TABLE 1
FORMER KREPS 21-7 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"	3/23/2021	0-6 in bgs.	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-FL @ 4'	3/23/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-DL @ 4'	3/23/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-B @ 4'	3/23/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-S @ 2.5'	3/23/2021	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 extactable petroleum hydrocarbons - oil range organics
mg/kg = Milligrams per kilogram
TMB = Trimethylbenzene
ft. = Feet
in. = Inches
bgs = Below ground surface

TABLE 2
FORMER KREPS 21-7 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 Suitabilty for Reclamation Standard [(1)]			**6-8.3**	**<4**	**<6**	**2**
PWV01-S @ 2.5'	3/23/2021	2.5 ft. bgs	8.10	0.824	0.334	0.234

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 = millgram per liter
ft. = Feet
bgs = Below ground surface

TABLE 3
FORMER KREPS 21-7 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data [1] Latitude / Longitude		PDOP Value	VOC Concentration [2] (ppm)
AST01 @ 0-6"	3/23/2021	0-6 in bgs.	40.507344	-104.595715	1.1	1.9
SEP01-FL @ 4'	3/23/2021	4 ft. bgs	40.507098	-104.595678	1.1	0.1
SEP01-DL @ 4'	3/23/2021	4 ft. bgs	40.507126	-104.595696	1.1	0.1
MH01 @ 0-6"	3/23/2021	0-6 in bgs.	40.507097	-104.595720	1.1	0.0
BKG01 @ 2.5'	3/23/2021	2.5 ft. bgs	40.507126	-104.595916	1.1	0.0
PWV01-B @ 4'	3/23/2021	4 ft. bgs	40.507312	-104.595751	1.2	0.0
PWV01-N @ 2.5'	3/23/2021	2.5 ft. bgs	40.507325	-104.595747	1.3	0.0
PWV01-W @ 2.5'	3/23/2021	2.5 ft. bgs	40.507307	-104.595779	1.2	0.0
PWV01-S @ 2.5'	3/23/2021	2.5 ft. bgs	40.507281	-104.595741	1.3	0.2
PWV01-E @ 2.5'	3/23/2021	2.5 ft. bgs	40.507299	-104.595707	1.1	0.0
WDL01 @ 4'	3/23/2021	4 ft. bgs	40.507309	-104.595726	1.1	1.3

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

March 29, 2021

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

RE: Kreps 21-7 Tank Battery
Work Order #2103328

Enclosed are the results of analyses for samples received by Summit Scientific on 03/23/21 17:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Paul Shrewsbury
President

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2103328-01	Soil	03/23/21 10:33	03/23/21 17:20
SEP01-FL@5'	2103328-02	Soil	03/23/21 10:50	03/23/21 17:20
SEP01-DL@4'	2103328-03	Soil	03/23/21 10:51	03/23/21 17:20
PWV01-B@4'	2103328-04	Soil	03/23/21 12:12	03/23/21 17:20
PWV01-S@2.5'	2103328-05	Soil	03/23/21 12:15	03/23/21 17:20

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

2103328

S2

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

Client: PDC / Tasman
Address: 6855 W 119th Ave
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228
Sampler Name: Cody Miller

Project Manager: Mark Longhurst
E-Mail: mark.longhurst@PDCE.com
Project Name: Kreps 21-7 Tank Battery
Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	GBTEXN - 8260B 915	TPH - (C6 - C36) 915	pH, EC, SAR 915	Boron - HWS 915	VOC - 915	PAH - 915	Metals - 915	TMB's (1,2,4) & (1,3,5) 915	pH, EC, SAR by saturated paste
1	AST01@0-6"	3/23/21	1033	2			X			X			X	X						X	
2	SEP01-FL@5'	↓	1050	2			X			X			X	X						X	
3	SEP01-DL@4'		1051	2			X			X			X	X						X	
4	PWV01-B@4'		1212	2			X			X			X	X						X	
5	PWV01-S@2.5'		1215	4			X			X			X	X	X	X				X	
6	BKG01@2.5'	↓	1109	2			X			X											X
7																					
8																					
9																					
10																					

Relinquished by: Cody Miller Date/Time: 3/23/21 | 1500
Received by: Tasman's Lock Box Date/Time: 3/23/21 | 1500

Relinquished by: Tasman's Lock Box Date/Time: 3-23-21 17:20
Received by: [signature] 3-23-21 17:20

Relinquished by: Date/Time:
Received by: Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 7.6
Samples Intact: (Yes) No

Notes:
ON ICE

Sample Receipt Checklist

S2 Work Order 2103328

Client: PDC/TASMAN Client Project ID: KREPS 21-7 TANK BATTERY

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

[ ] [x] [ ] [ ] [ ]

