

LEGEND

-  SOIL SAMPLE LOCATION
-  ABOVE GROUND STORAGE TANK
-  FORMER FACILITY
-  FENCE LINE
-  CONTAINMENT BERM
-  CONTAINMENT WALL

9/6/18		DATE SAMPLED
Floor@4'		LOCATION and DEPTH (ft)
B	<0.002	BENZENE (mg/kg)
T	<0.005	TOLUENE (mg/kg)
E	<0.005	ETHYLBENZENE (mg/kg)
X	<0.005	TOTAL XYLENES (mg/kg)
N	<0.010	NAPHTHALENE (mg/kg)
G	<0.50	TPH-GRO (mg/kg)
D	<50	TPH-DRO (mg/kg)
EC	NA	EC mmhos/cm
pH	NA	pH Units
SAR	NA	SAR Units

NA NOT ANALYZED

**Figure 1
SITE PLAN**

Noble Kammerzell 1
 Facility ID - 323334
 NESW Sec 4, T4N, R66W - 40.34360°N -104.78473°W
 Weld County, Colorado

API No. 05-123-12875	Prepared by PH	Drawn by TDA
Date 10/17/18	Reviewed by PH	Filename V275A



Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 13, 2018

Paul Henehan

Fremont Environmental

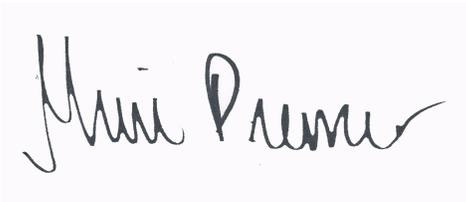
PO Box 1289

Wellington, CO 80549

RE: Noble - Kammerzell 1

Enclosed are the results of analyses for samples received by Summit Scientific on 09/06/18 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light blue background. The signature reads "Muri Premer" in a cursive script.

Muri Premer For Ben Shrewsbury

Laboratory Manager



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
Project Manager: Paul Henehan

Reported:
09/13/18 14:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N Wall 3 Ft	1809058-01	Soil	09/06/18 00:00	09/06/18 16:00
Floor 4 Ft	1809058-02	Soil	09/06/18 00:00	09/06/18 16:00

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

1809058

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

Page 1 of 1

Client: Fremont Environmental

Project Manager: Paul Henehan

BILL TO HOWARD

Address: P.O. Box 1289

E-Mail: paulh@fremontenv.com

City/State/Zip: PO Box 1829 Wellington, CO 80549

Phone: 303-956-8714

Fax:

Project Name: *NOBLE - KAMMERZELL 1*

Sampler Name: *HENEHAN*

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX	GRO/DRO	Napthalene	SAR	EC	Ph		
1	<i>N. WALL 3 FT</i>	<i>9/6/18</i>		<i>1</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>						
2	<i>FLOOR 4 FT</i>			<i>1</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>						
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
<i>PAH/FE</i>	<i>9/6/18 16:00</i>	<i>[Signature]</i>	<i>9 6:15</i> <i>1600</i>	Same Day <input type="checkbox"/>	
				24 hours <input type="checkbox"/>	
				48 hours <input type="checkbox"/>	<input checked="" type="checkbox"/> 72 hours <input checked="" type="checkbox"/> Standard
				Sample Integrity:	
				Temperature Upon Receipt:	
				<i>22.6</i> Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order: 1809058

Client: Fremont Client Project ID: Noble - Kammerzell 1

Shipped Via: Hand Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Temp (°C)	<u>22.6</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⁾ ?	/			
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.

LP
 Custodian Printed Name or Initials

[Signature]
 Signature or Initials of Custodian

9-6-18 1800
 Date/Time



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

**N Wall 3 Ft
 1809058-01 (Soil)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	1809060	09/07/18	09/08/18	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: **09/06/18 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		119 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.9 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	1809061	09/07/18	09/09/18	EPA 8015M	

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		93.1 %		30-150		"	"	"	"	

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

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	1080	11.1		mg/kg dry	1	1809085	09/11/18	09/11/18	EPA 6020B	

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

**N Wall 3 Ft
 1809058-01 (Soil)**

Summit Scientific

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

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	391	5.54	mg/kg dry	1	1809085	09/11/18	09/11/18	EPA 6020B	
Sodium	52.9	5.54	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.351	0.100	units	1	1809116	09/13/18	09/13/18	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.2		%	1	1809054	09/07/18	09/07/18	Calculation	
pH	8.08		pH Units	"	1809096	09/12/18	09/12/18	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.514	0.0100	mmhos/cm	1	1809098	09/12/18	09/12/18	EPA 120.1	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

Floor 4 Ft
1809058-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1809060	09/07/18	09/08/18	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: **09/06/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		125 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1809061	09/07/18	09/09/18	EPA 8015M	

Date Sampled: **09/06/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.3 %	30-150		"	"	"	"	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
Project Manager: Paul Henehan

Reported:
09/13/18 14:29

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 1809060 - EPA 5030 Soil MS

Blank (1809060-BLK1)

Prepared & Analyzed: 09/07/18

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0499		"	0.0396		126	23-173			
<i>Surrogate: Toluene-d8</i>	0.0393		"	0.0400		98.3	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0394		"	0.0400		98.4	21-167			

LCS (1809060-BS1)

