

# **SOIL ASSESSMENT REPORT**

## **MUNDS 13-29, DICKERSON 14-29A**

COGCC SPILL TRACKING # 459197  
COGCC REMEDIATION # 12255

Prepared for:



2115 117th Avenue  
Greeley, CO 80631

Prepared by:



6855 W 119th Ave.  
Broomfield, CO 80020

November 4, 2020

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

Subject:       **Soil Assessment Report**  
                  ***Munds 13-29, Dickerson 14-29A***  
                  Facility ID #: 333157  
                  Spill/Release Point ID #: 459197  
                  Remediation Project #: 12255  
                  SESW S29 T4N R65W  
                  Weld County, Colorado

Dear Mr. Evans:

Below please find a copy of the above referenced Soil Assessment Report (Report) for the Munds 13-29, Dickerson 14-29A site (Site) in Weld County, Colorado. The text below describes assessment activities and environmental sampling conducted at the Site on September 29, 2020 by Tasman Geosciences, Inc. (Tasman), on behalf of Noble Energy, Inc. (Noble).

## **Introduction**

The purpose of this document is to describe the results of the site assessment and soil sampling activities at the Site. The activities described below were performed in response to the discovery of a release from the Munds 13-29, Dickerson 14-29A produced water vessel on November 20, 2018.

## **Facility Background**

The Site is located approximately 4.5 miles east of the Town of Gilcrest in Weld County, Colorado, as shown on Figure 1. The Site is surrounded by crop land, and the legal description is the southeast ¼ of the southwest ¼ of Section 29, Township 4 North, Range 65 West, of the 6<sup>th</sup> Principal Meridian. The Site is located on relatively flat terrain. The Site is approximately 50 feet north of Weld County Road 40 and has coordinates of 40.276357°, -104.690061°.

On November 20, 2018, historic impacts were confirmed beneath the Munds 13-29, Dickerson 14-29A tank battery during plug and abandonment activities. The approximate release location is shown on Figure 2. A Form 19 was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on November 21, 2018. The COGCC subsequently issued Spill/Release Point ID Number 459197 for this event and the site was plugged and abandoned. A Site Investigation and Remediation Workplan (Form 27) was submitted for the site on January 3, 2019 (document 401891478) and approved on January 4, 2019. The COGCC issued Remediation # 12255 for this site. Initial sampling activities were reported in the document *Munds 13-29, Dickerson 14-29A Excavation Summary Report* submitted to Noble on February 19, 2019.

## **Field Activities – Soil Assessment Activities**

On September 29, 2020 Tasman was retained by Noble to further assess vadose zone hydrocarbon soil impacts associated with the release beneath the former Munds 13-29, Dickerson 14-29A produced water vessel. A total of seven boreholes (BH09-BH15) were advanced using hand auger drilling techniques to depths between nine and 11 feet below ground surface (ft. bgs). During soil boring activities, soil samples were collected and field screened for VOCs using a PID and standard head space sampling techniques. A total of 15 soil samples were submitted to Summit Scientific laboratory (Summit) in Golden, Colorado for benzene, toluene, ethylbenzene and total xylenes (BTEX), naphthalene, Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO) using United States Environmental Protection Agency (USEPA) Method 8260B, as well as Total Petroleum Hydrocarbons – Diesel Range Organics (TPH-DRO) using USEPA Method 8015. Soil analytical results are summarized in Table 1 and sample locations are illustrated in Figure 2. Boring logs are included as Attachment A and the laboratory soil analytical report is included as Attachment B.

During soil boring activities, groundwater was encountered in soil borings BH10, BH12, and BH13, and the depth to water ranged from five ft. bgs in boring BH10 to ten ft. bgs in boring BH12. No groundwater samples were collected from the soil borings.

## **Results**

Laboratory analytical results for soil samples collected during soil boring activities indicate that vadose zone soil impacts above COGCC Table 910-1 standards are not present at all seven borehole locations.

## **Conclusions**

Based on field and laboratory data collected during site assessment activities, vadose zone soil impacts have been successfully delineated at the Site. Groundwater monitoring wells will be installed at the Site to determine if dissolved phase groundwater impacts are present. To remediate the areas of residual vadose zone petroleum hydrocarbon soil impacts, soil vapor extraction (SVE) wells will be installed.

## **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) 431-1190 if you require additional information.

Sincerely,  
Tasman Geosciences, Inc.

A handwritten signature in blue ink that reads 'Brandon Bruns'.

Brandon Bruns, PE  
Project Manager  
Attachments:

Table 1 – Soil Analytical Data

Figure 1 – Site Location Map

Figure 2 – Soil Boring Analytical Results Map (11/20/2018, 07/02/2019, 09/29/2020)

Attachment A – Boring Logs

Attachment B – Soil Laboratory Analytical Data Report

# **TABLES**

**TABLE 1**  
**SOIL ANALYTICAL DATA**  
**NOBLE ENERGY, INC. -MUNDS 13-29, DICKERSON 14-29A**

| Soil Sample ID        | Date     | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Naphthalene (mg/kg) | TPH-GRO (mg/kg) | TPH-DRO (mg/kg) |
|-----------------------|----------|-----------------|-----------------|----------------------|-----------------------|---------------------|-----------------|-----------------|
| <b>COGCC Standard</b> |          | <b>0.17</b>     | <b>85</b>       | <b>100</b>           | <b>175</b>            | <b>23</b>           | <b>500</b>      |                 |
| BH09@3-4'             | 09/29/20 | 0.0031          | <0.0050         | <0.0050              | 0.011                 | <0.010              | <50             | <50             |
| BH09@8-9'             | 09/29/20 | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.010              | <50             | <50             |
| BH09@9-10'            | 09/29/20 | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.010              | <50             | <50             |
| BH11@2-3'             | 09/29/20 | 0.0066          | <0.0050         | 0.047                | 0.29                  | <0.010              | <50             | <50             |
| BH11@8-9'             | 09/29/20 | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.010              | <50             | <50             |
| BH11@9-10'            | 09/29/20 | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.010              | <50             | <50             |
| BH12@5-6'             | 09/29/20 | 0.0088          | <0.0050         | 0.33                 | 1.8                   | 0.015               | <50             | <50             |
| BH12@10-11'           | 09/29/20 | 0.0036          | <0.0050         | 0.0055               | 0.062                 | <0.010              | <50             | <50             |
| BH13@4-5'             | 09/29/20 | 0.0032          | <0.0050         | <0.0050              | 0.010                 | <0.010              | <50             | <50             |
| BH13@10-11'           | 09/29/20 | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.010              | <50             | <50             |
| BH14@5-6'             | 09/29/20 | 0.0071          | <0.0050         | 0.17                 | 0.85                  | 0.015               | <50             | <50             |
| BH14@10-11'           | 09/29/20 | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.010              | <50             | <50             |
| BH15@4-5'             | 09/29/20 | 0.0031          | <0.0050         | <0.0050              | 0.017                 | <0.010              | <50             | <50             |
| BH15@6-7'             | 09/29/20 | 0.0095          | <0.0050         | 0.42                 | 1.5                   | 0.022               | <50             | <50             |
| BH15@9-11'            | 09/29/20 | 0.0031          | <0.0050         | <0.0050              | 0.014                 | <0.010              | <50             | <50             |

Notes:

COGCC = Colorado Oil and Gas Conservation Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

