

# FOURTH QUARTER 2019 SITE MONITORING DATA

## UPRC 33-4F, 5F, HUNT FEDERAL K 33-19

COGCC SPILL TRACKING # 464229  
COGCC REMEDIATION # 13785

Prepared for:



2115 117th Avenue  
Greeley, CO 80631

Prepared by:



6855 West 119th Avenue  
Broomfield, Colorado, 80020

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - UPRC 33-4F, 5F, HUNT FEDERAL K 33-19**

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft.BTOC)	Depth to Water (ft.BGS) <sup>1</sup>	Depth to LNAPL (ft. BGS) <sup>1</sup>	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01	07/22/19	4761.40	13.77	1.56	ND	ND	4757.34
BH01	10/24/19	4761.40	13.66	2.06	ND	ND	4756.84
BH02	07/22/19	4762.85	14.50	1.90	ND	ND	4757.59
BH02	10/24/19	4762.85	14.39	2.40	ND	ND	4757.09
BH03	07/22/19	4761.87	14.02	1.54	ND	ND	4757.23
BH03	10/24/19	4761.87	13.95	2.09	ND	ND	4756.68
BH04	07/22/19	4758.25	10.70	1.57	ND	ND	4756.97
BH04	10/24/19	4758.25	10.43	2.08	ND	ND	4756.46
BH05	07/22/19	4761.67	13.55	1.60	ND	ND	4757.39
BH05	10/24/19	4761.67	13.46	2.02	ND	ND	4756.97
BH06	07/22/19	4761.54	12.65	1.79	ND	ND	4757.61
BH06	10/24/19	4761.54	8.71	2.20	ND	ND	4757.20
BH07	07/22/19	4762.40	13.94	1.69	ND	ND	4757.40
BH07	10/24/19	4762.40	13.77	2.03	ND	ND	4757.06
BH08	07/22/19	4757.80	11.12	0.94	ND	ND	4757.20
BH08	10/24/19	4757.80	11.71	2.27	ND	ND	4755.87

**Notes:**

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

ND = No LNAPL detected

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

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

LNAPL relative density was estimated to be approximately 0.75

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

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - UPRC 33-4F, 5F, HUNT FEDERAL K 33-19**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>COGCC Standard</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>
GW01	04/18/19	<b>410</b>	340	68	<b>1,500</b>
GW02	07/02/19	<b>17</b>	<1.0	35	200
BH01	07/22/19	<1.0	<1.0	<1.0	<2.0
BH01	10/24/19	<1.0	<1.0	<1.0	<2.0
BH02	07/22/19	<1.0	<1.0	<1.0	<2.0
BH02	10/24/19	<1.0	<1.0	<1.0	<2.0
BH03	07/22/19	<1.0	<1.0	<1.0	<2.0
BH03	10/24/19	<1.0	<1.0	<1.0	<2.0
BH04	07/22/19	<1.0	<1.0	<1.0	<2.0
BH04	10/24/19	<1.0	<1.0	<1.0	<2.0
BH05	07/22/19	<1.0	<1.0	<1.0	<2.0
BH05	10/24/19	<b>10</b>	<1.0	5.6	28
BH06	07/22/19	<1.0	<1.0	<1.0	<2.0
BH06	10/24/19	<1.0	<1.0	<1.0	<2.0
BH07	07/22/19	<1.0	<1.0	<1.0	<2.0
BH07	10/24/19	<1.0	<1.0	<1.0	<2.0
BH08	07/22/19	<1.0	<1.0	<1.0	<2.0
BH08	10/24/19	<1.0	<1.0	<1.0	<2.0

**Notes:**

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

Groundwater standards referenced from COGCC Table 910-1

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

**TABLE 3**  
**SOIL ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - UPRC 33-4F, 5F, HUNT FEDERAL K 33-19**

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>	
SS11@3' <sup>1</sup>	07/02/19	<0.0020	<0.0050	0.28	2.6	0.19	<b>660</b>	<b>110</b>
SS13@4'	08/29/19	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50	<50
SS14@4'	08/29/19	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50	<50
SS15@4'	08/29/19	<0.0020	<0.0050	<0.0050	<0.010	<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