Prepared & Analyzed: 09/07/18

Benzene	0.105	0.0020	mg/kg	0.100		105	70-130			
Toluene	0.109	0.0050	"	0.100		109	70-130			
Ethylbenzene	0.117	0.0050	"	0.100		117	70-130			
m,p-Xylene	0.230	0.010	"	0.200		115	70-130			
o-Xylene	0.108	0.0050	"	0.100		108	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0488		"	0.0396		123	23-173			
<i>Surrogate: Toluene-d8</i>	0.0439		"	0.0400		110	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0414		"	0.0400		104	21-167			

Matrix Spike (1809060-MS1)

Source: 1809051-05

Prepared & Analyzed: 09/07/18

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130			
Toluene	0.104	0.0050	"	0.100	ND	104	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.205	0.010	"	0.200	ND	102	70-130			
o-Xylene	0.0955	0.0050	"	0.100	ND	95.5	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0507		"	0.0396		128	23-173			
<i>Surrogate: Toluene-d8</i>	0.0403		"	0.0400		101	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0385		"	0.0400		96.2	21-167			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1809060 - EPA 5030 Soil MS

Matrix Spike Dup (1809060-MSD1)	Source: 1809051-05			Prepared & Analyzed: 09/07/18						
Benzene	0.0887	0.0020	mg/kg	0.100	ND	88.7	70-130	12.5	30	
Toluene	0.0895	0.0050	"	0.100	ND	89.5	70-130	14.5	30	
Ethylbenzene	0.0889	0.0050	"	0.100	ND	88.9	70-130	15.9	30	
m,p-Xylene	0.177	0.010	"	0.200	ND	88.4	70-130	14.5	30	
o-Xylene	0.0868	0.0050	"	0.100	ND	86.8	70-130	9.58	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0508</i>		<i>"</i>	<i>0.0396</i>		<i>128</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>99.9</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>96.9</i>	<i>21-167</i>			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

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 1809061 - EPA 3550A

Blank (1809061-BLK1)

Prepared: 09/07/18 Analyzed: 09/09/18

C10-C28 (DRO) ND 50 mg/kg

LCS (1809061-BS1)

Prepared: 09/07/18 Analyzed: 09/09/18

C10-C28 (DRO) 618 50 mg/kg 500 124 70-130

Matrix Spike (1809061-MS1)

Source: 1809051-05

Prepared: 09/07/18 Analyzed: 09/09/18

C10-C28 (DRO) 616 50 mg/kg 500 35.0 116 70-130

Matrix Spike Dup (1809061-MSD1)

Source: 1809051-05

Prepared: 09/07/18 Analyzed: 09/09/18

C10-C28 (DRO) 607 50 mg/kg 500 35.0 114 70-130 1.45 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

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

Summit Scientific

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

Batch 1809085 - General Preparation

Blank (1809085-BLK1)

Prepared & Analyzed: 09/11/18

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

LCS (1809085-BS1)

Prepared & Analyzed: 09/11/18

Calcium	481	10.0	mg/kg wet	500		96.2	70-130			
Magnesium	519	5.00	"	500		104	70-130			
Sodium	523	5.00	"	500		105	70-130			

Duplicate (1809085-DUP1)

Source: 1809049-04

Prepared & Analyzed: 09/11/18

Calcium	1990	10.4	mg/kg dry		2020			1.53	20	
Magnesium	104	5.22	"		119			13.3	20	
Sodium	539	5.22	"		576			6.63	20	

Matrix Spike (1809085-MS1)

Source: 1809049-04

Prepared & Analyzed: 09/11/18

Calcium	2520	10.4	mg/kg dry	522	2020	95.7	70-130			
Magnesium	624	5.22	"	522	119	96.8	70-130			
Sodium	1080	5.22	"	522	576	96.4	70-130			

Matrix Spike Dup (1809085-MSD1)

Source: 1809049-04

Prepared & Analyzed: 09/11/18

Calcium	2550	10.4	mg/kg dry	522	2020	101	70-130	1.08	25	
Magnesium	639	5.22	"	522	119	99.6	70-130	2.33	25	
Sodium	1110	5.22	"	522	576	102	70-130	2.51	25	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

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

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

Batch 1809054 - General Preparation

Duplicate (1809054-DUP1)		Source: 1809049-04			Prepared & Analyzed: 09/07/18					
% Solids	95.8		%		95.8			0.00	20	

Batch 1809096 - General Preparation

LCS (1809096-BS1)		Prepared & Analyzed: 09/12/18								
pH	9.2		pH Units	9.18	99.8	95-105				
Duplicate (1809096-DUP1)		Source: 1809053-04			Prepared & Analyzed: 09/12/18					
pH	7.1		pH Units	7.1			0.565	20		

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 09/13/18 14:29

Specific Conductance by EPA Method 120.1 - Quality Control
Summit Scientific

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

Batch 1809098 - General Preparation

Blank (1809098-BLK1)

Prepared & Analyzed: 09/12/18

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (1809098-BS1)

Prepared & Analyzed: 09/12/18

Specific Conductance (EC) 0.792 0.0100 mmhos/cm 0.750 106 90-110

Duplicate (1809098-DUP1)

Source: 1809053-04

Prepared & Analyzed: 09/12/18

Specific Conductance (EC) 0.272 0.0100 mmhos/cm 0.293 7.35 20

Summit Scientific



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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Kammerzell 1

Project Number: [none]
Project Manager: Paul Henehan

Reported:
09/13/18 14:29

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