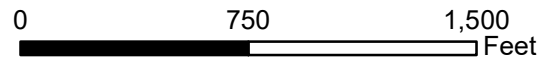
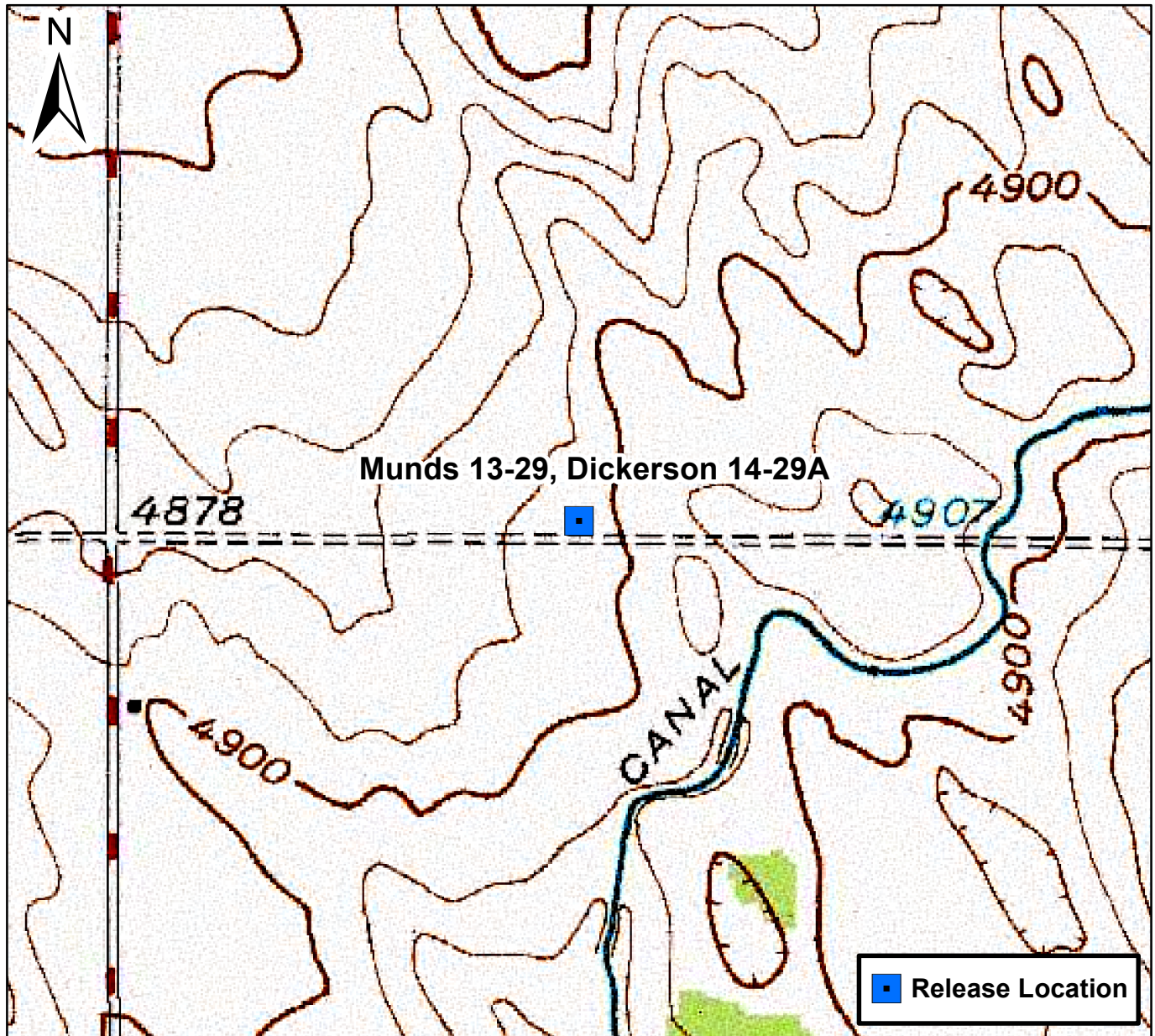
mg/kg = Milligrams per kilogram

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

Soil standards referenced from COGCC Table 910-1

**Highlighted results are equal to or exceed the COGCC Table 910-1 standard**

# **FIGURES**



### Figure 1

Site Location Map  
 Munds 13-29, Dickerson 14-29A  
 SESW S29 T4N R65W  
 Weld County, Colorado



|                                |                                  |
|--------------------------------|----------------------------------|
| <b>BH14@5-6'</b><br>(09/29/20) | <b>BH14@10-11'</b><br>(09/29/20) |
| B - 0.0071 mg/kg               | B - <0.0020 mg/kg                |
| T - <0.0050 mg/kg              | T - <0.0050 mg/kg                |
| E - 0.17 mg/kg                 | E - <0.0050 mg/kg                |
| X - 0.85 mg/kg                 | X - <0.010 mg/kg                 |
| N - 0.015 mg/kg                | N - <0.010 mg/kg                 |
| TPH - <50 mg/kg                | TPH - <50 mg/kg                  |

|                                |                                  |
|--------------------------------|----------------------------------|
| <b>BH12@5-6'</b><br>(09/29/20) | <b>BH12@10-11'</b><br>(09/29/20) |
| B - 0.0088 mg/kg               | B - 0.0036 mg/kg                 |
| T - <0.0050 mg/kg              | T - <0.0050 mg/kg                |
| E - 0.33 mg/kg                 | E - 0.0055 mg/kg                 |
| X - 1.8 mg/kg                  | X - 0.062 mg/kg                  |
| N - 0.015 mg/kg                | N - <0.010 mg/kg                 |
| TPH - <50 mg/kg                | TPH - <50 mg/kg                  |

|                                |                                  |
|--------------------------------|----------------------------------|
| <b>BH13@4-5'</b><br>(09/29/20) | <b>BH13@10-11'</b><br>(09/29/20) |
| B - 0.0032 mg/kg               | B - <0.0020 mg/kg                |
| T - <0.0050 mg/kg              | T - <0.0050 mg/kg                |
| E - <0.0050 mg/kg              | E - <0.0050 mg/kg                |
| X - 0.010 mg/kg                | X - <0.010 mg/kg                 |
| N - <0.010 mg/kg               | N - <0.010 mg/kg                 |
| TPH - <50 mg/kg                | TPH - <50 mg/kg                  |

|                              |                               |
|------------------------------|-------------------------------|
| <b>TP05@5'</b><br>(11/20/18) | <b>TP05@10'</b><br>(11/20/18) |
| B - 0.0098 mg/kg             | B - 0.16 mg/kg                |
| T - <0.0050 mg/kg            | T - 0.25 mg/kg                |
| E - 0.029 mg/kg              | E - 14 mg/kg                  |
| X - 0.43 mg/kg               | X - 170 mg/kg                 |
| N - <0.010 mg/kg             | N - 0.033 mg/kg               |
| TPH - <50 mg/kg              | TPH - <b>4,659</b> mg/kg      |

|                                |                                |                                 |
|--------------------------------|--------------------------------|---------------------------------|
| <b>BH11@2-3'</b><br>(09/29/20) | <b>BH11@8-9'</b><br>(09/29/20) | <b>BH11@9-10'</b><br>(09/29/20) |
| B - 0.0066 mg/kg               | B - <0.0020 mg/kg              | B - <0.0020 mg/kg               |
| T - <0.0050 mg/kg              | T - <0.0050 mg/kg              | T - <0.0050 mg/kg               |
| E - 0.047 mg/kg                | E - <0.0050 mg/kg              | E - <0.0050 mg/kg               |
| X - 0.29 mg/kg                 | X - <0.010 mg/kg               | X - <0.010 mg/kg                |
| N - <0.010 mg/kg               | N - <0.010 mg/kg               | N - <0.010 mg/kg                |
| TPH - <50 mg/kg                | TPH - <50 mg/kg                | TPH - <50 mg/kg                 |










|                                |                                |                                 |
|--------------------------------|--------------------------------|---------------------------------|
| <b>BH15@4-5'</b><br>(09/29/20) | <b>BH15@6-7'</b><br>(09/29/20) | <b>BH15@9-11'</b><br>(09/29/20) |
| B - 0.0031 mg/kg               | B - 0.0095 mg/kg               | B - 0.0031 mg/kg                |
| T - <0.0050 mg/kg              | T - <0.0050 mg/kg              | T - <0.0050 mg/kg               |
| E - <0.0050 mg/kg              | E - 0.42 mg/kg                 | E - 0.014 mg/kg                 |
| X - 0.017 mg/kg                | X - 1.5 mg/kg                  | X - <0.010 mg/kg                |
| N - <0.010 mg/kg               | N - 0.022 mg/kg                | N - <0.010 mg/kg                |
| TPH - <50 mg/kg                | TPH - <50 mg/kg                | TPH - <50 mg/kg                 |

|                              |
|------------------------------|
| <b>SS21@9'</b><br>(07/02/19) |
| B - <b>0.55</b> mg/kg        |
| T - <0.0050 mg/kg            |
| E - 0.32 mg/kg               |
| X - 3.5 mg/kg                |
| N - 0.021 mg/kg              |
| TPH - <50 mg/kg              |

|                                |                                |                                 |
|--------------------------------|--------------------------------|---------------------------------|
| <b>BH09@3-4'</b><br>(09/29/20) | <b>BH09@8-9'</b><br>(09/29/20) | <b>BH09@9-10'</b><br>(09/29/20) |
| B - 0.0031 mg/kg               | B - <0.0020 mg/kg              | B - <0.0020 mg/kg               |
| T - <0.0050 mg/kg              | T - <0.0050 mg/kg              | T - <0.0050 mg/kg               |
| E - <0.0050 mg/kg              | E - <0.0050 mg/kg              | E - <0.0050 mg/kg               |
| X - 0.011 mg/kg                | X - <0.010 mg/kg               | X - <0.010 mg/kg                |
| N - <0.010 mg/kg               | N - <0.010 mg/kg               | N - <0.010 mg/kg                |
| TPH - <50 mg/kg                | TPH - <50 mg/kg                | TPH - <50 mg/kg                 |

|                              |
|------------------------------|
| <b>SS24@9'</b><br>(07/02/19) |
| B - <b>0.18</b> mg/kg        |
| T - <0.0050 mg/kg            |
| E - 0.042 mg/kg              |
| X - 0.20 mg/kg               |
| N - <0.010 mg/kg             |
| TPH - <50 mg/kg              |

**Legend**

-  Soil Boring Location (Collected via Trimble GPS)
-  Water/Irrigation Line (Collected via Trimble GPS)
-  Excavation Extent - 2019 (Collected via Trimble GPS)
-  Test Pit Confirmation Soil Sample Excavation Extent (Collected via Trimble GPS)
-  APC Line (Collected via Trimble GPS)
-  Noble Line (Collected via Trimble GPS)
-  Release Location
-  Excavation Sample Location
-  Test Pit Location (Collected via Trimble GPS)

**Notes**

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Site infrastructure has been removed; shown for illustrative purposes only.
- 4) **RED** value indicates concentration greater than COGCC table 910-1 soil standard (see table below).

