

TABLE 1
FORMER MCKENNEY 6-42, 6-43 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
SEP01-FL @ 4'	8/10/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-DL @ 4'	8/10/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
AST01 @ 0-6"	8/10/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-B @ 4'	8/10/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-S @ 2.5'	8/10/2021	2.5 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 extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

in. = Inches

bgs = Below ground surface

TABLE 2
FORMER MCKENNEY 6-42, 6-43 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 @ 4'	8/10/2021	4 ft. bgs	8.22	0.237	0.338	<0.0100
PWV01-S @ 2.5'	8/10/2021	2.5 ft. bgs	8.19	0.221	0.330	<0.0100

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 MCKENNEY 6-42, 6-43 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
MH01 @ 0-6"	8/10/2021	0-6 in. bgs	40.250419	-104.592952	0.9	0.0
ECD01 @ 0-6"	8/10/2021	0-6 in. bgs	40.250362	-104.592849	1.0	0.0
SEP01-FL @ 4'	8/10/2021	4 ft. bgs	40.250394	-104.592936	1.0	0.2
SEP01-DL @ 4'	8/10/2021	4 ft. bgs	40.250360	-104.592961	0.9	0.0
AST01 @ 0-6"	8/10/2021	0-6 in. bgs	40.250082	-104.592859	1.0	2.2
PWV01-B @ 4'	8/10/2021	4 ft. bgs	40.250122	-104.592888	1.0	0.0
PWV01-N @ 2.5'	8/10/2021	2.5 ft. bgs	40.250142	-104.592889	1.0	0.0
PWV01-W @ 2.5'	8/10/2021	2.5 ft. bgs	40.250127	-104.592858	1.0	0.0
PWV01-S @ 2.5'	8/10/2021	2.5 ft. bgs	40.250102	-104.592880	1.0	0.3
PWV01-E @ 2.5'	8/10/2021	2.5 ft. bgs	40.250121	-104.592913	1.0	0.2
WDL01 @ 4'	8/10/2021	4 ft. bgs	40.250112	-104.592860	1.0	0.0
BKG01 @ 2.5'	8/10/2021	2.5 ft. bgs	40.249982	-104.592861	1.0	0.0
BKG01 @ 4'	8/10/2021	4 ft. bgs	40.249982	-104.592861	1.0	0.0

Notes:

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

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

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

in. = Inches

bgs = Below ground surface

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 18, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

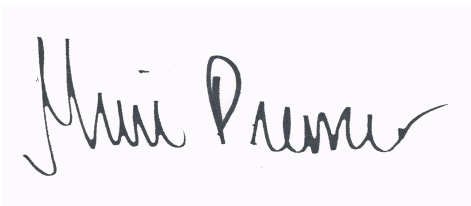
Denver, CO 80203

RE: McKenney 6-42,6-43 Tank Battery

Work Order #2108149

Enclosed are the results of analyses for samples received by Summit Scientific on 08/10/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01-FL@4'	2108149-01	Soil	08/10/21 08:28	08/10/21 17:50
SEP01-DL@4'	2108149-02	Soil	08/10/21 08:32	08/10/21 17:50
AST01@0-6"	2108149-03	Soil	08/10/21 08:40	08/10/21 17:50
PWV01-B@4'	2108149-04	Soil	08/10/21 08:48	08/10/21 17:50
PWV01-S@2.5'	2108149-07	Soil	08/10/21 08:54	08/10/21 17:50

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

303-277-9310

Project Number:

Sampler Name: _____					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	⁹¹⁵ GBTEXN - 8260B	⁹¹⁵ TPH - (C6 - C36)	⁴¹⁵ pH, EC, SAR	⁹¹⁵ Boron - HWS	VOC - 915	PAH - 915	Metals - 915	7487, 01478, 0135 ⁹¹⁵	pH, EC, SAR by saturated paste
1	SEP01-FL 2 4'	8/10/21	0828	2			X			X			X	X						X	
2	SEP01-DL 2 4'		0832	2			X			X			X	X						X	
3	AST01 20.6"		0840	2			X			X			X	X						X	
4	PWV01-B 2 4'		0848	3			X			X			X	X	X	X				X	
5	PWV01-N 2 2.5'		0850	3			X			X											X
6	PWV01-W 2 2.5'		0852	3			X			X											X
7	PWV01-S 2 2.5'		0854	3			X			X			X	X	X	X				X	
8	PWV01-E 2 2.5'		0856	3			X			X											X
9	BKG01 2 2.5'		0916	1			X			X											X
10	BKG01 2 4'	✓	0924	1			X			X											X
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		Turn Around Time (Check)				Notes:									
Cody Miller		8/10/21 / 1320		Tasman's Lock Box		8/10/21 / 1320		Same Day _____ 72 hours _____				24 hours _____ Standard <u>X</u> 48 hours _____ Sample Integrity: _____ Temperature Upon Receipt: <u>10.0</u> Samples Intact: (Yes) No									
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____															
Tasman's Lock Box		8/10/21 1750		Willie		8/10/21 1750															
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____															

Sample Receipt Checklist

S2 Work Order 2108149

Client: PDC/Tasman

Client Project ID: McKenney 6-42,6-54 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)	10.0
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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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.