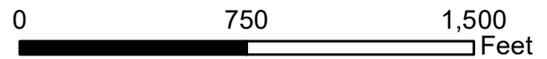
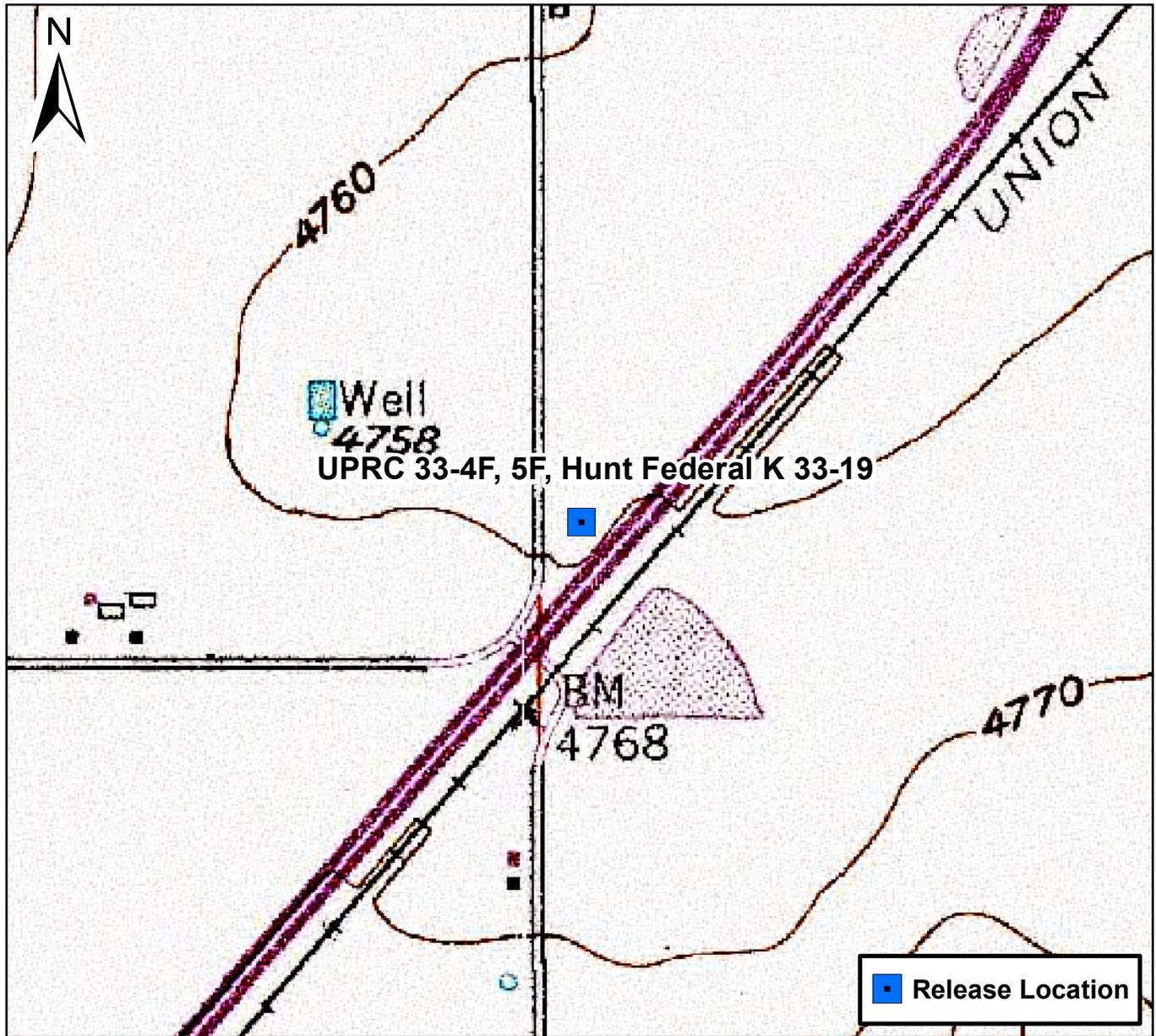
< = Analytical result is less than the indicated laboratory reporting limit

1. The laboratory assigned an S-02 flag to this sample, meaning the surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

2. All activities associated with the Site Assessment at this facility were reporting in the July 31, 2019 *Site Assessment Report* (Document # 402144032) submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on August 14, 2019. Soil sample SS11@3' is included in the Site Assessment Report and was the only soil sample in the assessment that exceeded COGCC soil standards. The results for this single sample are reproduced in this report as a reference point for the additional soil samples reported here

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

3. Soil samples were not collected from the BH01 location because BH01 is located in excavation backfill.



### Figure 1

Site Location Map  
 UPRC 33-4F, 5F, Hunt Federal K 33-19  
 SWNW S33 T4N R66W  
 Weld County, Colorado





DATE:	01/08/2020
DESIGNED BY:	JW
DRAWN BY:	KC



**TASMAN**  
GEOSCIENCES

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

**Noble Energy, Inc. – DJ Basin**  
**UPRC 33-4F, 5F, Hunt Federal K 33-19**  
 SWNW, Section 33, Township 4 North, Range 66 West  
 Weld County, Colorado

