

SITE ASSESSMENT REPORT
REISTAD 1 TANK BATTERY
COGCC SPILL TRACKING # 480290
COGCC REMEDIATION # 17666

Prepared for:



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020



6855 W. 119th Ave
Broomfield, CO 80020
www.Tasman-Geo.com

March 31, 2022

Mr. Jacob Evans
Environmental Coordinator, EHSR
Noble Energy Inc.
2115 117th Avenue
Greeley, CO 80631

Subject: **Site Assessment Report**
 Reistad 1 Tank Battery
 Spill/Release Point ID: 480290
 Remediation #: 17666
 SESE S5 T4N R64W
 Weld County, Colorado

Dear Mr. Evans:

Below please find a copy of the above referenced Site Assessment Report (Report) for the Reistad 1 tank battery site (Site) located in Weld County, Colorado. The text below describes decommissioning, assessment, and soil sampling activities conducted by Tasman Geosciences, Inc. (Tasman), on behalf of Noble Energy, Inc. (Noble) between July 8, 2021 and March 1, 2022.

Introduction

The purpose of this document is to describe the results of soil 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 adjacent to a partially buried vault during decommissioning and abandonment activities on July 8, 2021.

Facility Background

The Site is located approximately 3.5 miles south of Kersey in Weld County, Colorado. Site legal description is the southeast 1/4 of the southeast 1/4 of Section 5, Township 4 north, Range 64 west, of the 6th Principal Meridian. The Site is located on terrain that slopes gradually to the northwest. The Site is approximately 0.15 miles north of County Road 48 at coordinates 40.3363562, -104.5652854.

Tasman was retained by Noble on July 8, 2021, to complete soil sampling and documentation during decommissioning and abandonment activities. As reported in the initial Form 19, historical impacts were discovered adjacent to the Reistad 1 partially buried vessel. The Form 19 was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) July 9, 2021. The COGCC subsequently issued Spill/Release Point ID Number 480290 for this event. The COGCC assigned Remediation Number 17666 for the project.

Site Decommissioning Activities

On July 8, 2021, Tasman completed decommissioning soil and documentation for the Reistad 1 Facility. Soil samples were collected from the excavation of the partially buried vault along all four sidewalls (SS01@2.5', SS02@2.5', SS03@2.5', SS04@2.5'), excavation base (FS01@6'). An additional excavation was completed to collect soil samples from the separator end of the flowline (SEP-FL01-B@3') and the dump line (SEP01-DL01@3'). Soil surface samples were taken from the footprint of the above ground storage tank (AST01@0.5'), the meter house (MH01@0.5') and two flares (FLARE01@0.5' and FLARE02@0.5'). Upon the discovery of hydrocarbon-stained soil, the excavation of the partially buried vault was expanded and five additional side wall samples (SS05@2.5', SS06@6', SS07@6', SS08@6', SS09@6') were taken as well as an additional floor sample (FS01@7'). All soil samples collected were field screened for volatile organic compounds (VOC) using a photoionization detector (PID) and standard headspace sampling techniques. The two flare samples and the meter house sample were discarded in the field upon receiving a 0.0 ppm screening on the PID. All other soil samples were submitted to Origins Laboratory (Origins) in Denver, Colorado for laboratory analysis of 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 8015. All soil samples were also analyzed for pH, electrical conductivity (EC), sodium absorption ratio (SAR) using USEPA saturated paste extraction method, and boron using hot water-soluble soil extract method. Soil samples collected from the source (FS01@7') were also analyzed for COGCC Table 915-1 metals in soil using USEPA Method 6020B. Background soil samples (BG01@0.5', BG01@ 2-3', BG01@6', and BG01@7') were collected on March 1, 2022, and were submitted to Origins for laboratory analysis of pH, electrical conductivity (EC), sodium absorption ratio (SAR) using USEPA saturated paste extraction method, and boron using hot water soluble soil extract method, and arsenic and selenium using USEPA Method 6020B. Decommissioning soil analytical results are summarized in Table 1 and illustrated on Figure 2.

Site Assessment Activities

On October 15, 2021, Tasman completed site assessment activities to delineate potential subsurface soil and groundwater impacts. Tasman advanced five boreholes (BH01 through BH05) 12 ft. below ground surface (bgs) using an AMS Power Probe via direct push in the area of the previous partially buried vault excavation. During soil boring operations, soil samples were collected and field screened for VOCs using a PID and standard headspace sampling techniques. Soil samples were collected from all borings at depths corresponding to initial observed impacts, the interval of the highest observed PID reading, and the terminal depth of the boring. All soil samples (BH01@2-3', BH01@6-8', BH01@10-12', BH02@2-3', BH02@10-12', BH03@2-3', BH03@10-12', BH04@2-3', BH04@10-12', BH05@2-3', BH05@10-12') were submitted to Summit Scientific Laboratory (Summit) in Golden, CO for laboratory analysis of COGCC Table 915-1 list of organics in soil using USEPA Method 8260B and USEPA Method 8270D, TPH using USEPA Methods 8260B and 8015. Soil samples BH01@6-8', BH05@2-3', and BH05@10-12' had additional analysis for Arsenic and Selenium in soil using USEPA Method 6020B.

Groundwater was not encountered during the drilling process, so boreholes were backfilled with bentonite. Borehole soil analytical results are summarized in Table 1 and illustrated on Figure 3. Laboratory analytical reports are included in Attachment A.

Results

Laboratory results for soil samples analyzed during initial decommissioning and subsequent site assessment activities are compliant with COGCC Table 915-1 standards for hydrocarbon compounds except for exceedances of benzene in floor sample FS01@7' and 1,3,5-trimethylbenzene and naphthalene in BH01@6-8'. Results for inorganic analytes indicate soil impacts above COGCC Table 915-1 standards for arsenic and selenium metals in floor sample FS01@7', BH01@6-8', BH05@2-3' and BH05@10-12'. Although, background soil sample results for arsenic and selenium indicated elevated levels are present in adjacent native soil and that they are comparable to those observed in the source area. Soil sample results for pH, SAR, EC and boron were compliant with COGCC Table 915-1 standards for all samples with the exception of pH and SAR exceedances in AST01@0.5'; SAR, EC and boron exceedances in FS01@7' and SS07@6'; and a SAR exceedance in BH01@6-8'.

Conclusions

Based on field and laboratory data, organic hydrocarbon soil impacts were detected at the site above COGCC Table 915-1 standards at two locations on site. The hydrocarbon soil impacts have been delineated horizontally and vertically by the October 2021 borehole samples. Additionally, the arsenic and selenium soil exceedances are comparable to the elevated levels present in adjacent native soil. Groundwater was not encountered within 12 feet of the ground surface during drilling activities. Based on the successful delineation, a No Further Action (NFA) designation is being requested for the Site from COGCC. Reclamation of the site will be addressed in a Site-specific Reclamation plan pursuant to COGCC Rule 915.b.

Remarks

The discussion and conclusions contained in this report represent the professional opinions of Tasman Geosciences, 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 Geosciences, Inc.



Jake Whritenour, Program Manager

Attachments:

Table 1 – Soil Analytical Data

Figure 1 – Site Location Map

Figure 2 – Site Overview

Figure 3 – Soil Analytical Results Map (7/08/2021 & 3/01/2022)

Figure 4 – Borehole Soil Analytical Results Map (10/15/2021)

Attachment A – Laboratory Soil Analytical Data Reports

Attachment B – Boring Logs

TABLES

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - REISTAD 1 TANK BATTERY

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2		500		360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038		500		0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
AST01@0.5'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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-FL01-B@3'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<0.00067	<0.00067	0.00203	0.00214	0.00249	0.00144	0.00281	<0.00067	0.00309	<0.00067	0.00114	0.0029	<0.00067	<0.00067
Sep01-DL01@3'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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
SS01@2.5'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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
SS03@2.5'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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
SS05@2.5'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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@7'	07/08/21	0.145	0.0469	0.00806	0.0154	0.00312	<0.00200	<0.00067	0.220	<50	<200	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335	<0.00335
SS06@6'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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
SS07@6'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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
SS08@6'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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
SS09@6'	07/08/21	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067	<0.200	<50	<200	<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@2-3'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH01@6-8'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	0.0054	0.0042	0.0097	1.6	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH01@10-12'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02@2-3'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH02@10-12'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH03@2-3'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH03@10-12'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH04@2-3'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH04@10-12'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH05@2-3'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH05@10-12'	10/15/21	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
AST01@0.5'	07/08/21	9.33	15.9	0.506	<0.200
Sep01-FL01-B@3'	07/08/21	8.15	0.165	0.259	<0.200
Sep01-DL01@3'	07/08/21	8.05	0.503	0.390	0.220
SS01@2.5'	07/08/21	8.01	0.238	0.470	<0.199
SS03@2.5'	07/08/21	8.05	0.203	0.538	0.22
SS04@2.5'	07/08/21	8.12	0.262	0.361	0.317
SS05@2.5'	07/08/21	7.78	1.67	0.935	0.832
FS01@7'	07/08/21	7.12	20.5	6.42	4.53
SS06@6'	07/08/21	8.05	0.343	0.402	0.218
SS07@6'	07/08/21	7.80	20.5	6.03	3.42
SS08@6'	07/08/21	7.98	1.6	0.766	0.477
SS09@6'	07/08/21	8.24	0.171	0.381	0.281
BH01@2-3'	10/15/21	8.00	3.50	1.38	0.112
BH01@6-8'	10/15/21	8.29	14.6	2.41	0.234
BH01@10-12'	10/15/21	7.93	4.05	2.49	0.120
BH02@2-3'	10/15/21	8.21	0.182	0.433	0.0400
BH02@10-12'	10/15/21	8.14	2.94	0.344	0.154
BH03@2-3'	10/15/21	7.99	1.53	0.898	0.0302
BH03@10-12'	10/15/21	8.11	4.49	0.839	0.0942
BH04@2-3'	10/15/21	7.88	0.171	3.00	0.118
BH04@10-12'	10/15/21	7.91	1.76	0.147	0.194
BH05@2-3'	10/15/21	8.13	5.99	2.56	0.235
BH03@10-12'	10/15/21	8.10	4.64	1.81	0.0661
BG01@0.5'	03/01/22	7.78	3.10	NA	NA
BG01@6'	03/01/22	8.05	0.798	0.784	0.708
BG01@7'	03/01/22	NA	0.728	0.766	0.660

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 ¹		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FS01@7'	07/08/21	4.17	31	<0.25	<0.488	11.5	9.13	6.25	0.317	<0.25	61.9
BH01@6-8'	10/15/21	11.4	NA	NA	NA	NA	NA	NA	0.696	NA	NA
BH05@2-3'	10/15/21	3.61	NA	NA	NA	NA	NA	NA	1.73	NA	NA
BH05@10-12'	10/15/21	3.99	NA	NA	NA	NA	NA	NA	1.14	NA	NA
BG01@2-3'	03/01/22	3.6	NA	NA	NA	NA	NA	NA	0.374	NA	NA
BG01@7'	03/01/22	4.49	NA	NA	NA	NA	NA	NA	0.279	NA	NA
BG01@10-12'	03/01/22	0.929	NA	NA	NA	NA	NA	NA	0.24	NA	NA

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

1,2,4 - TMB = 1,2,4 Trimethylbenzene
 1,3,5 - TMB = 1,3,5 Trimethylbenzene
 Benz(a) = Benzanthracene
 Benzo(b) = Benzo(a)fluoranthene
 Benzo(k) = Benzo(k)fluoranthene
 Benzo(a) = Benzopyrene
 A,H = Dibenzoanthracene
 1,2,3-CD = Indenopyrene
 1-M = 1-methylnaphthalene
 2-M = 2-methylnaphthalene

