

**TABLE 1
FORMER MATTIE 1 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH ⁽⁴⁾ (mg/kg)
Residential SSL^(1,2)			1.2	490	5.8	58	30	27	2	500
Protection of Groundwater SSL^(1,2,3)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500
FLR01 @ 3'	3/24/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50

Notes:

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with groundwater is present.
4. Value calculated by adding TVPH-GRO, TEPH-DRO, and TEPH-ORO concentrations.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

TVPH-GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH-DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH-ORO = Total extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

bgs = Below ground surface

TABLE 2
FORMER MATTIE 1 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Soil Suitability for Reclamation Standard ⁽¹⁾			6-8.3	<4	<6	2
WH01 @ 2.5'	3/24/2021	2.5 ft. bgs	7.55	2.54	4.10	0.326

Notes:

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.

COGCC = Colorado Oil and Gas Conservation Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

ft. = Feet

bgs = Below ground surface

TABLE 3
FORMER MATTIE 1 WELLHEAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
FLR01 @ 3'	3/24/2021	3 ft. bgs	40.284762	-104.803786	1.3	0.1
WH01 @ 2.5'	3/24/2021	2.5 ft. bgs	40.284753	-104.803776	1.2	0.1
WHS01-N @ 0-6"	3/24/2021	0-6 in. bgs	40.284791	-104.803800	1.3	0.2
WHS01-W @ 0-6"	3/24/2021	0-6 in. bgs	40.284744	-104.803841	1.2	0.4
WHS01-S @ 0-6"	3/24/2021	0-6 in. bgs	40.284700	-104.803791	1.1	0.3
WHS01-E @ 0-6"	3/24/2021	0-6 in. bgs	40.284733	-104.803746	1.4	0.4
BKG01 @ 2.5'	3/24/2021	2.5 ft. bgs	40.284719	-104.803848	1.1	0.3
FL01-01 @ 4'	3/24/2021	4 ft. bgs	40.284778	-104.804824	1.4	0.3
FL01-02 @ 4'	3/24/2021	4 ft. bgs	40.284802	-104.805308	1.2	0.3
FL01-03 @ 4'	3/24/2021	4 ft. bgs	40.285196	-104.805369	1.4	0.2
FL01-04 @ 4'	3/24/2021	4 ft. bgs	40.285983	-104.805301	1.2	0.2
FL01-05 @ 3'	3/24/2021	3 ft. bgs	40.286633	-104.804770	1.5	0.1
FL01-06 @ 3'	3/24/2021	3 ft. bgs	40.287321	-104.804356	1.3	0.0
FL01-07 @ 2'	3/24/2021	2 ft. bgs	40.288047	-104.804165	1.4	0.1
FL01-08 @ 5'	3/24/2021	5 ft. bgs	40.288812	-104.803762	1.3	0.0

Notes:

1. Global Positioning System (GPS) data is provided in decimal degrees using World Geodetic System (WGS) 84 UTM Zone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

in. = Inches

bgs = Below ground surface

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 30, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Mattie 1 Wellhead

Work Order #2103355

Enclosed are the results of analyses for samples received by Summit Scientific on 03/24/21 17:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury

President



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/30/21 12:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FLR01@3'	2103355-01	Soil	03/24/21 11:48	03/24/21 17:10
WH01@2.5'	2103355-02	Soil	03/24/21 11:50	03/24/21 17:10

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

2103355

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
 Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
 City/State/Zip: Broomfield/ CO/ 80020
 Phone: 303-487-1228 Project Name: Mattie 1 Wellhead
 Sampler Name: Cody Miller Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	GBTEXN - 8260B ⁹¹⁵	TPH - (C6 - C36) ⁹¹⁵	pH, EC, SAR ⁹¹⁵	Boron - HWS ⁹¹⁵	VOC - 915	PAH - 915		Metals - 915	TMBS, G, Z, Y & (1, 3, 5) ⁹¹⁵
1	FLR01 @ 3'	3/24/21	1148	2			X			X			X	X					X	pH, EC, SAR by saturated paste <u>Hold</u>	
2	WH01 @ 2.5'	3/24/21	1150	2			X			X				X	X						
3	BKG01 @ 2.5'	3/24/21	1110	2			X			X									X		
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Cody Miller</u> Date/Time: <u>3/24/21 1140</u>	Received by: <u>Tasman's Lock Box</u> Date/Time: <u>3/24/21 1140</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>3.3</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u> Date/Time: <u>3-24-21 17:10</u>	Received by: <u>[Signature]</u> Date/Time: <u>3-24-21 17:10</u>		
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____		