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

| Contaminant of Concern            | COGCC Concentration Standard |
|-----------------------------------|------------------------------|
| B - Benzene                       | 0.17 mg/kg                   |
| T - Toluene                       | 85 mg/kg                     |
| E - Ethylbenzene                  | 100 mg/kg                    |
| X – Total Xylenes                 | 175 mg/kg                    |
| N - Naphthalene                   | 23 mg/kg                     |
| TPH- Total Petroleum Hydrocarbons | 500 mg/kg                    |

0 ft. 20 ft. 40 ft.



Image Source: Google Earth; Google 2016



DATE: 11/04/2020

DESIGNED BY: DA

DRAWN BY: TC



Tasman Geosciences, Inc.  
6855 W. 119<sup>th</sup> Avenue  
Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin**  
**Munds 13-29, Dickerson 14-29A**  
SESW, Section 29, Township 4 North, Range 65 West  
Weld County, Colorado

Borehole Soil  
Analytical Results Map  
(11/20/2018, 07/02/2019, 09/29/2020)

FIGURE  
2

# **ATTACHMENT A**

## **BORING LOGS**



6855 W. 119th Avenue  
Broomfield, Colorado 80020

CLIENT: Noble Energy Inc

LOGGED BY: Tanner Cook

PROJECT MANAGER: Brandon Bruns

DRILLING CONTRACTOR: Tasman Geosciences, Inc.

DRILLING EQUIPMENT: Hand Auger

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 9/29/2020

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NA

Munds 13-29, Dickerson 14-29A

BORING ID: BH09

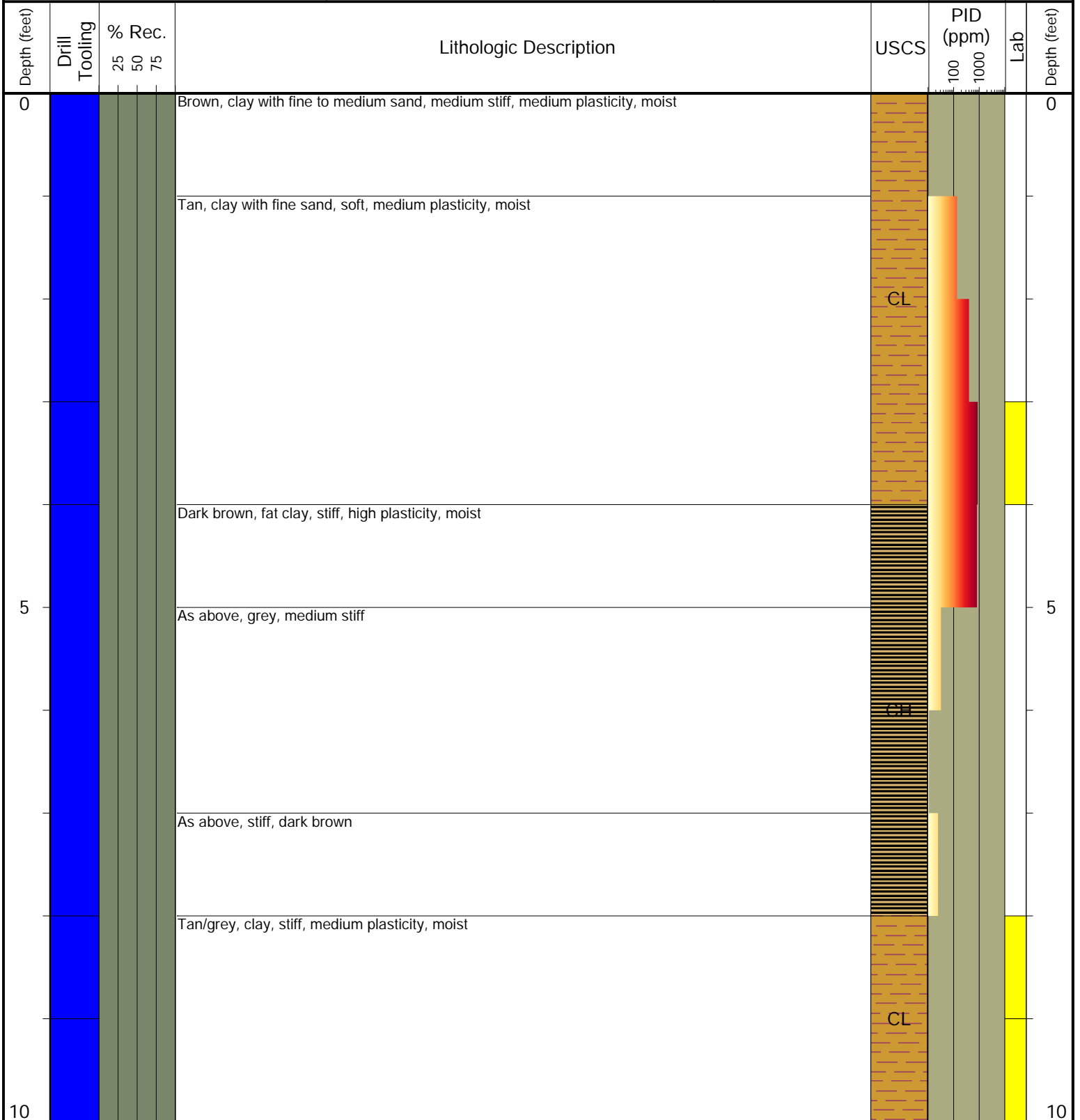
LOCATION: Weld County, CO

LATITUDE (WGS 84): 40.276235

LONGITUDE (WGS 84): -104.690165

GROUND ELEVATION (FT. AMSL): Not Measured

ABANDONMENT METHOD: Native Soil



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



6855 W. 119th Avenue  
Broomfield, Colorado 80020

CLIENT: Noble Energy Inc

LOGGED BY: Tanner Cook

PROJECT MANAGER: Brandon Bruns

DRILLING CONTRACTOR: Tasman Geosciences, Inc.

DRILLING EQUIPMENT: Hand Auger

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 9/29/2020

TOTAL WELL DEPTH (FT. BGS): 9

DEPTH WATER ENCOUNTERED (FT. BGS): 5

Munds 13-29, Dickerson 14-29A

BORING ID: BH10

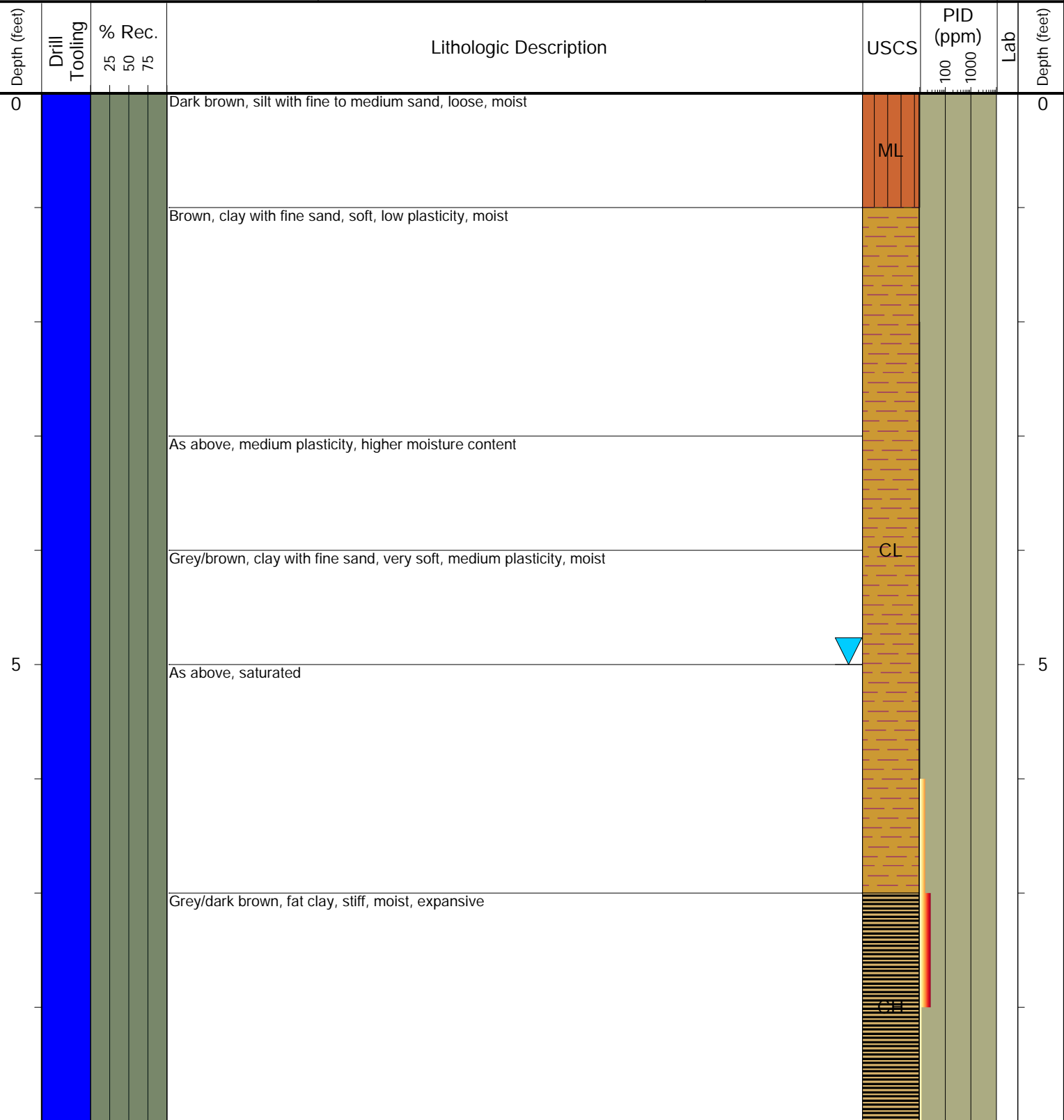
LOCATION: Weld County, CO

LATITUDE (WGS 84): 40.276238

LONGITUDE (WGS 84): -104.690139

GROUND ELEVATION (FT. AMSL): Not Measured

ABANDONMENT METHOD: Native Soil



Drilling / Sample Method:

