



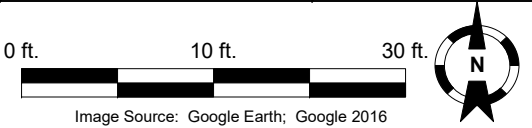
Legend

- + Excavation Sample Location
- + Excavation Sample Location (Not Submitted for Laboratory Analysis)
- - - Excavation Extent

Notes

- 1) Site Coordinates: 40.594636, -104.519092
 - 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

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 ⁵
EC – Electrical Conductivity	<4mmhos/cm or 2x background
pH	6-9



Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 06, 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 07/11/18 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', with a stylized, cursive script.

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:
08/06/18 16:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS02@3'	1807130-02	Soil	07/11/18 13:40	07/11/18 18:30
SS03@3'	1807130-03	Soil	07/11/18 13:38	07/11/18 18:30
SS08@3'	1807130-08	Soil	07/11/18 13:49	07/11/18 18:30
SS09@5'	1807130-09	Soil	07/11/18 13:43	07/11/18 18:30
SS10@5'	1807130-10	Soil	07/11/18 13:47	07/11/18 18:30
SS11@5'	1807130-11	Soil	07/11/18 13:39	07/11/18 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

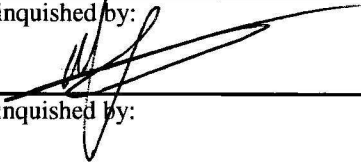

1807130.1

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

Page 1 of 2

Client: Noble/Tasman
Address: -
City/State/Zip: -
Phone: 970.210.6571 Fax: -
Sampler Name: T. Lichtenberg

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

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For:								Special Instructions		
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	8260 BTEX	8260B GBTEXN	8015 DRO	pH, EC, SAR					
SS0103'	7/11/18	1342	1			X			X											PLEASE HOLD -SS0103' -SS0403' -SS0503' -SS0603' -SS0703'
SS0203'		1340										X	X	X	Ⓢ					
SS0303'		1338										X	X	X	Ⓢ					
SS0403'		1337											X	X	X	Ⓢ				
SS0503'		1344																		
SS0603'		1346																		
SS0703'		1348																		
SS0803'		1349											X	X	X	Ⓢ				
SS0905'		1343											X	X						
SS1005'		1347											X	X						
Relinquished by: 		Date/Time: 7.11.18 1830		Received by: 		Date/Time: 7.11.18 1830		Turn Around Time (Check)				Notes:								
Relinquished by:		Date/Time:		Received by:		Date/Time:		Same Day <input type="checkbox"/>				72 Hours <input type="checkbox"/>								
								24 Hours <input type="checkbox"/>				Standard <input checked="" type="checkbox"/>								
								48 Hours <input type="checkbox"/>												
Relinquished by:		Date/Time:		Received in Lab by:		Date/Time:		Sample Integrity:												
								Temperature Upon Receipt: 10.1												
								Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No												

1807130.2

Page 2 of 2

Project Manager:	Brandon Bruns, Invoice: Jacob Evans
E-Mail:	Bbruns@tasman-geo.com
Project Name:	SHABLE USX AD 11-22,06
Project Number:	

www.s2scientific.com

1807130

Sample Receipt Checklist

S2 Work Order: _____

Client: Noble/TasmanClient Project ID: Shable USX AB 11-22, a6Shipped Via: Pickup
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: _____

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

Temp (°C)	<u>10.1</u>
-----------	-------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input 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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.UD
Custodian Printed Name or Initials[Signature]
Signature or Initials of Custodian7.11.18 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 Bruns

Reported:
08/06/18 16:16

SS02@3'
1807130-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807118	07/12/18	07/12/18	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: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807117	07/12/18	07/14/18	EPA 8015M	

Date Sampled: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		103 %	30-150		"	"	"	"	

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2020	11.4	mg/kg dry	1	1807133	07/12/18	07/12/18	EPA 6020B	

Summit Scientific

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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:
08/06/18 16:16

SS02@3'
1807130-02 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Magnesium	586	5.70	mg/kg dry	1	1807133	07/12/18	07/12/18	EPA 6020B
Sodium	96.0	5.70	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.484	0.100	units	1	1807150	07/13/18	07/13/18	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.7		%	1	1807120	07/12/18	07/12/18	Calculation	
pH	8.86		pH Units	"	1807170	07/16/18	07/16/18	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **07/11/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.391	0.0100	mmhos/cm	1	1807169	07/16/18	07/16/18	EPA 120.1	

Summit Scientific

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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:
08/06/18 16:16