Sample Receipt Checklist

S2 Work Order 2103355

Client: PDC / TASMAN Client Project ID: MATTIE 1 WELLHEAD

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

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

Temp (°C)	3.3
-----------	-----

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.	X			
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
If custody seals are present, are they intact ⁽¹⁾ ?			X	
Are samples with holding times due within 48 hours sample due within 48 hours present?			X	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			X	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			X	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			X	
If dissolved metals are requested, were samples field filtered?			X	
Additional Comments (if any):				
(1) If NO, then contact the client before proceeding with analysis and note in case narrative.				

Muri P.
Custodian Printed Name or Initials


Signature of Custodian

3-24-21
Date/Time



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/30/21 12:12

FLR01@3'
2103355-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/24/21 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEC0484	03/29/21	03/29/21	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/24/21 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/24/21 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEC0436	03/25/21	03/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/24/21 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		61.1 %		30-150		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Mattie 1 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/21 12:12

WH01@2.5'
2103355-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/24/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.326	0.0100	mg/L	1	BEC0461	03/26/21	03/27/21	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/24/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	166	0.0569	mg/L dry	1	BEC0451	03/25/21	03/27/21	EPA 6020B	
Magnesium	50.1	0.0569	"	"	"	"	"	"	
Sodium	235	0.0569	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/24/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.10	0.100	units	1	BEC0495	03/29/21	03/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/24/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.9		%	1	BEC0455	03/26/21	03/26/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/24/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.54	0.0100	mmhos/cm	1	BEC0465	03/26/21	03/26/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

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PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

WH01@2.5'
2103355-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/24/21 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.55		pH Units	1	BEC0466	03/26/21	03/26/21	EPA 9045D	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/21 12:12

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 BEC0484 - EPA 5030 Soil MS

Blank (BEC0484-BLK1)

Prepared & Analyzed: 03/29/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0373		"	0.0400		93.2	23-173			
<i>Surrogate: Toluene-d8</i>	0.0404		"	0.0400		101	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0405		"	0.0400		101	21-167			

LCS (BEC0484-BS1)

Prepared & Analyzed: 03/29/21

Benzene	0.0998	0.0020	mg/kg	0.100		99.8	70-130			
Toluene	0.0841	0.0050	"	0.100		84.1	70-130			
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130			
m,p-Xylene	0.214	0.010	"	0.200		107	70-130			
o-Xylene	0.108	0.0050	"	0.100		108	70-130			
1,2,4-Trimethylbenzene	0.128	0.0050	"	0.100		128	70-130			
1,3,5-Trimethylbenzene	0.123	0.0050	"	0.100		123	70-130			
Naphthalene	0.114	0.0038	"	0.100		114	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0396		"	0.0400		98.9	23-173			
<i>Surrogate: Toluene-d8</i>	0.0400		"	0.0400		100	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0406		"	0.0400		102	21-167			

Matrix Spike (BEC0484-MS1)

Source: 2103355-01

Prepared & Analyzed: 03/29/21

Benzene	0.0996	0.0020	mg/kg	0.100	ND	99.6	70-130			
Toluene	0.0831	0.0050	"	0.100	ND	83.1	70-130			
Ethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130			
m,p-Xylene	0.211	0.010	"	0.200	0.00513	103	70-130			
o-Xylene	0.107	0.0050	"	0.100	ND	107	70-130			
1,2,4-Trimethylbenzene	0.125	0.0050	"	0.100	ND	125	70-130			
1,3,5-Trimethylbenzene	0.122	0.0050	"	0.100	ND	122	70-130			
Naphthalene	0.112	0.0038	"	0.100	ND	112	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0398		"	0.0400		99.5	23-173			
<i>Surrogate: Toluene-d8</i>	0.0390		"	0.0400		97.4	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0393		"	0.0400		98.3	21-167			