WG

Custodian Printed Name or Initials

Signature of Custodian

8/10/21

Date/Time



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

Project: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

SEP01-FL@4'
2108149-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/21 08:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEH0209	08/13/21	08/15/21	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: **08/10/21 08:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/10/21 08:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0211	08/13/21	08/14/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/10/21 08:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

SEP01-DL@4'
2108149-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/21 08:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0209	08/13/21	08/15/21	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: **08/10/21 08:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/10/21 08:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0211	08/13/21	08/14/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/10/21 08:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		80.1 %	30-150		"	"	"	"	

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

Project: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

AST01@0-6"
2108149-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0209	08/13/21	08/15/21	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: **08/10/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/10/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0211	08/13/21	08/14/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/10/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		86.0 %	30-150		"	"	"	"	

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

PWV01-B@4'
2108149-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0209	08/13/21	08/16/21	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: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		75.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		127 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0211	08/13/21	08/14/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		84.7 %	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: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

PWV01-B@4'
2108149-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	0.0100	mg/L	1	BEH0206	08/13/21	08/18/21	EPA 6020B	

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

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	29.7	0.0527	mg/L dry	1	BEH0194	08/12/21	08/17/21	EPA 6020B	
Magnesium	8.98	0.0527	"	"	"	"	"	"	
Sodium	8.19	0.0527	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Sodium Adsorption Ratio	0.338	0.00100	units	1	BEH0293	08/18/21	08/18/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
% Solids	94.8		%	1	BEH0257	08/16/21	08/17/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Specific Conductance (EC)	0.237	0.0100	mmhos/cm	1	BEH0202	08/13/21	08/13/21	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: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

PWV01-B@4'
2108149-04 (Soil)

Summit Scientific

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

Date Sampled: **08/10/21 08:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.22			pH Units	1	BEH0201	08/13/21	08/13/21	EPA 9045D	

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

PWV01-S@2.5'
2108149-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0209	08/13/21	08/16/21	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: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0211	08/13/21	08/14/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		86.7 %	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: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

PWV01-S@2.5'
2108149-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	0.0100	mg/L	1	BEH0206	08/13/21	08/18/21	EPA 6020B	

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

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	25.5	0.0527	mg/L dry	1	BEH0194	08/12/21	08/17/21	EPA 6020B	
Magnesium	10.2	0.0527	"	"	"	"	"	"	
Sodium	7.80	0.0527	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Sodium Adsorption Ratio	0.330	0.00100	units	1	BEH0293	08/18/21	08/18/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
% Solids	94.9		%	1	BEH0257	08/16/21	08/17/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Specific Conductance (EC)	0.221	0.0100	mmhos/cm	1	BEH0202	08/13/21	08/13/21	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: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

PWV01-S@2.5'
2108149-07 (Soil)

Summit Scientific

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

Date Sampled: **08/10/21 08:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.19			pH Units	1	BEH0201	08/13/21	08/13/21	EPA 9045D	

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

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 BEH0209 - EPA 5030 Soil MS

Blank (BEH0209-BLK1)

Prepared & Analyzed: 08/13/21

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	0.0432		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0434		"	0.0400		108	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	21-167			

LCS (BEH0209-BS1)

Prepared & Analyzed: 08/13/21

Benzene	0.121	0.0020	mg/kg	0.100		121	70-130			
Toluene	0.113	0.0050	"	0.100		113	70-130			
Ethylbenzene	0.0981	0.0050	"	0.100		98.1	70-130			
m,p-Xylene	0.194	0.010	"	0.200		96.8	70-130			
o-Xylene	0.0941	0.0050	"	0.100		94.1	70-130			
1,2,4-Trimethylbenzene	0.0980	0.0050	"	0.100		98.0	70-130			
1,3,5-Trimethylbenzene	0.0977	0.0050	"	0.100		97.7	70-130			
Naphthalene	0.114	0.0038	"	0.100		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0461		"	0.0400		115	23-173			
Surrogate: Toluene-d8	0.0442		"	0.0400		110	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	21-167			

Matrix Spike (BEH0209-MS1)

Source: 2108147-01

Prepared & Analyzed: 08/13/21

Benzene	0.117	0.0020	mg/kg	0.100	ND	117	70-130			
Toluene	0.109	0.0050	"	0.100	ND	109	70-130			
Ethylbenzene	0.0952	0.0050	"	0.100	ND	95.2	70-130			
m,p-Xylene	0.187	0.010	"	0.200	ND	93.4	70-130			
o-Xylene	0.0900	0.0050	"	0.100	ND	90.0	70-130			
1,2,4-Trimethylbenzene	0.0913	0.0050	"	0.100	ND	91.3	70-130			
1,3,5-Trimethylbenzene	0.0914	0.0050	"	0.100	ND	91.4	70-130			
Naphthalene	0.108	0.0038	"	0.100	ND	108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0460		"	0.0400		115	23-173			
Surrogate: Toluene-d8	0.0443		"	0.0400		111	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.5	21-167			