Site Overview Map

FIGURE  
2



**Legend**

- Excavation Extents - 2019 (Collected via Trimble GPS)
- + + + + Fence (Collected via Trimble GPS)
- ⊕ Monitoring Well (Collected via Trimble GPS)
- Excavation Extent (Collected via Trimble GPS)
- · - Noble Dump Line (Collected via Trimble GPS)
- - - Noble Flowline (Collected via Trimble GPS)
- · - DCP Line (Collected via Trimble GPS)
- X Release Location
- Groundwater Elevation Contour (Dashed Where Inferred)
- 4818.39 Measured Groundwater Elevation—ft. amsl
- ➔ Approximate Groundwater Flow Direction

**Notes:**

- 1) All locations are approximate, unless otherwise noted.
- 2) Underground facilities are spatially projected.
- 3) Site infrastructure has been removed; shown for illustrative purposes only.

GPS – Global Positioning System  
Ft. amsl – Feet above mean sea level

0 ft. 20 ft. 40 ft.

Image Source: Google Earth 2018

DATE:	01/08/2020
DESIGNED BY:	JW
DRAWN BY:	KC

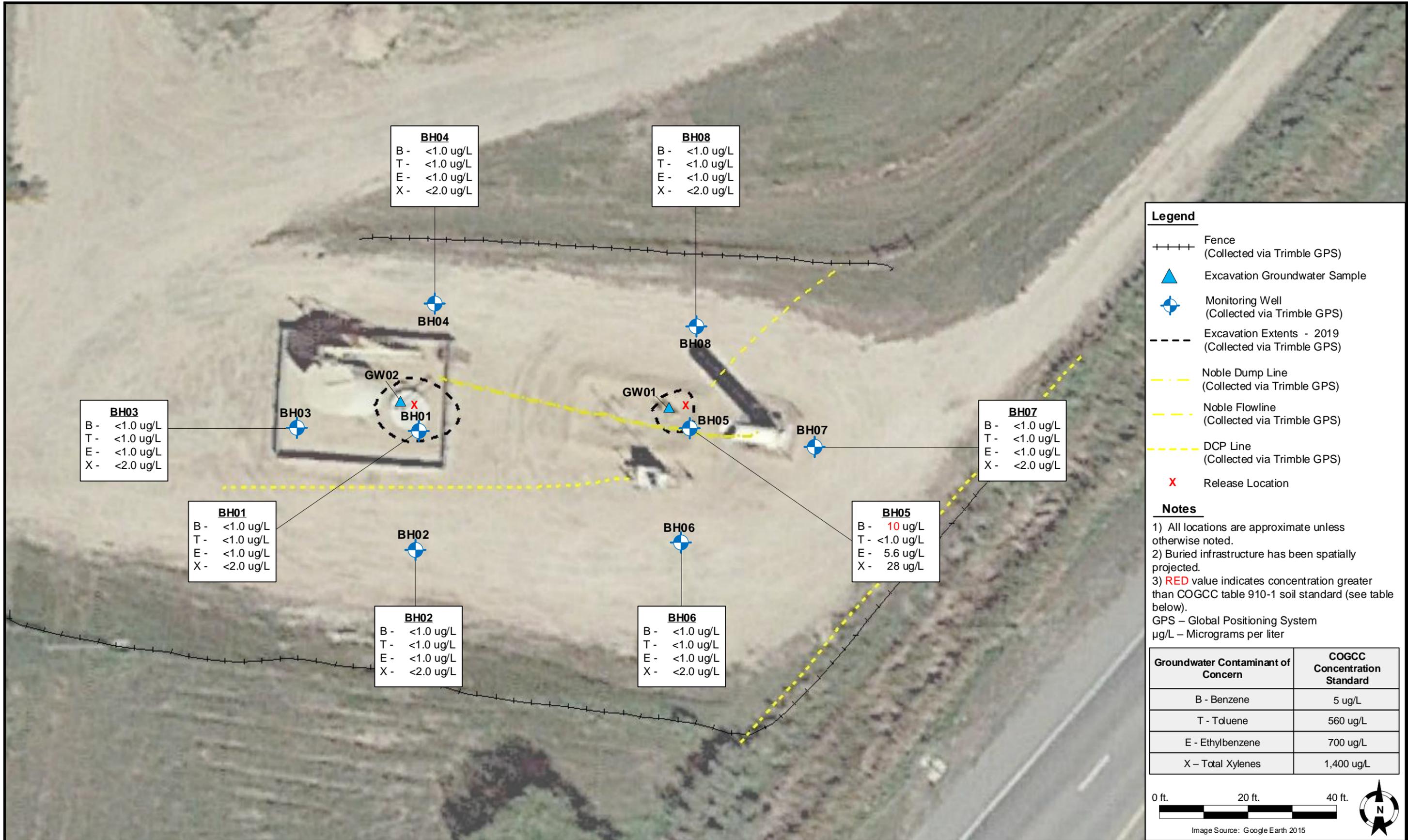


**TASMAN**  
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Tasman Geosciences, Inc.  
6899 Pecos Street – Unit C  
Denver, CO 80221