SS03@3'
1807130-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/11/18 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807118	07/12/18	07/12/18	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: **07/11/18 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/11/18 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807117	07/12/18	07/14/18	EPA 8015M	

Date Sampled: **07/11/18 13:38**

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

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/11/18 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3640	11.8	mg/kg dry	1	1807133	07/12/18	07/12/18	EPA 6020B	
Magnesium	601	5.92	"	"	"	"	"	"	

Summit Scientific

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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:
08/06/18 16:16

SS03@3'
1807130-03 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Sodium	70.0	5.92	mg/kg dry	1	1807133	07/12/18	07/12/18	EPA 6020B
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Calculated Analysis

Date Sampled: **07/11/18 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.283	0.100	units	1	1807150	07/13/18	07/13/18	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/11/18 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.5		%	1	1807120	07/12/18	07/12/18	Calculation	
pH	8.59		pH Units	"	1807170	07/16/18	07/16/18	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **07/11/18 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.590	0.0100	mmhos/cm	1	1807169	07/16/18	07/16/18	EPA 120.1	

Summit Scientific

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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:
08/06/18 16:16

SS08@3'
1807130-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807118	07/12/18	07/12/18	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: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807117	07/12/18	07/14/18	EPA 8015M	

Date Sampled: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		101 %	30-150		"	"	"	"	

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	4990	11.7	mg/kg dry	1	1807133	07/12/18	07/12/18	EPA 6020B	
Magnesium	491	5.87	"	"	"	"	"	"	

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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:
08/06/18 16:16

SS08@3'
1807130-08 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Sodium	43.9	5.87	mg/kg dry	1	1807133	07/12/18	07/12/18	EPA 6020B
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Calculated Analysis

Date Sampled: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.159	0.100	units	1	1807150	07/13/18	07/13/18	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.2		%	1	1807120	07/12/18	07/12/18	Calculation	
pH	8.54		pH Units	"	1807170	07/16/18	07/16/18	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **07/11/18 13:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.442	0.0100	mmhos/cm	1	1807169	07/16/18	07/16/18	EPA 120.1	

Summit Scientific

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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:
08/06/18 16:16

SS09@5'
1807130-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/11/18 13:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1807118	07/12/18	07/12/18	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: **07/11/18 13:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/11/18 13:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1807117	07/12/18	07/14/18	EPA 8015M	

Date Sampled: **07/11/18 13:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		103 %	30-150		"	"	"	"	

Summit Scientific

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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:
08/06/18 16:16

SS10@5'
1807130-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/11/18 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1807118	07/12/18	07/12/18	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: **07/11/18 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/11/18 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1807117	07/12/18	07/14/18	EPA 8015M	

Date Sampled: **07/11/18 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		101 %	30-150		"	"	"	"	

Summit Scientific

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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:
08/06/18 16:16

SS11@5'
1807130-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/11/18 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1807118	07/12/18	07/12/18	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: **07/11/18 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/11/18 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1807117	07/12/18	07/14/18	EPA 8015M	

Date Sampled: **07/11/18 13:39**

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

Summit Scientific

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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:
08/06/18 16:16

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1807118 - EPA 5030 Soil MS

Blank (1807118-BLK1)

Prepared & Analyzed: 07/12/18

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	0.0370		"	0.0396		93.4	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	21-167			

LCS (1807118-BS1)

Prepared & Analyzed: 07/12/18

Benzene	0.0775	0.0020	mg/kg	0.100		77.5	70-130			
Toluene	0.0819	0.0050	"	0.100		81.9	70-130			
Ethylbenzene	0.0796	0.0050	"	0.100		79.6	70-130			
m,p-Xylene	0.153	0.010	"	0.200		76.5	70-130			
o-Xylene	0.0789	0.0050	"	0.100		78.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0357		"	0.0396		90.2	23-173			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.1	21-167			

Matrix Spike (1807118-MS1)

Source: 1807129-01

Prepared & Analyzed: 07/12/18

Benzene	0.0978	0.0020	mg/kg	0.100	ND	97.8	70-130			
Toluene	0.0717	0.0050	"	0.100	ND	71.7	70-130			
Ethylbenzene	0.0715	0.0050	"	0.100	ND	71.5	70-130			
m,p-Xylene	0.196	0.010	"	0.200	ND	98.2	70-130			
o-Xylene	0.0711	0.0050	"	0.100	ND	71.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0370		"	0.0396		93.4	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	21-167			

