




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

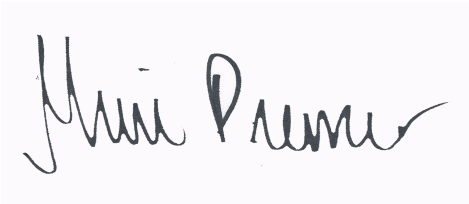
PO Box 1289

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, reading "Muri Premier", on a light blue background.

Muri Premier 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.

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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	N. WALL 3 FT	9/6/18		1			✓			✓				✓	✓	✓	✓	✓		
2	FLOOR 4 FT			1			✓			✓				✓	✓	✓	✓	✓		
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ <u>Standard</u> _____ 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>22.6</u> Intact: <u>Yes</u> No	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

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⁾ ?	<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.

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

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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

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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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	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		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	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		94.3 %	30-150		"	"	"	"	

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PO Box 1289
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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

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

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0499		"	0.0396		126	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.3	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0488		"	0.0396		123	23-173			
Surrogate: Toluene-d8	0.0439		"	0.0400		110	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0507		"	0.0396		128	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	21-167			

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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		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	
Surrogate: 1,2-Dichloroethane-d4	0.0508		"	0.0396		128	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		99.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		96.9	21-167			

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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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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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

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

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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PO Box 1289
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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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	

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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		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

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

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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