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

Laboratory Sample Types:

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



6855 W. 119th Avenue  
Broomfield, Colorado 80020

CLIENT: Noble Energy Inc

LOGGED BY: Tanner Cook

PROJECT MANAGER: Brandon Bruns

DRILLING CONTRACTOR: Tasman Geosciences, Inc.

DRILLING EQUIPMENT: Hand Auger

DRILL BIT SIZE (INCHES): 3.25

DATE STARTED - COMPLETED: 9/29/2020

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NA

Munds 13-29, Dickerson 14-29A

BORING ID: BH11

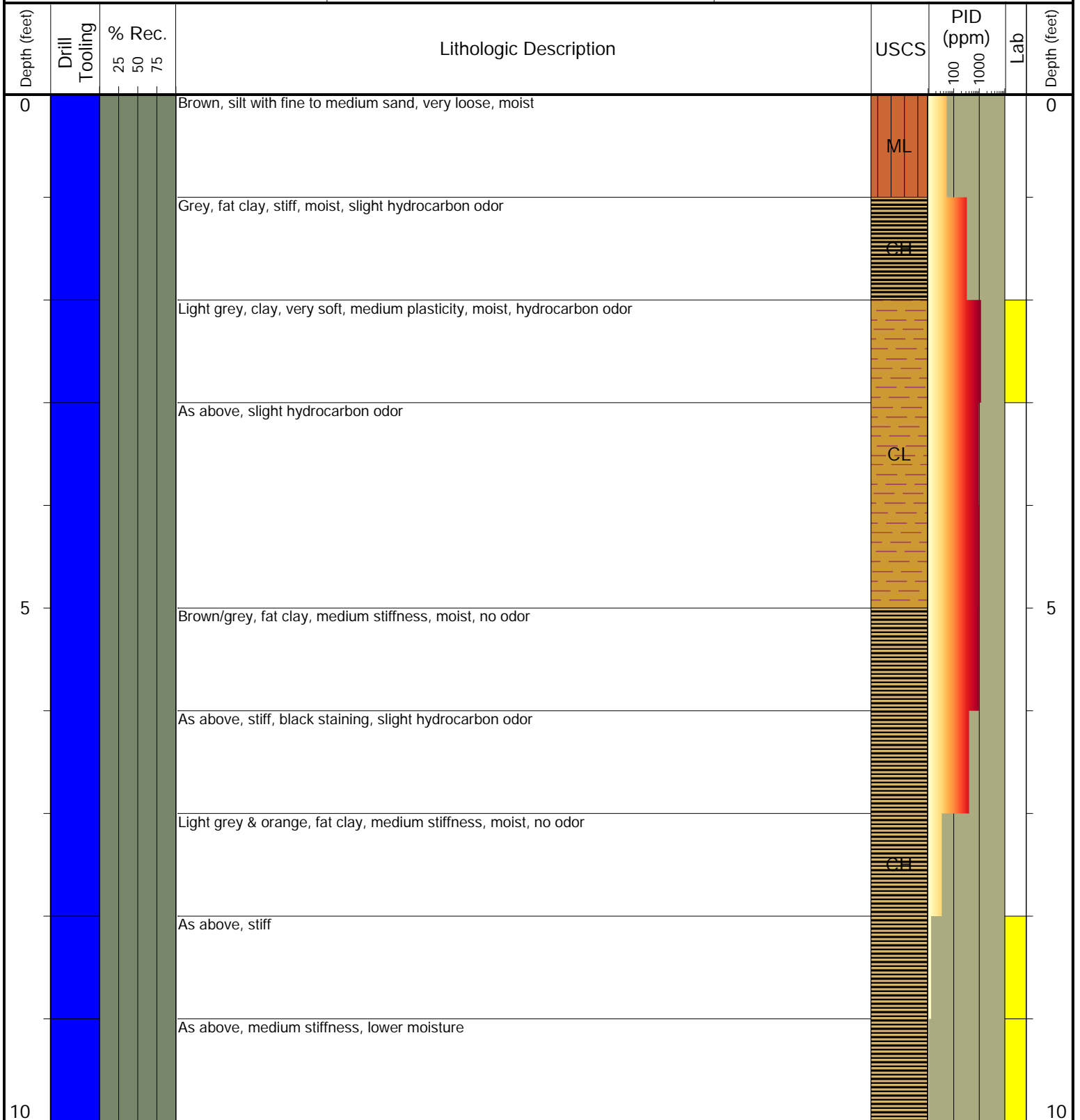
LOCATION: Weld County, CO

LATITUDE (WGS 84): 40.276257

LONGITUDE (WGS 84): -104.690136

GROUND ELEVATION (FT. AMSL): Not Measured

ABANDONMENT METHOD: Native Soil



**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



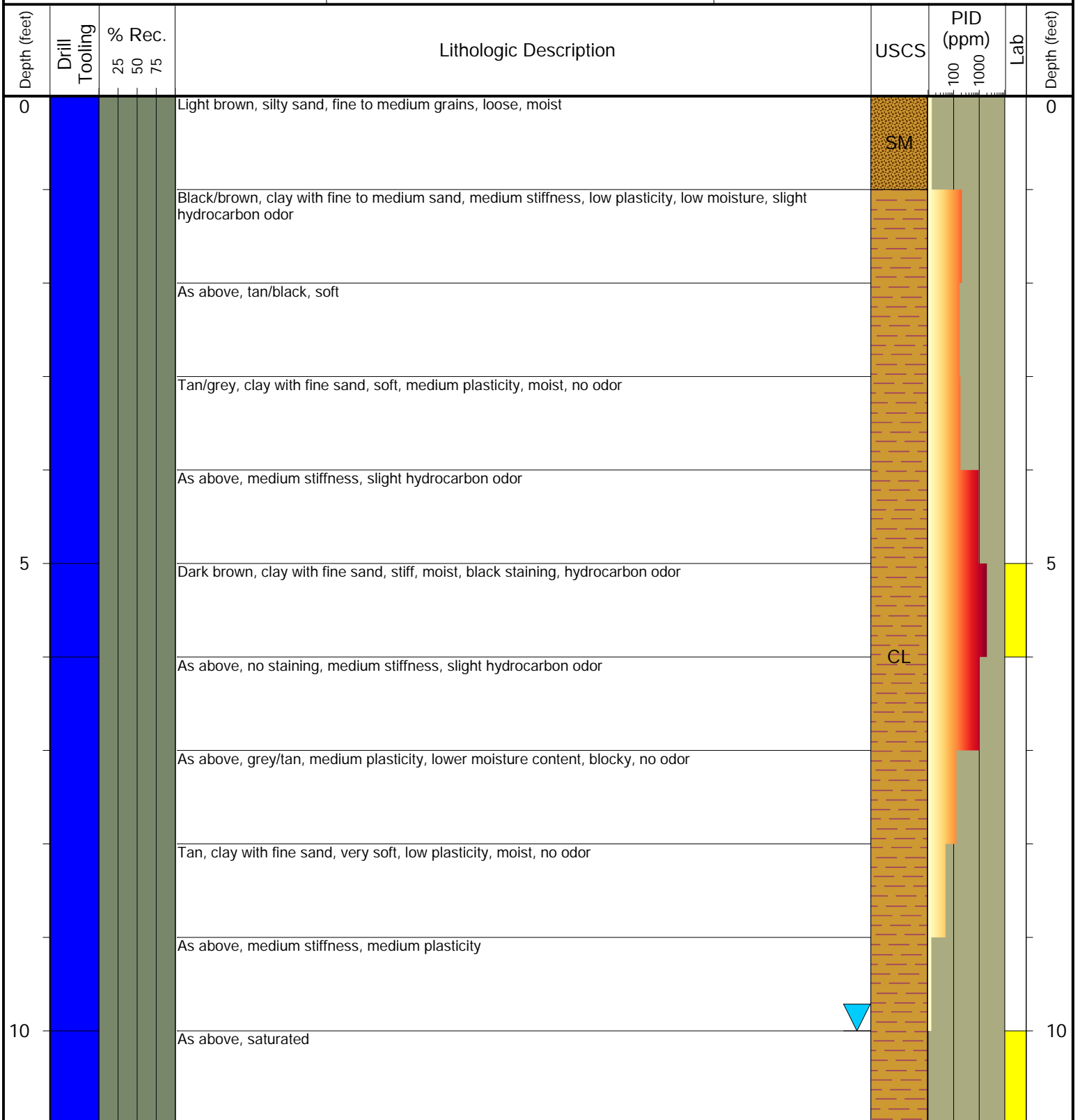
6855 W. 119th Avenue  
Broomfield, Colorado 80020