Matrix (check all that apply): [ ] Air [x] Soil/Solid [ ] Water [ ] Other: [ ] (Describe)

Temp (°C)	7.6

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C [(1)]? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	x			ON ICE
Were all samples received intact [(1)]?	x			
Was adequate sample volume provided [(1)]?	x			
If custody seals are present, are they intact [(1)]?			x	
Are samples with holding times due within 48 hours sample due within 48 hours present?			x	
Is a chain-of-custody (COC) form present and filled out completely [(1)]?	x			
Does the COC agree with the number and type of sample bottles received [(1)]?	x			
Do the sample IDs on the bottle labels match the COC [(1)]?	x			
Is the COC properly relinquished by the client w/ date and time recorded [(1)]?	x			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**			x	
Are samples preserved that require preservation **(excluding cooling)** [(1)]? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			x	
If samples are acid preserved for metals, is the pH ≤ 2[(1)]? Record the pH in Comments.			x	
If dissolved metals are requested, were samples field filtered?			x	
Additional Comments (if any):				
[(1)] **If NO, then contact the client before proceeding with analysis and note in case narrative.**				

Muri P. — Custodian Printed Name or Initials

[signature] — Signature of Custodian

3-23-21 — Date/Time

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

AST01@0-6"

2103328-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/23/21 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0412	03/24/21	03/25/21	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: **03/23/21 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*88.0 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.2 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/23/21 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0436	03/25/21	03/26/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/23/21 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*72.7 %*	*30-150*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

SEP01-FL@5'

2103328-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/23/21 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0412	03/24/21	03/25/21	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: **03/23/21 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*84.5 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.1 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.8 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/23/21 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0436	03/25/21	03/26/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/23/21 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*62.5 %*	*30-150*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

SEP01-DL@4'

2103328-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/23/21 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0412	03/24/21	03/25/21	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: **03/23/21 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*86.0 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/23/21 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0436	03/25/21	03/26/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/23/21 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*71.9 %*	*30-150*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

PWV01-B@4'

2103328-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/23/21 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0412	03/24/21	03/25/21	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: **03/23/21 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*95.5 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*105 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/23/21 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0436	03/25/21	03/26/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/23/21 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*83.8 %*	*30-150*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

PWV01-S@2.5'

2103328-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0412	03/24/21	03/26/21	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: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*107 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

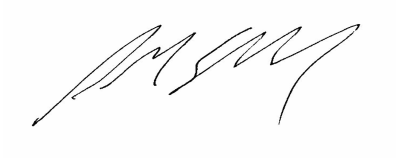
Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0436	03/25/21	03/26/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*83.3 %*	*30-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction



PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

PWV01-S@2.5'

2103328-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.234**	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: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**57.1**	0.0662	mg/L dry	1	BEC0422	03/24/21	03/27/21	EPA 6020B	
Magnesium	**27.7**	0.0662	"	"	"	"	"	"	
Sodium	**12.3**	0.0662	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.334**	0.100	units	1	BEC0496	03/29/21	03/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**75.5**		%	1	BEC0416	03/24/21	03/25/21	Calculation	

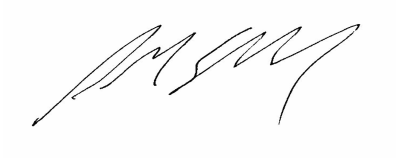
Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.824**	0.0100	mmhos/cm	1	BEC0444	03/25/21	03/25/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste 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: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

PWV01-S@2.5'

2103328-05 (Soil)

Summit Scientific

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

Date Sampled: **03/23/21 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.10**		pH Units	1	BEC0445	03/25/21	03/25/21	EPA 9045D	

PDC Energy	Project: Kreps 21-7 Tank Battery	
1775 Sherman St. STE. 3000	Project Number: [none]	**Reported:**
Denver CO, 80203	Project Manager: Mark Longhurst	03/29/21 13:33