FIGURES

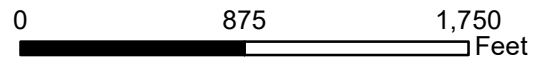
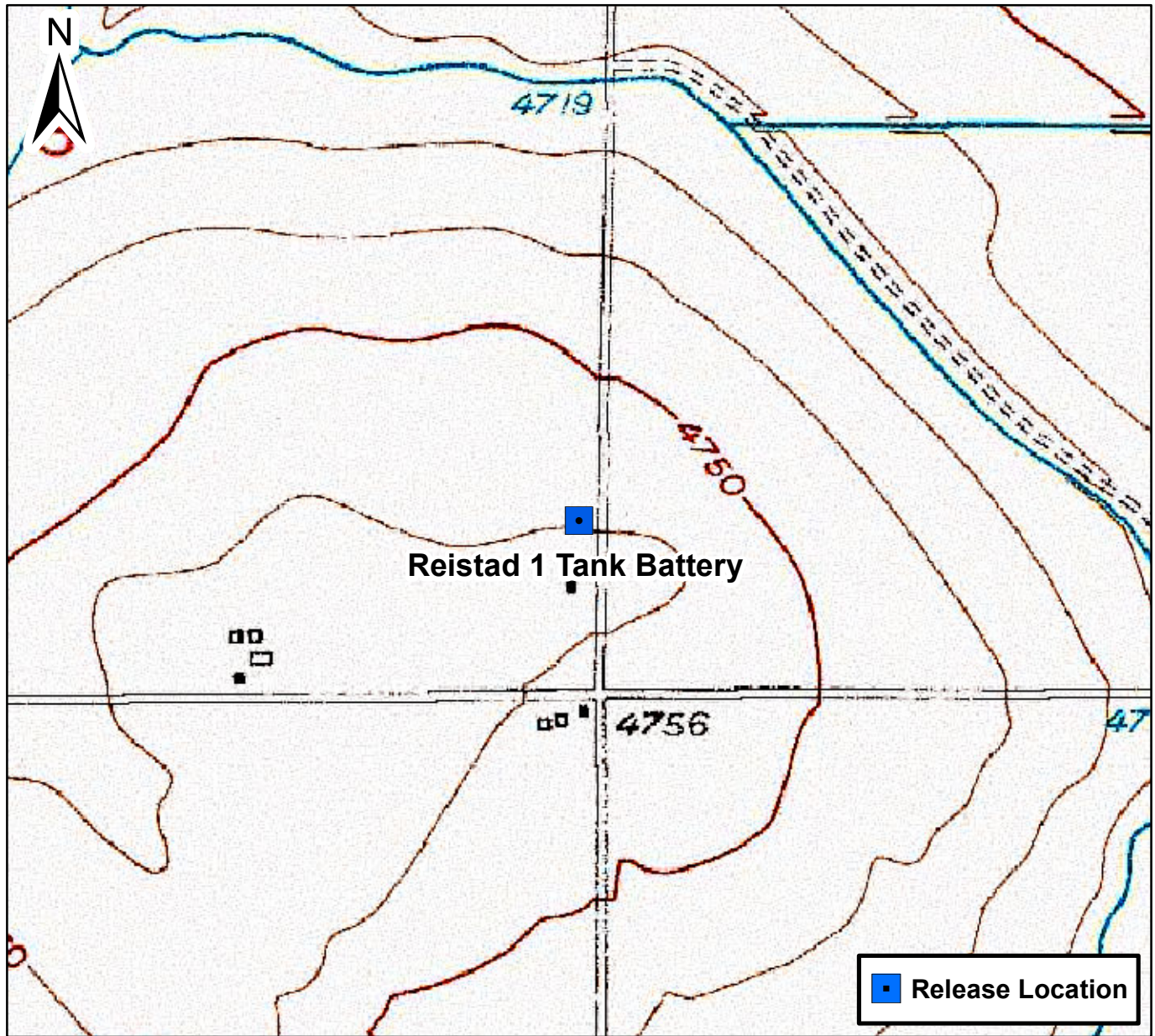
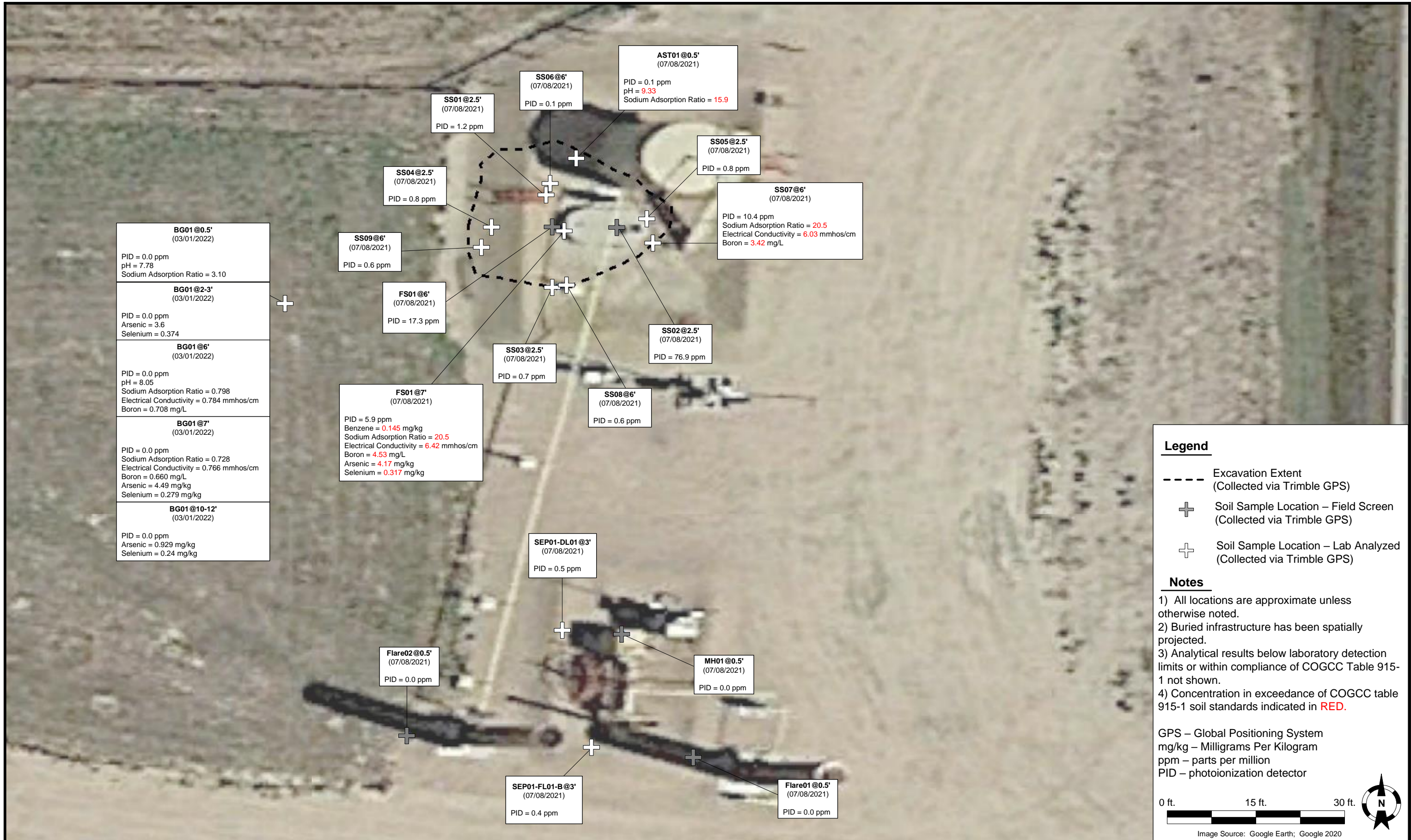


Figure 1

Site Location Map
 Reistad 1 Tank Battery
 SESE S5 T4N R64W
 Weld County, Colorado





BG01 @0.5' (03/01/2022) PID = 0.0 ppm pH = 7.78 Sodium Adsorption Ratio = 3.10
BG01 @2-3' (03/01/2022) PID = 0.0 ppm Arsenic = 3.6 Selenium = 0.374
BG01 @6' (03/01/2022) PID = 0.0 ppm pH = 8.05 Sodium Adsorption Ratio = 0.798 Electrical Conductivity = 0.784 mmhos/cm Boron = 0.708 mg/L
BG01 @7' (03/01/2022) PID = 0.0 ppm Sodium Adsorption Ratio = 0.728 Electrical Conductivity = 0.766 mmhos/cm Boron = 0.660 mg/L Arsenic = 4.49 mg/kg Selenium = 0.279 mg/kg
BG01 @10-12' (03/01/2022) PID = 0.0 ppm Arsenic = 0.929 mg/kg Selenium = 0.24 mg/kg

SS01 @2.5' (07/08/2021) PID = 1.2 ppm	SS06 @6' (07/08/2021) PID = 0.1 ppm	AST01 @0.5' (07/08/2021) PID = 0.1 ppm pH = 9.33 Sodium Adsorption Ratio = 15.9	SS05 @2.5' (07/08/2021) PID = 0.8 ppm
SS04 @2.5' (07/08/2021) PID = 0.8 ppm	SS09 @6' (07/08/2021) PID = 0.6 ppm	SS07 @6' (07/08/2021) PID = 10.4 ppm Sodium Adsorption Ratio = 20.5 Electrical Conductivity = 6.03 mmhos/cm Boron = 3.42 mg/L	SS02 @2.5' (07/08/2021) PID = 76.9 ppm
FS01 @6' (07/08/2021) PID = 17.3 ppm	SS03 @2.5' (07/08/2021) PID = 0.7 ppm	SS08 @6' (07/08/2021) PID = 0.6 ppm	
FS01 @7' (07/08/2021) PID = 5.9 ppm Benzene = 0.145 mg/kg Sodium Adsorption Ratio = 20.5 Electrical Conductivity = 6.42 mmhos/cm Boron = 4.53 mg/L Arsenic = 4.17 mg/kg Selenium = 0.317 mg/kg	SEP01-DL01 @3' (07/08/2021) PID = 0.5 ppm	MH01 @0.5' (07/08/2021) PID = 0.0 ppm	
	Flare02 @0.5' (07/08/2021) PID = 0.0 ppm	Flare01 @0.5' (07/08/2021) PID = 0.0 ppm	
	SEP01-FL01-B @3' (07/08/2021) PID = 0.4 ppm		

DATE: 07/19/2021
 DESIGNED BY: JW
 DRAWN BY: CA



Noble Energy, Inc. – DJ Basin
Reistad 1 Tank Battery
 SESE, Section 5, Township 4 North, Range 64 West
 Weld County, Colorado

Decommissioning
 Soil Analytical Results Map
 7/08/2021 & 3/01/2022

FIGURE
 2



BH02@2-3'
(10/15/2021)
PID = 0.0 ppm
BH02@10-12'
(10/15/2021)
PID = 0.0 ppm



BH05@2-3'
(10/15/2021)
PID = 0.0 ppm
Arsenic = **3.61** mg/kg
Selenium = **1.73** mg/kg
BH05@10-12'
(10/15/2021)
PID = 0.0 ppm
Arsenic = **3.99** mg/kg
Selenium = **1.14** mg/kg

BH03@2-3'
(10/15/2021)
PID = 0.0 ppm
BH03@10-12'
(10/15/2021)
PID = 0.0 ppm

BH04@2-3'
(10/15/2021)
PID = 0.0 ppm
BH04@10-12'
(10/15/2021)
PID = 0.0 ppm

BH01@2-3'
(10/15/2021)
PID = 0.0 ppm
BH01@6-8'
(10/15/2021)
PID = 10.9 ppm
1, 3, 5 Trimethylbenzene = **0.042** mg/kg
Naphthalene = **0.0097** mg/kg
Arsenic = **11.4** mg/kg
Selenium = **0.696** mg/kg
Sodium Absorption Ratio = **14.6**
BH01@10-12'
(10/15/2021)
PID = 0.1 ppm

Legend

-  Soil Boring Location
(Collected via Trimble GPS)
-  Excavation Extent
(Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Analytical results below laboratory detection limits or within compliance of COGCC Table 915-1 not shown.
- 4) Concentration in exceedance of COGCC table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System
mg/kg – Milligrams Per Kilogram

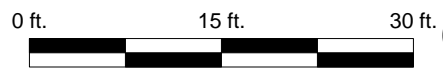


Image Source: Google Earth; Google 2020

DATE:	07/19/2021
DESIGNED BY:	JW
DRAWN BY:	CA



Tasman Geosciences, Inc.
6855 W 199th Ave
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Reistad 1 Tank Battery
SESE, Section 5, Township 4 North, Range 64 West
Weld County, Colorado

Site Assessment
Soil Analytical Results Map
10/15/2021

FIGURE 3

ATTACHMENT A
LABORATORY SOIL ANALYTICAL DATA REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 26, 2021

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Reistad 01
Work Order #2110259

Enclosed are the results of analyses for samples received by Summit Scientific on 10/15/21 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury
President



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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@2-3'	2110259-01	Soil	10/15/21 09:30	10/15/21 16:15
BH01@6-8'	2110259-02	Soil	10/15/21 09:40	10/15/21 16:15
BH01@10-12'	2110259-03	Soil	10/15/21 11:00	10/15/21 16:15
BH02@2-3'	2110259-04	Soil	10/15/21 09:50	10/15/21 16:15
BH02@10-12'	2110259-05	Soil	10/15/21 11:30	10/15/21 16:15
BH03@2-3'	2110259-06	Soil	10/15/21 09:55	10/15/21 16:15
BH03@10-12'	2110259-07	Soil	10/15/21 12:00	10/15/21 16:15
BH04@2-3'	2110259-08	Soil	10/15/21 09:25	10/15/21 16:15
BH04@10-12'	2110259-09	Soil	10/15/21 12:50	10/15/21 16:15
BH05@2-3'	2110259-10	Soil	10/15/21 10:30	10/15/21 16:15
BH05@10-12'	2110259-11	Soil	10/15/21 13:15	10/15/21 16:15

Summit Scientific

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

Summit Scientific 2110259.1

S₂

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

Client:	Noble / Tasman Geosciences	Project Manager:	Jake Whritenour, Invoice: Jacob Evans
Address:	6855 W. 119th Ave.	E-Mail:	Jwhritenour@tasman-geo.com
City/State/Zip:	Broomfield / CO/ 80020	Project Name:	Reistad 1
Phone:	303-487-1228 (631)962-9308	Project Number:	
Sampler Name:	Daniel Qua		