CLIENT: Noble Energy Inc  
 LOGGED BY: Tanner Cook  
 PROJECT MANAGER: Brandon Bruns  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Hand Auger  
 DRILL BIT SIZE (INCHES): 3.25  
 DATE STARTED - COMPLETED: 9/29/2020  
 TOTAL WELL DEPTH (FT. BGS): 11  
 DEPTH WATER ENCOUNTERED (FT. BGS): 10

Munds 13-29, Dickerson 14-29A

BORING ID: BH12

LOCATION: Weld County, CO  
 LATITUDE (WGS 84): 40.276494  
 LONGITUDE (WGS 84): -104.689907  
 GROUND ELEVATION (FT. AMSL): Not Measured  
 ABANDONMENT METHOD: Native Soil



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



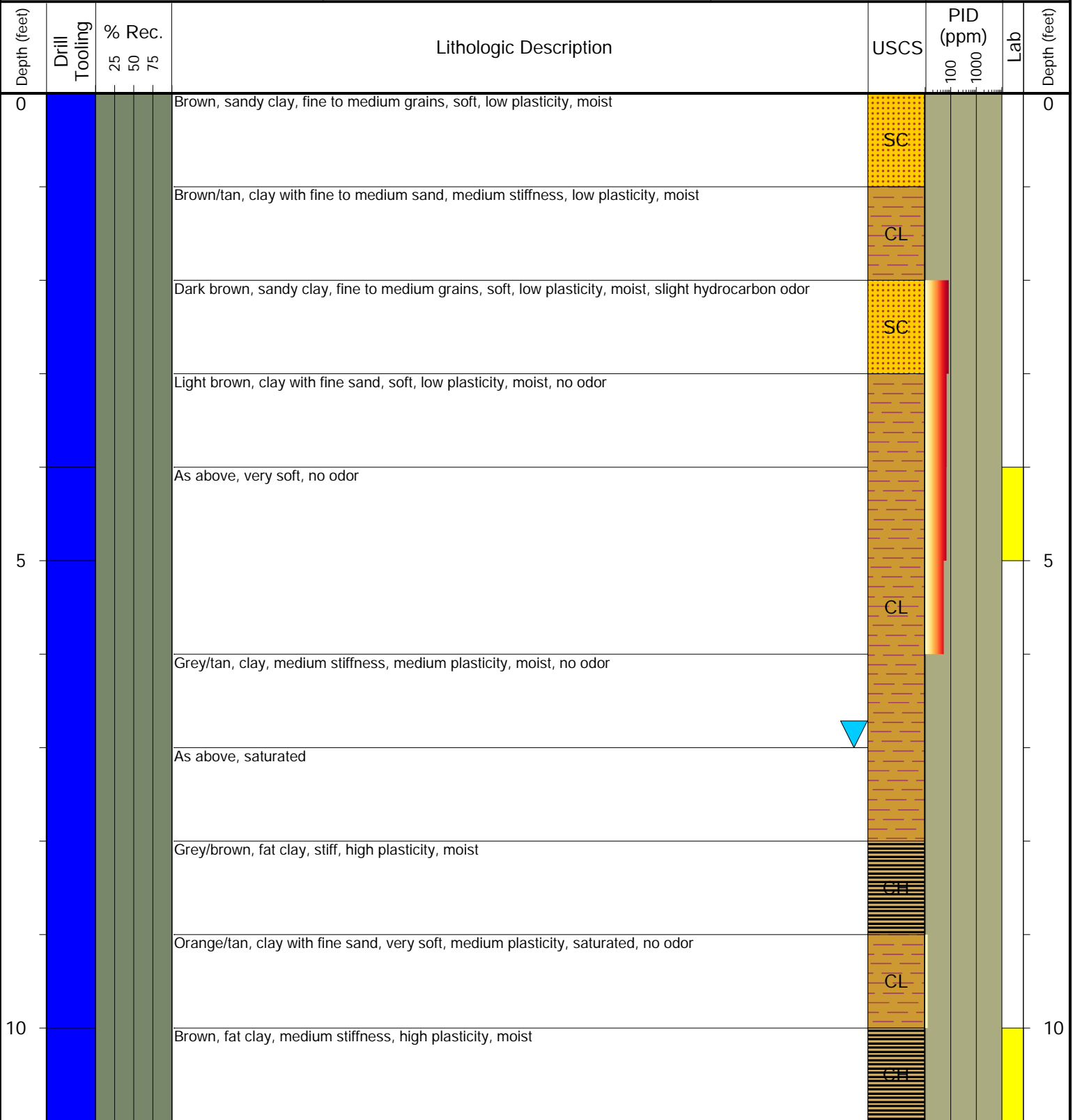
6855 W. 119th Avenue  
Broomfield, Colorado 80020

CLIENT: Noble Energy Inc  
 LOGGED BY: Tanner Cook  
 PROJECT MANAGER: Brandon Bruns  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Hand Auger  
 DRILL BIT SIZE (INCHES): 3.25  
 DATE STARTED - COMPLETED: 9/29/2020  
 TOTAL WELL DEPTH (FT. BGS): 11  
 DEPTH WATER ENCOUNTERED (FT. BGS): 7

Munds 13-29, Dickerson 14-29A

BORING ID: BH13

LOCATION: Weld County, CO  
 LATITUDE (WGS 84): 40.276493  
 LONGITUDE (WGS 84): -104.689854  
 GROUND ELEVATION (FT. AMSL): Not Measured  
 ABANDONMENT METHOD: Native Soil



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



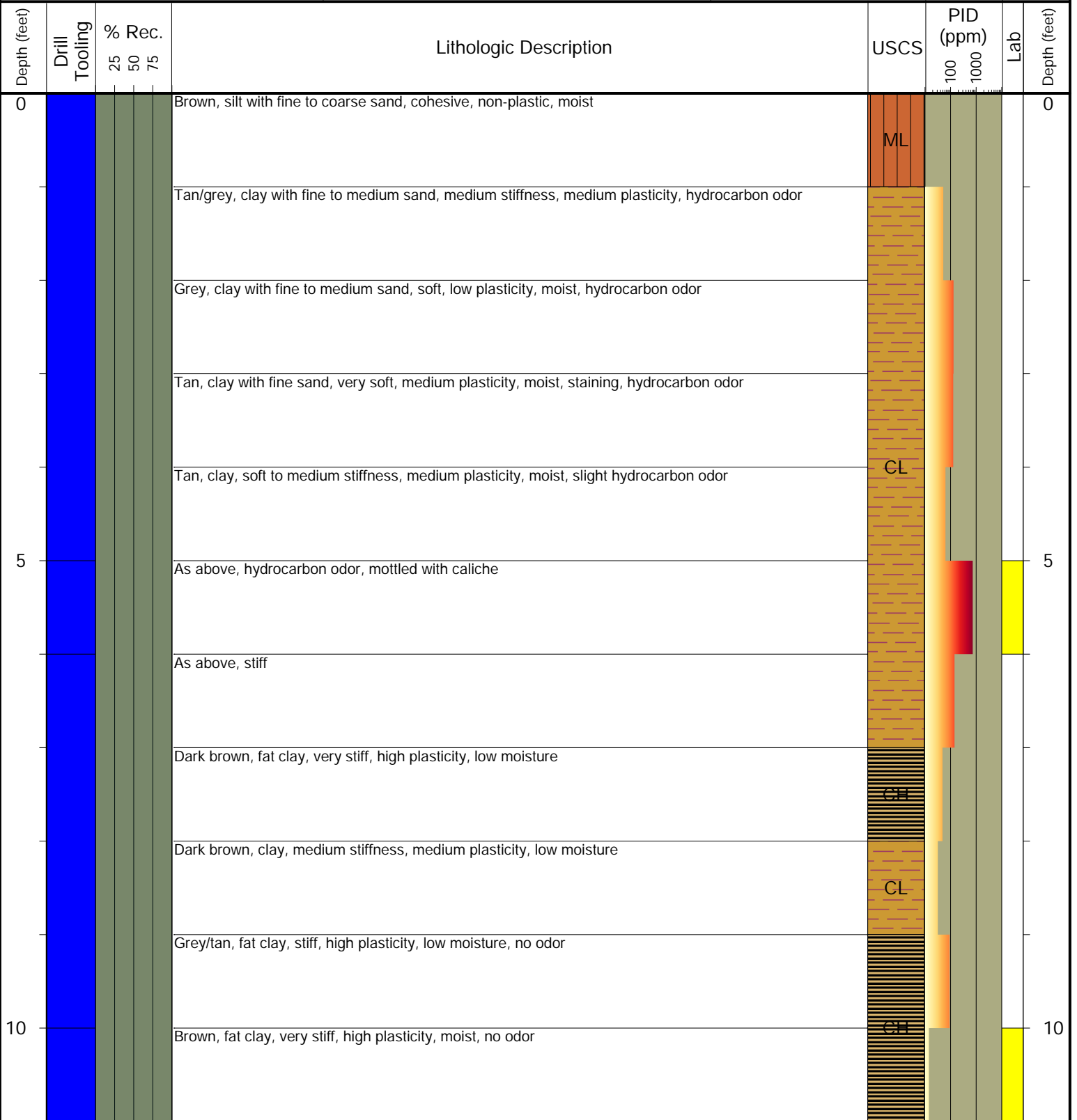
6855 W. 119th Avenue  
Broomfield, Colorado 80020