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEC0412 - EPA 5030 Soil MS										
Blank (BEC0412-BLK1)				Prepared: 03/24/21 Analyzed: 03/25/21						
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	*0.0317*		*"*	*0.0400*		*79.3*	*23-173*			
Surrogate: Toluene-d8	*0.0404*		*"*	*0.0400*		*101*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0397*		*"*	*0.0400*		*99.2*	*21-167*			
LCS (BEC0412-BS1)				Prepared: 03/24/21 Analyzed: 03/25/21						
Benzene	0.0908	0.0020	mg/kg	0.100		90.8	70-130			
Toluene	0.0949	0.0050	"	0.100		94.9	70-130			
Ethylbenzene	0.0913	0.0050	"	0.100		91.3	70-130			
m,p-Xylene	0.164	0.010	"	0.200		81.9	70-130			
o-Xylene	0.0832	0.0050	"	0.100		83.2	70-130			
1,2,4-Trimethylbenzene	0.0869	0.0050	"	0.100		86.9	70-130			
1,3,5-Trimethylbenzene	0.0818	0.0050	"	0.100		81.8	70-130			
Naphthalene	0.0974	0.0038	"	0.100		97.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0229*		*"*	*0.0400*		*57.2*	*23-173*			
Surrogate: Toluene-d8	*0.0448*		*"*	*0.0400*		*112*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0400*		*"*	*0.0400*		*100*	*21-167*			
Matrix Spike (BEC0412-MS1)	**Source: 2103307-01**			Prepared: 03/24/21 Analyzed: 03/25/21						
Benzene	0.0806	0.0020	mg/kg	0.100	ND	80.6	70-130			
Toluene	0.100	0.0050	"	0.100	ND	100	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.188	0.010	"	0.200	0.00375	91.9	70-130			
o-Xylene	0.0946	0.0050	"	0.100	ND	94.6	70-130			
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100	0.00732	99.5	70-130			
1,3,5-Trimethylbenzene	0.100	0.0050	"	0.100	0.00336	96.9	70-130			
Naphthalene	0.112	0.0038	"	0.100	0.00588	106	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0278*		*"*	*0.0400*		*69.6*	*23-173*			
Surrogate: Toluene-d8	*0.0401*		*"*	*0.0400*		*100*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0406*		*"*	*0.0400*		*102*	*21-167*			

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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.

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEC0412 - EPA 5030 Soil MS										
Matrix Spike Dup (BEC0412-MSD1)		**Source: 2103307-01**		Prepared: 03/24/21 Analyzed: 03/25/21						
Benzene	0.0970	0.0020	mg/kg	0.100	ND	97.0	70-130	18.4	30	
Toluene	0.0971	0.0050	"	0.100	ND	97.1	70-130	3.37	30	
Ethylbenzene	0.0916	0.0050	"	0.100	ND	91.6	70-130	13.9	30	
m,p-Xylene	0.165	0.010	"	0.200	0.00375	80.5	70-130	12.9	30	
o-Xylene	0.0856	0.0050	"	0.100	ND	85.6	70-130	10.1	30	
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	0.00732	95.0	70-130	4.27	30	
1,3,5-Trimethylbenzene	0.0900	0.0050	"	0.100	0.00336	86.6	70-130	10.8	30	
Naphthalene	0.114	0.0038	"	0.100	0.00588	108	70-130	1.65	30	
Surrogate: 1,2-Dichloroethane-d4	*0.0252*		*"*	*0.0400*		*63.1*	*23-173*			
Surrogate: Toluene-d8	*0.0443*		*"*	*0.0400*		*111*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0389*		*"*	*0.0400*		*97.2*	*21-167*			

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

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

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

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

Summit Scientific

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

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEC0422 - General Preparation										
Blank (BEC0422-BLK1)				Prepared: 03/24/21 Analyzed: 03/27/21						
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							
LCS (BEC0422-BS1)				Prepared: 03/24/21 Analyzed: 03/27/21						
Calcium	4.39	0.0500	mg/L wet	5.00		87.7	70-130			
Magnesium	5.98	0.0500	"	5.00		120	70-130			
Sodium	6.25	0.0500	"	5.00		125	70-130			

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEC0416 - General Preparation										
Duplicate (BEC0416-DUP1)	**Source: 2103299-01**			Prepared: 03/24/21 Analyzed: 03/25/21						
% Solids	81.8		%		84.4			3.13	20	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEC0444 - General Preparation										
Blank (BEC0444-BLK1)				Prepared & Analyzed: 03/25/21						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (BEC0444-BS1)				Prepared & Analyzed: 03/25/21						
Specific Conductance (EC)	0.159	0.0100	mmhos/cm	0.150		106	90-110			
Duplicate (BEC0444-DUP1)		**Source: 2103147-06**		Prepared & Analyzed: 03/25/21						
Specific Conductance (EC)	2.28	0.0100	mmhos/cm		2.28			0.132	20	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEC0445 - General Preparation										
LCS (BEC0445-BS1)				Prepared & Analyzed: 03/25/21						
pH	9.29		pH Units	9.21		101	95-105			
Duplicate (BEC0445-DUP1)		**Source: 2103147-06**		Prepared & Analyzed: 03/25/21						
pH	8.23		pH Units		8.22			0.122	20	

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Kreps 21-7 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 03/29/21 13:33

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