

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 04, 2018

Brandon Bruns

Tasman Geosciences

6899 Pecos St, Unit C

Denver, CO 80221

RE: Noble - Shable USX AB 11-22, 06

Enclosed are the results of analyses for samples received by Summit Scientific on 09/27/18 18:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Shrewsbury', written in a cursive style.

Paul Shrewsbury For Ben Shrewsbury

Laboratory Manager



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

Project: Noble - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/04/18 09:16

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@4'	1809389-01	Soil	09/27/18 12:28	09/27/18 18:30
BH02@4'	1809389-02	Soil	09/27/18 12:50	09/27/18 18:30
BH03@4'	1809389-03	Soil	09/27/18 13:10	09/27/18 18:30
BH04@4'	1809389-04	Soil	09/27/18 13:30	09/27/18 18:30

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

1809389

741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933 Fax

Page 4 of 4

Client: Noble/Tasman  
Address: -  
City/State/Zip: -  
Phone: 979-255-4235 Fax: -  
Sampler Name: Max Garza

Project Manager: Brandon Bruns, Invoice: Jacob Evans  
E-Mail: Bbruns@tasman-geo.com  
Project Name: Shoble USX AB 11-22, 06  
Project Number: N/A

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:				Special Instructions		
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	8260 BTEX	8260B GBTEXN	8015 DRO		PH, EC, SAR	
BH01@4'	9/27/18	1228	1			X		X				X	X				
BH02@4'		1250				X						X	X				
BH03@4'		1310				X						X	X				
BH04@4'		1330				X						X	X				
Relinquished by: <u>Max</u>				Date/Time: <u>9/27/18 1330</u>		Received by: <u>[Signature]</u>				Date/Time: <u>9-27-18 1830</u>		Turn Around Time (Check)				Notes:	
Relinquished by:				Date/Time:		Received by:				Date/Time:		Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>					
Relinquished by:				Date/Time:		Received in Lab by:				Date/Time:		24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>					
Relinquished by:				Date/Time:		Received in Lab by:				Date/Time:		48 Hours <input type="checkbox"/>					
Sample Integrity:												Temperature Upon Receipt: <u>7.5</u>				Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

1809389

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: Noble/Tasman Client Project ID: Shable USX AB 11-22,06

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)	7.5
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? 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> ? 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):				
<b><sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.</b>				

UP  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

9.27.18 1830  
Date/Time



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

Project: Noble - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/04/18 09:16

**BH01@4'**  
**1809389-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/27/18 12:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1810031	10/02/18	10/03/18	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: **09/27/18 12:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.8 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/27/18 12:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1810017	10/01/18	10/02/18	EPA 8015M	

Date Sampled: **09/27/18 12:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		89.4 %	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 - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/04/18 09:16

**BH02@4'**  
**1809389-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/27/18 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1810031	10/02/18	10/03/18	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: **09/27/18 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.1 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/27/18 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1810017	10/01/18	10/02/18	EPA 8015M	

Date Sampled: **09/27/18 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.2 %	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 - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/04/18 09:16

**BH03@4'**  
**1809389-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/27/18 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1810031	10/02/18	10/03/18	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: **09/27/18 13:10**

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		95.7 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/27/18 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1810017	10/01/18	10/02/18	EPA 8015M	

Date Sampled: **09/27/18 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		90.3 %	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 - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/04/18 09:16

**BH04@4'**  
**1809389-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/27/18 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1810031	10/02/18	10/03/18	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: **09/27/18 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.9 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/27/18 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1810017	10/01/18	10/02/18	EPA 8015M	

Date Sampled: **09/27/18 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.7 %	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  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/04/18 09:16

### 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 1810031 - EPA 5030 Soil MS

##### Blank (1810031-BLK1)

Prepared: 10/02/18 Analyzed: 10/03/18

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	0.0403		"	0.0396		102	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.3	21-167			

##### LCS (1810031-BS1)

Prepared: 10/02/18 Analyzed: 10/03/18

Benzene	0.0866	0.0020	mg/kg	0.100		86.6	70-130			
Toluene	0.0994	0.0050	"	0.100		99.4	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.215	0.010	"	0.200		107	70-130			
o-Xylene	0.107	0.0050	"	0.100		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0399		"	0.0396		101	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.0	21-167			

##### Matrix Spike (1810031-MS1)

Source: 1809389-01

Prepared: 10/02/18 Analyzed: 10/03/18

Benzene	0.0915	0.0020	mg/kg	0.100	ND	91.5	70-130			
Toluene	0.104	0.0050	"	0.100	ND	104	70-130			
Ethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130			
m,p-Xylene	0.228	0.010	"	0.200	ND	114	70-130			
o-Xylene	0.113	0.0050	"	0.100	ND	113	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0396		105	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.4	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 - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/04/18 09:16

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

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

**Batch 1810031 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1810031-MSD1)</b>	<b>Source: 1809389-01</b>			Prepared: 10/02/18 Analyzed: 10/03/18					
Benzene	0.0889	0.0020	mg/kg	0.100	ND	88.9	70-130	2.93	30
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	3.33	30
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	4.62	30
m,p-Xylene	0.218	0.010	"	0.200	ND	109	70-130	4.57	30
o-Xylene	0.109	0.0050	"	0.100	ND	109	70-130	4.25	30
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0396		104	23-173		
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	20-170		
Surrogate: 4-Bromofluorobenzene	0.0373		"	0.0400		93.2	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 - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/04/18 09:16

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1810017 - EPA 3550A**

**Blank (1810017-BLK1)**

Prepared: 10/01/18 Analyzed: 10/02/18

C10-C28 (DRO) ND 50 mg/kg

**LCS (1810017-BS1)**

Prepared: 10/01/18 Analyzed: 10/02/18

C10-C28 (DRO) 519 50 mg/kg 500 104 70-130

**Matrix Spike (1810017-MS1)**

**Source: 1809389-01**

Prepared: 10/01/18 Analyzed: 10/02/18

C10-C28 (DRO) 502 50 mg/kg 500 ND 100 70-130

**Matrix Spike Dup (1810017-MSD1)**

**Source: 1809389-01**

Prepared: 10/01/18 Analyzed: 10/02/18

C10-C28 (DRO) 473 50 mg/kg 500 ND 94.6 70-130 5.93 20

Summit Scientific

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



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

Project: Noble - Shable USX AB 11-22, 06

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/04/18 09:16

### 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