CLIENT: Noble Energy Inc  
 LOGGED BY: Tanner Cook  
 PROJECT MANAGER: Brandon Bruns  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Hand Auger  
 DRILL BIT SIZE (INCHES): 3.25  
 DATE STARTED - COMPLETED: 9/29/2020  
 TOTAL WELL DEPTH (FT. BGS): 11  
 DEPTH WATER ENCOUNTERED (FT. BGS): NA

Munds 13-29, Dickerson 14-29A

BORING ID: BH14

LOCATION: Weld County, CO  
 LATITUDE (WGS 84): 40.276443  
 LONGITUDE (WGS 84): -104.689901  
 GROUND ELEVATION (FT. AMSL): Not Measured  
 ABANDONMENT METHOD: Native Soil



**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



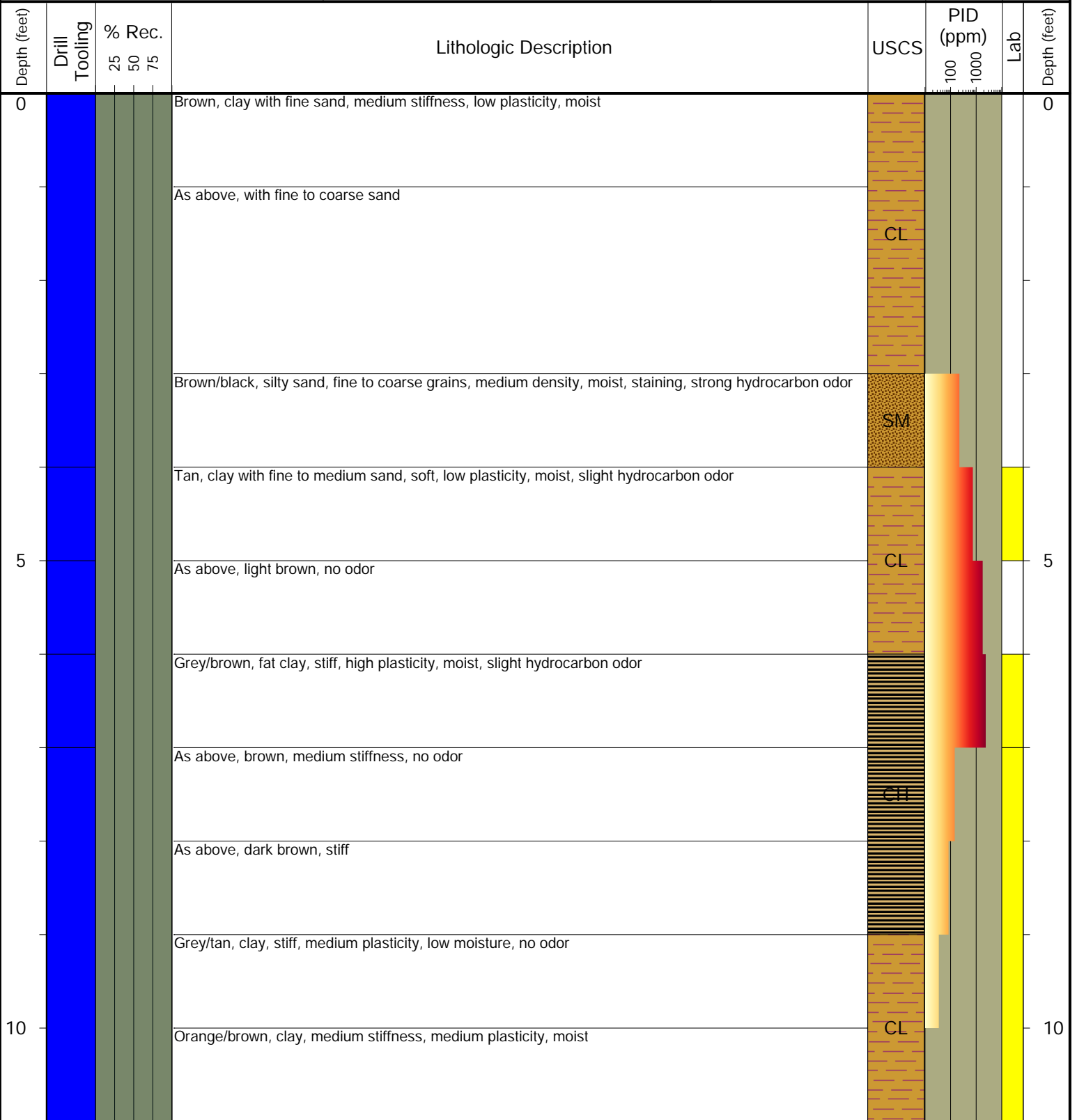
6855 W. 119th Avenue  
Broomfield, Colorado 80020

CLIENT: Noble Energy Inc  
 LOGGED BY: Tanner Cook  
 PROJECT MANAGER: Brandon Bruns  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Hand Auger  
 DRILL BIT SIZE (INCHES): 3.25  
 DATE STARTED - COMPLETED: 9/29/2020  
 TOTAL WELL DEPTH (FT. BGS): 11  
 DEPTH WATER ENCOUNTERED (FT. BGS): NA

Munds 13-29, Dickerson 14-29A

BORING ID: BH15

LOCATION: Weld County, CO  
 LATITUDE (WGS 84): 40.276444  
 LONGITUDE (WGS 84): -104.689858  
 GROUND ELEVATION (FT. AMSL): Not Measured  
 ABANDONMENT METHOD: Native Soil



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

# **ATTACHMENT B**

## **SOIL LABORATORY ANALYTICAL DATA REPORT**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 06, 2020

Brandon Bruns

Tasman Geosciences

6855 W. 119th Ave.

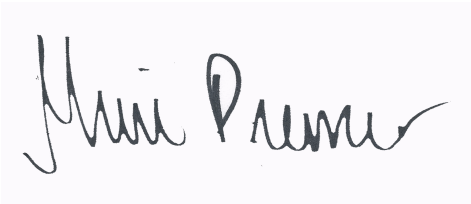
Broomfield, CO 80020

RE: Noble - Munds 13-29, Dickerson 14-29A

Work Order #2009348

Enclosed are the results of analyses for samples received by Summit Scientific on 09/29/20 18:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury  
President



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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

### ANALYTICAL REPORT FOR SAMPLES

| Sample ID   | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-------------|---------------|--------|----------------|----------------|
| BH09@3-4'   | 2009348-01    | Soil   | 09/29/20 14:00 | 09/29/20 18:15 |
| BH09@8-9'   | 2009348-02    | Soil   | 09/29/20 14:05 | 09/29/20 18:15 |
| BH09@9-10'  | 2009348-03    | Soil   | 09/29/20 14:10 | 09/29/20 18:15 |
| BH11@2-3'   | 2009348-04    | Soil   | 09/29/20 14:30 | 09/29/20 18:15 |
| BH11@8-9'   | 2009348-05    | Soil   | 09/29/20 14:35 | 09/29/20 18:15 |
| BH11@9-10'  | 2009348-06    | Soil   | 09/29/20 14:40 | 09/29/20 18:15 |
| BH12@5-6'   | 2009348-07    | Soil   | 09/29/20 10:00 | 09/29/20 18:15 |
| BH12@10-11' | 2009348-08    | Soil   | 09/29/20 10:05 | 09/29/20 18:15 |
| BH13@4-5'   | 2009348-09    | Soil   | 09/29/20 10:30 | 09/29/20 18:15 |
| BH13@10-11' | 2009348-10    | Soil   | 09/29/20 10:35 | 09/29/20 18:15 |
| BH14@5-6'   | 2009348-11    | Soil   | 09/29/20 11:00 | 09/29/20 18:15 |
| BH14@10-11' | 2009348-12    | Soil   | 09/29/20 11:05 | 09/29/20 18:15 |
| BH15@4-5'   | 2009348-13    | Soil   | 09/29/20 11:30 | 09/29/20 18:15 |
| BH15@6-7'   | 2009348-14    | Soil   | 09/29/20 11:35 | 09/29/20 18:15 |
| BH15@9-11'  | 2009348-15    | Soil   | 09/29/20 11:40 | 09/29/20 18:15 |

