

LEGEND

	SOIL SAMPLE LOCATION
	ABOVE GROUND STORAGE TANK
	FORMER FACILITY
	FENCE LINE
	EXTENT OF EXCAVATION
	CONTAINMENT WALL

11/9/18 Floor@5'	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<50
D	<50
EC	NA
pH	NA
SAR	NA

11/9/18 Floor@5'	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<50
D	<50
EC	NA
pH	NA
SAR	NA

NA NOT ANALYZED

Figure 1

SITE PLAN

NOBLE STATE DILLARD 16-21

North Vault ~ 40.57988, -104.56381

South Vault ~ 40.57985, -104.56381

NENW Sec 16, T7N, R64W, Weld County, Colorado

Facility ID - 306727

API No.
05-123-25164

Prepared by

Drawn by

TDA

Date
1//

Reviewed by
EB

Filename
V345A



Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 19, 2018

Paul Henehan

Fremont Environmental

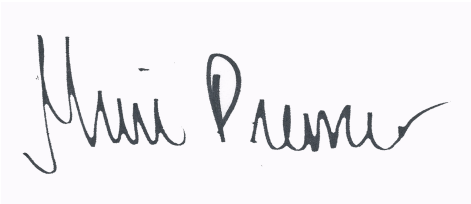
PO Box 1289

Wellington, CO 80549

RE: Noble - State Dillard 16-21

Enclosed are the results of analyses for samples received by Summit Scientific on 11/12/18 16:01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", is displayed on a light blue rectangular background.

Muri Premier For Ben Shrewsbury

Laboratory Manager



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North Wall 4ft	1811130-01	Soil	11/09/18 00:00	11/12/18 16:01
South Wall 4ft	1811130-02	Soil	11/09/18 00:00	11/12/18 16:01
East Wall 4ft	1811130-03	Soil	11/09/18 00:00	11/12/18 16:01
West Wall 4ft	1811130-04	Soil	11/09/18 00:00	11/12/18 16:01
Floor 5ft	1811130-05	Soil	11/09/18 00:00	11/12/18 16:01

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.

1811130

Summit Scientific

S₂

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

Page 1 of 1

Client: Fremont Environmental

Project Manager: Paul Henehan

Address: P.O Box 1289

E-Mail: paulh@fremontenv.com, kenr@fremontenv.com

City/State/Zip: Wellington, CO 80549

Bill to: Howard

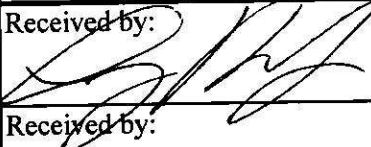
Phone: 303-956-8714

Project Name: Noble - State Dillard 16-21

Sampler Name: Black

Project Number: 018-184

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	GRO	DRO	SAR	EC	pH		
1	NORTH WALL 4FT	11/9/18		1			X			X				X	X	X	X	X	X		
2	SOUTH WALL 4FT	I		I			I			I				I	I	I	I				
3	EAST WALL 4FT	I		I			I			I				I	I	I	I				
4	WEST WALL 4FT	I		I			I			I				I	I	I	I				
5	FLOOR 5FT	I		I			I			I				I	I	I	I				
6																					
7																					
8																					
9																					
10																					

Relinquished by: Ethan Black	Date/Time: 11/17/18 1601	Received by: 	Date/Time: 11.12.18 1601	Turn Around Time 36 hours 24 hours 48 hours	(Check) 72 hours Standard <input checked="" type="checkbox"/>	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:		
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: 1.8	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Sample Receipt Checklist

S2 Work Order 1811130

Client: Fremont

Client Project ID: Noble - State Dillard 16-21

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

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

Temp (°C)	<u>1.8</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⁾ ? 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):				

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

UP
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

11.12.18 1815
Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

**North Wall 4ft
1811130-01 (Soil)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1811180	11/14/18	11/15/18	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: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		81.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1811182	11/14/18	11/15/18	EPA 8015M	

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.1 %	30-150		"	"	"	"	

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

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	488	10.9	mg/kg dry	1	1811170	11/13/18	11/13/18	EPA 6020B	

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PO Box 1289
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Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

**North Wall 4ft
1811130-01 (Soil)**

Summit Scientific

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

Magnesium	193	5.45	mg/kg dry	1	1811170	11/13/18	11/13/18	EPA 6020B
Sodium	19.6	5.45	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.190	0.100	units	1	1811236	11/19/18	11/19/18	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	1811174	11/14/18	11/14/18	Calculation	
pH	8.21		pH Units	"	1811176	11/14/18	11/14/18	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.566	0.0100	mmhos/cm	1	1811175	11/14/18	11/15/18	EPA 120.1	

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PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

**South Wall 4ft
1811130-02 (Soil)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1811180	11/14/18	11/15/18	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: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1811182	11/14/18	11/15/18	EPA 8015M	

Date Sampled: **11/09/18 00:00**

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

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

**East Wall 4ft
1811130-03 (Soil)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1811180	11/14/18	11/15/18	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: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		82.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1811182	11/14/18	11/15/18	EPA 8015M	

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.7 %	30-150		"	"	"	"	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

**West Wall 4ft
1811130-04 (Soil)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1811180	11/14/18	11/15/18	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: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1811182	11/14/18	11/15/18	EPA 8015M	

