

TABLE 1
FORMER MILLEGE 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'	3/29/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
WH01 @ 6-7'	10/28/2021	6-7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FL01 @ 4'	10/28/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FL02 @4'	10/28/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FL03 @ 4'	10/28/2021	4 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 MILLEGE 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'	3/29/2021	2.5 ft. bgs	7.89	0.990	1.09	0.201
WH01 @ 6-7'	10/28/2021	6-7 ft. bgs	8.06	0.848	2.84	0.139

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 MILLEGE 1 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS - PAHs

Sample ID	Date Sampled	Depth	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ^(1,2)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^(1,2,3)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
WH01 @ 6-7'	10/28/2021	6-7 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

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
COGCC = Colorado Oil and Gas Conservation Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
PAHs = Polycyclic aromatic hydrocarbons
Benz(a) = Benzanthracene
Benzo(a) = Benzopyrene
Benzo(b) = Benzofluoranthene
Benzo(k) = Benzofluoranthene
A,H = Dibenzoanthracene
1,2,3-CD = Indenopyrene
M = Methylnaphthalene
mg/kg = Milligrams per kilogram
ft. = Feet
bgs = Below ground surface

TABLE 4
FORMER MILLEGE 1 WELLHEAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
WH01 @ 2.5'	3/29/2021	2.5 ft. bgs	40.346467	-104.543415	1.2	0.3
FLR01 @ 3'	3/29/2021	3 ft. bgs	40.346448	-104.543400	1.3	0.1
BKG01 @ 2.5'	3/29/2021	2.5 ft. bgs	40.346392	-104.543498	1.4	0.0
WHS01-N @ 0-6"	3/29/2021	0-6 in. bgs	40.346483	-104.543402	1.2	0.0
WHS01-W @ 0-6"	3/29/2021	0-6 in. bgs	40.346467	-104.543437	1.2	0.0
WHS01-S @ 0-6"	3/29/2021	0-6 in. bgs	40.346413	-104.543425	1.3	0.0
WHS01-E @ 0-6"	3/29/2021	0-6 in. bgs	40.346438	-104.543371	1.3	0.2
WHS01-E @ 0-6"	3/29/2021	0-6 in. bgs	40.346438	-104.543371	1.3	0.2
WH01 @ 6-7'	10/28/2021	6-7 ft. bgs	40.346455	-104.543407	NC	4.3
FL01 @ 4'	10/28/2021	4 ft. bgs	40.345489	-104.543823	NC	3.1
FL02 @ 4'	10/28/2021	4 ft. bgs	40.344129	-104.544540	NC	2.3
FL03 @ 4'	10/28/2021	4 ft. bgs	40.342796	-104.545273	NC	3.4

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

NC= Data Not Collected

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 12, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Millage 1 Wellhead

Work Order #2103430

Enclosed are the results of analyses for samples received by Summit Scientific on 03/29/21 16:55. 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: Millage 1 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/12/21 12:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FLR01@3'	2103430-01	Soil	03/29/21 14:30	03/29/21 16:55
WH01@2.5'	2103430-02	Soil	03/29/21 14:33	03/29/21 16:55

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

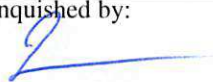

2103430

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

Page 1 of 1

Client: PDC/Tasman
Address: 6855 W. 119th ave.
City/State/Zip: Broomfield, CO 80020
Phone: Fax:
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Millage 1 Wellhead
Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:										Special Instructions			
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	GBTEXN 915	TPH C6-C36 915	TMB 1,2,4,1,3,5 915	pH, EC, SAR 915	Boron 915	Hold							
FLR01 @ 3'	3/29/21	1430	2			X			X			X	X	X										
WH01 @ 2.5'	↓	1433	2			X			X						X	X								
BK601 @ 2.5'	↓	1436	2			X			X								X							
Relinquished by: 	Date/Time: 3/29/21 1655			Received by: 				Date/Time: 3-29-21 1655				Turn Around Time (Check)												
												Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/>												
Relinquished by: Date/Time:				Received by: Date/Time:								Sample Integrity:												
Relinquished by: Date/Time:				Received in Lab by: Date/Time:								Temperature Upon Receipt: 4.5 Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												

Sample Receipt Checklist

S2 Work Order 2103430

Client: PDC/Tasman

Client Project ID: Millage 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)	4.5
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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 ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			On Ice
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.