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD		Arsenic & Selenium
1	BH01 @ 2'-3'	10/15/21	930	2			X			X				X	X		X	X			SAR, EC, pH by saturated paste
2	BH01 @ 6'-8'		940											X	X					X	
3	BH01 @ 10'-12'		1100																		
4	BH02 @ 2'-3'		950																		
5	BH02 @ 10'-12'		1130																		
6	BH03 @ 2'-3'		955																		
7	BH03 @ 10'-12'		1200																		
8	BH04 @ 2'-3'		925																		
9	BH04 @ 10'-12'		1250																		
10	BH05 @ 2'-3'		1030																		

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
	10/15/21 1615	Tasman's Lock Box	10/15/21 1615	<input type="checkbox"/> Same Day 72 hours <input type="checkbox"/> 24 hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 48 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
Tasman's Lock Box			10/15/21 1405	Temperature Upon Receipt: 10.5	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Summit Scientific

S₂

2110259.2

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

Client: Noble / Tasman Geosciences Project Manager: Jake Whritenour, Invoice: Jacob Evans
 Address: 6855 W. 119th Ave. E-Mail: Jwhritenour@tasman-geo.com
 City/State/Zip: Broomfield / CO / 80020
 Phone: ~~303-487-4228~~ (631) - 902-9308 Project Name: Reistad 1
 Sampler Name: Daniel Qua 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	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD		Arsenic & Selenium	
1	BH05 @ 10'-12'	10/15/21	1315	2			X			X				X	X		X	X			X	SAR, EC, pH by saturated paste
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by: <u>[Signature]</u>	Date/Time: 10/15/21 1615	Received by: Tasman's Lock Box	Date/Time: 10/15/21 1615	Turn Around Time (Check) ___ Same Day ___ 72 hours ___ 24 hours <input checked="" type="checkbox"/> Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: <u>10.5</u> Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by: <u>[Signature]</u>	Date/Time: 10/15/21 1615		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

2/2

2110259

Sample Receipt Checklist

S2 Work Order# _____

Client: Noble/Tushman Client Project ID: Reistad 1

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

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

Temp (°C) 10.5

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input 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.

[Signature]
Custodian Printed Name or Initials

10-15-21
Date/Time



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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH01@2-3'
2110259-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		113 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		87.7 %		30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

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 - Reistad 01
Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH01@2-3'
2110259-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.112	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	90.4	0.0545	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	25.4	0.0545	"	"	"	"	"	"	
Sodium	146	0.0545	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.50	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.38	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

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 - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH01@2-3'
2110259-01 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 09:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.00		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH01@6-8'
2110259-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.0054	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.042	0.0050		"	"	"	"	"	"	
Naphthalene	0.0097	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.6	0.50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		95.9 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: o-Terphenyl</i>		93.0 %		30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

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 - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH01@6-8'
2110259-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.234	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	11.4	0.200	mg/kg dry	1	BEJ0339	10/19/21	10/22/21	EPA 6020B	
Selenium	0.696	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.3	0.0611	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	14.0	0.0611	"	"	"	"	"	"	
Sodium	438	0.0611	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	14.6	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.9		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH01@6-8'
2110259-02 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	2.41	0.0100		mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Date Sampled: **10/15/21 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.29			pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH01@10-12'
2110259-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		111 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		100 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

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 - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH01@10-12'
2110259-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.120	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	153	0.0580	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	64.6	0.0580	"	"	"	"	"	"	
Sodium	237	0.0580	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.05	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.2		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.49	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH01@10-12'
2110259-03 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.93		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH02@2-3'
2110259-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		108 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		111 %		30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH02@2-3'
2110259-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0400	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	48.9	0.0597	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	20.5	0.0597	"	"	"	"	"	"	
Sodium	6.00	0.0597	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.182	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.8		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.433	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH02@2-3'
2110259-04 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 09:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.21		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH02@10-12'
2110259-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/21 11:30**

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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 - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH02@10-12'
2110259-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.154	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.2	0.0601	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	6.19	0.0601	"	"	"	"	"	"	
Sodium	51.7	0.0601	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.94	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.3		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.344	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH02@10-12'
2110259-05 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.14		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH03@2-3'
2110259-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		113 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/15/21 09:55**

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH03@2-3'
2110259-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0302	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	74.9	0.0563	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	22.3	0.0563	"	"	"	"	"	"	
Sodium	58.7	0.0563	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.53	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.898	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH03@2-3'
2110259-06 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 09:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.99		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH03@10-12'
2110259-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.6 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

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 - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH03@10-12'
2110259-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0942	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.0	0.0597	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	14.5	0.0597	"	"	"	"	"	"	
Sodium	123	0.0597	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.49	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.8		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.839	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH03@10-12'
2110259-07 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.11		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH04@2-3'
2110259-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		100 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH04@2-3'
2110259-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.118	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	477	0.0586	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	229	0.0586	"	"	"	"	"	"	
Sodium	18.2	0.0586	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.171	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.3		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.00	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH04@2-3'
2110259-08 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 09:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.88		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH04@10-12'
2110259-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0329	10/18/21	10/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		116 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH04@10-12'
2110259-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.194	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

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

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	5.57	0.0585	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	2.20	0.0585	"	"	"	"	"	"	
Sodium	19.4	0.0585	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.76	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.4		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.147	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

BH04@10-12'
2110259-09 (Soil)

Summit Scientific

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

Date Sampled: **10/15/21 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.91		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH05@2-3'
2110259-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0329	10/18/21	10/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.0 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH05@2-3'
2110259-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	0.235	0.0100		mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.61	0.200		mg/kg dry	1	BEJ0339	10/19/21	10/22/21	EPA 6020B	
Selenium	1.73	0.260		"	"	"	"	"	"	

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

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	110	0.0570		mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	107	0.0570		"	"	"	"	"	"	
Sodium	368	0.0570		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	5.99	0.00100		units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.7			%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH05@2-3'
2110259-10 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.56	0.0100	mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Date Sampled: **10/15/21 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.13		pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH05@10-12'
2110259-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0328	10/18/21	10/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0329	10/18/21	10/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		76.0 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH05@10-12'
2110259-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0661	0.0100	mg/L	1	BEJ0460	10/22/21	10/25/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.99	0.200	mg/kg dry	1	BEJ0339	10/19/21	10/22/21	EPA 6020B	
Selenium	1.14	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	110	0.0587	mg/L dry	1	BEJ0380	10/20/21	10/24/21	EPA 6020B	
Magnesium	36.7	0.0587	"	"	"	"	"	"	
Sodium	220	0.0587	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.64	0.00100	units	1	BEJ0474	10/24/21	10/24/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.2		%	1	BEJ0310	10/18/21	10/18/21	Calculation	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

BH05@10-12'
2110259-11 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.81	0.0100		mmhos/cm	1	BEJ0411	10/21/21	10/21/21	EPA 120.1	

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

Date Sampled: **10/15/21 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.10			pH Units	1	BEJ0412	10/21/21	10/21/21	EPA 9045D	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEJ0328 - EPA 5030 Soil MS

Blank (BEJ0328-BLK1)

Prepared: 10/18/21 Analyzed: 10/19/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0367		"	0.0400		91.8	23-173			
<i>Surrogate: Toluene-d8</i>	0.0402		"	0.0400		101	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0387		"	0.0400		96.8	21-167			

LCS (BEJ0328-BS1)

Prepared: 10/18/21 Analyzed: 10/19/21

Benzene	0.0603	0.0020	mg/kg	0.0750		80.4	70-130			
Toluene	0.0721	0.0050	"	0.0750		96.2	70-130			
Ethylbenzene	0.0724	0.0050	"	0.0750		96.6	70-130			
m,p-Xylene	0.142	0.010	"	0.150		94.8	70-130			
o-Xylene	0.0701	0.0050	"	0.0750		93.5	70-130			
1,2,4-Trimethylbenzene	0.0688	0.0050	"	0.0750		91.8	70-130			
1,3,5-Trimethylbenzene	0.0668	0.0050	"	0.0750		89.1	70-130			
Naphthalene	0.0742	0.0038	"	0.0750		98.9	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0424		"	0.0400		106	23-173			
<i>Surrogate: Toluene-d8</i>	0.0441		"	0.0400		110	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0401		"	0.0400		100	21-167			

Matrix Spike (BEJ0328-MS1)

Source: 2110259-01

Prepared: 10/18/21 Analyzed: 10/19/21

Benzene	0.0633	0.0020	mg/kg	0.0750	ND	84.4	70-130			
Toluene	0.0844	0.0050	"	0.0750	ND	113	70-130			
Ethylbenzene	0.0763	0.0050	"	0.0750	ND	102	70-130			
m,p-Xylene	0.148	0.010	"	0.150	ND	98.6	70-130			
o-Xylene	0.0736	0.0050	"	0.0750	ND	98.2	70-130			
1,2,4-Trimethylbenzene	0.0736	0.0050	"	0.0750	ND	98.1	70-130			
1,3,5-Trimethylbenzene	0.0709	0.0050	"	0.0750	ND	94.5	70-130			
Naphthalene	0.0826	0.0038	"	0.0750	ND	110	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0440		"	0.0400		110	23-173			
<i>Surrogate: Toluene-d8</i>	0.0451		"	0.0400		113	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0409		"	0.0400		102	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 - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEJ0328 - EPA 5030 Soil MS

Matrix Spike Dup (BEJ0328-MSD1)	Source: 2110259-01			Prepared: 10/18/21 Analyzed: 10/19/21					
Benzene	0.0615	0.0020	mg/kg	0.0750	ND	82.0	70-130	2.79	30
Toluene	0.0861	0.0050	"	0.0750	ND	115	70-130	2.01	30
Ethylbenzene	0.0758	0.0050	"	0.0750	ND	101	70-130	0.671	30
m,p-Xylene	0.148	0.010	"	0.150	ND	98.5	70-130	0.162	30
o-Xylene	0.0737	0.0050	"	0.0750	ND	98.3	70-130	0.122	30
1,2,4-Trimethylbenzene	0.0732	0.0050	"	0.0750	ND	97.6	70-130	0.490	30
1,3,5-Trimethylbenzene	0.0712	0.0050	"	0.0750	ND	94.9	70-130	0.422	30
Naphthalene	0.0889	0.0038	"	0.0750	ND	119	70-130	7.38	30
Surrogate: 1,2-Dichloroethane-d4	0.0459		"	0.0400		115	23-173		
Surrogate: Toluene-d8	0.0437		"	0.0400		109	20-170		
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		102	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 - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEJ0329 - EPA 3550A

Blank (BEJ0329-BLK1)

Prepared: 10/18/21 Analyzed: 10/19/21

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

LCS (BEJ0329-BS1)

Prepared: 10/18/21 Analyzed: 10/19/21

C10-C28 (DRO)	422	50	mg/kg	500	84.3	70-130				
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Matrix Spike (BEJ0329-MS1)

Source: 2110259-01

Prepared: 10/18/21 Analyzed: 10/19/21

C10-C28 (DRO)	500	50	mg/kg	500	48.4	90.4	70-130			
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Matrix Spike Dup (BEJ0329-MSD1)

Source: 2110259-01

Prepared: 10/18/21 Analyzed: 10/19/21

C10-C28 (DRO)	529	50	mg/kg	500	48.4	96.1	70-130	5.54	20	
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Summit Scientific

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



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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

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

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

Batch BEJ0460 - EPA 3050B

Blank (BEJ0460-BLK1)

Prepared: 10/22/21 Analyzed: 10/24/21

Boron ND 0.0100 mg/L

LCS (BEJ0460-BS1)

Prepared: 10/22/21 Analyzed: 10/24/21

Boron 5.35 0.0100 mg/L 5.00 107 80-120

Duplicate (BEJ0460-DUP1)

Source: 2109017-03

Prepared: 10/22/21 Analyzed: 10/24/21

Boron 0.290 0.0100 mg/L 0.285 1.58 20

Matrix Spike (BEJ0460-MS1)

Source: 2109017-03

Prepared: 10/22/21 Analyzed: 10/24/21

Boron 5.45 0.0100 mg/L 5.00 0.285 103 75-125

Matrix Spike Dup (BEJ0460-MSD1)

Source: 2109017-03

Prepared: 10/22/21 Analyzed: 10/24/21

Boron 5.55 0.0100 mg/L 5.00 0.285 105 75-125 1.73 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 - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BEJ0339 - EPA 3050B

Blank (BEJ0339-BLK1)

Prepared: 10/19/21 Analyzed: 10/22/21

Arsenic	ND	0.200	mg/kg wet							
Selenium	ND	0.260	"							

LCS (BEJ0339-BS1)

Prepared: 10/19/21 Analyzed: 10/22/21

Arsenic	44.1	0.200	mg/kg wet	40.0	110	80-120				
Selenium	4.24	0.260	"	4.00	106	80-120				

Duplicate (BEJ0339-DUP1)

Source: 2110259-02

Prepared: 10/19/21 Analyzed: 10/22/21

Arsenic	10.3	0.200	mg/kg dry		11.4			10.0	20	
Selenium	1.08	0.260	"		0.696			43.4	20	QR-03

Matrix Spike (BEJ0339-MS1)