**Noble Energy, Inc. – DJ Basin**  
**UPRC 33-4F, 5F, Hunt Federal K 33-19**  
 SWNW, Section 33, Township 4 North, Range 66 West  
 Weld County, Colorado

Groundwater Potentiometric  
 Surface Contour Map  
 (10/24/2019)



**Legend**

- ++++ Fence (Collected via Trimble GPS)
- ▲ Excavation Groundwater Sample
- ⊕ Monitoring Well (Collected via Trimble GPS)
- Excavation Extents - 2019 (Collected via Trimble GPS)
- .-.- Noble Dump Line (Collected via Trimble GPS)
- .-.- Noble Flowline (Collected via Trimble GPS)
- .-.- DCP Line (Collected via Trimble GPS)
- X Release Location

**Notes**

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) RED value indicates concentration greater than COGCC table 910-1 soil standard (see table below).

GPS – Global Positioning System  
 µg/L – Micrograms per liter

Groundwater Contaminant of Concern	COGCC Concentration Standard
B - Benzene	5 µg/L
T - Toluene	560 µg/L
E - Ethylbenzene	700 µg/L
X – Total Xylenes	1,400 µg/L

0 ft. 20 ft. 40 ft.

Image Source: Google Earth 2015

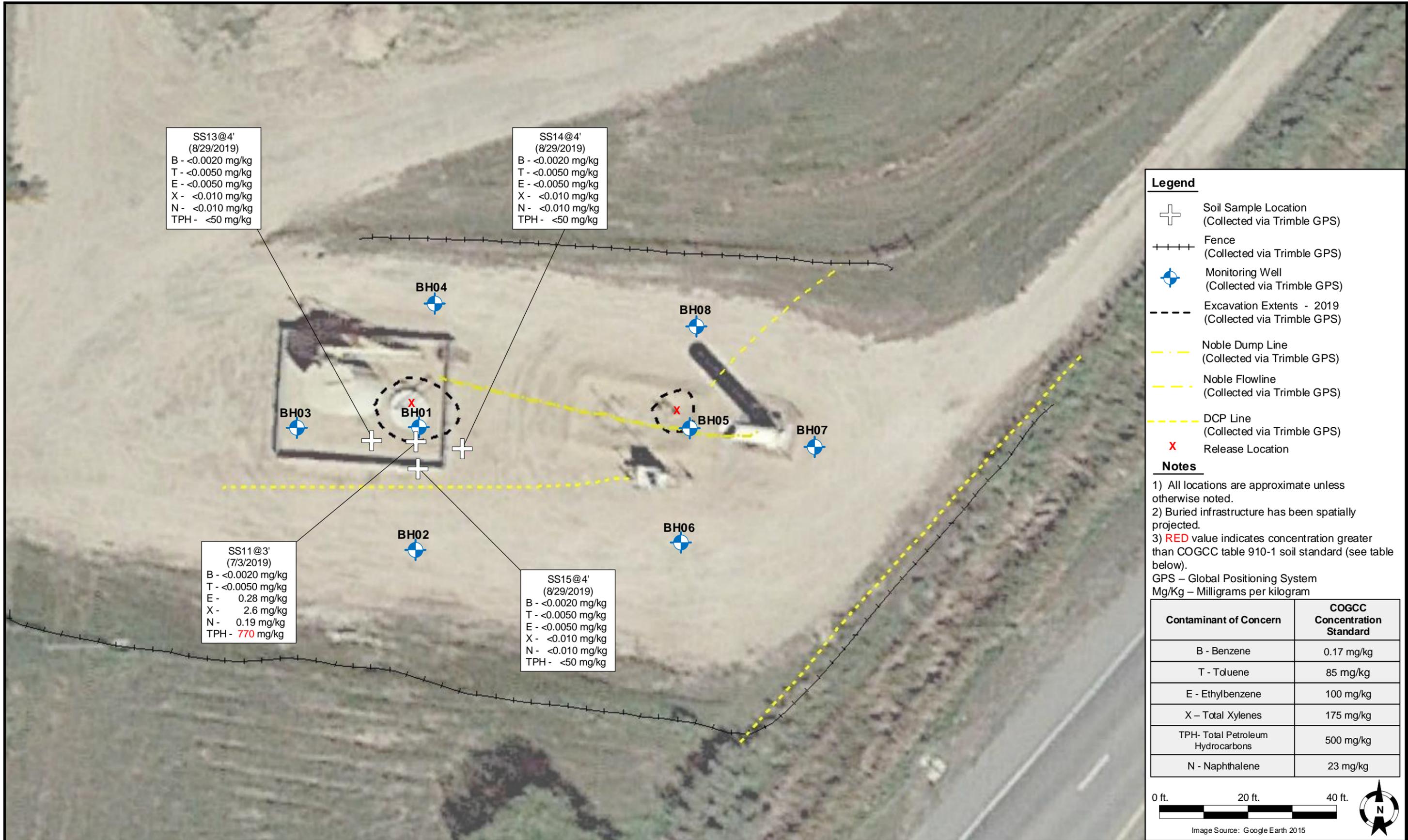
DATE: 01/08/2020  
 DESIGNED BY: JW  
 DRAWN BY: KC

