



SS03@1'
 B - <0.0020 mg/kg
 T - <0.0050 mg/kg
 E - <0.0050 mg/kg
 X - <0.010 mg/kg
 N - 0.014 mg/kg
 TPH - <50 mg/kg

GW01
 B - 410 µg/L
 T - 340 µg/L
 E - 68 µg/L
 X - 1,500 µg/L

SS06@1'
 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 - 72 mg/kg

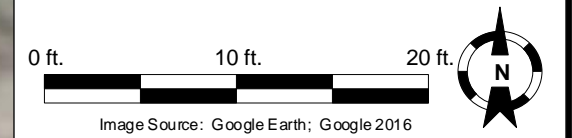
Legend

- Soil Sample Location
- DCP Line
(Collected via Trimble GPS)
- Noble Line
(Collected via Trimble GPS)
- Excavation Groundwater Sample

Notes

- 1) Site Coordinates: 40.269523, -104.791329
 - 2) All locations are approximate unless otherwise noted
 - 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
 mmhos/cm – Millimhos Per Centimeter
 µg/L – Micrograms per liter
 ND – Below laboratory detection limits

Soil 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
SAR – Sodium Absorption Ratio	<12
EC – Electrical Conductivity	<4mmhos/cm or 2x background
pH	6-9
Groundwater Contaminant of Concern	COGCC Concentration Standard
B - Benzene	5 ug/L
T - Toluene	560 ug/L
E - Ethylbenzene	700 ug/L
X – Total Xylenes	1,400 ug/L



DATE: 4/26/2019
 DESIGNED BY: JW
 DRAWN BY: MG

TASMAN GEOSCIENCES
 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 – Location ID: 328746
 SWNW, Section 33, Township 4 North, Range 66 West
 Weld County, Colorado

Soil and Groundwater Analytical
 Results Map
 (04/18/2019)

TABLE 1
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)
COGCC Standard		0.17	85	100	175	23	500	
SS03@1'	04/18/19	<0.0020	<0.0020	<0.0050	<0.010	0.014	<50	<50
SS04@1'	04/18/19	<0.0020	<0.0020	<0.0050	<0.010	<0.010	<50	<50
SS05@1'	04/18/19	<0.0020	<0.0020	<0.0050	<0.010	<0.010	<50	<50
SS06@1'	04/18/19	<0.0020	<0.0020	<0.0050	<0.010	<0.010	<50	72
SS07@1'	04/18/19	<0.0020	<0.0020	<0.0050	<0.010	<0.010	<50	<50
SS08@1'	04/18/19	<0.0020	<0.0020	<0.0050	<0.010	<0.010	<50	<50

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

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)
COGCC Standard		5	560	700	1,400
GW01	04/18/19	410	340	68	1,500

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 26, 2019

Brandon Bruns

Tasman Geosciences


6899 Pecos St, Unit C

Denver, CO 80221

RE: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Enclosed are the results of analyses for samples received by Summit Scientific on 04/18/19 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 Ben Shrewsbury

Laboratory Manager



Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS03@1'	1904272-01	Soil	04/18/19 13:47	04/18/19 17:30
SS04@1'	1904272-02	Soil	04/18/19 13:48	04/18/19 17:30
SS05@1'	1904272-03	Soil	04/18/19 14:00	04/18/19 17:30
SS06@1'	1904272-04	Soil	04/18/19 14:10	04/18/19 17:30
SS07@1'	1904272-05	Soil	04/18/19 14:15	04/18/19 17:30
SS08@1'	1904272-06	Soil	04/18/19 14:20	04/18/19 17:30
GW01	1904272-07	Water	04/18/19 14:25	04/18/19 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.

