

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 <sup>(4)</sup> (mg/kg)
Residential SSL <sup>(1,2)</sup>			1.2	490	5.8	58	30	27	2	500
Protection of Groundwater SSL <sup>(1,2,3)</sup>			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:

- Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.
- 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 extactable 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 <sup>(1)</sup>			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 <sup>(1)</sup> Latitude / Longitude		PDOP Value	VOC Concentration <sup>(2)</sup> (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

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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', with a stylized, cursive script.

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

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 <sup>915</sup>	TPH - (C6 - C36) <sup>915</sup>	pH, EC, SAR <sup>915</sup>	Boron - HWS <sup>915</sup>	VOC - 915	PAH - 915	Metals - 915		
1	FLR01 @ 3'	3/24/21	1148	2			X			X				X	X					X	pH, EC, SAR by saturated paste
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: Cody Miller	Date/Time: 3/24/21 1440	Received by: Tasman's Lock Box	Date/Time: 3/24/21 1440	<b>Turn Around Time</b> (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ <b>Sample Integrity:</b> Temperature Upon Receipt: 3.3 Samples Intact: <input checked="" type="checkbox"/> Yes No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box	Date/Time: 3-24-21 17:10	Received by: [Signature]	Date/Time: 3-24-21 17:10		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

# Sample Receipt Checklist

S2 Work Order 2103355

Client: PDC / TASMAN Client Project ID: MATIE 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
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Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? 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):

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

Muri P.  
Custodian Printed Name or Initials

[Signature]  
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		61.1 %	30-150		"	"	"	"	

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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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>pH</b>	<b>7.55</b>			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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0373		"	0.0400		93.2	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		98.9	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.5	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.4	20-170			
Surrogate: 4-Bromofluorobenzene	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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**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	
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	21-167			

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

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

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

**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

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

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

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

**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

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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 - Quality Control**

**Summit Scientific**

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

**Batch BEC0455 - General Preparation**

Duplicate (BEC0455-DUP1)		Source: 2103355-02		Prepared & Analyzed: 03/26/21						
% Solids	88.1		%		87.9			0.231	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

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

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

**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		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

**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