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PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

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 BEC0484 - EPA 5030 Soil MS

Matrix Spike Dup (BEC0484-MSD1)	Source: 2103355-01			Prepared & Analyzed: 03/29/21						
Benzene	0.0990	0.0020	mg/kg	0.100	ND	99.0	70-130	0.635	30	
Toluene	0.0831	0.0050	"	0.100	ND	83.1	70-130	0.0361	30	
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	1.99	30	
m,p-Xylene	0.205	0.010	"	0.200	0.00513	99.8	70-130	3.19	30	
o-Xylene	0.105	0.0050	"	0.100	ND	105	70-130	1.55	30	
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	1.13	30	
1,3,5-Trimethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130	2.89	30	
Naphthalene	0.113	0.0038	"	0.100	ND	113	70-130	1.06	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>99.1</i>	<i>21-167</i>			

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PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

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 BEC0436 - EPA 3550A

Blank (BEC0436-BLK1)

Prepared: 03/25/21 Analyzed: 03/26/21

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							

LCS (BEC0436-BS1)

Prepared: 03/25/21 Analyzed: 03/26/21

C10-C28 (DRO)	350	50	mg/kg	500	70.0	70-130				
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Matrix Spike (BEC0436-MS1)

Source: 2103327-02

Prepared: 03/25/21 Analyzed: 03/26/21

C10-C28 (DRO)	454	50	mg/kg	500	13.1	88.2	70-130			
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Matrix Spike Dup (BEC0436-MSD1)

Source: 2103327-02

Prepared: 03/25/21 Analyzed: 03/26/21

C10-C28 (DRO)	465	50	mg/kg	500	13.1	90.3	70-130	2.27	20	
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Summit Scientific

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PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control

Summit Scientific

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

Batch BEC0461 - EPA 3050B

Blank (BEC0461-BLK1)

Prepared: 03/26/21 Analyzed: 03/27/21

Boron ND 0.0100 mg/L

LCS (BEC0461-BS1)

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 5.39 0.0100 mg/L 5.00 108 80-120

Duplicate (BEC0461-DUP1)

Source: 2103225-03

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 0.0948 0.0100 mg/L 0.101 6.41 20

Matrix Spike (BEC0461-MS1)

Source: 2103225-03

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 5.36 0.0100 mg/L 5.00 0.101 105 75-125

Matrix Spike Dup (BEC0461-MSD1)

Source: 2103225-03

Prepared: 03/26/21 Analyzed: 03/27/21

Boron 4.96 0.0100 mg/L 5.00 0.101 97.1 75-125 7.85 25

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PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEC0451 - General Preparation

Blank (BEC0451-BLK1)

Prepared: 03/25/21 Analyzed: 03/27/21

Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BEC0451-BS1)

Prepared: 03/25/21 Analyzed: 03/27/21

Calcium	4.62	0.0500	mg/L wet	5.00	92.4	70-130
Magnesium	5.41	0.0500	"	5.00	108	70-130
Sodium	5.28	0.0500	"	5.00	106	70-130

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.



PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

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 BEC0455 - General Preparation

Duplicate (BEC0455-DUP1)

Source: 2103355-02

Prepared & Analyzed: 03/26/21

% Solids	88.1		%		87.9			0.231	20	
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Summit Scientific

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PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEC0465 - General Preparation

Blank (BEC0465-BLK1)

Prepared & Analyzed: 03/26/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEC0465-BS1)

Prepared & Analyzed: 03/26/21

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 90-110

Duplicate (BEC0465-DUP1)

Source: 2103351-05

Prepared & Analyzed: 03/26/21

Specific Conductance (EC) 0.384 0.0100 mmhos/cm 0.386 0.467 20

Summit Scientific

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PDC Energy
 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Mattie 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 03/30/21 12:12

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BEC0466 - General Preparation

LCS (BEC0466-BS1)

Prepared & Analyzed: 03/26/21

pH	9.28	pH Units	9.18	101	95-105
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Duplicate (BEC0466-DUP1)

Source: 2103351-05

Prepared & Analyzed: 03/26/21

pH	8.36	pH Units	8.35	0.120	20
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Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Mattie 1 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/21 12:12

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