**TASMAN GEOSCIENCES**  
 Tasman Geosciences, Inc.  
 6855 W 119<sup>th</sup> Ave.  
 Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin**  
**UPRC 33-4F, 5F, Hunt Federal K 33-19**  
 SWNW, Section 33, Township 4 North, Range 66 West  
 Weld County, Colorado

Groundwater Analytical  
 Results Map  
 (10/24/2019)

FIGURE  
 4



SS13@4'  
(8/29/2019)  
B - <0.0020 mg/kg  
T - <0.0050 mg/kg  
E - <0.0050 mg/kg  
X - <0.010 mg/kg  
N - <0.010 mg/kg  
TPH - <50 mg/kg

SS14@4'  
(8/29/2019)  
B - <0.0020 mg/kg  
T - <0.0050 mg/kg  
E - <0.0050 mg/kg  
X - <0.010 mg/kg  
N - <0.010 mg/kg  
TPH - <50 mg/kg

SS11@3'  
(7/3/2019)  
B - <0.0020 mg/kg  
T - <0.0050 mg/kg  
E - 0.28 mg/kg  
X - 2.6 mg/kg  
N - 0.19 mg/kg  
TPH - 770 mg/kg

SS15@4'  
(8/29/2019)  
B - <0.0020 mg/kg  
T - <0.0050 mg/kg  
E - <0.0050 mg/kg  
X - <0.010 mg/kg  
N - <0.010 mg/kg  
TPH - <50 mg/kg

**Legend**

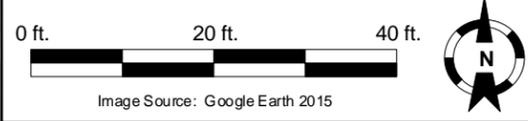
- Soil Sample Location (Collected via Trimble GPS)
- Fence (Collected via Trimble GPS)
- Monitoring Well (Collected via Trimble GPS)
- Excavation Extents - 2019 (Collected via Trimble GPS)
- Noble Dump Line (Collected via Trimble GPS)
- Noble Flowline (Collected via Trimble GPS)
- DCP Line (Collected via Trimble GPS)
- Release Location

**Notes**

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) **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
TPH- Total Petroleum Hydrocarbons	500 mg/kg
N - Naphthalene	23 mg/kg