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.2 %	30-150		"	"	"	"	

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Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

Floor 5ft
1811130-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1811180	11/14/18	11/15/18	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: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/09/18 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1811182	11/14/18	11/15/18	EPA 8015M	

Date Sampled: **11/09/18 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

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 1811180 - EPA 5030 Soil MS

Blank (1811180-BLK1)

Prepared: 11/14/18 Analyzed: 11/15/18

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	0.0326		"	0.0396		82.2	23-173			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.1	21-167			

LCS (1811180-BS1)

Prepared: 11/14/18 Analyzed: 11/15/18

Benzene	0.0989	0.0020	mg/kg	0.100		98.9	70-130			
Toluene	0.102	0.0050	"	0.100		102	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.207	0.010	"	0.200		104	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0328		"	0.0396		82.8	23-173			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	21-167			

Matrix Spike (1811180-MS1)

Source: 1811128-01

Prepared: 11/14/18 Analyzed: 11/15/18

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0330		"	0.0396		83.3	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	21-167			

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Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

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 1811180 - EPA 5030 Soil MS

Matrix Spike Dup (1811180-MSD1)		Source: 1811128-01			Prepared: 11/14/18 Analyzed: 11/15/18					
Benzene	0.0878	0.0020	mg/kg	0.100	ND	87.8	70-130	13.9	30	
Toluene	0.0905	0.0050	"	0.100	ND	90.5	70-130	13.0	30	
Ethylbenzene	0.0922	0.0050	"	0.100	ND	92.2	70-130	12.5	30	
m,p-Xylene	0.184	0.010	"	0.200	ND	92.0	70-130	13.4	30	
o-Xylene	0.0911	0.0050	"	0.100	ND	91.1	70-130	12.2	30	
Surrogate: 1,2-Dichloroethane-d4	0.0322		"	0.0396		81.4	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		99.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		97.9	21-167			

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Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1811182 - EPA 3550A

Blank (1811182-BLK1)

Prepared & Analyzed: 11/14/18

C10-C28 (DRO) ND 50 mg/kg

LCS (1811182-BS1)

Prepared & Analyzed: 11/14/18

C10-C28 (DRO) 476 50 mg/kg 500 95.2 70-130

Matrix Spike (1811182-MS1)

Source: 1811128-01

Prepared & Analyzed: 11/14/18

C10-C28 (DRO) 457 50 mg/kg 500 32.0 85.0 70-130

Matrix Spike Dup (1811182-MSD1)

Source: 1811128-01

Prepared & Analyzed: 11/14/18

C10-C28 (DRO) 444 50 mg/kg 500 32.0 82.3 70-130 2.97 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

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 1811170 - General Preparation

Blank (1811170-BLK1)

Prepared & Analyzed: 11/13/18

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

LCS (1811170-BS1)

Prepared & Analyzed: 11/13/18

Calcium	560	10.0	mg/kg wet	500	112	70-130
Magnesium	554	5.00	"	500	111	70-130
Sodium	543	5.00	"	500	109	70-130

Duplicate (1811170-DUP1)

Source: 1811128-01

Prepared & Analyzed: 11/13/18

Calcium	2380	11.3	mg/kg dry	2440	2.51	20
Magnesium	607	5.67	"	644	5.92	20
Sodium	59.1	5.67	"	58.4	1.15	20

Matrix Spike (1811170-MS1)

Source: 1811128-01

Prepared & Analyzed: 11/13/18

Calcium	3050	11.3	mg/kg dry	567	2440	107	70-130
Magnesium	1180	5.67	"	567	644	94.3	70-130
Sodium	642	5.67	"	567	58.4	103	70-130

Matrix Spike Dup (1811170-MSD1)

Source: 1811128-01

Prepared & Analyzed: 11/13/18

Calcium	2970	11.3	mg/kg dry	567	2440	94.4	70-130	2.45	25
Magnesium	1150	5.67	"	567	644	90.0	70-130	2.10	25
Sodium	629	5.67	"	567	58.4	101	70-130	2.00	25

Summit Scientific

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Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

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

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

Batch 1811174 - General Preparation

Duplicate (1811174-DUP1)		Source: 1811128-01			Prepared & Analyzed: 11/14/18					
% Solids	88.2		%		88.3			0.113	20	

Batch 1811176 - General Preparation

LCS (1811176-BS1)		Prepared & Analyzed: 11/14/18								
pH	9.1		pH Units	9.18		99.0	95-105			
Duplicate (1811176-DUP1)		Source: 1809418-01			Prepared & Analyzed: 11/14/18					
pH	7.5		pH Units	7.6				1.07	20	

Summit Scientific

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Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

Specific Conductance by EPA Method 120.1 - Quality Control
Summit Scientific

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

Batch 1811175 - General Preparation

Blank (1811175-BLK1)

Prepared & Analyzed: 11/14/18

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (1811175-BS1)

Prepared & Analyzed: 11/14/18

Specific Conductance (EC) 0.757 0.0100 mmhos/cm 0.750 101 90-110

Duplicate (1811175-DUP1)

Source: 1809418-01

Prepared & Analyzed: 11/14/18

Specific Conductance (EC) 4.88 0.0100 mmhos/cm 4.64 4.92 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - State Dillard 16-21

Project Number: CO18-184
Project Manager: Paul Henehan

Reported:
11/19/18 09:52

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