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

S<sub>2</sub>

2009348.1

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

Page 1 of 2

Client: Noble / Tasman Project Manager: Brandon Bruns / Invoice: Jacob Evans  
 Address: 6855 W 119th Ave E-Mail: BBruns@tasman-geo.com  
 City/State/Zip: Broomfield, CO 80020  
 Phone: 303-487-1228 Project Name: Munds 13-29, Dickerson 14-29A  
 Sampler Name: Tanner Cook 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              | 8260S GTEEM | 8015 DLO |  |                      |  |  |
| 1  | BH09 @ 3-4'        | 9/29/20      | 1400         | 1               |              |      | X    |       |        | X    |                |                    | X           | X        |  |                      |  |  |
| 2  | BH09 @ 8-9'        |              | 1405         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 3  | BH09 @ 9-10'       |              | 1410         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 4  | BH11 @ 2-3'        |              | 1430         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 5  | BH11 @ 8-9'        |              | 1435         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 6  | BH11 @ 9-10'       |              | 1440         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 7  | BH12 @ 5-6'        |              | 1000         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 8  | BH12 @ 10-11'      |              | 1005         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 9  | BH13 @ 4-5'        |              | 1030         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |
| 10 | BH13 @ 10-11'      |              | 1035         |                 |              |      |      |       |        |      |                |                    |             |          |  |                      |  |  |

|                                     |                                |                                 |                                  |   |   |
|-------------------------------------|--------------------------------|---------------------------------|----------------------------------|---|---|
| Relinquished by: <u>Tanner Cook</u> | Date/Time: <u>9/29/20 1815</u> | Received by: <u>[Signature]</u> | Date/Time: <u>9-29-2020 1815</u> | Turn Around Time (Check)  | Notes:  |
| Relinquished by:                    | Date/Time:                     | Received by:                    | Date/Time:                       | Same Day <input type="checkbox"/>   | 72 hours <input type="checkbox"/><br>Standard <input checked="" type="checkbox"/> |
| Relinquished by:                    | Date/Time:                     | Received by:                    | Date/Time:                       | 24 hours <input type="checkbox"/>   |   |
| Relinquished by:                    | Date/Time:                     | Received by:                    | Date/Time:                       | 48 hours <input type="checkbox"/>   |   |
|                                     |                                |                                 |                                  | Sample Integrity:   |   |
|                                     |                                |                                 |                                  | Temperature Upon Receipt: <u>18.2°</u>  |   |
|                                     |                                |                                 |                                  | Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |   |

# Summit Scientific

S<sub>2</sub>

2009348.2

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

Client: Noble / Tasman Project Manager: Brandon Bruns / Invoice: Jacob Eears  
 Address: 6855 W. 119th Ave E-Mail: BBruns@tasman-geo.com  
 City/State/Zip: Broomfield CO 80020  
 Phone: 303-487-1228 Project Name: Munds 13-29, Dickerson 14-29A  
 Sampler Name: Tanner Cook 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              | 8405 GBTEXN | 8015 DRO |  |  |  |                      |  |  |
| 1  | BH4 @ 5-6'         | 9/29/20      | 1100         | 1               |              |      | X    |       |        | X    |                |                    | X           | X        |  |  |  |                      |  |  |
| 2  | BH4 @ 10-11'       | ↓            | 1105         | ↓               |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 3  | BH5 @ 4-5'         | ↓            | 1130         | ↓               |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 4  | BH5 @ 6-7'         | ↓            | 1135         | ↓               |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 5  | BH5 @ 9-11'        | ↓            | 1140         | ↓               |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 6  |                    |              |              |                 |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 7  |                    |              |              |                 |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 8  |                    |              |              |                 |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 9  |                    |              |              |                 |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |
| 10 |                    |              |              |                 |              |      |      |       |        |      |                |                    |             |          |  |  |  |                      |  |  |

|                                     |                                |                                 |                                  |   |  |
|-------------------------------------|--------------------------------|---------------------------------|----------------------------------|---|--|
| Relinquished by: <u>Tanner Cook</u> | Date/Time: <u>9/29/20 1815</u> | Received by: <u>[Signature]</u> | Date/Time: <u>9-29-2020 1815</u> | Turn Around Time (Check)  | Notes:                                       |
| Relinquished by:                    | Date/Time:                     | Received by:                    | Date/Time:                       | Same Day _____ 72 hours   | Standard <input checked="" type="checkbox"/> |
| Relinquished by:                    | Date/Time:                     | Received by:                    | Date/Time:                       | 24 hours _____  |  |
| Relinquished by:                    | Date/Time:                     | Received by:                    | Date/Time:                       | 48 hours _____  |  |
|                                     |                                |                                 |                                  | Sample Integrity: <u>18.2°</u>  |  |
|                                     |                                |                                 |                                  | Temperature Upon Receipt: <u>18.2°</u>  |  |
|                                     |                                |                                 |                                  | Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |

Sample Receipt Checklist

S2 Work Order 2009348

Client: Noble/Tasman Client Project ID: Munds 13-29, Dickerson 14-29A

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

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

Temp (°C) 18-2

Thermometer ID: 61857155-K

|   | Yes                                 | No                       | N/A                                 | Comments (if any) |
|---|-------------------------------------|--------------------------|-------------------------------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ?<br>NOTE: If samples are delivered the same day of sampling, this requirement is met provided that 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 <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Was adequate sample volume provided <sup>(1)</sup> ?  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| If custody seals are present, are they intact <sup>(1)</sup> ?  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                   |
| Are samples with holding times due within 48 hours sample due within 48 hours present?  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                   |
| Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                   |
| Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?<br>Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                   |
| If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?<br>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):

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

AT  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

9-29-2020  
Date/Time



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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/06/20 17:15

**BH09@3-4'**  
**2009348-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 14:00**

| Analyte                     | Result        | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                             |               | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.0031</b> | 0.0020    |  | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND            | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.011</b>  | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND            | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50        |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 14:00**

| Analyte                          | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     |  |        |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 101 %     |  | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.2 %    |  | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 105 %     |  | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 14:00**

| Analyte       | Result | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     |  |       |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        |  | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 14:00**

| Analyte                | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                        |        | Limit     |  |        |          |       |          |          |        |       |
| Surrogate: o-Terphenyl |        | 105 %     |  | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

**BH09@8-9'**  
**2009348-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 14:05**

| Analyte                     | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |        | Limit     | Units |          |         |          |          |           |       |
| Benzene                     | ND     | 0.0020    | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 14:05**

| Analyte                          | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 102 %     | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 96.5 %    | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 99.7 %    | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 14:05**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 14:05**

| Analyte                | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                        |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: o-Terphenyl |        | 95.5 %    | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/06/20 17:15

**BH09@9-10'**  
**2009348-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 14:10**

| Analyte                     | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |        | Limit     | Units |          |         |          |          |           |       |
| Benzene                     | ND     | 0.0020    | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 14:10**

| Analyte                          | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 103 %     | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.2 %    | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 101 %     | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 14:10**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 14:10**

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

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

**BH11@2-3'**  
**2009348-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 14:30**

| Analyte                     | Result        | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                             |               | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.0066</b> | 0.0020    |  | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>         | <b>0.047</b>  | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.29</b>   | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND            | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50        |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 14:30**

| Analyte                                 | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 97.9 %    |  | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 101 %     |  | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 131 %     |  | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 14:30**

| Analyte       | Result | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     |  |       |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        |  | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 14:30**

| Analyte                       | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                               |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: o-Terphenyl</i> |        | 90.7 %    |  | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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



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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

**BH11@8-9'**  
**2009348-05 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 14:35**

| Analyte                     | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |        | Limit     | Units |          |         |          |          |           |       |
| Benzene                     | ND     | 0.0020    | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 14:35**

| Analyte                          | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 102 %     | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 98.0 %    | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 99.8 %    | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 14:35**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 14:35**

| Analyte                | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                        |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: o-Terphenyl |        | 95.7 %    | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/06/20 17:15

**BH11@9-10'**  
**2009348-06 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 14:40**

| Analyte                     | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |        | Limit     | Units |          |         |          |          |           |       |
| Benzene                     | ND     | 0.0020    | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 14:40**

| Analyte                          | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 102 %     | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.4 %    | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 98.3 %    | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 14:40**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 14:40**

| Analyte                | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                        |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: o-Terphenyl |        | 96.3 %    | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
10/06/20 17:15

**BH12@5-6'**  
**2009348-07 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 10:00**

| Analyte                     | Result        | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Benzene</b>              | <b>0.0088</b> | 0.0020          | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>         | <b>0.33</b>   | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>1.8</b>    | 0.010           | "     | "        | "       | "        | "        | "         |       |
| <b>Naphthalene</b>          | <b>0.015</b>  | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 10:00**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 105 %           | 23-173 | "        | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 103 %           | 20-170 | "        | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 122 %           | 21-167 | "        | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 10:00**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 10:00**

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

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

**BH12@10-11'**  
**2009348-08 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 10:05**

| Analyte                     | Result        | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Benzene</b>              | <b>0.0036</b> | 0.0020          | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>         | <b>0.0055</b> | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.062</b>  | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND            | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 10:05**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 102 %           | 23-173 | "        | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.8 %          | 20-170 | "        | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 102 %           | 21-167 | "        | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 10:05**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 10:05**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 92.1 %          | 30-150 | "        | "     | "        | "        | "      |       |