DATE: 9/10/2019  
DESIGNED BY: JW  
DRAWN BY: KC

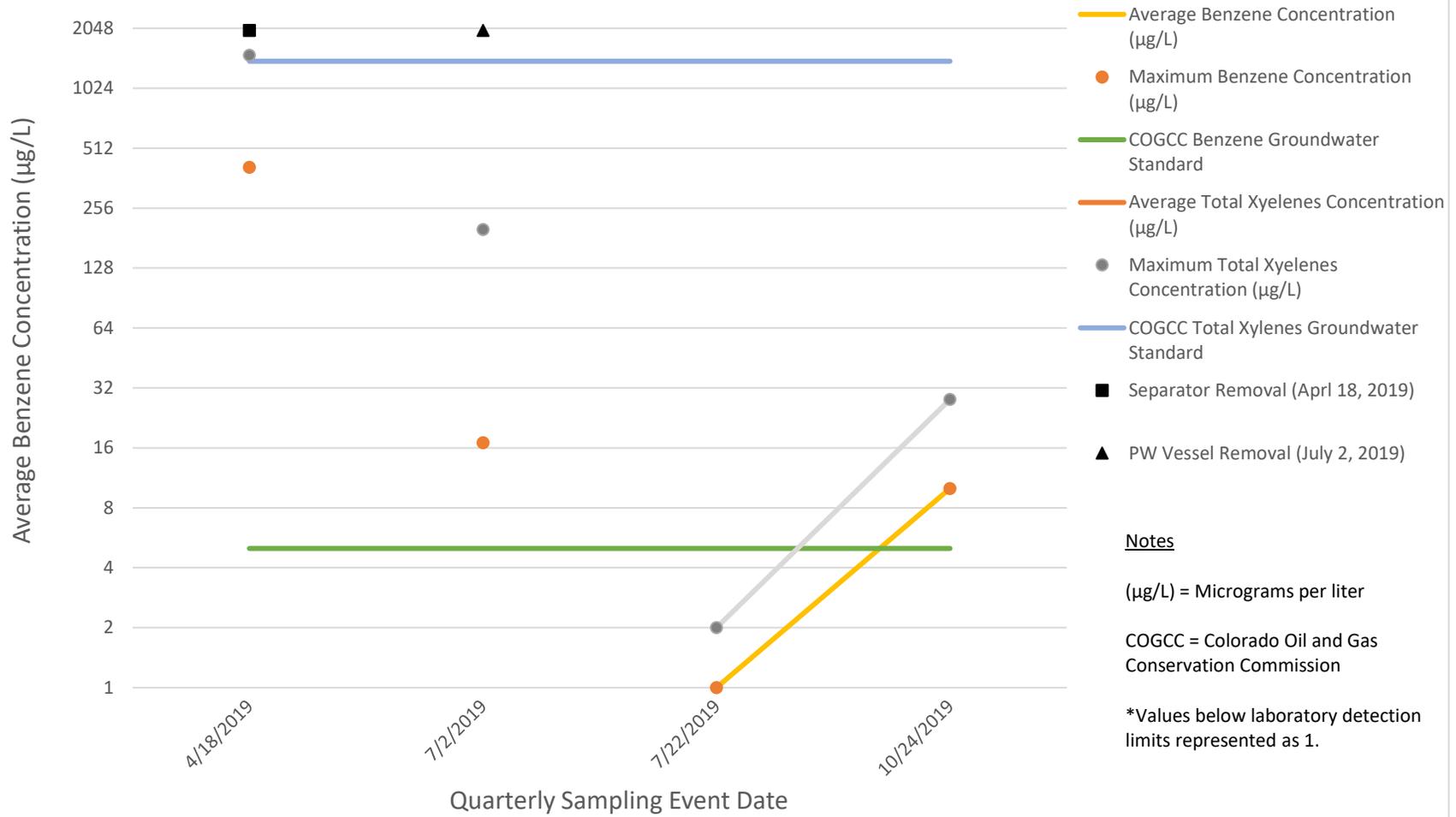
**TASMAN GEOSCIENCES**  
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6899 Pecos Street – Unit C  
Denver, CO 80221

**Noble Energy, Inc. – DJ Basin**  
**UPRC 33-4F, 5F, Hunt Federal K 33-19**  
SWNW, Section 33, Township 4 North, Range 66 West  
Weld County, Colorado

Soil Analytical Results

FIGURE 5

Figure 6  
 UPRC 33-4F, 5F, HUNT FEDERAL K 33-19  
 Average Concentration VS Quarterly Sampling Event Date



# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 01, 2019

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

RE: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Work Order # 1910310

Enclosed are the results of analyses for samples received by Summit Scientific on 10/24/19 17:30. 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 - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1910310-01	Water	10/24/19 10:12	10/24/19 17:30
BH02	1910310-02	Water	10/24/19 10:40	10/24/19 17:30
BH03	1910310-03	Water	10/24/19 10:32	10/24/19 17:30
BH04	1910310-04	Water	10/24/19 10:27	10/24/19 17:30
BH05	1910310-05	Water	10/24/19 10:46	10/24/19 17:30
BH06	1910310-06	Water	10/24/19 10:21	10/24/19 17:30
BH07	1910310-07	Water	10/24/19 10:13	10/24/19 17:30
BH08	1910310-08	Water	10/24/19 10:31	10/24/19 17:30

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.*



**Sample Receipt Checklist**

S2 Work Order 1910310

Client: Noble/Tasman Client Project ID: UPRC 33-4F, SF, Hunt Federal

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: K33-19

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

Temp (°C)	<u>3.2</u>
-----------	------------

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> ? 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"/>			
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>			<u>HCl</u>
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<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.