Summit Scientific

S₂


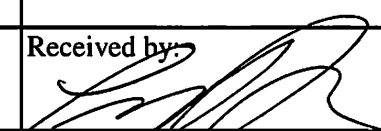
1904272

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

Page 1 of 1

Client: Noble / Tasman	Project Manager: Brandon Bruns, Invoice:
Address: 6899 Pecos Street	E-Mail: Bbruns@tasman-geo.com
City/State/Zip: Denver / CO/ 80221	
Phone: 979-255-4235	Project Name: <u>uPRC 33-45 SF, Hunt Federal K 33-19</u>
Sampler Name: Max Garza	Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	
1	SS03@1'	4/18/19	1347	1			X			X			X	X		
2	SS04@1'		1348	1												
3	SS05@1'		1400	1												
4	SS06@1'		1410	1												
5	SS07@1'		1415	1												
6	SS08@1'		1420	1												
7	GW01		1425	3					X				X			
8																
9																
10																

Relinquished by: 	Date/Time: 1600 4/18/19	Received by: Tasman's Lock Box	Date/Time: 1600 4/18/19	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>8.4</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 4-18-19 1730	Received by: 	Date/Time: 4-18-19 1730		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 1904272

Client: Noble/Tazman Client Project ID: UPRC 33-45 OF Hunt Federal
K33-19

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

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

Temp (°C)	8.4
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		✓		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any): 				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

CP
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

4.18.19 1835
Date/Time



Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Brun

Reported:
04/26/19 10:54

SS03@1'
1904272-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/19 13:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1904338	04/22/19	04/24/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	0.014	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/19 13:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/19 13:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1904340	04/22/19	04/25/19	EPA 8015M	

Date Sampled: **04/18/19 13:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		99.7 %	30-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

SS04@1'
1904272-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/19 13:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1904338	04/22/19	04/24/19	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: **04/18/19 13:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		202 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/19 13:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1904340	04/22/19	04/25/19	EPA 8015M	

Date Sampled: **04/18/19 13:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		107 %	30-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Brun

Reported:
04/26/19 10:54

SS05@1'
1904272-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/19 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1904338	04/22/19	04/24/19	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: **04/18/19 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/19 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1904340	04/22/19	04/25/19	EPA 8015M	

Date Sampled: **04/18/19 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		97.7 %	30-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

SS06@1'
1904272-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/19 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1904338	04/22/19	04/24/19	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: **04/18/19 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		263 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/19 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	72	50	mg/kg	1	1904340	04/22/19	04/25/19	EPA 8015M	

Date Sampled: **04/18/19 14:10**

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

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

SS07@1'
1904272-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/19 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1904338	04/22/19	04/24/19	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: **04/18/19 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/19 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1904340	04/22/19	04/25/19	EPA 8015M	

Date Sampled: **04/18/19 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Brun

Reported:
04/26/19 10:54

SS08@1'
1904272-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/19 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1904338	04/22/19	04/24/19	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: **04/18/19 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/19 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1904340	04/22/19	04/25/19	EPA 8015M	

Date Sampled: **04/18/19 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		101 %	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
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

GW01
1904272-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/19 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	410	100	ug/l	100	1904324	04/19/19	04/23/19	EPA 8260B	
Toluene	340	100	"	"	"	"	"	"	
Ethylbenzene	68	1.0	"	1	"	"	"	"	
Xylenes (total)	1500	200	"	100	"	"	"	"	

Date Sampled: **04/18/19 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	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
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1904324 - EPA 5030 Water MS

Blank (1904324-BLK1)

Prepared: 04/19/19 Analyzed: 04/22/19

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	13.1		"	13.3		98.4		20-170		
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.7		21-167		

LCS (1904324-BS1)

Prepared: 04/19/19 Analyzed: 04/22/19

Benzene	37.2	1.0	ug/l	33.3		112		70-130		
Toluene	36.0	1.0	"	33.3		108		70-130		
Ethylbenzene	35.2	1.0	"	33.3		105		70-130		
m,p-Xylene	66.5	2.0	"	66.7		99.8		70-130		
o-Xylene	33.3	1.0	"	33.3		99.8		70-130		
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.4		23-173		
Surrogate: Toluene-d8	13.8		"	13.3		104		20-170		
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2		21-167		

Matrix Spike (1904324-MS1)