MP

Custodian Printed Name or Initials

Muri Premer

Signature of Custodian

3/29/21

Date/Time



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

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

Reported:
04/12/21 12:39

FLR01@3'
2103430-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/29/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0543	03/31/21	04/02/21	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: **03/29/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/29/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0544	03/31/21	04/02/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/29/21 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		117 %	30-150		"	"	"	"	

Summit Scientific

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

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

Reported:
04/12/21 12:39

WH01@2.5'
2103430-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/29/21 14:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.201	0.0100	mg/L	1	BED0033	04/02/21	04/03/21	EPA 6020B	

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

Date Sampled: **03/29/21 14:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	161	0.0538	mg/L dry	1	BED0040	04/02/21	04/07/21	EPA 6020B	
Magnesium	48.1	0.0538	"	"	"	"	"	"	
Sodium	61.6	0.0538	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/29/21 14:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.09	0.100	units	1	BED0139	04/08/21	04/08/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/21 14:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.9		%	1	BEC0530	03/31/21	03/31/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/29/21 14:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.990	0.0100	mmhos/cm	1	BED0090	04/06/21	04/06/21	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: Millage 1 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/12/21 12:39

WH01@2.5'
2103430-02 (Soil)

Summit Scientific

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

Date Sampled: **03/29/21 14:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.89			pH Units	1	BED0091	04/06/21	04/06/21	EPA 9045D	

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

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

Reported:
04/12/21 12:39

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 BEC0543 - EPA 5030 Soil MS

Blank (BEC0543-BLK1)

Prepared: 03/31/21 Analyzed: 04/01/21

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	0.0302		"	0.0400		75.4	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	21-167			

LCS (BEC0543-BS1)

Prepared: 03/31/21 Analyzed: 04/01/21

Benzene	0.0727	0.0020	mg/kg	0.100		72.7	70-130			
Toluene	0.0982	0.0050	"	0.100		98.2	70-130			
Ethylbenzene	0.0949	0.0050	"	0.100		94.9	70-130			
m,p-Xylene	0.170	0.010	"	0.200		85.2	70-130			
o-Xylene	0.0856	0.0050	"	0.100		85.6	70-130			
1,2,4-Trimethylbenzene	0.0890	0.0050	"	0.100		89.0	70-130			
1,3,5-Trimethylbenzene	0.0846	0.0050	"	0.100		84.6	70-130			
Naphthalene	0.0852	0.0038	"	0.100		85.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0220		"	0.0400		54.9	23-173			
Surrogate: Toluene-d8	0.0446		"	0.0400		111	20-170			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	21-167			

Matrix Spike (BEC0543-MS1)

Source: 2103428-02

Prepared: 03/31/21 Analyzed: 04/01/21

Benzene	0.0762	0.0020	mg/kg	0.100	ND	76.2	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.0974	0.0050	"	0.100	ND	97.4	70-130			
m,p-Xylene	0.173	0.010	"	0.200	ND	86.7	70-130			
o-Xylene	0.0874	0.0050	"	0.100	ND	87.4	70-130			
1,2,4-Trimethylbenzene	0.0925	0.0050	"	0.100	ND	92.5	70-130			
1,3,5-Trimethylbenzene	0.0878	0.0050	"	0.100	ND	87.8	70-130			
Naphthalene	0.0975	0.0038	"	0.100	ND	97.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0285		"	0.0400		71.2	23-173			
Surrogate: Toluene-d8	0.0440		"	0.0400		110	20-170			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	21-167			

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

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

Reported:
04/12/21 12:39

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 BEC0543 - EPA 5030 Soil MS

Matrix Spike Dup (BEC0543-MSD1)		Source: 2103428-02			Prepared: 03/31/21 Analyzed: 04/01/21					
Benzene	0.0725	0.0020	mg/kg	0.100	ND	72.5	70-130	4.96	30	
Toluene	0.0857	0.0050	"	0.100	ND	85.7	70-130	18.0	30	
Ethylbenzene	0.0910	0.0050	"	0.100	ND	91.0	70-130	6.75	30	
m,p-Xylene	0.162	0.010	"	0.200	ND	81.0	70-130	6.80	30	
o-Xylene	0.0826	0.0050	"	0.100	ND	82.6	70-130	5.72	30	
1,2,4-Trimethylbenzene	0.0862	0.0050	"	0.100	ND	86.2	70-130	7.02	30	
1,3,5-Trimethylbenzene	0.0805	0.0050	"	0.100	ND	80.5	70-130	8.70	30	
Naphthalene	0.0911	0.0038	"	0.100	ND	91.1	70-130	6.84	30	
Surrogate: 1,2-Dichloroethane-d4		0.0268	"	0.0400		66.9	23-173			
Surrogate: Toluene-d8		0.0404	"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene		0.0390	"	0.0400		97.6	21-167			

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

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

Reported:
04/12/21 12:39

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 BEC0544 - EPA 3550A

Blank (BEC0544-BLK1)

Prepared: 03/31/21 Analyzed: 04/02/21

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

LCS (BEC0544-BS1)

Prepared: 03/31/21 Analyzed: 04/02/21

C10-C28 (DRO)	451	50	mg/kg	500	90.3	70-130
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Matrix Spike (BEC0544-MS1)

Source: 2103425-01

Prepared: 03/31/21 Analyzed: 04/02/21

C10-C28 (DRO)	428	50	mg/kg	500	15.1	82.6	70-130
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Matrix Spike Dup (BEC0544-MSD1)

Source: 2103425-01

Prepared: 03/31/21 Analyzed: 04/02/21

C10-C28 (DRO)	400	50	mg/kg	500	15.1	77.0	70-130	6.81	20
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Summit Scientific

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

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

Reported:
04/12/21 12:39

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 BED0033 - EPA 3050B

Blank (BED0033-BLK1)

Prepared & Analyzed: 04/02/21

Boron ND 0.0100 mg/L

LCS (BED0033-BS1)

Prepared & Analyzed: 04/02/21

Boron 4.82 0.0100 mg/L 5.00 96.5 80-120

Duplicate (BED0033-DUP1)

Source: 2103400-01

Prepared & Analyzed: 04/02/21

Boron 1.12 0.0100 mg/L 1.13 0.758 20

Matrix Spike (BED0033-MS1)

Source: 2103400-01

Prepared & Analyzed: 04/02/21

Boron 5.03 0.0100 mg/L 5.00 1.13 78.1 75-125

Matrix Spike Dup (BED0033-MSD1)

Source: 2103400-01

Prepared & Analyzed: 04/02/21

Boron 5.15 0.0100 mg/L 5.00 1.13 80.4 75-125 2.26 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: Millage 1 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/12/21 12:39

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

Summit Scientific

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

Batch BED0040 - General Preparation

Blank (BED0040-BLK1)

Prepared: 04/02/21 Analyzed: 04/07/21

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

LCS (BED0040-BS1)

Prepared: 04/02/21 Analyzed: 04/07/21

Calcium	5.85	0.0500	mg/L wet	5.00	117	70-130
Magnesium	5.69	0.0500	"	5.00	114	70-130
Sodium	6.22	0.0500	"	5.00	124	70-130

Summit Scientific

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

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

Reported:
04/12/21 12:39

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 BEC0530 - General Preparation

Duplicate (BEC0530-DUP1)		Source: 2103243-03			Prepared & Analyzed: 03/31/21					
% Solids	93.4		%		93.2		0.220		20	

Summit Scientific

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

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

Reported:
04/12/21 12:39

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 BED0090 - General Preparation

Blank (BED0090-BLK1)

Prepared & Analyzed: 04/06/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BED0090-BS1)

Prepared & Analyzed: 04/06/21

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 90-110

Duplicate (BED0090-DUP1)

Source: 2103400-01

Prepared & Analyzed: 04/06/21

Specific Conductance (EC) 6.78 0.0100 mmhos/cm 6.86 1.16 20

Summit Scientific

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

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

Reported:
04/12/21 12:39

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

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

Batch BED0091 - General Preparation

LCS (BED0091-BS1)

Prepared & Analyzed: 04/06/21

pH	9.28	pH Units	9.21	101	95-105
----	------	----------	------	-----	--------

Duplicate (BED0091-DUP1)

Source: 2103400-01

Prepared & Analyzed: 04/06/21

pH	8.05	pH Units	8.05	0.00	20
----	------	----------	------	------	----

Summit Scientific

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

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

Reported:
04/12/21 12:39

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 04, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Millege 1 Wellhead

Work Order #2110483

Enclosed are the results of analyses for samples received by Summit Scientific on 10/28/21 16:32. 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: Millege 1 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/04/21 15:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH01@6-7'	2110483-01	Soil	10/28/21 09:42	10/28/21 16:32
FL01@4'	2110483-03	Soil	10/28/21 10:35	10/28/21 16:32
FL02@4'	2110483-04	Soil	10/28/21 11:01	10/28/21 16:32
FL03@4'	2110483-05	Soil	10/28/21 10:42	10/28/21 16:32

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

2110483

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: Millage 1 wellhead
 Sampler Name: Sam Anderson / David Vigil Project Number:

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	GBTEXN - 8260B	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	VOC - 915	PAH - 915	Metals - 915	TMIBs (1,2,4)&(1,3,5)						
1	WH01 @ 6-7'	10/28/21	0942	3			X			X				X	X	X	X		X						pH, EC, SAR by saturated paste	
2	BK602 @ 6-7'	↓	0955	1			X			X				X	X										X	
3	FL01 @ 4'	↓	1035	1			X			X				X	X											
4	FL02 @ 4'	↓	1101	1			X			X				X	X											
5	FL03 @ 4'	↓	1042	1			X			X				X	X											
6																										
7																										
8																										
9																										
10																										

Relinquished by: <u>David Vigil</u>	Date/Time: <u>10/28/21 1340</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: _____	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>6.4</u> Samples Intact: <u>Yes</u> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: _____	Received by: <u>[Signature]</u>	Date/Time: <u>10-28-21 16:32</u>		
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____		

S₂

2110483

Sample Receipt Checklist

S2 Work Order# _____

Client: B.C. Tasmann Client Project ID: millage 1 wellheadShipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other ☒ Airbill #: _____Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)


Temp (°C)

6.4

Thermometer ID: G86A9201901378

	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 if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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.

 Custodian Printed Name or Initials

 10.28.21
 Date/Time



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

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

Reported:
11/04/21 15:41

WH01@6-7'
2110483-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEK0021	11/01/21	11/02/21	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: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0022	11/01/21	11/01/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		117 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Reported:
11/04/21 15:41

WH01@6-7'
2110483-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0047	11/02/21	11/04/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		70.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		60.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.139	0.0100	mg/L	1	BEJ0606	10/29/21	10/29/21	EPA 6020B	

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

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

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

Reported:
11/04/21 15:41

WH01@6-7'
2110483-01 (Soil)

Summit Scientific

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

Calcium	63.3	0.0532	mg/L dry	1	BEK0049	11/02/21	11/04/21	EPA 6020B
Magnesium	12.3	0.0532	"	"	"	"	"	"
Sodium	94.3	0.0532	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.84	0.00100	units	1	BEK0120	11/04/21	11/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.0		%	1	BEJ0602	10/29/21	10/29/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.848	0.0100	mmhos/cm	1	BEK0087	11/03/21	11/03/21	EPA 120.1	

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

Date Sampled: **10/28/21 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.06		pH Units	1	BEK0088	11/03/21	11/03/21	EPA 9045D	

Summit Scientific

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

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

Reported:
11/04/21 15:41

FL01@4'
2110483-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/28/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0021	11/01/21	11/02/21	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: **10/28/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/28/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0022	11/01/21	11/01/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/28/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		116 %	30-150		"	"	"	"	

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

Reported:
11/04/21 15:41

FL02@4'
2110483-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/28/21 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0021	11/01/21	11/02/21	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: **10/28/21 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/28/21 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0022	11/01/21	11/01/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/28/21 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		119 %	30-150		"	"	"	"	

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

Reported:
11/04/21 15:41

FL03@4'
2110483-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/28/21 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0021	11/01/21	11/02/21	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: **10/28/21 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		92.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/28/21 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0022	11/01/21	11/01/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/28/21 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		120 %	30-150		"	"	"	"	

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

Reported:
11/04/21 15:41

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 BEK0021 - EPA 5030 Soil MS

Blank (BEK0021-BLK1)

Prepared & Analyzed: 11/01/21

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	0.0395		"	0.0400		98.8	23-173			
Surrogate: Toluene-d8	0.0361		"	0.0400		90.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0363		"	0.0400		90.8	21-167			

LCS (BEK0021-BS1)

Prepared & Analyzed: 11/01/21

Benzene	0.0931	0.0020	mg/kg	0.100		93.1	70-130			
Toluene	0.0915	0.0050	"	0.100		91.5	70-130			
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130			
m,p-Xylene	0.260	0.010	"	0.200		130	70-130			
o-Xylene	0.114	0.0050	"	0.100		114	70-130			
1,2,4-Trimethylbenzene	0.123	0.0050	"	0.100		123	70-130			
1,3,5-Trimethylbenzene	0.121	0.0050	"	0.100		121	70-130			
Naphthalene	0.104	0.0038	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0383		"	0.0400		95.7	23-173			
Surrogate: Toluene-d8	0.0373		"	0.0400		93.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0367		"	0.0400		91.7	21-167			

Matrix Spike (BEK0021-MS1)

Source: 2110483-01

Prepared: 11/01/21 Analyzed: 11/02/21

Benzene	0.0922	0.0020	mg/kg	0.100	ND	92.2	70-130			
Toluene	0.0912	0.0050	"	0.100	ND	91.2	70-130			
Ethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130			
m,p-Xylene	0.258	0.010	"	0.200	ND	129	70-130			
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130			
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130			
1,3,5-Trimethylbenzene	0.122	0.0050	"	0.100	ND	122	70-130			
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0372		"	0.0400		92.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.0	21-167			

Summit Scientific

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

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

Reported:
11/04/21 15:41

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 BEK0021 - EPA 5030 Soil MS

Matrix Spike Dup (BEK0021-MSD1)	Source: 2110483-01			Prepared: 11/01/21 Analyzed: 11/02/21						
Benzene	0.0905	0.0020	mg/kg	0.100	ND	90.5	70-130	1.77	30	
Toluene	0.0896	0.0050	"	0.100	ND	89.6	70-130	1.76	30	
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	0.0558	30	
m,p-Xylene	0.258	0.010	"	0.200	ND	129	70-130	0.116	30	
o-Xylene	0.113	0.0050	"	0.100	ND	113	70-130	0.896	30	
1,2,4-Trimethylbenzene	0.122	0.0050	"	0.100	ND	122	70-130	2.00	30	
1,3,5-Trimethylbenzene	0.120	0.0050	"	0.100	ND	120	70-130	1.69	30	
Naphthalene	0.113	0.0038	"	0.100	ND	113	70-130	4.09	30	
Surrogate: 1,2-Dichloroethane-d4	0.0389		"	0.0400		97.2	23-173			
Surrogate: Toluene-d8	0.0371		"	0.0400		92.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0361		"	0.0400		90.3	21-167			

Summit Scientific

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

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

Reported:
11/04/21 15:41

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEK0022 - EPA 3550A

Blank (BEK0022-BLK1)

Prepared & Analyzed: 11/01/21

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

LCS (BEK0022-BS1)

Prepared & Analyzed: 11/01/21

C10-C28 (DRO)	456	50	mg/kg	500	91.2	70-130
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Matrix Spike (BEK0022-MS1)

Source: 2110483-01

Prepared & Analyzed: 11/01/21

C10-C28 (DRO)	467	50	mg/kg	500	31.8	86.9	70-130
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Matrix Spike Dup (BEK0022-MSD1)

Source: 2110483-01

Prepared & Analyzed: 11/01/21

C10-C28 (DRO)	458	50	mg/kg	500	31.8	85.2	70-130	1.88	20
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Summit Scientific

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

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

Reported:
11/04/21 15:41

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEK0047 - EPA 5030 Soil MS

Blank (BEK0047-BLK1)

Prepared: 11/02/21 Analyzed: 11/03/21

Acenaphthene	ND	0.00500	mg/kg
Anthracene	ND	0.00500	"
Benzo (a) anthracene	ND	0.00500	"
Benzo (a) pyrene	ND	0.00500	"
Benzo (b) fluoranthene	ND	0.00500	"
Benzo (k) fluoranthene	ND	0.00500	"
Chrysene	ND	0.00500	"
Dibenz (a,h) anthracene	ND	0.00500	"
Fluoranthene	ND	0.00500	"
Fluorene	ND	0.00500	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"
Pyrene	ND	0.00500	"
1-Methylnaphthalene	ND	0.00500	"
2-Methylnaphthalene	ND	0.00500	"

Surrogate: 2-Methylnaphthalene-d10	0.0242	"	0.0333	72.6	40-150
Surrogate: Fluoranthene-d10	0.0216	"	0.0333	64.8	40-150

LCS (BEK0047-BS1)

Prepared: 11/02/21 Analyzed: 11/03/21

Acenaphthene	0.0150	0.00500	mg/kg	0.0333	44.9	31-137
Anthracene	0.0159	0.00500	"	0.0333	47.6	30-120
Benzo (a) anthracene	0.0160	0.00500	"	0.0333	48.1	30-120
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	48.0	30-120
Benzo (b) fluoranthene	0.0209	0.00500	"	0.0333	62.8	30-120
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333	74.0	30-120
Chrysene	0.0164	0.00500	"	0.0333	49.3	30-120
Dibenz (a,h) anthracene	0.0111	0.00500	"	0.0333	33.4	30-120
Fluoranthene	0.0137	0.00500	"	0.0333	41.2	30-120
Fluorene	0.0174	0.00500	"	0.0333	52.2	30-120
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	53.1	30-120
Pyrene	0.0315	0.00500	"	0.0333	94.5	35-142
1-Methylnaphthalene	0.0156	0.00500	"	0.0333	46.9	35-142
2-Methylnaphthalene	0.0160	0.00500	"	0.0333	47.9	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0171	"	0.0333	51.4	40-150
Surrogate: Fluoranthene-d10	0.0155	"	0.0333	46.4	40-150

Summit Scientific

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

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

Reported:
11/04/21 15:41

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEK0047 - EPA 5030 Soil MS

Matrix Spike (BEK0047-MS1)

Source: 2110365-01

Prepared: 11/02/21 Analyzed: 11/03/21

Acenaphthene	0.0189	0.00500	mg/kg	0.0333	ND	56.7	31-137		
Anthracene	0.0177	0.00500	"	0.0333	ND	53.1	30-120		
Benzo (a) anthracene	0.0190	0.00500	"	0.0333	ND	57.0	30-120		
Benzo (a) pyrene	0.0196	0.00500	"	0.0333	ND	58.8	30-120		
Benzo (b) fluoranthene	0.0259	0.00500	"	0.0333	ND	77.6	30-120		
Benzo (k) fluoranthene	0.0293	0.00500	"	0.0333	ND	88.0	30-120		
Chrysene	0.0187	0.00500	"	0.0333	ND	56.0	30-120		
Dibenz (a,h) anthracene	0.0118	0.00500	"	0.0333	ND	35.5	30-120		
Fluoranthene	0.0159	0.00500	"	0.0333	ND	47.7	30-120		
Fluorene	0.0206	0.00500	"	0.0333	ND	61.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0152	0.00500	"	0.0333	ND	45.7	30-120		
Pyrene	0.0349	0.00500	"	0.0333	ND	105	35-142		
1-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.4	15-130		
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.2	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.1	40-150		
Surrogate: Fluoranthene-d10	0.0174		"	0.0333		52.3	40-150		

Matrix Spike Dup (BEK0047-MSD1)

