

**TABLE 1
FORMER FLACK 21-3 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
SS01 @ 9'	5/17/2021	9 ft. bgs	5.5	<0.0050	11	24	59	18	0.30	8,940
SS02 @ 16'	5/18/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS03 @ 9'	5/19/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS04 @ 15'	5/19/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS05 @ 9'	5/19/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS06 @ 15'	5/19/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS07 @ 9'	5/20/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	133.2
SS08 @ 15'	5/20/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS09 @ 16'	5/20/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS10 @ 9'	5/20/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS11 @ 15'	5/20/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS12 @ 16'	5/21/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS13 @ 16'	5/21/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS14 @ 9'	5/21/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	131.0
SS15 @ 15'	5/21/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS16 @ 9'	5/21/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS17 @ 15'	5/21/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS18 @ 16'	5/21/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS19 @ 16'	5/24/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS20 @ 9'	5/24/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS21 @ 15'	5/24/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS22 @ 16'	5/25/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS23 @ 9'	5/25/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS24 @ 15'	5/25/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS25 @ 16'	5/25/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS26 @ 16'	5/25/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS27 @ 16'	5/25/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS28 @ 9'	5/26/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS29 @ 15'	5/26/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS30 @ 16'	5/26/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS31 @ 9'	5/27/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS32 @ 15'	5/27/2021	15 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS33 @ 16'	5/27/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS34 @ 16'	5/27/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS35 @ 16'	5/27/2021	16 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS36 @ 9'	5/27/2021	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SS37 @ 15'	5/27/2021	15 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

 = Source material characterization sample

ft. = Feet

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

**TABLE 2
FORMER FLACK 21-3 TANK BATTERY
FIELD DATA SUMMARY TABLE**

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
			Latitude	Longitude		
SS01 @ 9'	5/17/2021	9 ft. bgs	40.347546	-104.537852	0.9	1645
BKG01 @ 2.5'	5/17/2021	2.5 ft. bgs	40.347431	-104.537918	0.9	0.0
SS02 @ 16'	5/18/2021	16 ft. bgs	NC	NC	NC	17.7
SS03 @ 9'	5/19/2021	9 ft. bgs	40.347475	-104.537916	0.8	0.4
SS04 @ 15'	5/19/2021	15 ft. bgs	40.347475	-104.537916	0.8	0.5
SS05 @ 9'	5/19/2021	9 ft. bgs	40.347458	-104.537836	1.2	0.7
SS06 @ 15'	5/19/2021	15 ft. bgs	40.347458	-104.537836	1.2	0.9
SS07 @ 9'	5/20/2021	9 ft. bgs	40.347487	-104.537985	0.9	6.3
SS08 @ 15'	5/20/2021	15 ft. bgs	40.347487	-104.537985	0.9	1.2
SS09 @ 16'	5/20/2021	16 ft. bgs	NC	NC	NC	1.7
SS10 @ 9'	5/20/2021	9 ft. bgs	40.347535	-104.537984	0.9	2.3
SS11 @ 15'	5/20/2021	15 ft. bgs	40.347535	-104.537984	0.9	0.7
SS12 @ 16'	5/21/2021	16 ft. bgs	NC	NC	NC	0.3
SS13 @ 16'	5/21/2021	16 ft. bgs	NC	NC	NC	0.1
SS14 @ 9'	5/21/2021	9 ft. bgs	40.347572	-104.538011	0.8	2.8
SS15 @ 15'	5/21/2021	15 ft. bgs	40.347572	-104.538011	0.8	1.8
SS16 @ 9'	5/21/2021	9 ft. bgs	40.347604	-104.538000	0.9	6.6
SS17 @ 15'	5/21/2021	15 ft. bgs	40.347604	-104.538000	0.9	0.1
SS18 @ 16'	5/21/2021	16 ft. bgs	NC	NC	NC	0.2
SS19 @ 16'	5/24/2021	16 ft. bgs	NC	NC	NC	0.8
SS20 @ 9'	5/24/2021	9 ft. bgs	40.347464	-104.537781	0.9	0.3
SS21 @ 15'	5/24/2021	15 ft. bgs	40.347464	-104.537781	0.9	1.0
SS22 @ 16'	5/25/2021	16 ft. bgs	NC	NC	NC	4.7
SS23 @ 9'	5/25/2021	9 ft. bgs	40.347499	-104.537718	1.1	1.8
SS24 @ 15'	5/25/2021	15 ft. bgs	40.347499	-104.537718	1.1	10.7
SS25 @ 16'	5/25/2021	16 ft. bgs	NC	NC	NC	1.0
SS26 @ 16'	5/25/2021	16 ft. bgs	NC	NC	NC	2.7
SS27 @ 16'	5/25/2021	16 ft. bgs	NC	NC	NC	2.0
SS28 @ 9'	5/26/2021	9 ft. bgs	40.347641	-104.537959	0.9	0.2
SS29 @ 15'	5/26/2021	15 ft. bgs	40.347641	-104.537959	0.9	0.3
SS30 @ 16'	5/26/2021	16 ft. bgs	NC	NC	NC	0.2
SS31 @ 9'	5/27/2021	9 ft. bgs	40.347526	-104.537676	1.0	2.7
SS32 @ 15'	5/27/2021	15 ft. bgs	40.347526	-104.537676	1.0	2.9
SS33 @ 16'	5/27/2021	16 ft. bgs	NC	NC	NC	0.5
SS34 @ 16'	5/27/2021	16 ft. bgs	NC	NC	NC	3.7
SS35 @ 16'	5/27/2021	16 ft. bgs	NC	NC	NC	0.9
SS36 @ 9'	5/27/2021	9 ft. bgs	40.347558	-104.537658	1.0	9.8
SS37 @ 15'	5/27/2021	15 ft. bgs	40.347558	-104.537658	1.0	1.3