Summit Scientific

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

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

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
08/06/18 16:16

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

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

Batch 1807118 - EPA 5030 Soil MS

Matrix Spike Dup (1807118-MSD1)		Source: 1807129-01			Prepared & Analyzed: 07/12/18					
Benzene	0.0759	0.0020	mg/kg	0.100	ND	75.9	70-130	25.2	30	
Toluene	0.0808	0.0050	"	0.100	ND	80.8	70-130	12.0	30	
Ethylbenzene	0.0779	0.0050	"	0.100	ND	77.9	70-130	8.60	30	
m,p-Xylene	0.151	0.010	"	0.200	ND	75.3	70-130	26.4	30	
o-Xylene	0.0780	0.0050	"	0.100	ND	78.0	70-130	9.30	30	
Surrogate: 1,2-Dichloroethane-d4	0.0366		"	0.0396		92.4	23-173			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.1	21-167			

Summit Scientific

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

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

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
08/06/18 16:16

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1807117 - EPA 3550A

Blank (1807117-BLK1)

Prepared: 07/12/18 Analyzed: 07/13/18

C10-C28 (DRO) ND 50 mg/kg

LCS (1807117-BS1)

Prepared: 07/12/18 Analyzed: 07/13/18

C10-C28 (DRO) 471 50 mg/kg 500 94.1 70-130

Matrix Spike (1807117-MS1)

Source: 1807129-01

Prepared: 07/12/18 Analyzed: 07/13/18

C10-C28 (DRO) 487 50 mg/kg 500 27.8 91.8 70-130

Matrix Spike Dup (1807117-MSD1)

Source: 1807129-01

Prepared: 07/12/18 Analyzed: 07/13/18

C10-C28 (DRO) 471 50 mg/kg 500 27.8 88.6 70-130 3.30 20

Summit Scientific

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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:
08/06/18 16:16

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis - Quality Control

Summit Scientific

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

Batch 1807133 - General Preparation

Blank (1807133-BLK1)

Prepared & Analyzed: 07/12/18

Calcium	ND	10.0	mg/kg wet
Magnesium	ND	5.00	"
Sodium	ND	5.00	"

LCS (1807133-BS1)

Prepared & Analyzed: 07/12/18

Calcium	486	10.0	mg/kg wet	500	97.2	70-130
Magnesium	518	5.00	"	500	104	70-130
Sodium	534	5.00	"	500	107	70-130

Duplicate (1807133-DUP1)

Source: 1807094-01

Prepared & Analyzed: 07/12/18

Calcium	1720	12.6	mg/kg dry	2010	15.6	20
Magnesium	730	6.30	"	832	13.1	20
Sodium	789	6.30	"	781	1.07	20

Matrix Spike (1807133-MS1)

Source: 1807094-01

Prepared & Analyzed: 07/12/18

Calcium	2460	12.6	mg/kg dry	630	2010	71.3	70-130
Magnesium	1400	6.30	"	630	832	89.4	70-130
Sodium	1500	6.30	"	630	781	114	70-130

Matrix Spike Dup (1807133-MSD1)

Source: 1807094-01

Prepared & Analyzed: 07/12/18

Calcium	2530	12.6	mg/kg dry	630	2010	82.6	70-130	2.84	25
Magnesium	1490	6.30	"	630	832	105	70-130	6.76	25
Sodium	1530	6.30	"	630	781	119	70-130	1.89	25

Summit Scientific

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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:
08/06/18 16:16

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

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

Batch 1807120 - General Preparation

Duplicate (1807120-DUP1)

Source: 1807128-01

Prepared & Analyzed: 07/12/18

% Solids	95.7	%		95.9		0.236	20
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Batch 1807170 - General Preparation

LCS (1807170-BS1)

Prepared & Analyzed: 07/16/18

pH	9.2	pH Units	9.18	99.7	95-105
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Duplicate (1807170-DUP1)

Source: 1807129-02

Prepared & Analyzed: 07/16/18

pH	8.3	pH Units	8.4	0.960	20
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Summit Scientific

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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:
08/06/18 16:16

Specific Conductance by EPA Method 120.1 - Quality Control
Summit Scientific

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

Batch 1807169 - General Preparation

LCS (1807169-BS1)

Prepared & Analyzed: 07/16/18

Specific Conductance (EC)	0.748	0.0100	mmhos/cm	0.750	99.7	90-110
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Duplicate (1807169-DUP1)

Source: 1807129-02

Prepared & Analyzed: 07/16/18

Specific Conductance (EC)	0.896	0.0100	mmhos/cm	0.910	1.55	20
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Summit Scientific

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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:
08/06/18 16:16

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