-BS1)

Prepared: 09/20/22 Analyzed: 09/21/22

Surrogate: 2-Methylnaphthalene-d10	2.01		ug/l	2.00		100	40-150			
Surrogate: Fluoranthene-d10	2.30		"	2.00		115	40-150			

LCS Dup (BFI0479-BSD1)

Prepared: 09/20/22 Analyzed: 09/21/22

Acenaphthene	2.03	0.500	ug/l	2.00		101	30-120	7.49	30	
Acenaphthylene	2.02	0.200	"	2.00		101	30-120	6.27	30	
Anthracene	1.96	0.200	"	2.00		98.1	30-120	1.43	30	
Benzo (a) anthracene	1.93	0.100	"	2.00		96.7	30-120	0.139	30	
Benzo (b) fluoranthene	2.37	0.200	"	2.00		118	30-120	0.0372	30	
Benzo (k) fluoranthene	2.22	0.200	"	2.00		111	30-120	2.57	30	
Benzo (g,h,i) perylene	1.98	0.200	"	2.00		99.0	30-120	2.36	30	
Benzo (a) pyrene	2.20	0.200	"	2.00		110	30-120	1.58	30	
Chrysene	1.53	0.200	"	2.00		76.4	30-120	0.0602	30	
Dibenz (a,h) anthracene	1.84	0.200	"	2.00		91.8	30-120	3.70	30	
Fluoranthene	2.07	2.00	"	2.00		103	30-120	2.70	30	
Fluorene	1.66	0.200	"	2.00		83.1	30-120	6.68	30	
Indeno (1,2,3-cd) pyrene	2.14	0.300	"	2.00		107	30-120	2.31	30	
Phenanthrene	2.14	0.500	"	2.00		107	30-120	0.404	30	
Pyrene	1.94	1.00	"	2.00		97.0	30-120	0.0763	30	
1-Methylnaphthalene	1.84	0.500	"	2.00		92.1	30-120	8.69	30	
2-Methylnaphthalene	1.96	0.500	"	2.00		97.8	0-200	5.23	200	
Surrogate: 2-Methylnaphthalene-d10	1.95		"	2.00		97.4	40-150			
Surrogate: Fluoranthene-d10	2.26		"	2.00		113	40-150			

Summit Scientific

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



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

Project: Noble - Loloff 2,3,B35-19

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
09/22/22 13:45

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