Source: 2110259-02

Prepared: 10/19/21 Analyzed: 10/22/21

Arsenic	68.0	0.200	mg/kg dry	48.9	11.4	116	75-125			
Selenium	5.16	0.260	"	4.89	0.696	91.3	75-125			

Matrix Spike Dup (BEJ0339-MSD1)

Source: 2110259-02

Prepared: 10/19/21 Analyzed: 10/22/21

Arsenic	68.5	0.200	mg/kg dry	48.9	11.4	117	75-125	0.700	25	
Selenium	5.27	0.260	"	4.89	0.696	93.5	75-125	2.11	25	

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

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

Summit Scientific

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

Batch BEJ0380 - General Preparation

Blank (BEJ0380-BLK1)

Prepared: 10/20/21 Analyzed: 10/24/21

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

LCS (BEJ0380-BS1)

Prepared: 10/20/21 Analyzed: 10/24/21

Calcium	5.49	0.0500	mg/L wet	5.00	110	70-130				
Magnesium	5.26	0.0500	"	5.00	105	70-130				
Sodium	5.24	0.0500	"	5.00	105	70-130				

Summit Scientific

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



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

Project: Noble - Reistad 01

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/26/21 07:02

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

Summit Scientific

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

Batch BEJ0310 - General Preparation

Duplicate (BEJ0310-DUP1)

Source: 2110251-03

Prepared & Analyzed: 10/18/21

% Solids	80.5		%		79.3			1.41		20	
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Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

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

Summit Scientific

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

Batch BEJ0411 - General Preparation

Blank (BEJ0411-BLK1)

Prepared & Analyzed: 10/21/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEJ0411-BS1)

Prepared & Analyzed: 10/21/21

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BEJ0411-DUP1)

Source: 2110251-03

Prepared & Analyzed: 10/21/21

Specific Conductance (EC) 1.26 0.0100 mmhos/cm 1.28 0.866 20

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

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

Summit Scientific

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

Batch BEJ0412 - General Preparation

LCS (BEJ0412-BS1)

Prepared & Analyzed: 10/21/21

pH 9.25 pH Units 9.18 101 95-105

Duplicate (BEJ0412-DUP1)

Source: 2110251-03

Prepared & Analyzed: 10/21/21

pH 8.15 pH Units 8.13 0.246 20

Summit Scientific

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

Project: Noble - Reistad 01

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/26/21 07:02

Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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



July 18, 2021

Tasman Geosciences

Jake Whritenour

6855 West 119th Avenue

Broomfield CO 80020

Project Name - Noble - Reistad 01

Project Number - [none]

Attached are your analytical results for Noble - Reistad 01 received by Origins Laboratory, Inc. July 08, 2021. This project is associated with Origins project number Y107178-01.

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: [none]
Project: Noble - Reistad 01

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0.5	Y107178-01	Soil	July 8, 2021 12:00	07/08/2021 17:30
Sep01-FL01-B@3'	Y107178-02	Soil	July 8, 2021 12:50	07/08/2021 17:30
Sep01-DL01@3'	Y107178-03	Soil	July 8, 2021 12:35	07/08/2021 17:30
SS01@2.5'	Y107178-04	Soil	July 8, 2021 14:00	07/08/2021 17:30
SS03@2.5'	Y107178-05	Soil	July 8, 2021 14:10	07/08/2021 17:30
SS04@2.5'	Y107178-06	Soil	July 8, 2021 14:15	07/08/2021 17:30
SS05@2.5'	Y107178-07	Soil	July 8, 2021 14:35	07/08/2021 17:30
FS01@7'	Y107178-08	Soil	July 8, 2021 14:40	07/08/2021 17:30
SS06@6'	Y107178-09	Soil	July 8, 2021 15:00	07/08/2021 17:30
SS07@6'	Y107178-10	Soil	July 8, 2021 15:05	07/08/2021 17:30
SS08@6'	Y107178-11	Soil	July 8, 2021 15:10	07/08/2021 17:30
SS09@6'	Y107178-12	Soil	July 8, 2021 15:15	07/08/2021 17:30

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

www.originslaboratory.com

4107178 page 1 of 2



Client: Noble/Tasman
 Address: 6855 W. 119th Ave
Broomfield CO 80020
 Telephone Number: 303-487-1228
 Email Address: jwhritenour@tasman-geo.com

Project Manager: Jake Whritenour
 Project Name: Reistad 01
 Project Number: _____
 Samples Collected By: Hunter Mele

Fax: 303.265.9645 | Phone: 303.433.1322

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	At Summ #	Other	Vec-915	TPH-915	PAH-915		Sp. Pic.
AST01 @ 0.5'	7/8/21	1200	2	X				X				X	X	X	X	Born
Sep 01 - Flow-8 @ 3'		1250														
Sep 01 - Flow-8 @ 3'		1235														
SS01 @ 2.5'		1400														
SS03 @ 2.5'		1410														
SS04 @ 2.5'		1415														
SS05 @ 2.5'		1435														
FS01 @ 7'		1440														
SS06 @ 6'		1500														
SS07 @ 6'		1505														
Relinquished By: <u>Blaine Noble</u>	Date: <u>7/8/21</u>	Time: <u>1730</u>	Time: <u>1730</u>	Received By: <u>JM Mele</u>	Date: <u>7-8-21</u>	Time: <u>1730</u>	Time: _____	Received By: _____	Date: _____	Time: _____	Time: _____	Turnaround Time: <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard				

Temp Received: 9.4 Date Results Needed: _____

Origins Laboratory, Inc.

 Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

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


Sample Receipt Checklist

Origins Work Order: 4107178 Client: Tasman
 Checklist Completed by: JP Client Project ID: Noble - Reistad 01
 Date/time completed: 7/8/21 Shipped Via: HD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: NA

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1 / 19.4 °c / _____ °c / _____ °c (Describe) _____ °c
 Thermometer ID: TC03

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		X		sampled same day
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			Y	
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			X	
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) 7/12/21
Date/Time/Reviewed

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

AST01@0.5
7/8/2021 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.200	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: *o*-Terphenyl 95.0 % 50-150 " " "

GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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 94.7 % 70-130 " " "

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

AST01@0.5
7/8/2021 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-01 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	92.5 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	99.5 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	0.109		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	ND		0.0823	"	"	"	"	"	
Sodium	3.68		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

AST01@0.5
7/8/2021 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-01 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	75.4 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	86.2 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	66.5 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	9.33			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	15.9			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.506		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

Sep01-FL01-B@3'
7/8/2021 12:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.200	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	76.2 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G1201	07/12/2021	07/13/2021	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	91.8 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

Sep01-FL01-B@3'
7/8/2021 12:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-02 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	94.1 %		70-130			B1G12 01	07/12/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	101 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	1.52		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	0.489		0.0823	"	"	"	"	"	
Sodium	0.165		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	0.00203	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	0.00214	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.00249	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	0.00144	0.000486	0.00067	"	"	"	"	"	
Chrysene	0.00281	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	0.00309	0.000529	0.00067	"	"	"	"	"	
Fluorene	ND	0.000501	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

Sep01-FL01-B@3'
7/8/2021 12:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-02 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	0.00114	0.000344	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	0.0029	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	73.4 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	87.5 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	67 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	8.15			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	0.165			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.259		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

Sep01-DL01@3'
 7/8/2021 12:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y107178-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.220		0.200	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	82.5 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G1201	07/12/2021	07/13/2021	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	90.9 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

Sep01-DL01@3'
 7/8/2021 12:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y107178-03 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	93.6 %		70-130			B1G12 01	07/12/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	102 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	1.95		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	0.777		0.0823	"	"	"	"	"	
Sodium	0.587		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	0.000527	0.000133	0.00067	"	"	"	"	"	J
Benzo(b)fluoranthene	0.000485	0.000138	0.00067	"	"	"	"	"	J
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	0.000292	0.000256	0.00067	"	"	"	"	"	J
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	
Fluorene	ND	0.000501	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

Sep01-DL01@3'
 7/8/2021 12:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
 Y107178-03 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	0.000443	0.000387	0.00067	"	"	"	"	"	J

Surrogate: 2-Fluorobiphenyl	63.4 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	73.6 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	55.9 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	8.05			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	0.503			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.390		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS01@2.5'

7/8/2021 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-04 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.199	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: *o*-Terphenyl 74.9 % 50-150 " " "

GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G1201	07/12/2021	07/13/2021	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 91.6 % 70-130 " " "

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS01@2.5'

7/8/2021 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-04 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	94.7 %		70-130			B1G12 01	07/12/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	102 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	2.61		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	0.893		0.0823	"	"	"	"	"	
Sodium	0.314		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS01@2.5'

7/8/2021 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-04 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	78.3 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	85.8 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	69.9 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	8.01			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	0.238			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.470		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS03@2.5'

7/8/2021 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-05 (Soil)

Boron (DTPA Sorbitol)

Boron	0.220		0.200	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	75.5 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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	92.4 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

SS03@2.5'

7/8/2021 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-05 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	93.5 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	102 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	1.81		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	0.715		0.0823	"	"	"	"	"	
Sodium	0.229		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

SS03@2.5'

7/8/2021 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-05 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	72.7 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	82.3 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	64.9 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	8.05			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	0.203			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.538	0.00500		mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS04@2.5'

7/8/2021 2:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-06 (Soil)

Boron (DTPA Sorbitol)

Boron	0.317		0.198	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	66.1 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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	95.9 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS04@2.5'

7/8/2021 2:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-06 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	91.6 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	99.2 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	1.87		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	0.615		0.0823	"	"	"	"	"	
Sodium	0.292		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS04@2.5'

7/8/2021 2:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-06 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	76.7 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	82.8 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	69.3 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	8.12			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	0.262			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.361		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS05@2.5'

7/8/2021 2:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-07 (Soil)

Boron (DTPA Sorbitol)

Boron	0.832		0.198	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	89.1 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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	96.6 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS05@2.5'

7/8/2021 2:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-07 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	92.9 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	100 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	4.45		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	1.61		0.0823	"	"	"	"	"	
Sodium	2.90		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS05@2.5'

7/8/2021 2:35:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-07 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	72 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	72.6 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	63.9 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	7.78			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	1.67			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.935		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

FS01@7'
7/8/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-08 (Soil)

Boron (DTPA Sorbitol)

Boron	4.53		0.198	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	77.6 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	0.00312		0.00200	mg/kg	1	B1G0920	07/09/2021	07/14/2021	
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	0.145		0.00200	"	"	"	"	"	
Ethylbenzene	0.00806		0.00200	"	"	"	"	"	
Toluene	0.0469		0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.220		0.200	"	"	"	"	"	
Xylenes, total	0.0154		0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %		70-130			"	"	"	
Surrogate: Toluene-d8	99.9 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.1 %		70-130			"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

FS01@7'
 7/8/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y107178-08 (Soil)

Metals by Saturated Paste

Calcium	10.9		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	2.70		0.0823	"	"	"	"	"	
Sodium	53.6		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.0024	0.00335	mg/Kg	5	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	0.00313	0.00271	0.00335	"	"	"	"	"	J
Acenaphthene	ND	0.00216	0.00335	"	"	"	"	"	
Anthracene	ND	0.00213	0.00335	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00221	0.00335	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000665	0.00335	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.00069	0.00335	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.00243	0.00335	"	"	"	"	"	
Chrysene	ND	0.00128	0.00335	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0014	0.00335	"	"	"	"	"	
Fluoranthene	ND	0.00265	0.00335	"	"	"	"	"	
Fluorene	ND	0.00251	0.00335	"	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00172	0.00335	"	"	"	"	"	
Naphthalene	ND	0.00234	0.00335	"	"	"	"	"	
Pyrene	ND	0.00194	0.00335	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

FS01@7'
7/8/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-08 (Soil)

PAH by 8270D SIM

Surrogate: 2-Fluorobiphenyl	82.9 %		33-115			L5632 21	07/12/2021	07/12/2021	
Surrogate: 4-Terphenyl-d14	99.1 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	78.6 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	7.12			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	20.5			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	6.42		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Total Metals by 6020B

Arsenic	4.17	0.0855	0.25	mg/Kg	5	L563220	07/12/2021	07/13/2021	
Barium	31	0.042	0.25	"	"	"	"	"	
Cadmium	0.0812	0.0259	0.25	"	"	"	"	"	J
Copper	11.5	0.0806	0.25	"	"	"	"	"	
Lead	9.13	0.031	0.25	"	"	"	"	"	
Nickel	6.25	0.0633	0.25	"	"	"	"	"	
Selenium	0.317	0.103	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Reistad 01

FS01@7'
7/8/2021 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-08 (Soil)

Total Metals by 6020B

Silver	0.0215	0.0067	0.25	mg/Kg	5	L563220	07/12/2021	07/13/2021	J
Zinc	61.9	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.488	1	mg/Kg	2	L563789	07/08/2021	07/15/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

SS06@6'

7/8/2021 3:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-09 (Soil)

Boron (DTPA Sorbitol)

Boron	0.218		0.198	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/09/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	75.1 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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	104 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

SS06@6'

7/8/2021 3:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-09 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	98.8 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	96.2 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	2.13		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	0.689		0.0823	"	"	"	"	"	
Sodium	0.407		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

SS06@6'