Source: 1904269-02

Prepared: 04/19/19 Analyzed: 04/22/19

Benzene	40.4	1.0	ug/l	33.3	ND	121		70-130		
Toluene	39.5	1.0	"	33.3	ND	119		70-130		
Ethylbenzene	40.4	1.0	"	33.3	ND	121		70-130		
m,p-Xylene	77.2	2.0	"	66.7	ND	116		70-130		
o-Xylene	38.5	1.0	"	33.3	ND	116		70-130		
Surrogate: 1,2-Dichloroethane-d4	14.0		"	13.3		105		23-173		
Surrogate: Toluene-d8	13.3		"	13.3		99.8		20-170		
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.3		21-167		

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

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 1904324 - EPA 5030 Water MS

Matrix Spike Dup (1904324-MSD1)

Source: 1904269-02

Prepared: 04/19/19 Analyzed: 04/22/19

Benzene	42.7	1.0	ug/l	33.3	ND	128	70-130	5.56	30	
Toluene	41.0	1.0	"	33.3	ND	123	70-130	3.55	30	
Ethylbenzene	43.5	1.0	"	33.3	ND	130	70-130	7.42	30	
m,p-Xylene	84.2	2.0	"	66.7	ND	126	70-130	8.74	30	
o-Xylene	42.0	1.0	"	33.3	ND	126	70-130	8.67	30	
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.8	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.7	21-167			

Batch 1904338 - EPA 5030 Soil MS

Blank (1904338-BLK1)

Prepared: 04/22/19 Analyzed: 04/23/19

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	0.0419		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		102	21-167			

LCS (1904338-BS1)

Prepared: 04/22/19 Analyzed: 04/23/19

Benzene	0.0971	0.0020	mg/kg	0.100		97.1	70-130			
Toluene	0.0982	0.0050	"	0.100		98.2	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.198	0.010	"	0.200		99.2	70-130			
o-Xylene	0.100	0.0050	"	0.100		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0418		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	21-167			

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

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 1904338 - EPA 5030 Soil MS

Matrix Spike (1904338-MS1)

Source: 1904248-01

Prepared: 04/22/19 Analyzed: 04/23/19

Benzene	0.0951	0.0020	mg/kg	0.100	ND	95.1	70-130			
Toluene	0.0973	0.0050	"	0.100	ND	97.3	70-130			
Ethylbenzene	0.0949	0.0050	"	0.100	ND	94.9	70-130			
m,p-Xylene	0.183	0.010	"	0.200	ND	91.5	70-130			
o-Xylene	0.0935	0.0050	"	0.100	ND	93.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		102	21-167			

Matrix Spike Dup (1904338-MSD1)

Source: 1904248-01

Prepared: 04/22/19 Analyzed: 04/23/19

Benzene	0.0850	0.0020	mg/kg	0.100	ND	85.0	70-130	11.2	30	
Toluene	0.0888	0.0050	"	0.100	ND	88.8	70-130	9.06	30	
Ethylbenzene	0.0855	0.0050	"	0.100	ND	85.5	70-130	10.4	30	
m,p-Xylene	0.165	0.010	"	0.200	ND	82.6	70-130	10.3	30	
o-Xylene	0.0850	0.0050	"	0.100	ND	85.0	70-130	9.51	30	
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	21-167			

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

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 1904340 - EPA 3550A

Blank (1904340-BLK1)

Prepared: 04/22/19 Analyzed: 04/23/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1904340-BS1)

Prepared: 04/22/19 Analyzed: 04/23/19

C10-C28 (DRO) 500 50 mg/kg 500 100 70-130

Matrix Spike (1904340-MS1)

Source: 1904248-01

Prepared: 04/22/19 Analyzed: 04/23/19

C10-C28 (DRO) 468 50 mg/kg 500 34.2 86.8 70-130

Matrix Spike Dup (1904340-MSD1)

Source: 1904248-01

Prepared: 04/22/19 Analyzed: 04/23/19

C10-C28 (DRO) 446 50 mg/kg 500 34.2 82.3 70-130 4.87 20

Summit Scientific

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Tasman Geosciences
6899 Pecos St, Unit C
Denver CO, 80221

Project: Noble - UPRC 33-45, 5F, Hunt Federal K33-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/26/19 10:54

Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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