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

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 BEH0209 - EPA 5030 Soil MS

Matrix Spike Dup (BEH0209-MSD1)	Source: 2108147-01			Prepared & Analyzed: 08/13/21						
Benzene	0.117	0.0020	mg/kg	0.100	ND	117	70-130	0.359	30	
Toluene	0.109	0.0050	"	0.100	ND	109	70-130	0.220	30	
Ethylbenzene	0.0964	0.0050	"	0.100	ND	96.4	70-130	1.22	30	
m,p-Xylene	0.190	0.010	"	0.200	ND	95.0	70-130	1.67	30	
o-Xylene	0.0910	0.0050	"	0.100	ND	91.0	70-130	1.13	30	
1,2,4-Trimethylbenzene	0.0938	0.0050	"	0.100	ND	93.8	70-130	2.76	30	
1,3,5-Trimethylbenzene	0.0934	0.0050	"	0.100	ND	93.4	70-130	2.11	30	
Naphthalene	0.111	0.0038	"	0.100	ND	111	70-130	2.47	30	
Surrogate: 1,2-Dichloroethane-d4	0.0464		"	0.0400		116	23-173			
Surrogate: Toluene-d8	0.0442		"	0.0400		111	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.6	21-167			

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEH0211 - EPA 3550A

Blank (BEH0211-BLK1)

Prepared: 08/13/21 Analyzed: 08/14/21

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

LCS (BEH0211-BS1)

Prepared: 08/13/21 Analyzed: 08/14/21

C10-C28 (DRO)	520	50	mg/kg	500	104	70-130
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Matrix Spike (BEH0211-MS1)

Source: 2108147-01

Prepared: 08/13/21 Analyzed: 08/14/21

C10-C28 (DRO)	532	50	mg/kg	500	13.8	104	70-130
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Matrix Spike Dup (BEH0211-MSD1)

Source: 2108147-01

Prepared: 08/13/21 Analyzed: 08/14/21

C10-C28 (DRO)	519	50	mg/kg	500	13.8	101	70-130	2.45	20
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Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

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 BEH0206 - EPA 3050B

Blank (BEH0206-BLK1)

Prepared: 08/13/21 Analyzed: 08/18/21

Boron ND 0.0100 mg/L

LCS (BEH0206-BS1)

Prepared: 08/13/21 Analyzed: 08/18/21

Boron 5.17 0.0100 mg/L 5.00 103 80-120

Duplicate (BEH0206-DUP1)

Source: 2108126-01

Prepared: 08/13/21 Analyzed: 08/18/21

Boron ND 0.0100 mg/L ND 20

Matrix Spike (BEH0206-MS1)

Source: 2108126-01

Prepared: 08/13/21 Analyzed: 08/18/21

Boron 5.16 0.0100 mg/L 5.00 ND 103 75-125

Matrix Spike Dup (BEH0206-MSD1)

Source: 2108126-01

Prepared: 08/13/21 Analyzed: 08/18/21

Boron 5.16 0.0100 mg/L 5.00 ND 103 75-125 0.173 25

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

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 BEH0194 - General Preparation

Blank (BEH0194-BLK1)

Prepared: 08/12/21 Analyzed: 08/17/21

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

LCS (BEH0194-BS1)

Prepared: 08/12/21 Analyzed: 08/17/21

Calcium	5.31	0.0500	mg/L wet	5.00	106	70-130
Magnesium	5.04	0.0500	"	5.00	101	70-130
Sodium	4.98	0.0500	"	5.00	99.6	70-130

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

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 BEH0257 - General Preparation

Duplicate (BEH0257-DUP1)		Source: 2108126-01		Prepared: 08/16/21 Analyzed: 08/17/21	
% Solids	87.1		%	85.3	2.06 20

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

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 BEH0202 - General Preparation

Blank (BEH0202-BLK1)

Prepared & Analyzed: 08/13/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEH0202-BS1)

Prepared & Analyzed: 08/13/21

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.4 90-110

Duplicate (BEH0202-DUP1)

Source: 2108107-09

Prepared & Analyzed: 08/13/21

Specific Conductance (EC) 1.61 0.0100 mmhos/cm 1.62 0.433 20

Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

08/18/21 13:36

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 BEH0201 - General Preparation

LCS (BEH0201-BS1)

Prepared & Analyzed: 08/13/21

pH	9.26	pH Units	9.21	101	95-105
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Duplicate (BEH0201-DUP1)

Source: 2108107-09

Prepared & Analyzed: 08/13/21

pH	8.95	pH Units	8.96	0.112	20
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Summit Scientific

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

Project: McKenney 6-42,6-43 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
08/18/21 13:36

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