7/8/2021 3:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-09 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	77.7 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	91.2 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	71 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	8.05			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	0.343			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.402		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS07@6'

7/8/2021 3:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-10 (Soil)

Boron (DTPA Sorbitol)

Boron	3.42		0.201	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0921	07/09/2021	07/10/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	75.1 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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	105 %		70-130			"	"	"	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS07@6'

7/8/2021 3:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-10 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	98.1 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	96.4 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	5.76		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	3.99		0.0823	"	"	"	"	"	
Sodium	45.2		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

SS07@6'
7/8/2021 3:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-10 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	62.3 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	71.7 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	56.2 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	7.80			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	20.5			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	6.03		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS08@6'

7/8/2021 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-11 (Soil)

Boron (DTPA Sorbitol)

Boron	0.477		0.199	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0922	07/09/2021	07/10/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	76.3 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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	106 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS08@6'

7/8/2021 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-11 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	97.5 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	95.6 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	3.17		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	1.05		0.0823	"	"	"	"	"	
Sodium	2.32		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.000382	0.000138	0.00067	"	"	"	"	"	J
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS08@6'

7/8/2021 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-11 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	70.3 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	78.1 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	62.8 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	7.98			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	1.60			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.766		0.00500	mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS09@6'

7/8/2021 3:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-12 (Soil)

Boron (DTPA Sorbitol)

Boron	0.281		0.201	mg/L	1	B1G0924	07/09/2021	07/12/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		50.0	mg/kg	1	B1G0922	07/09/2021	07/10/2021	U
Residual Range Organics (C28-C40)	ND		200	"	"	"	"	"	U

Surrogate: o-Terphenyl	79.6 %		50-150			"	"	"	
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GBTEX+TMBs

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B1G0920	07/09/2021	07/13/2021	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	105 %		70-130			"	"	"	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS09@6'

7/8/2021 3:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y107178-12 (Soil)

GBTEX+TMBs

Surrogate: Toluene-d8	98.9 %		70-130			B1G09 20	07/09/2021	07/13/2021	
Surrogate: 4-Bromofluorobenzene	96.0 %		70-130			"	"	"	

Metals by Saturated Paste

Calcium	1.16		0.0499	meq/L	1	[CALC]	07/12/2021	07/13/2021	
Magnesium	1.34		0.0823	"	"	"	"	"	
Sodium	0.191		0.0435	"	"	"	"	"	

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.00048	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
2-Methylnaphthalene	ND	0.000542	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000431	0.00067	"	"	"	"	"	
Anthracene	ND	0.000426	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000441	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000133	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000138	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000486	0.00067	"	"	"	"	"	
Chrysene	ND	0.000256	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000279	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000529	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

SS09@6'

7/8/2021 3:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y107178-12 (Soil)

PAH by 8270D SIM

Fluorene	ND	0.000501	0.00067	mg/Kg	1	L563221	07/12/2021	07/12/2021	
Indeno(1,2,3-cd)pyrene	ND	0.000344	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000467	0.00067	"	"	"	"	"	
Pyrene	ND	0.000387	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	68.3 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	83.4 %		33-122			"	"	"	
Surrogate: Nitrobenzene-d5	64 %		29-110			"	"	"	

pH in Soil by EPA 9045D

pH	8.24			pH Units	1	B1G1210	07/12/2021	07/13/2021	
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SAR by 20B Saturated Paste

SAR	0.171			SAR	1	B1G1216	07/12/2021	07/13/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.381	0.00500		mmhos/cm	1	B1G1213	07/12/2021	07/13/2021	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

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 B1G0920 - EPA 5030 (soil)

Blank (B1G0920-BLK1)

Prepared: 07/09/2021 Analyzed: 07/09/2021

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		95.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

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 B1G0920 - EPA 5030 (soil)

LCS (B1G0920-BS1)

Prepared: 07/09/2021 Analyzed: 07/09/2021

1,2,4-Trimethylbenzene	0.0582	0.00200	mg/kg	0.0500		116	70-130			
Naphthalene	0.0560	0.0100	"	0.0500		112	70-130			
1,3,5-Trimethylbenzene	0.0560	0.00200	"	0.0500		112	70-130			
Benzene	0.0532	0.00200	"	0.0500		106	70-130			
Ethylbenzene	0.0573	0.00200	"	0.0500		115	70-130			
m,p-Xylene	0.117	0.00400	"	0.100		117	70-130			
o-Xylene	0.0571	0.00200	"	0.0500		114	70-130			
Toluene	0.0578	0.00200	"	0.0500		116	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.5	70-130			

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0920 - EPA 5030 (soil)

Matrix Spike (B1G0920-MS1)	Source: Y107178-01			Prepared: 07/09/2021 Analyzed: 07/09/2021						
1,2,4-Trimethylbenzene	0.0403	0.00200	mg/kg	0.0500	ND	80.6	70-130			
Naphthalene	0.0418	0.0100	"	0.0500	ND	83.7	70-130			
1,3,5-Trimethylbenzene	0.0393	0.00200	"	0.0500	ND	78.6	70-130			
Benzene	0.0362	0.00200	"	0.0500	ND	72.5	70-130			
Ethylbenzene	0.0398	0.00200	"	0.0500	ND	79.5	70-130			
m,p-Xylene	0.0806	0.00400	"	0.100	ND	80.6	70-130			
o-Xylene	0.0399	0.00200	"	0.0500	ND	79.9	70-130			
Toluene	0.0372	0.00200	"	0.0500	ND	74.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0920 - EPA 5030 (soil)

Matrix Spike Dup (B1G0920-MSD1)	Source: Y107178-01			Prepared: 07/09/2021 Analyzed: 07/09/2021						
1,2,4-Trimethylbenzene	0.0543	0.00200	mg/kg	0.0500	ND	109	70-130	29.6	20	QR-03
Naphthalene	0.0524	0.0100	"	0.0500	ND	105	70-130	22.4	20	QR-03
1,3,5-Trimethylbenzene	0.0535	0.00200	"	0.0500	ND	107	70-130	30.7	20	QR-03
Benzene	0.0510	0.00200	"	0.0500	ND	102	70-130	33.9	20	QR-03
Ethylbenzene	0.0545	0.00200	"	0.0500	ND	109	70-130	31.3	20	QR-03
m,p-Xylene	0.110	0.00400	"	0.100	ND	110	70-130	30.7	20	QR-03
o-Xylene	0.0537	0.00200	"	0.0500	ND	107	70-130	29.4	20	QR-03
Toluene	0.0511	0.00200	"	0.0500	ND	102	70-130	31.6	20	QR-03
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0921 - EPA 3550B										
Blank (B1G0921-BLK1)										
					Prepared: 07/09/2021 Analyzed: 07/10/2021					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	54		"	50.0		107	50-150			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0921 - EPA 3550B

LCS (B1G0921-BS1)

Prepared: 07/09/2021 Analyzed: 07/10/2021

Diesel (C10-C28)	932	50.0	mg/kg	1000		93.2	70-130			
Residual Range Organics (C28-C40)	990	200	"	1000		99.0	70-130			
Surrogate: o-Terphenyl	51		"	50.0		102	50-150			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0921 - EPA 3550B

Matrix Spike (B1G0921-MS1)	Source: Y107178-01			Prepared: 07/09/2021 Analyzed: 07/10/2021						
Diesel (C10-C28)	823	50.0	mg/kg	1000	ND	82.3	70-130			
Residual Range Organics (C28-C40)	868	200	"	1000	ND	86.8	70-130			
Surrogate: o-Terphenyl	44		"	50.0		88.7	50-150			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0921 - EPA 3550B

Matrix Spike Dup (B1G0921-MSD1)	Source: Y107178-01			Prepared: 07/09/2021 Analyzed: 07/10/2021						
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	70-130	21.4	35	
Residual Range Organics (C28-C40)	1110	200	"	1000	ND	111	70-130	24.2	35	
<i>Surrogate: o-Terphenyl</i>	55		"	50.0		111	50-150			

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 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0922 - EPA 3550B										
Blank (B1G0922-BLK1)										
					Prepared: 07/09/2021 Analyzed: 07/09/2021					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	37		"	50.0		73.4	50-150			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0922 - EPA 3550B

LCS (B1G0922-BS1)

Prepared: 07/09/2021 Analyzed: 07/09/2021

Diesel (C10-C28)	915	50.0	mg/kg	1000		91.5	70-130			
Residual Range Organics (C28-C40)	1080	200	"	1000		108	70-130			
Surrogate: o-Terphenyl	53		"	50.0		107	50-150			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0922 - EPA 3550B

Matrix Spike (B1G0922-MS1)	Source: Y107178-11			Prepared: 07/09/2021 Analyzed: 07/09/2021						
Diesel (C10-C28)	919	50.0	mg/kg	1000	ND	91.9	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000	ND	103	70-130			
<i>Surrogate: o-Terphenyl</i>	<i>51</i>		<i>"</i>	<i>50.0</i>		<i>103</i>	<i>50-150</i>			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G0922 - EPA 3550B										
Matrix Spike Dup (B1G0922-MSD1)		Source: Y107178-11			Prepared: 07/09/2021 Analyzed: 07/09/2021					
Diesel (C10-C28)	905	50.0	mg/kg	1000	ND	90.5	70-130	1.52	35	
Residual Range Organics (C28-C40)	964	200	"	1000	ND	96.4	70-130	6.25	35	
<i>Surrogate: o-Terphenyl</i>	<i>51</i>		<i>"</i>	<i>50.0</i>		<i>102</i>	<i>50-150</i>			

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G1201 - EPA 5030 (soil)

Blank (B1G1201-BLK1)

Prepared: 07/12/2021 Analyzed: 07/12/2021

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
Gasoline Range Hydrocarbons	ND	0.200	"							U
Xylenes, total	ND	0.00200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.9	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G1201 - EPA 5030 (soil)

LCS (B1G1201-BS1)

Prepared: 07/12/2021 Analyzed: 07/12/2021

1,2,4-Trimethylbenzene	0.0518	0.00200	mg/kg	0.0500		104	70-130			
Naphthalene	0.0484	0.0100	"	0.0500		96.8	70-130			
1,3,5-Trimethylbenzene	0.0513	0.00200	"	0.0500		103	70-130			
Benzene	0.0540	0.00200	"	0.0500		108	70-130			
Ethylbenzene	0.0517	0.00200	"	0.0500		103	70-130			
m,p-Xylene	0.105	0.00400	"	0.100		105	70-130			
o-Xylene	0.0513	0.00200	"	0.0500		103	70-130			
Toluene	0.0510	0.00200	"	0.0500		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.0	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G1201 - EPA 5030 (soil)

Matrix Spike (B1G1201-MS1)	Source: Y107217-01			Prepared: 07/12/2021 Analyzed: 07/12/2021						
1,2,4-Trimethylbenzene	0.0556	0.00200	mg/kg	0.0500	0.000600	110	70-130			
Naphthalene	0.0536	0.0100	"	0.0500	0.00282	102	70-130			
1,3,5-Trimethylbenzene	0.0549	0.00200	"	0.0500	0.000440	109	70-130			
Benzene	0.0587	0.00200	"	0.0500	ND	117	70-130			
Ethylbenzene	0.0541	0.00200	"	0.0500	ND	108	70-130			
m,p-Xylene	0.110	0.00400	"	0.100	ND	110	70-130			
o-Xylene	0.0546	0.00200	"	0.0500	ND	109	70-130			
Toluene	0.0552	0.00200	"	0.0500	ND	110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.0	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 B1G1201 - EPA 5030 (soil)

Matrix Spike Dup (B1G1201-MSD1)	Source: Y107217-01			Prepared: 07/12/2021 Analyzed: 07/12/2021						
1,2,4-Trimethylbenzene	0.0609	0.00200	mg/kg	0.0500	0.000600	121	70-130	9.10	20	
Naphthalene	0.0611	0.0100	"	0.0500	0.00282	117	70-130	13.0	20	
1,3,5-Trimethylbenzene	0.0605	0.00200	"	0.0500	0.000440	120	70-130	9.68	20	
Benzene	0.0653	0.00200	"	0.0500	ND	131	70-130	10.7	20	QM-07
Ethylbenzene	0.0611	0.00200	"	0.0500	ND	122	70-130	12.1	20	
m,p-Xylene	0.123	0.00400	"	0.100	ND	123	70-130	10.9	20	
o-Xylene	0.0610	0.00200	"	0.0500	ND	122	70-130	11.2	20	
Toluene	0.0606	0.00200	"	0.0500	ND	121	70-130	9.37	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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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Classical Chemistry Parameters - 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 B1G0924 - Default Prep Metals

Blank (B1G0924-BLK1)

Prepared: 07/09/2021 Analyzed: 07/12/2021

Boron	ND	0.200	mg/L							
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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1G1210 - NO PREP										
Duplicate (B1G1210-DUP1)		Source: Y107177-13			Prepared: 07/12/2021 Analyzed: 07/13/2021					
pH	7.74		pH Units		8.00			3.30	25	
Batch B1G1213 - NO PREP										
Blank (B1G1213-BLK1)		Prepared: 07/12/2021 Analyzed: 07/13/2021								
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B1G1213-DUP1)		Source: Y107177-13			Prepared: 07/12/2021 Analyzed: 07/13/2021					
Specific Conductance (EC)	1.45	0.00500	mmhos/cm		1.56			7.76	25	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 L563221 - 3550B