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

**BH13@4-5'**  
**2009348-09 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 10:30**

| Analyte                     | Result        | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |               | Limit     | Units |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.0032</b> | 0.0020    | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND            | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.010</b>  | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND            | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 10:30**

| Analyte                          | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 99.6 %    | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.2 %    | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 101 %     | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 10:30**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 10:30**

| Analyte                | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                        |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: o-Terphenyl |        | 90.4 %    | 30-150 |          | "     | "        | "        | "      |       |

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/06/20 17:15

**BH13@10-11'**  
**2009348-10 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 10:35**

| Analyte                     | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|                             |        | Limit     | Units |          |         |          |          |           |       |
| Benzene                     | ND     | 0.0020    | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050    | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.010     | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 50        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 10:35**

| Analyte                          | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 98.2 %    | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 97.6 %    | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 101 %     | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 10:35**

| Analyte       | Result | Reporting |       | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     | Units |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 10:35**

| Analyte                | Result | Reporting |        | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
|                        |        | Limit     | Units  |          |       |          |          |        |       |
| Surrogate: o-Terphenyl |        | 88.6 %    | 30-150 |          | "     | "        | "        | "      |       |

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
10/06/20 17:15

**BH14@5-6'**  
**2009348-11 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 11:00**

| Analyte                     | Result        | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Benzene</b>              | <b>0.0071</b> | 0.0020          | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>         | <b>0.17</b>   | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.85</b>   | 0.010           | "     | "        | "       | "        | "        | "         |       |
| <b>Naphthalene</b>          | <b>0.015</b>  | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 11:00**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 97.6 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 100 %           | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 126 %           | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 11:00**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 11:00**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 85.7 %          | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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



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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

**BH14@10-11'**  
**2009348-12 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 11:05**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene                     | ND     | 0.0020          | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 11:05**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 104 %           | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 98.3 %          | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 101 %           | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 11:05**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 11:05**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 89.1 %          | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/06/20 17:15

**BH15@4-5'**  
**2009348-13 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 11:30**

| Analyte                     | Result        | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                             |               | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.0031</b> | 0.0020    |  | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND            | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.017</b>  | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND            | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50        |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 11:30**

| Analyte                                 | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 104 %     |  | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 99.9 %    |  | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 108 %     |  | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 11:30**

| Analyte       | Result | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     |  |       |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        |  | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 11:30**

| Analyte                       | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                               |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: o-Terphenyl</i> |        | 94.3 %    |  | 30-150 |          | "     | "        | "        | "      |       |

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
10/06/20 17:15

**BH15@6-7'**  
**2009348-14 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 11:35**

| Analyte                     | Result        | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Benzene</b>              | <b>0.0095</b> | 0.0020          | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>         | <b>0.42</b>   | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>1.5</b>    | 0.010           | "     | "        | "       | "        | "        | "         |       |
| <b>Naphthalene</b>          | <b>0.022</b>  | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 11:35**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 109 %           | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 104 %           | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 128 %           | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 11:35**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 11:35**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 90.4 %          | 30-150 |          | "     | "        | "        | "      |       |

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

**BH15@9-11'**  
**2009348-15 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/29/20 11:40**

| Analyte                     | Result        | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                             |               | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>              | <b>0.0031</b> | 0.0020    |  | mg/kg | 1        | 2010923 | 10/01/20 | 10/02/20 | EPA 8260B |       |
| Toluene                     | ND            | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND            | 0.0050    |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b>      | <b>0.014</b>  | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND            | 0.010     |  | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 50        |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **09/29/20 11:40**

| Analyte                                 | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 101 %     |  | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 98.2 %    |  | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 98.2 %    |  | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/29/20 11:40**

| Analyte       | Result | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|               |        | Limit     |  |       |          |         |          |          |           |       |
| C10-C28 (DRO) | ND     | 50        |  | mg/kg | 1        | 2009337 | 10/01/20 | 10/02/20 | EPA 8015M |       |

Date Sampled: **09/29/20 11:40**

| Analyte                       | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                               |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: o-Terphenyl</i> |        | 92.0 %    |  | 30-150 |          | "     | "        | "        | "      |       |

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
10/06/20 17:15

### 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 2010923 - EPA 5030 Soil MS

##### Blank (2010923-BLK1)

Prepared & Analyzed: 10/01/20

|                                  |        |        |       |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene                          | ND     | 0.0020 | mg/kg |        |  |      |        |  |  |  |
| Toluene                          | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| Ethylbenzene                     | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| Xylenes (total)                  | ND     | 0.010  | "     |        |  |      |        |  |  |  |
| Naphthalene                      | ND     | 0.010  | "     |        |  |      |        |  |  |  |
| Gasoline Range Hydrocarbons      | ND     | 50     | "     |        |  |      |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0398 |        | "     | 0.0400 |  | 99.4 | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0392 |        | "     | 0.0400 |  | 97.9 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0406 |        | "     | 0.0400 |  | 101  | 21-167 |  |  |  |

##### LCS (2010923-BS1)

Prepared & Analyzed: 10/01/20

|                                  |        |        |       |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene                          | 0.0790 | 0.0020 | mg/kg | 0.100  |  | 79.0 | 70-130 |  |  |  |
| Toluene                          | 0.0962 | 0.0050 | "     | 0.100  |  | 96.2 | 70-130 |  |  |  |
| Ethylbenzene                     | 0.119  | 0.0050 | "     | 0.100  |  | 119  | 70-130 |  |  |  |
| m,p-Xylene                       | 0.241  | 0.010  | "     | 0.200  |  | 120  | 70-130 |  |  |  |
| o-Xylene                         | 0.120  | 0.0050 | "     | 0.100  |  | 120  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0404 |        | "     | 0.0400 |  | 101  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0400 |        | "     | 0.0400 |  | 99.9 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0399 |        | "     | 0.0400 |  | 99.7 | 21-167 |  |  |  |

##### Matrix Spike (2010923-MS1)

Source: 2009342-01

Prepared & Analyzed: 10/01/20

|                                  |        |        |       |        |         |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|---------|------|--------|--|--|--|
| Benzene                          | 0.0795 | 0.0020 | mg/kg | 0.100  | ND      | 79.5 | 70-130 |  |  |  |
| Toluene                          | 0.0990 | 0.0050 | "     | 0.100  | ND      | 99.0 | 70-130 |  |  |  |
| Ethylbenzene                     | 0.122  | 0.0050 | "     | 0.100  | ND      | 122  | 70-130 |  |  |  |
| m,p-Xylene                       | 0.248  | 0.010  | "     | 0.200  | 0.00501 | 122  | 70-130 |  |  |  |
| o-Xylene                         | 0.123  | 0.0050 | "     | 0.100  | ND      | 123  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0404 |        | "     | 0.0400 |         | 101  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0398 |        | "     | 0.0400 |         | 99.6 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0404 |        | "     | 0.0400 |         | 101  | 21-167 |  |  |  |

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
10/06/20 17:15

**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 2010923 - EPA 5030 Soil MS**

**Matrix Spike Dup (2010923-MSD1)**

Source: 2009342-01

Prepared & Analyzed: 10/01/20

|                                  |        |        |       |        |         |      |        |       |    |
|----------------------------------|--------|--------|-------|--------|---------|------|--------|-------|----|
| Benzene                          | 0.0783 | 0.0020 | mg/kg | 0.100  | ND      | 78.3 | 70-130 | 1.44  | 30 |
| Toluene                          | 0.0970 | 0.0050 | "     | 0.100  | ND      | 97.0 | 70-130 | 2.05  | 30 |
| Ethylbenzene                     | 0.121  | 0.0050 | "     | 0.100  | ND      | 121  | 70-130 | 0.494 | 30 |
| m,p-Xylene                       | 0.247  | 0.010  | "     | 0.200  | 0.00501 | 121  | 70-130 | 0.533 | 30 |
| o-Xylene                         | 0.123  | 0.0050 | "     | 0.100  | ND      | 123  | 70-130 | 0.269 | 30 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0410 |        | "     | 0.0400 |         | 103  | 23-173 |       |    |
| Surrogate: Toluene-d8            | 0.0398 |        | "     | 0.0400 |         | 99.5 | 20-170 |       |    |
| Surrogate: 4-Bromofluorobenzene  | 0.0405 |        | "     | 0.0400 |         | 101  | 21-167 |       |    |

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
10/06/20 17:15

**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 2009337 - EPA 3550A**

**Blank (2009337-BLK1)**

Prepared: 10/01/20 Analyzed: 10/02/20

C10-C28 (DRO) ND 50 mg/kg

**LCS (2009337-BS1)**

Prepared: 10/01/20 Analyzed: 10/02/20

C10-C28 (DRO) 528 50 mg/kg 500 106 70-130

**Matrix Spike (2009337-MS1)**

**Source: 2009342-01**

Prepared: 10/01/20 Analyzed: 10/02/20

C10-C28 (DRO) 474 50 mg/kg 500 21.5 90.6 70-130

**Matrix Spike Dup (2009337-MSD1)**

**Source: 2009342-01**

Prepared: 10/01/20 Analyzed: 10/02/20

C10-C28 (DRO) 489 50 mg/kg 500 21.5 93.6 70-130 3.10 20

Summit Scientific

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

Project: Noble - Munds 13-29, Dickerson 14-29A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/06/20 17:15

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference