

**TABLE 1
FORMER WELLS RANCH 23-34 TANK BATTERY
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
AST01 @ 0-6"	9/9/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
AST02 @ 0-6"	9/9/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	339.98
SEP01-FL @ 4'	9/9/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-DL @ 4'	9/9/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-B @ 5'	9/9/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-W @ 2.5'	9/9/2021	2.5 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

in. = Inches

bgs = Below ground surface

TABLE 2
FORMER WELLS RANCH 23-34 TANK BATTERY
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
PWV01-B @ 5'	9/9/2021	5 ft. bgs	8.90	0.216	0.0338	0.0528
PWV01-N @ 2.5'	9/9/2021	2.5 ft. bgs	8.02	NA	NA	NA
PWV01-W @ 2.5'	9/9/2021	2.5 ft. bgs	8.87	0.117	0.0427	0.0699
PWV01-S @ 2.5'	9/9/2021	2.5 ft. bgs	8.21	NA	NA	NA
PWV01-E @ 2.5'	9/9/2021	2.5 ft. bgs	8.10	NA	NA	NA
BKG01 @ 2.5'	9/9/2021	2.5 ft. bgs	7.27	NA	NA	NA
BKG01 @ 4'	9/9/2021	4 ft. bgs	8.19	NA	NA	NA
BKG01 @ 5'	9/9/2021	5 ft. bgs	8.34	NA	NA	NA

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

NA = Constituent not analyzed

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 3
FORMER WELLS RANCH 23-34 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
			Latitude	Longitude		
AST01 @ 0-6"	9/9/2021	0-6 in. bgs	40.439062	-104.427694	1.6	0.1
AST02 @ 0-6"	9/9/2021	0-6 in. bgs	40.439084	-104.427741	1.3	5.5
SEP01-FL @ 4'	9/9/2021	4 ft. bgs	40.439328	-104.427999	1.1	0.3
SEP01-DL @ 4'	9/9/2021	4 ft. bgs	40.439300	-104.427951	1.1	0.5
PWV01-B @ 5'	9/9/2021	5 ft. bgs	40.439120	-104.427773	1.1	0.0
PWV01-N @ 2.5'	9/9/2021	2.5 ft. bgs	40.439124	-104.427797	1.1	0.0
PWV01-W @ 2.5'	9/9/2021	2.5 ft. bgs	40.439106	-104.427791	1.1	0.9
PWV01-S @ 2.5'	9/9/2021	2.5 ft. bgs	40.439105	-104.427755	1.1	0.0
PWV01-E @ 2.5'	9/9/2021	2.5 ft. bgs	40.439134	-104.427747	1.1	0.0
WDL01 @ 4'	9/9/2021	4 ft. bgs	40.439138	-104.427761	1.1	0.0
ECD01 @ 0-6"	9/9/2021	0-6 in. bgs	40.439346	-104.428055	1.1	0.8
ECD02 @ 0-6"	9/9/2021	0-6 in. bgs	40.439329	-104.428083	1.1	0.1
MH01 @ 0-6"	9/9/2021	0-6 in. bgs	40.439263	-104.427975	1.1	0.0
MH02 @ 0-6"	9/9/2021	0-6 in. bgs	40.439210	-104.428025	1.1	0.0
BKG01	9/9/2021	5 ft. bgs	40.439429	-104.427933	1.1	0.3

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

September 22, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Wells Ranch 23-34 Tank Battery

Work Order #2109140

Enclosed are the results of analyses for samples received by Summit Scientific on 09/09/21 16:40. 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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01-DL@4'	2109140-01	Soil	09/09/21 10:58	09/09/21 16:40
SEP01-FL@4'	2109140-02	Soil	09/09/21 10:55	09/09/21 16:40
PWV01-B@5'	2109140-03	Soil	09/09/21 10:00	09/09/21 16:40
PWV01-N@2.5'	2109140-04	Soil	09/09/21 10:02	09/09/21 16:40
PWV01-W@2.5'	2109140-05	Soil	09/09/21 10:04	09/09/21 16:40
PWV01-S@2.5'	2109140-06	Soil	09/09/21 10:06	09/09/21 16:40
PWV01-E@2.5'	2109140-07	Soil	09/09/21 10:08	09/09/21 16:40
AST01@0-6"	2109140-08	Soil	09/09/21 09:47	09/09/21 16:40
AST02@0-6"	2109140-09	Soil	09/09/21 09:49	09/09/21 16:40
BKG01@2.5'	2109140-10	Soil	09/09/21 11:34	09/09/21 16:40
BKG01@4'	2109140-11	Soil	09/09/21 11:36	09/09/21 16:40
BKG01@5'	2109140-12	Soil	09/09/21 11:38	09/09/21 16:40

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 2109140.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Client: PDC Tasman	Project Manager: Mark Longhurst
Address: 6855 W 119th Ave	E-Mail: mark.longhurst@PDCt.com
City/State/Zip: Broomfield, CO 80020	Project Name: <u>Wells Ranch 23-34 Tank Battery</u>
Phone: 303-487-1228	Project Number:
Sampler Name: <u>David Vigil</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	GBLEN-8260B	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	VOC - 915	PAH - 915	Metals - 915	TM(_{1,2,4})(_{1,3,5}) ⁹¹⁵		
1	SEP01-DL@ 4'	9/9/21	1058	3			X			X				X	X						X	pH, EC, SAR by saturated paste <u>Hold</u>
2	SEP01-FL@ 4'		1055	3			X			X			X	X						X		
3	PWV01-B@ 5'		1000	3			X			X			X	X						X		
4	PWV01-N@ 2.5'		1002	3			X			X			X	X						X		
5	PWV01-W@ 2.5'		1004	3			X			X			X	X						X		
6	PWV01-S@ 2.5'		1006	3			X			X			X	X						X		
7	PWV01-E@ 2.5'		1008	3			X			X			X	X						X		
8	AST01@ 0-6"		0947	2			X			X			X	X						X		
9	AST02@ 0-6"	✓	0949	2			X			X			X	X						X		
10																						

Relinquished by: <u>David Vigil</u>	Date/Time: <u>9/9/21 1320</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time:	Turn Around Time (Check)	Notes:
				Same Day _____ 72 hours	
				24 hours _____ Standard <input checked="" type="checkbox"/>	
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>9/9/21 1640</u>	Received by: <u>Will Lohr</u>	Date/Time: <u>9/9/21 1640</u>	48 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: <u>6.6</u>	
				Temperature Upon Receipt:	
				Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Summit Scientific

2109140.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 2 of 2

Client: PDC™ Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDC™.com
City/State/Zip: Broomfield, CO 80020
Phone: 303-487-1228 Project Name: Wells Ranch 23-34 Tank Battery
Sampler Name: David Vigil 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	TPH - (C6 - C36)	pH, EC, SAR	Boron - HMS	VOC - 915	PAH - 915		Metals - 915
1	Bkg01 @ 2.5'	9/9/21	1134	1			X			X										pH, EC, SAR by saturated paste <u>PH</u>
2	Bkg01 @ 4'	↓	1136	1			X			X										X
3	Bkg01 @ 5'	↓	1138	1			X			X										X
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>David Vigil</u>	Date/Time: <u>9/9/21 1320</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time:	Turn Around Time (Check)	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time:	Received by: <u>Will [Signature]</u>	Date/Time: <u>9/9/21 1640</u>	Same Day _____ 72 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours _____ Standard <u>X</u>	
				48 hours _____	
				Sample Integrity:	
				Temperature Upon Receipt: <u>6.5</u>	
				Samples Intact: <u>Yes</u> No	

2109140

Sample Receipt Checklist

S2 Work Order _____

Client: PDC/TASMAN Client Project ID: Wells Ranch 23-34 Tank battery

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

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

Temp (°C)	<u>6.6</u>
-----------	------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? 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 ⁽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.

NG
Custodian Printed Name or Initials

Will Kohn
Signature of Custodian

9/9/21
Date/Time



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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

SEP01-DL@4'
2109140-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/21 10:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEI0330	09/15/21	09/16/21	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: **09/09/21 10:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/21 10:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEI0329	09/15/21	09/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/21 10:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		87.1 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

SEP01-FL@4'
2109140-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEI0330	09/15/21	09/16/21	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: **09/09/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEI0329	09/15/21	09/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.4 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

PWV01-B@5'
2109140-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEI0330	09/15/21	09/16/21	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: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEI0329	09/15/21	09/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		88.5 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

PWV01-B@5'
2109140-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0528	0.0100	mg/L	1	BEI0269	09/13/21	09/18/21	EPA 6020B	

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

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6.66	0.0527	mg/L dry	1	BEI0319	09/15/21	09/17/21	EPA 6020B	
Magnesium	1.56	0.0527	"	"	"	"	"	"	
Sodium	0.373	0.0527	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0338	0.00100	units	1	BEI0397	09/19/21	09/19/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.9		%	1	BEI0282	09/14/21	09/14/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.216	0.0100	mmhos/cm	1	BEI0317	09/15/21	09/15/21	EPA 120.1	

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

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

PWV01-B@5'
2109140-03 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.90		pH Units	1	BEI0318	09/15/21	09/15/21	EPA 9045D	

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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

PWV01-N@2.5'
2109140-04 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 10:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.02		pH Units	1	BEI0435	09/21/21	09/21/21	EPA 9045D	

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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

PWV01-W@2.5'
2109140-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEI0330	09/15/21	09/16/21	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: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEI0329	09/15/21	09/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.6 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

PWV01-W@2.5'
2109140-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0699	0.0100	mg/L	1	BEI0269	09/13/21	09/18/21	EPA 6020B	

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

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7.24	0.0540	mg/L dry	1	BEI0319	09/15/21	09/17/21	EPA 6020B	
Magnesium	1.61	0.0540	"	"	"	"	"	"	
Sodium	0.488	0.0540	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0427	0.00100	units	1	BEI0397	09/19/21	09/19/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.6		%	1	BEI0282	09/14/21	09/14/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.117	0.0100	mmhos/cm	1	BEI0317	09/15/21	09/15/21	EPA 120.1	

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

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

PWV01-W@2.5'
2109140-05 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 10:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.87		pH Units	1	BEI0318	09/15/21	09/15/21	EPA 9045D	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

PWV01-S@2.5'
2109140-06 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 10:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.21		pH Units	1	BEI0435	09/21/21	09/21/21	EPA 9045D	

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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

PWV01-E@2.5'
2109140-07 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 10:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.10		pH Units	1	BEI0435	09/21/21	09/21/21	EPA 9045D	

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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

AST01@0-6"
2109140-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/21 09:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEI0330	09/15/21	09/16/21	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: **09/09/21 09:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/21 09:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEI0329	09/15/21	09/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/21 09:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.9 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

AST02@0-6"
2109140-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/21 09:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEI0330	09/15/21	09/16/21	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	0.98	0.50	"	"	"	"	"	"	

Date Sampled: **09/09/21 09:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/21 09:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	240	50	mg/kg	1	BEI0329	09/15/21	09/16/21	EPA 8015M	
C28-C36 (ORO)	99	50	"	"	"	"	"	"	

Date Sampled: **09/09/21 09:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

BKG01@2.5'
2109140-10 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 11:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.27		pH Units	1	BEI0435	09/21/21	09/21/21	EPA 9045D	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

BKG01@4'
2109140-11 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 11:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.19		pH Units	1	BEI0435	09/21/21	09/21/21	EPA 9045D	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

BKG01@5'
2109140-12 (Soil)

Summit Scientific

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

Date Sampled: **09/09/21 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.34		pH Units	1	BEI0435	09/21/21	09/21/21	EPA 9045D	

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

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 BEI0330 - EPA 5030 Soil MS

Blank (BEI0330-BLK1)

Prepared & Analyzed: 09/15/21

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>	0.0423		"	0.0400		106	23-173			
<i>Surrogate: Toluene-d8</i>	0.0381		"	0.0400		95.3	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0391		"	0.0400		97.6	21-167			

LCS (BEI0330-BS1)

Prepared & Analyzed: 09/15/21

Benzene	0.121	0.0020	mg/kg	0.100		121	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.0998	0.0050	"	0.100		99.8	70-130			
m,p-Xylene	0.188	0.010	"	0.200		94.0	70-130			
o-Xylene	0.0981	0.0050	"	0.100		98.1	70-130			
1,2,4-Trimethylbenzene	0.0950	0.0050	"	0.100		95.0	70-130			
1,3,5-Trimethylbenzene	0.0928	0.0050	"	0.100		92.8	70-130			
Naphthalene	0.0977	0.0038	"	0.100		97.7	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0469		"	0.0400		117	23-173			
<i>Surrogate: Toluene-d8</i>	0.0422		"	0.0400		106	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0398		"	0.0400		99.6	21-167			

Matrix Spike (BEI0330-MS1)

Source: 2109133-01

Prepared & Analyzed: 09/15/21

Benzene	0.0904	0.0020	mg/kg	0.100	ND	90.4	70-130			
Toluene	0.0768	0.0050	"	0.100	ND	76.8	70-130			
Ethylbenzene	0.0776	0.0050	"	0.100	ND	77.6	70-130			
m,p-Xylene	0.146	0.010	"	0.200	ND	73.1	70-130			
o-Xylene	0.0769	0.0050	"	0.100	ND	76.9	70-130			
1,2,4-Trimethylbenzene	0.0724	0.0050	"	0.100	ND	72.4	70-130			
1,3,5-Trimethylbenzene	0.0704	0.0050	"	0.100	ND	70.4	70-130			
Naphthalene	0.0789	0.0038	"	0.100	ND	78.9	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0452		"	0.0400		113	23-173			
<i>Surrogate: Toluene-d8</i>	0.0384		"	0.0400		96.0	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0406		"	0.0400		101	21-167			

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

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 BEI0330 - EPA 5030 Soil MS

Matrix Spike Dup (BEI0330-MSD1)	Source: 2109133-01			Prepared & Analyzed: 09/15/21						
Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130	15.6	30	
Toluene	0.0914	0.0050	"	0.100	ND	91.4	70-130	17.4	30	
Ethylbenzene	0.0819	0.0050	"	0.100	ND	81.9	70-130	5.45	30	
m,p-Xylene	0.156	0.010	"	0.200	ND	78.0	70-130	6.51	30	
o-Xylene	0.0817	0.0050	"	0.100	ND	81.7	70-130	6.06	30	
1,2,4-Trimethylbenzene	0.0758	0.0050	"	0.100	ND	75.8	70-130	4.66	30	
1,3,5-Trimethylbenzene	0.0743	0.0050	"	0.100	ND	74.3	70-130	5.47	30	
Naphthalene	0.0814	0.0038	"	0.100	ND	81.4	70-130	3.11	30	
Surrogate: 1,2-Dichloroethane-d4	0.0504		"	0.0400		126	23-173			
Surrogate: Toluene-d8	0.0430		"	0.0400		108	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	21-167			

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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

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 BEI0329 - EPA 3550A

Blank (BEI0329-BLK1)

Prepared: 09/15/21 Analyzed: 09/16/21

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

LCS (BEI0329-BS1)

Prepared: 09/15/21 Analyzed: 09/16/21

C10-C28 (DRO)	608	50	mg/kg	500	122	70-130				
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Matrix Spike (BEI0329-MS1)

Source: 2109133-01

Prepared: 09/15/21 Analyzed: 09/16/21

C10-C28 (DRO)	577	50	mg/kg	500	14.7	112	70-130			
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Matrix Spike Dup (BEI0329-MSD1)

Source: 2109133-01

Prepared: 09/15/21 Analyzed: 09/16/21

C10-C28 (DRO)	521	50	mg/kg	500	14.7	101	70-130	10.1	20	
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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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

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 BEI0269 - EPA 3050B

Blank (BEI0269-BLK1)

Prepared: 09/13/21 Analyzed: 09/18/21

Boron ND 0.0100 mg/L

LCS (BEI0269-BS1)

Prepared: 09/13/21 Analyzed: 09/18/21

Boron 5.12 0.0100 mg/L 5.00 102 80-120

Duplicate (BEI0269-DUP1)

Source: 2109133-01

Prepared: 09/13/21 Analyzed: 09/18/21

Boron 0.632 0.0100 mg/L 0.625 1.15 20

Matrix Spike (BEI0269-MS1)

Source: 2109133-01

Prepared: 09/13/21 Analyzed: 09/18/21

Boron 5.16 0.0100 mg/L 5.00 0.625 90.6 75-125

Matrix Spike Dup (BEI0269-MSD1)

Source: 2109133-01

Prepared: 09/13/21 Analyzed: 09/18/21

Boron 5.14 0.0100 mg/L 5.00 0.625 90.2 75-125 0.403 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: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

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 BEI0319 - General Preparation

Blank (BEI0319-BLK1)

Prepared: 09/15/21 Analyzed: 09/17/21

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

LCS (BEI0319-BS1)

Prepared: 09/15/21 Analyzed: 09/17/21

Calcium	4.93	0.0500	mg/L wet	5.00		98.6	70-130			
Magnesium	4.87	0.0500	"	5.00		97.4	70-130			
Sodium	4.77	0.0500	"	5.00		95.4	70-130			

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

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 BEI0282 - General Preparation

Duplicate (BEI0282-DUP1)

Source: 2107097-07

Prepared & Analyzed: 09/14/21

% Solids	84.8		%		84.4			0.434		20	
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Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

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 BEI0317 - General Preparation

Blank (BEI0317-BLK1)

Prepared & Analyzed: 09/15/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEI0317-BS1)

Prepared & Analyzed: 09/15/21

Specific Conductance (EC) 0.165 0.0100 mmhos/cm 0.150 110 90-110

Duplicate (BEI0317-DUP1)

Source: 2109131-01

Prepared & Analyzed: 09/15/21

Specific Conductance (EC) 2.25 0.0100 mmhos/cm 2.28 1.41 20

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 09/22/21 11:14

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

Summit Scientific

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

Batch BEI0318 - General Preparation

LCS (BEI0318-BS1)										
					Prepared & Analyzed: 09/15/21					
pH	9.28		pH Units	9.21	101	95-105				
Duplicate (BEI0318-DUP1)										
					Source: 2109131-01		Prepared & Analyzed: 09/15/21			
pH	9.04		pH Units	9.04	0.00	20				

Batch BEI0435 - General Preparation

LCS (BEI0435-BS1)										
					Prepared & Analyzed: 09/21/21					
pH	9.19		pH Units	9.21	99.8	95-105				
Duplicate (BEI0435-DUP1)										
					Source: 2109140-04		Prepared & Analyzed: 09/21/21			
pH	8.02		pH Units	8.02	0.00	20				

Summit Scientific

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

Project: Wells Ranch 23-34 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/22/21 11:14

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