MSD (L 92033-MSD-L563221)		Source: 92033			Prepared: 07/12/2021 Analyzed: 07/12/2021					
Benzo(k)fluoranthene	0.162	0.000486	mg/Kg	0.165	92033	98.1	30-130	7.6	30	
Pyrene	0.134	0.000387	"	0.165	92033	81.2	30-130	8.5	30	
Naphthalene	0.122	0.000467	"	0.165	92033	73.9	30-130	14	30	
Indeno(1,2,3-cd)pyrene	0.104	0.000344	"	0.165	92033	63	30-130	0	30	
Fluorene	0.137	0.000501	"	0.165	92033	83	30-130	9.1	30	
Fluoranthene	0.136	0.000529	"	0.165	92033	82.4	30-130	9.2	30	
Chrysene	0.153	0.000256	"	0.165	92033	92.7	30-130	10.3	30	
Benzo(b)fluoranthene	0.113	0.000138	"	0.165	92033	68.4	30-130	2.6	30	
Dibenz(a,h)anthracene	0.107	0.000279	"	0.165	92033	64.8	30-130	1.8	30	
1-Methylnaphthalene	0.121	0.00048	"	0.165	92033	73.3	30-130	10.4	30	
Benzo(a)pyrene	0.144	0.000133	"	0.165	92033	87.2	30-130	7.9	30	
2-Methylnaphthalene	0.122	0.000542	"	0.165	92033	73.9	30-130	12.1	30	
Acenaphthene	0.127	0.000431	"	0.165	92033	76.9	30-130	7.3	30	
Anthracene	0.148	0.000426	"	0.165	92033	89.6	30-130	9.1	30	
Benzo(a)anthracene	0.137	0.000441	"	0.165	92033	83	30-130	9.9	30	
Surrogate: Nitrobenzene-d5	68.4		"	0.33	210	68.4	29-110			
Surrogate: 2-Fluorobiphenyl	80.3		"	0.33	254	80.3	33-115			
Surrogate: 4-Terphenyl-d14	85.4		"	0.33	285	85.4	33-122			

MS (L 92033-MS-L563221)		Source: 92033			Prepared: 07/12/2021 Analyzed: 07/12/2021					
Benzo(b)fluoranthene	0.11	0.000138	mg/Kg	0.166	92033	66.2	30-130			
Indeno(1,2,3-cd)pyrene	0.104	0.000344	"	0.166	92033	62.6	30-130			
Naphthalene	0.106	0.000467	"	0.166	92033	63.8	30-130			
Fluorene	0.125	0.000501	"	0.166	92033	75.3	30-130			
Fluoranthene	0.124	0.000529	"	0.166	92033	74.6	30-130			
Dibenz(a,h)anthracene	0.105	0.000279	"	0.166	92033	63.2	30-130			
Chrysene	0.138	0.000256	"	0.166	92033	83.1	30-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

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 L563221 - 3550B

MS (L 92033-MS-L563221)	Source: 92033			Prepared: 07/12/2021 Analyzed: 07/12/2021						
Benzo(k)fluoranthene	0.15	0.000486	mg/Kg	0.166	92033	90.3	30-130			
Pyrene	0.123	0.000387	"	0.166	92033	74	30-130			
1-Methylnaphthalene	0.109	0.00048	"	0.166	92033	65.6	30-130			
Benzo(a)anthracene	0.124	0.000441	"	0.166	92033	74.6	30-130			
Anthracene	0.135	0.000426	"	0.166	92033	81.3	30-130			
Acenaphthene	0.118	0.000431	"	0.166	92033	71	30-130			
2-Methylnaphthalene	0.108	0.000542	"	0.166	92033	65	30-130			
Benzo(a)pyrene	0.133	0.000133	"	0.166	92033	80.1	30-130			
Surrogate: 4-Terphenyl-d14	79.7		"	0.331	285	79.7	33-122			
Surrogate: 2-Fluorobiphenyl	75.8		"	0.331	254	75.8	33-115			
Surrogate: Nitrobenzene-d5	61		"	0.331	210	61	29-110			

LCS (LCS-L563221)	Prepared: 07/12/2021 Analyzed: 07/12/2021									
Benzo(a)pyrene	0.136	0.000133	mg/Kg	0.167		81.4	30-130			
2-Methylnaphthalene	0.116	0.000542	"	0.167		69.4	30-130			
Benzo(b)fluoranthene	0.109	0.000138	"	0.167		65.2	30-130			
Dibenz(a,h)anthracene	0.102	0.000279	"	0.167		61	30-130			
Pyrene	0.135	0.000387	"	0.167		80.8	30-130			
1-Methylnaphthalene	0.116	0.00048	"	0.167		69.4	30-130			
Chrysene	0.147	0.000256	"	0.167		88	30-130			
Naphthalene	0.118	0.000467	"	0.167		70.6	30-130			
Fluoranthene	0.134	0.000529	"	0.167		80.2	30-130			
Fluorene	0.136	0.000501	"	0.167		81.4	30-130			
Indeno(1,2,3-cd)pyrene	0.101	0.000344	"	0.167		60.4	30-130			
Acenaphthene	0.127	0.000431	"	0.167		76	30-130			
Benzo(a)anthracene	0.129	0.000441	"	0.167		77.2	30-130			
Anthracene	0.134	0.000426	"	0.167		80.2	30-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

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 L563221 - 3550B

LCS (LCS-L563221)

Prepared: 07/12/2021 Analyzed: 07/12/2021

Benzo(k)fluoranthene	0.151	0.000486	mg/Kg	0.167		90.4	30-130			
Surrogate: 4-Terphenyl-d14	87.6		"	0.333		87.6	33-122			
Surrogate: 2-Fluorobiphenyl	84.6		"	0.333		84.6	33-115			
Surrogate: Nitrobenzene-d5	73.2		"	0.333		73.2	29-110			

LRB (LRB-L563221)

Prepared: 07/12/2021 Analyzed: 07/12/2021

Fluorene	ND	0.00067	mg/Kg				-			
1-Methylnaphthalene	ND	0.00067	"				-			
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	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Surrogate: 4-Terphenyl-d14	83.4		"	0.333		83.4	33-122			
Surrogate: 2-Fluorobiphenyl	77.1		"	0.333		77.1	33-115			
Surrogate: Nitrobenzene-d5	69.6		"	0.333		69.6	29-110			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

Total Metals by 6020B - 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 L563220 - 3050B

MSD (L 95077-MSD-L563220)		Source: 95077			Prepared: 07/12/2021 Analyzed: 07/13/2021					
Barium	98.5	0.042	mg/Kg	4.6	80.9	383	75-125	40.6	80	*
Zinc	102	0.534	"	23	70.1	139	75-125	40	80	*
Silver	0.524	0.0067	"	0.46	0.0796	114	75-125	1.3	80	
Selenium	3.7	0.103	"	4.6	0.533	69	75-125	3.2	80	*
Nickel	19.2	0.0633	"	2.3	15.1	178	75-125	33.7	80	*
Lead	16.2	0.031	"	2.3	13.2	130	75-125	18.9	80	*
Cadmium	0.657	0.0259	"	0.46	0.172	143	75-125	6.9	80	*
Arsenic	4.27	0.0855	"	2.3	1.83	106	75-125	28.1	80	
Copper	22.8	0.0806	"	2.3	18.6	183	75-125	30.1	80	*

MS (L 95077-MS-L563220)		Source: 95077			Prepared: 07/12/2021 Analyzed: 07/13/2021					
Silver	0.531	0.0067	mg/Kg	0.485	0.0796	109	75-125			
Arsenic	5.67	0.0855	"	2.42	1.83	158	75-125			*
Barium	65.2	0.042	"	4.85	80.9	NR	75-125			*
Cadmium	0.704	0.0259	"	0.485	0.172	145	75-125			*
Copper	30.9	0.161	"	2.42	18.6	507	75-125			*
Lead	13.4	0.031	"	2.42	13.2	8	75-125			*
Nickel	27	0.0633	"	2.42	15.1	491	75-125			*
Selenium	3.58	0.103	"	4.85	0.533	63	75-125			*
Zinc	153	0.534	"	24.2	70.1	342	75-125			*

LCS (LCS-L563220)		Prepared: 07/12/2021 Analyzed: 07/13/2021								
Lead	2.54	0.031	mg/Kg	2.5		102	80-120			
Arsenic	2.47	0.0855	"	2.5		99	80-120			
Barium	5.22	0.042	"	5		104	80-120			
Copper	2.59	0.0806	"	2.5		104	80-120			
Zinc	26.7	0.534	"	25		107	80-120			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

Total Metals by 6020B - 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 L563220 - 3050B

LCS (LCS-L563220)

Prepared: 07/12/2021 Analyzed: 07/13/2021

Selenium	5.13	0.103	mg/Kg	5		103	80-120			
Silver	0.507	0.0067	"	0.5		101	80-120			
Cadmium	0.497	0.0259	"	0.5		99	80-120			
Nickel	2.42	0.0633	"	2.5		97	80-120			

LRB (LRB-L563220)

Prepared: 07/12/2021 Analyzed: 07/13/2021

Nickel	ND	0.25	mg/Kg				-			
Arsenic	ND	0.25	"				-			
Barium	0.0432	0.25	"				-			J
Cadmium	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Silver	ND	0.25	"				-			
Zinc	ND	2.5	"				-			
Copper	0.148	0.25	"				-			J

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L563789 -										
DUP (L 92024-DUP)		Source: Y107178-08			Prepared: Analyzed: 07/15/2021					
Chromium, Hexavalent	ND	0.488	mg/Kg		92024		-	0	20	
MS (L 92024-MS)		Source: Y107178-08			Prepared: Analyzed: 07/15/2021					
Chromium, Hexavalent	3.27	0.488	mg/Kg	7.76	92024	42	75-125			*
LCS (LCS)		Prepared: Analyzed: 07/15/2021								
Chromium, Hexavalent	7	0.244	mg/Kg	8		88	75-125			
LRB (LRB)		Prepared: Analyzed: 07/15/2021								
Chromium, Hexavalent	0.317	0.5	mg/Kg				-			J

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Reistad 01

Notes and Definitions

U Sample is Non-Detect.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

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

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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.

March 08, 2022

Tasman Geosciences

Jake Whritenour

6855 West 119th Avenue

Broomfield CO 80020

Project Name - Noble - Reistad 01

Project Number - [none]

Attached are your analytical results for Noble - Reistad 01 received by Origins Laboratory, Inc. March 01, 2022. This project is associated with Origins project number Y203026-01.

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: [none]
Project: Noble - Reistad 01

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01@0.5'	Y203026-01	Soil	March 1, 2022 13:10	03/01/2022 16:15
BG01@2-3'	Y203026-02	Soil	March 1, 2022 13:15	03/01/2022 16:15
BG01@6'	Y203026-03	Soil	March 1, 2022 13:20	03/01/2022 16:15
BG01@7'	Y203026-04	Soil	March 1, 2022 13:25	03/01/2022 16:15
BG01@10-12'	Y203026-05	Soil	March 1, 2022 13:30	03/01/2022 16:15

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

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

Sample Receipt Checklist

Origins Work Order: Y302024 Client: Tasman Noble
 Client Project ID: Reistad

Checklist Completed by: JM Shipped Via: HD
 Date/time completed: 3-20-22 Airbill # WIA
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1, 6 °C / _____ °C / _____ °C (Describe) _____ °C

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⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		Y		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
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)			X	
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) JM Date/Time Reviewed 3-3-22

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

BG01@0.5'

3/1/2022 1:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203026-01 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	23.2	0.499	meq/L	10	[CALC]	03/02/2022	03/03/2022
Magnesium	6.31	0.823	"	"	"	"	"
Sodium	11.9	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.78		pH Units	1	B2C0209	03/02/2022	03/03/2022
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SAR by 20B Saturated Paste

SAR	3.10		SAR	1	B2C0218	03/02/2022	03/03/2022
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
Project: Noble - Reistad 01

BG01@2-3'

3/1/2022 1:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y203026-02 (Soil)

Total Metals by 6020B

Arsenic	3.6	0.0855	0.25	mg/Kg	5	L602812	03/03/2022	03/07/2022	
Selenium	0.374	0.103	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

BG01@6'
3/1/2022 1:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203026-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.708		0.0983	mg/L	1	B2C0217	03/02/2022	03/03/2022	
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Metals by Saturated Paste by EPA 6010

Calcium	3.11		0.499	meq/L	10	[CALC]	03/02/2022	03/03/2022	
Magnesium	3.64		0.823	"	"	"	"	"	
Sodium	1.47		0.435	"	"	"	"	"	

pH in Soil by 9045D

pH	8.05			pH Units	1	B2C0209	03/02/2022	03/03/2022	
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SAR by 20B Saturated Paste

SAR	0.798			SAR	1	B2C0218	03/02/2022	03/03/2022	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.784		0.00500	mmhos/cm	1	B2C0208	03/02/2022	03/03/2022	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

BG01@7'