Source: 2110365-01

Prepared: 11/02/21 Analyzed: 11/03/21

Acenaphthene	0.0191	0.00500	mg/kg	0.0333	ND	57.3	31-137	1.14	30
Anthracene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	7.65	30
Benzo (a) anthracene	0.0167	0.00500	"	0.0333	ND	50.0	30-120	13.1	30
Benzo (a) pyrene	0.0193	0.00500	"	0.0333	ND	57.9	30-120	1.45	30
Benzo (b) fluoranthene	0.0209	0.00500	"	0.0333	ND	62.8	30-120	21.1	30
Benzo (k) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120	21.9	30
Chrysene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	6.90	30
Dibenz (a,h) anthracene	0.0112	0.00500	"	0.0333	ND	33.6	30-120	5.46	30
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	8.54	30
Fluorene	0.0209	0.00500	"	0.0333	ND	62.6	30-120	1.43	30
Indeno (1,2,3-cd) pyrene	0.0115	0.00500	"	0.0333	ND	34.6	30-120	27.7	30
Pyrene	0.0310	0.00500	"	0.0333	ND	93.1	35-142	11.7	30
1-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.5	15-130	16.7	50
2-Methylnaphthalene	0.0173	0.00500	"	0.0333	ND	51.8	15-130	18.1	50
Surrogate: 2-Methylnaphthalene-d10	0.0137		"	0.0333		41.0	40-150		
Surrogate: Fluoranthene-d10	0.0228		"	0.0333		68.5	40-150		

Summit Scientific

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

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

Reported:
11/04/21 15:41

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 BEJ0606 - EPA 3050B

Blank (BEJ0606-BLK1)

Prepared & Analyzed: 10/29/21

Boron ND 0.0100 mg/L

LCS (BEJ0606-BS1)

Prepared & Analyzed: 10/29/21

Boron 4.72 0.0100 mg/L 5.00 94.4 80-120

Duplicate (BEJ0606-DUP1)

Source: 2110483-01

Prepared & Analyzed: 10/29/21

Boron 0.117 0.0100 mg/L 0.139 17.3 20

Matrix Spike (BEJ0606-MS1)

Source: 2110483-01

Prepared & Analyzed: 10/29/21

Boron 4.98 0.0100 mg/L 5.00 0.139 96.8 75-125

Matrix Spike Dup (BEJ0606-MSD1)

Source: 2110483-01

Prepared & Analyzed: 10/29/21

Boron 5.08 0.0100 mg/L 5.00 0.139 98.9 75-125 2.05 25

Summit Scientific

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

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

Reported:
11/04/21 15:41

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 BEK0049 - General Preparation

Blank (BEK0049-BLK1)

Prepared: 11/02/21 Analyzed: 11/04/21

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

LCS (BEK0049-BS1)

Prepared: 11/02/21 Analyzed: 11/04/21

Calcium	5.67	0.0500	mg/L wet	5.00	113	70-130
Magnesium	5.46	0.0500	"	5.00	109	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: Millege 1 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/04/21 15:41

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 BEJ0602 - General Preparation

Duplicate (BEJ0602-DUP1)

Source: 2110262-01

Prepared & Analyzed: 10/29/21

% Solids	84.8	%	84.9	0.133	20
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Summit Scientific

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

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

Reported:
11/04/21 15:41

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 BEK0087 - General Preparation

Blank (BEK0087-BLK1)

Prepared & Analyzed: 11/03/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEK0087-BS1)

Prepared & Analyzed: 11/03/21

Specific Conductance (EC) 0.143 0.0100 mmhos/cm 0.150 95.1 95-105

Duplicate (BEK0087-DUP1)

Source: 2110482-01

Prepared & Analyzed: 11/03/21

Specific Conductance (EC) 3.31 0.0100 mmhos/cm 3.31 0.121 20

Summit Scientific

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

Project: Millege 1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/04/21 15:41

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

Summit Scientific

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

Batch BEK0088 - General Preparation

LCS (BEK0088-BS1)

Prepared & Analyzed: 11/03/21

pH	9.16	pH Units	9.18	99.8	95-105
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Duplicate (BEK0088-DUP1)

Source: 2110483-01

Prepared & Analyzed: 11/03/21

pH	8.05	pH Units	8.06	0.124	20
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

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

Reported:
11/04/21 15:41

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