RE  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

10/24/19  
Date/Time 1800



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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH01**  
**1910310-01 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		135 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		125 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH02**  
**1910310-02 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		125 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH03**  
**1910310-03 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		124 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH04**  
**1910310-04 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		120 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH05**  
**1910310-05 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>10</b>	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>5.6</b>	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>28</b>	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		121 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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



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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH06**  
**1910310-06 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		137 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH07**  
**1910310-07 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		132 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

**BH08**  
**1910310-08 (Water)**

**Summit Scientific**

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

Date Sampled: **10/24/19 10:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1910421	10/29/19	10/31/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **10/24/19 10:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		124 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.5 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch 1910421 - EPA 5030 Water MS

##### Blank (1910421-BLK1)

Prepared: 10/29/19 Analyzed: 10/31/19

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.3		107		23-173			
Surrogate: Toluene-d8	14.1		"	13.3		106		20-170			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		103		21-167			

##### LCS (1910421-BS1)

Prepared: 10/29/19 Analyzed: 10/31/19

Benzene	26.9	1.0	ug/l	33.3		80.7		51-132			
Toluene	27.6	1.0	"	33.3		82.9		51-138			
Ethylbenzene	29.1	1.0	"	33.3		87.2		58-146			
m,p-Xylene	59.5	2.0	"	66.7		89.2		57-144			
o-Xylene	27.4	1.0	"	33.3		82.1		53-146			
Surrogate: 1,2-Dichloroethane-d4	15.3		"	13.3		115		23-173			
Surrogate: Toluene-d8	13.4		"	13.3		100		20-170			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106		21-167			

##### Matrix Spike (1910421-MS1)

Source: 1910310-01

Prepared: 10/29/19 Analyzed: 10/31/19

Benzene	28.0	1.0	ug/l	33.3	ND	84.0		34-141			
Toluene	28.3	1.0	"	33.3	ND	84.9		27-151			
Ethylbenzene	30.1	1.0	"	33.3	ND	90.3		29-160			
m,p-Xylene	59.2	2.0	"	66.7	ND	88.7		20-166			
o-Xylene	29.0	1.0	"	33.3	ND	87.0		33-159			
Surrogate: 1,2-Dichloroethane-d4	17.9		"	13.3		134		23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103		20-170			
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108		21-167			

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/01/19 11:17

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch 1910421 - EPA 5030 Water MS**

**Matrix Spike Dup (1910421-MSD1)**

Source: 1910310-01

Prepared: 10/29/19 Analyzed: 10/31/19

Benzene	27.9	1.0	ug/l	33.3	ND	83.8	34-141	0.286	30	
Toluene	28.2	1.0	"	33.3	ND	84.6	27-151	0.389	30	
Ethylbenzene	28.3	1.0	"	33.3	ND	84.9	29-160	6.20	30	
m,p-Xylene	57.1	2.0	"	66.7	ND	85.7	20-166	3.46	30	
o-Xylene	27.9	1.0	"	33.3	ND	83.8	33-159	3.76	30	
Surrogate: 1,2-Dichloroethane-d4	18.4		"	13.3		138	23-173			
Surrogate: Toluene-d8	14.2		"	13.3		107	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.4	21-167			

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/01/19 11:17

### Notes and Definitions

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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 04, 2019

Brandon Bruns

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Work Order # 1908376

Enclosed are the results of analyses for samples received by Summit Scientific on 08/29/19 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury

Laboratory Manager



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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/04/19 09:23

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS13@4'	1908376-01	Soil	08/29/19 12:30	08/29/19 17:30
SS14@4'	1908376-02	Soil	08/29/19 12:40	08/29/19 17:30
SS15@4'	1908376-03	Soil	08/29/19 12:50	08/29/19 17:30

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.*

1904376

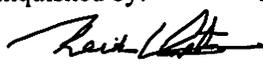
# Summit Scientific

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933 (f)

Client: Noble Enegry Project Manager: Brandon Bruns, Invoice: Jacob Evans  
Address: E-Mail: bbruns@tasman-geo.com  
City/State/Zip:  
Phone: Project Name: UPRC 33-4F, 5F, Hunt Federal K 33-19  
Sampler Name: Kevin Chritz 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	GBTEXN	TPH-DRO					
1	SS13@4'	8/29/2019	12:30	1			XX			XX				XX	XX				
2	SS14@4'	8/29/2019	12:40	1			XX			XX				XX	XX				
3	SS15@4'	8/29/2019	12:50	1			XX			XX				XX	XX				
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by:  Date/Time: 8/29/2019 14:51	Received by: Tasman Box Date/Time: 8/29/2019 14:51	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman Box Date/Time: 8/29/2019 17:30	Received by:  Date/Time: 8/29/19 17:30	Sample Integrity:	
Relinquished by:	Received by:	Temperature Upon Receipt: 4.9 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

**Sample Receipt Checklist**

S2 Work Order 1904376

Client: Woda Energy Client Project ID: UPRC 33-4F.SF. Hunt Federal

Shipped Via: H.D./P.D./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: K33-19

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

Temp (°C)	<u>4.9</u>
-----------	------------

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> ? 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"/>			
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<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.