3/1/2022 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203026-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.660		0.100	mg/L	1	B2C0217	03/02/2022	03/03/2022	
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Metals by Saturated Paste by EPA 6010

Calcium	3.02		0.499	meq/L	10	[CALC]	03/02/2022	03/03/2022	
Magnesium	3.41		0.823	"	"	"	"	"	
Sodium	1.30		0.435	"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	0.728			SAR	1	B2C0218	"	"	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.766		0.00500	mmhos/cm	1	B2C0208	03/02/2022	03/03/2022	
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Total Metals by 6020B

Arsenic	4.49	0.0855	0.25	mg/Kg	5	L602812	03/03/2022	03/07/2022	
Selenium	0.279	0.103	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Reistad 01

BG01@10-12'

3/1/2022 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y203026-05 (Soil)

Total Metals by 6020B

Arsenic	0.929	0.0855	0.25	mg/Kg	5	L602812	03/03/2022	03/07/2022	
Selenium	0.24	0.103	0.25	"	"	"	"	"	J

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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: [none]
 Project: Noble - Reistad 01

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C0217 - Default Prep Metals										
Blank (B2C0217-BLK1)					Prepared: 03/02/2022 Analyzed: 03/03/2022					
Boron	ND	0.100	mg/L							U
Duplicate (B2C0217-DUP1)					Source: Y203018-04 Prepared: 03/02/2022 Analyzed: 03/03/2022					
Boron	1.05	0.101	mg/L		1.08			3.37	50	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C0208 - NO PREP										
Blank (B2C0208-BLK1)					Prepared: 03/02/2022 Analyzed: 03/03/2022					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B2C0208-DUP1)					Source: Y203013-01 Prepared: 03/02/2022 Analyzed: 03/03/2022					
Specific Conductance (EC)	0.963	0.00500	mmhos/cm		0.875			9.50	25	
Batch B2C0209 - NO PREP										
Duplicate (B2C0209-DUP1)					Source: Y202404-02 Prepared: 03/02/2022 Analyzed: 03/03/2022					
pH	8.18		pH Units		8.28			1.22	25	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Jake Whritenour
 Project Number: [none]
 Project: Noble - Reistad 01

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 L602812 - 3050B										
MSD (L 85519-MSD-L602812)			Source: 85519		Prepared: 03/03/2022 Analyzed: 03/07/2022					
Selenium	4.13	0.103	mg/Kg	4.96	0.295	77	75-125	5.2	80	
Arsenic	3.03	0.0855	"	2.48	1.07	79	75-125	4	80	
MS (L 85519-MS-L602812)			Source: 85519		Prepared: 03/03/2022 Analyzed: 03/07/2022					
Selenium	3.92	0.103	mg/Kg	4.91	0.295	74	75-125			*
Arsenic	2.91	0.0855	"	2.45	1.07	75	75-125			
LCS (LCS-L602812)					Prepared: 03/03/2022 Analyzed: 03/07/2022					
Selenium	4.35	0.103	mg/Kg	5		87	80-120			
Arsenic	2.16	0.0855	"	2.5		86	80-120			
LRB (LRB-L602812)					Prepared: 03/03/2022 Analyzed: 03/07/2022					
Selenium	ND	0.25	mg/Kg				-			
Arsenic	ND	0.25	"				-			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Jake Whritenour
Project Number: [none]
Project: Noble - Reistad 01

Notes and Definitions

- U Sample is Non-Detect.
- 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.



Jen Pellegrini, Project Manager

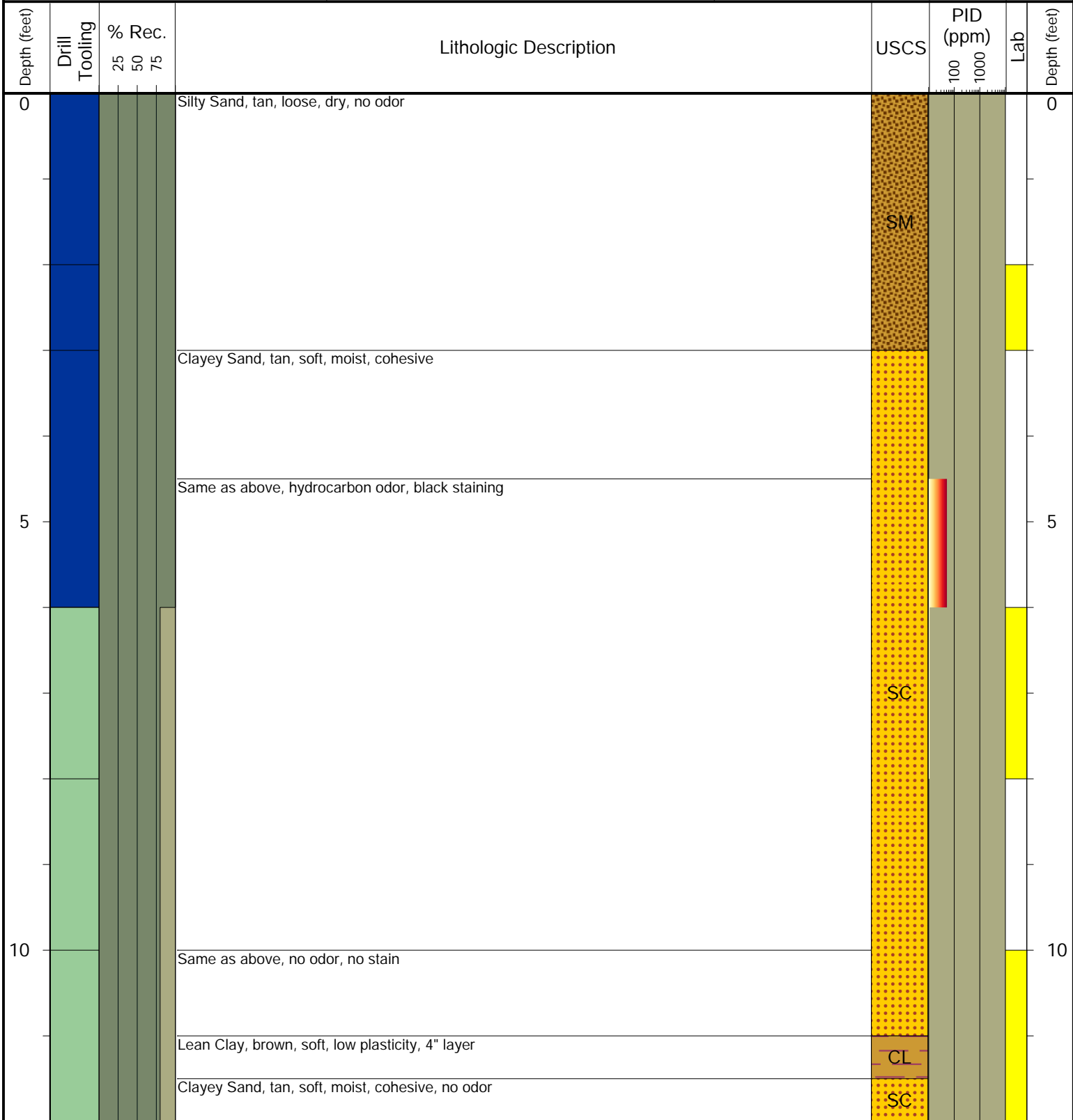
The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ATTACHMENT B
BORING LOGS



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Noble	Reistad 1 Tank Battery
LOGGED BY: Daniel Qua	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH01
DRILLING CONTRACTOR: Tasman	
DRILLING EQUIPMENT: Hand Auger & PowerProbe	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.375"	LATITUDE (WGS 84): 40.33643382509
DATE STARTED - COMPLETED: 10/15/21 - 10/15/21	LONGITUDE (WGS 84): -104.56534992996
TOTAL WELL DEPTH (FT. BGS): 12	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NA	ABANDONMENT METHOD: Bentonite



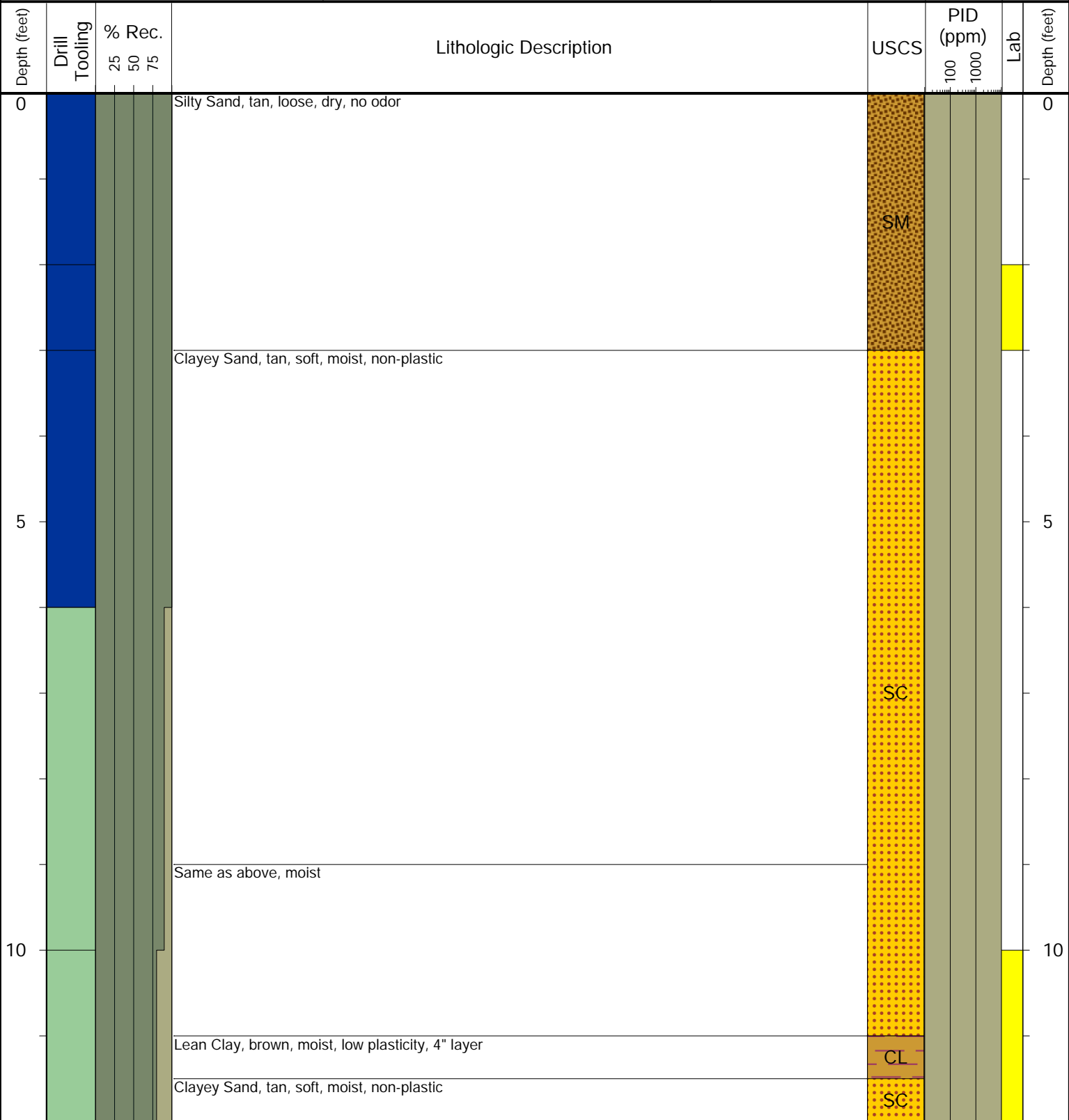
Drilling / Sample Method:

- Macro-Core
- Perforated Injection Tool
- Geotechnical Lab
- Geotechnical & Analytical Chemistry Lab
- Expendable Well Tip
- Hand Auger
- Analytical Chemistry Lab



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Noble	Reistad 1 Tank Battery
LOGGED BY: Daniel Qua	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH02
DRILLING CONTRACTOR: Tasman	
DRILLING EQUIPMENT: Hand Auger & PowerProbe	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.375"	LATITUDE (WGS 84): 40.336521808214
DATE STARTED - COMPLETED: 10/15/21 - 10/15/21	LONGITUDE (WGS 84): -104.56534449499
TOTAL WELL DEPTH (FT. BGS): 12	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NA	ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Perforated Injection Tool
- Hand Auger
- Expendable Well Tip

Laboratory Sample Types:

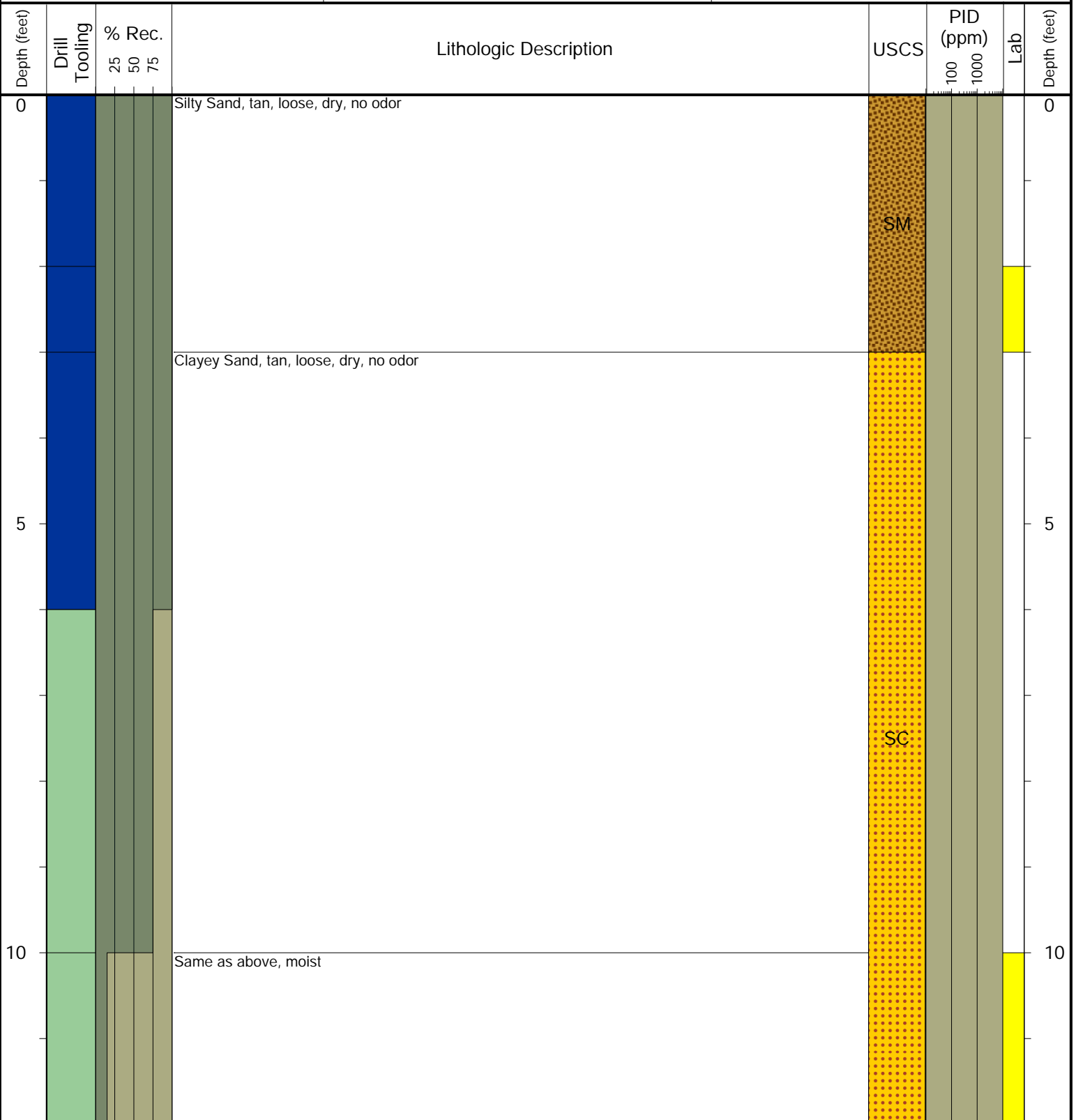
- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Noble
 LOGGED BY: Daniel Qua
 PROJECT MANAGER: Jake Whritenour
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Hand Auger & PowerProbe
 DRILL BIT SIZE (INCHES): 2.375"
 DATE STARTED - COMPLETED: 10/15/21 - 10/15/21
 TOTAL WELL DEPTH (FT. BGS): 12
 DEPTH WATER ENCOUNTERED (FT. BGS): NA

Reistad 1 Tank Battery
BORING ID: BH03
 LOCATION: Weld County, Colorado
 LATITUDE (WGS 84): 40.336442067902
 LONGITUDE (WGS 84): -104.56522784992
 GROUND ELEVATION (FT. AMSL): NM
 ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

- Macro-Core
- Expendable Well Tip
- Perforated Injection Tool
- Hand Auger

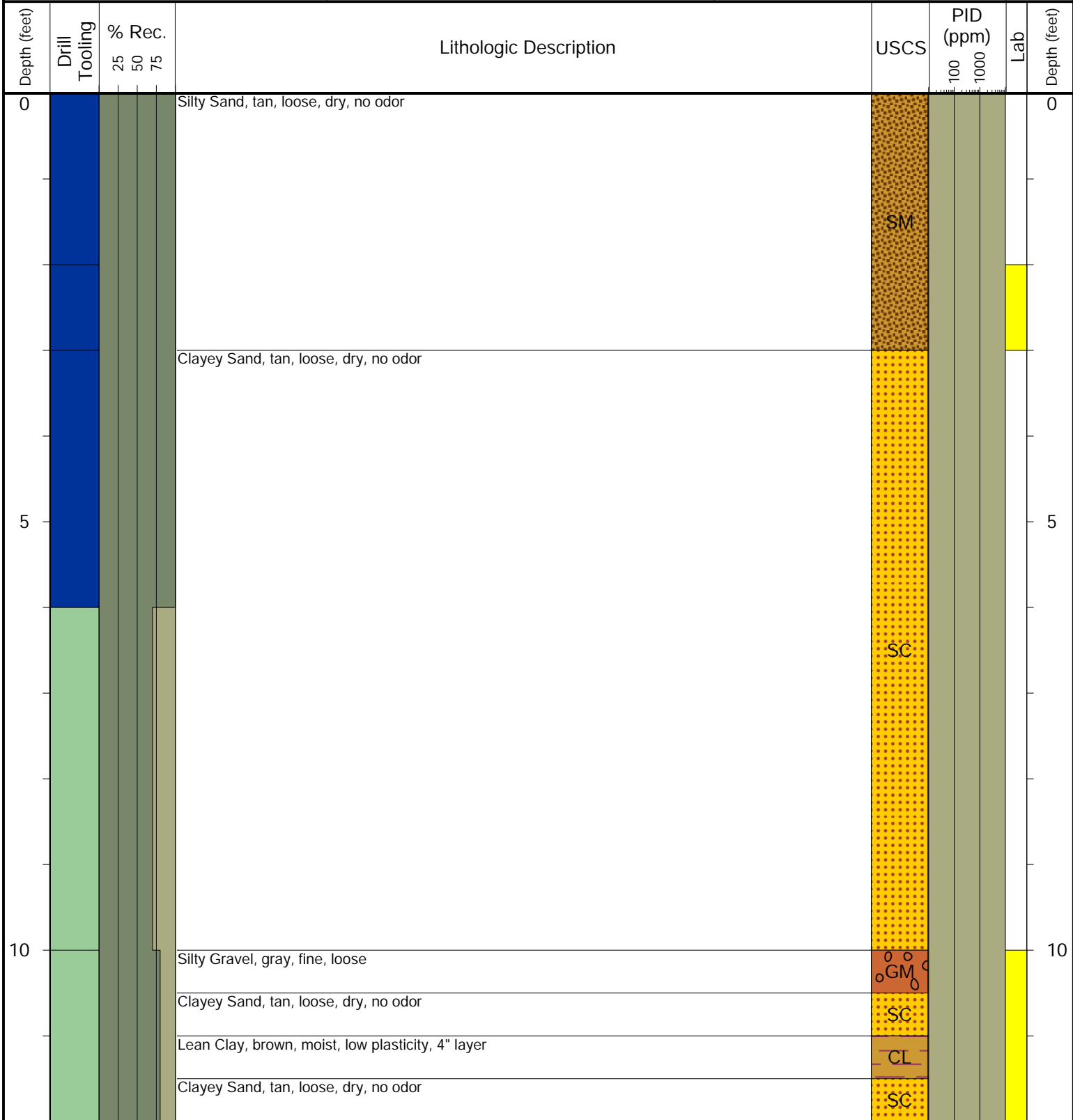
Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Noble	Reistad 1 Tank Battery
LOGGED BY: Daniel Qua	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH04
DRILLING CONTRACTOR: Tasman	
DRILLING EQUIPMENT: Hand Auger & PowerProbe	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.375"	LATITUDE (WGS 84): 40.336345130878
DATE STARTED - COMPLETED: 10/15/21 - 10/15/21	LONGITUDE (WGS 84): -104.5653692786
TOTAL WELL DEPTH (FT. BGS): 12	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NA	ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

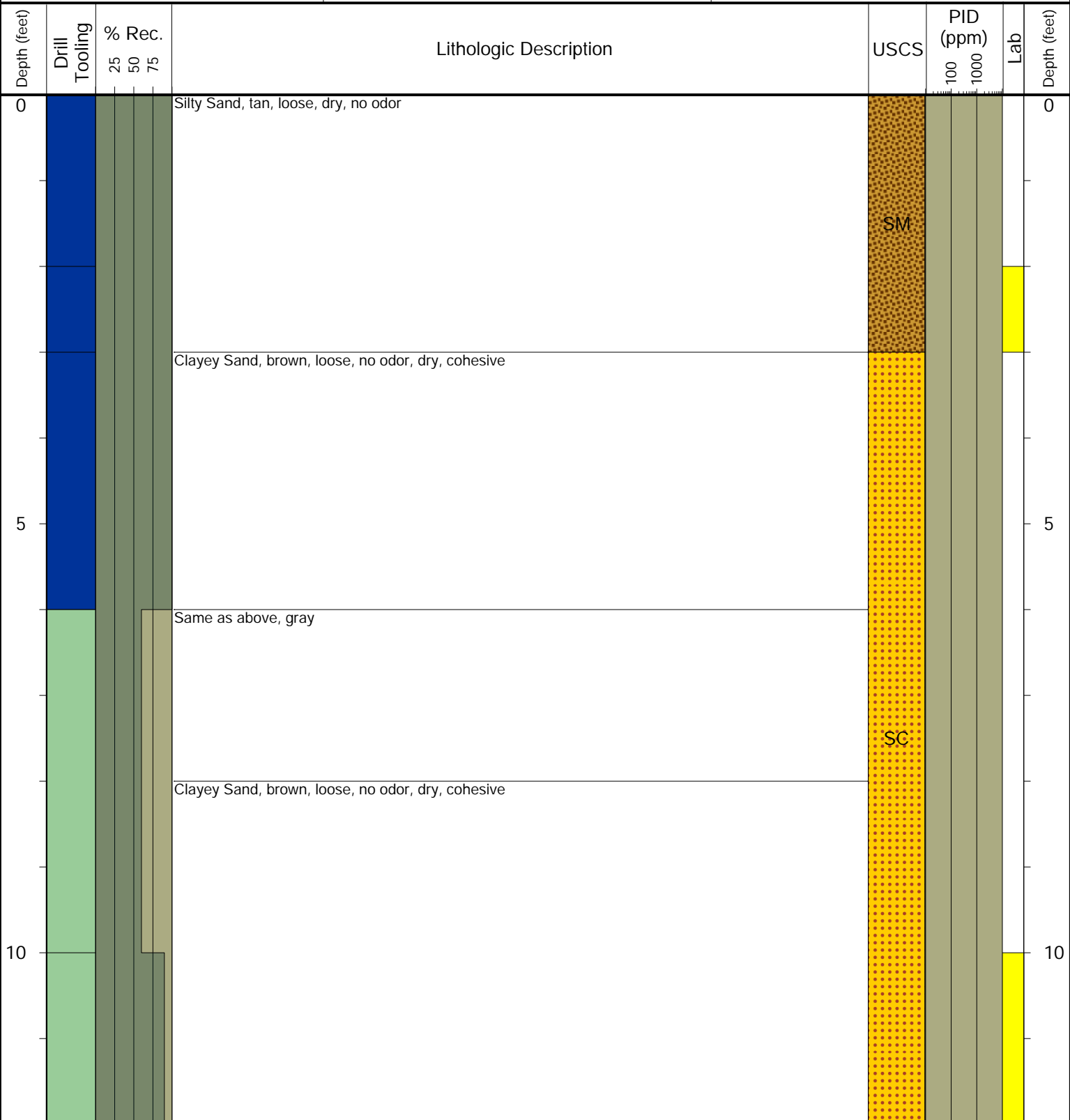
- Macro-Core
- Expendable Well Tip
- Perforated Injection Tool
- Hand Auger
- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Noble
 LOGGED BY: Daniel Qua
 PROJECT MANAGER: Jake Whritenour
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Hand Auger & PowerProbe
 DRILL BIT SIZE (INCHES): 2.375"
 DATE STARTED - COMPLETED: 10/15/21 - 10/15/21
 TOTAL WELL DEPTH (FT. BGS): 12
 DEPTH WATER ENCOUNTERED (FT. BGS): NA

Reistad 1 Tank Battery
BORING ID: BH05
 LOCATION: Weld County, Colorado
 LATITUDE (WGS 84): 40.336449850293
 LONGITUDE (WGS 84): -104.56548910949
 GROUND ELEVATION (FT. AMSL): NM
 ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:
 Macro-Core (Green), Expendable Well Tip (Dark Green), Perforated Injection Tool (Orange), Hand Auger (Blue)

Laboratory Sample Types:
 Geotechnical Lab (Purple), Analytical Chemistry Lab (Yellow), Geotechnical & Analytical Chemistry Lab (Blue/Yellow)