PE  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

08/29/19  
Date/Time 1 005



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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
09/04/19 09:23

**SS13@4'**  
**1908376-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1908408	08/30/19	08/31/19	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: **08/29/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		91.0 %		23-173	"	"	"	"	
Surrogate: Toluene-d8		85.8 %		20-170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.4 %		21-167	"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1908409	08/30/19	08/31/19	EPA 8015M	

Date Sampled: **08/29/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		97.4 %		30-150	"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
09/04/19 09:23

**SS14@4'**  
**1908376-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/19 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1908408	08/30/19	08/31/19	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: **08/29/19 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		86.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/19 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1908409	08/30/19	08/31/19	EPA 8015M	

Date Sampled: **08/29/19 12:40**

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

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/04/19 09:23

**SS15@4'**  
**1908376-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/29/19 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1908408	08/30/19	08/31/19	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: **08/29/19 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		84.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/19 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1908409	08/30/19	08/31/19	EPA 8015M	

Date Sampled: **08/29/19 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		92.3 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
09/04/19 09:23

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch 1908408 - EPA 5030 Soil MS

##### Blank (1908408-BLK1)

Prepared: 08/30/19 Analyzed: 08/31/19

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	0.0400		"	0.0400		99.9	23-173				
Surrogate: Toluene-d8	0.0366		"	0.0400		91.5	20-170				
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	21-167				

##### LCS (1908408-BS1)

Prepared: 08/30/19 Analyzed: 08/31/19

Benzene	0.0823	0.0020	mg/kg	0.100		82.3	70-130				
Toluene	0.0854	0.0050	"	0.100		85.4	70-130				
Ethylbenzene	0.0812	0.0050	"	0.100		81.2	70-130				
m,p-Xylene	0.165	0.010	"	0.200		82.7	70-130				
o-Xylene	0.0822	0.0050	"	0.100		82.2	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0317		"	0.0400		79.2	23-173				
Surrogate: Toluene-d8	0.0416		"	0.0400		104	20-170				
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	21-167				

##### Matrix Spike (1908408-MS1)

Source: 1908340-02

Prepared: 08/30/19 Analyzed: 08/31/19

Benzene	0.0817	0.0020	mg/kg	0.100	ND	81.7	70-130				
Toluene	0.0871	0.0050	"	0.100	ND	87.1	70-130				
Ethylbenzene	0.0839	0.0050	"	0.100	ND	83.9	70-130				
m,p-Xylene	0.169	0.010	"	0.200	ND	84.6	70-130				
o-Xylene	0.0851	0.0050	"	0.100	ND	85.1	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0306		"	0.0400		76.6	23-173				
Surrogate: Toluene-d8	0.0406		"	0.0400		102	20-170				
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.7	21-167				

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/04/19 09:23

### 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 1908408 - EPA 5030 Soil MS

Matrix Spike Dup (1908408-MSD1)	Source: 1908340-02			Prepared: 08/30/19 Analyzed: 08/31/19						
Benzene	0.0821	0.0020	mg/kg	0.100	ND	82.1	70-130	0.513	30	
Toluene	0.0826	0.0050	"	0.100	ND	82.6	70-130	5.37	30	
Ethylbenzene	0.0776	0.0050	"	0.100	ND	77.6	70-130	7.76	30	
m,p-Xylene	0.162	0.010	"	0.200	ND	80.8	70-130	4.63	30	
o-Xylene	0.0818	0.0050	"	0.100	ND	81.8	70-130	3.96	30	
Surrogate: 1,2-Dichloroethane-d4	0.0303		"	0.0400		75.8	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	21-167			

Summit Scientific

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Broomfield CO, 80020

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
09/04/19 09:23

**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 1908409 - EPA 3550A**

**Blank (1908409-BLK1)**

Prepared: 08/30/19 Analyzed: 08/31/19

C10-C28 (DRO) ND 50 mg/kg

**LCS (1908409-BS1)**

Prepared: 08/30/19 Analyzed: 08/31/19

C10-C28 (DRO) 525 50 mg/kg 500 105 70-130

**Matrix Spike (1908409-MS1)**

**Source: 1908340-02**

Prepared: 08/30/19 Analyzed: 08/31/19

C10-C28 (DRO) 505 50 mg/kg 500 26.7 95.6 70-130

**Matrix Spike Dup (1908409-MSD1)**

**Source: 1908340-02**

Prepared: 08/30/19 Analyzed: 08/31/19

C10-C28 (DRO) 487 50 mg/kg 500 26.7 92.1 70-130 3.48 20

Summit Scientific

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

Project: Noble - UPRC 33-4F, 5F, Hunt Federal K33-19

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/04/19 09:23

### 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