TABLE 2
FORMER FLACK 21-3 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude	PDOP Value	VOC Concentration ⁽²⁾ (ppm)
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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

 = Source material characterization sample

ft. = Feet

bgs = Below ground surface

NC = Data not collected

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 18, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105247

Enclosed are the results of analyses for samples received by Summit Scientific on 05/17/21 17:49. 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: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/18/21 05:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@9	2105247-01	Soil	05/17/21 14:35	05/17/21 17:49

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.

2105247

Summit Scientific

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

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCI.com
City/State/Zip: Broomfield/ CO/ 80020 Project Name: Flock 21-3 Tank Battery
Phone: 303-487-1228 Project Number:

Sampler Name: Cody Miller

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 ⁹¹⁵	TPH - (C6 - C36) ⁹¹⁵	pH, EC, SAR ⁹¹⁵	Boron - HWS ⁹¹⁵	VOC - 915	PAH - 915		Metals - 915	TMB, (V49)(V75) ⁹¹⁵		
1	<u>SS01 @ 9'</u>	<u>5/17/21</u>	<u>1435</u>	<u>3</u>			<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	pH, EC, SAR by saturated paste								
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by: Cody Miller Date/Time: 5/17/21 11635
 Relinquished by: Tasman's Lock Box Date/Time: 5/17/21 1740
 Relinquished by: _____ Date/Time: _____

Received by: Tasman's Lock Box Date/Time: 5/17/21 11635
 Received by: John B... Date/Time: 5/17/21 1740
 Received by: _____ Date/Time: _____

Turn Around Time (Check)
 Same Day 72 hours _____
 24 hours _____ Standard _____
 48 hours _____
 Sample Integrity: 6
 Temperature Upon Receipt: _____
 Samples Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2105247

Client: POC / Tasman Client Project ID: Flack 21-3 Tank Battery

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

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

Temp (°C)	<u>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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day.</u>
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.

JB
 Custodian Printed Name or Initials

Josh Br
 Signature of Custodian

5/17/21
 Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/18/21 05:52

SS01@9'
2105247-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/17/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	5.5	0.20	mg/kg	100	BEE0297	05/17/21	05/18/21	EPA 8260B	
Toluene	ND	0.0050	"	1	"	"	"	"	
Ethylbenzene	11	0.50	"	100	"	"	"	"	
Xylenes (total)	24	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	59	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	18	0.50	"	"	"	"	"	"	
Naphthalene	0.30	0.0038	"	1	"	"	"	"	
Gasoline Range Hydrocarbons	2600	50	"	100	"	"	"	"	

Date Sampled: **05/17/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		70.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		194 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/17/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	5500	50	mg/kg	1	BEE0298	"	05/17/21	EPA 8015M	
C28-C36 (ORO)	840	50	"	"	"	"	"	"	

Date Sampled: **05/17/21 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		126 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/18/21 05:52

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0297 - EPA 5030 Soil MS

Blank (BEE0297-BLK1)

Prepared & Analyzed: 05/17/21

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>	0.0358		"	0.0400		89.6	23-173				
<i>Surrogate: Toluene-d8</i>	0.0413		"	0.0400		103	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0320		"	0.0400		80.1	21-167				

LCS (BEE0297-BS1)

Prepared & Analyzed: 05/17/21

Benzene	0.0869	0.0020	mg/kg	0.100		86.9	70-130				
Toluene	0.104	0.0050	"	0.100		104	70-130				
Ethylbenzene	0.115	0.0050	"	0.100		115	70-130				
m,p-Xylene	0.248	0.010	"	0.200		124	70-130				
o-Xylene	0.123	0.0050	"	0.100		123	70-130				
1,2,4-Trimethylbenzene	0.127	0.0050	"	0.100		127	70-130				
1,3,5-Trimethylbenzene	0.125	0.0050	"	0.100		125	70-130				
Naphthalene	0.118	0.0038	"	0.100		118	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0351		"	0.0400		87.8	23-173				
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.4	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0323		"	0.0400		80.7	21-167				

Matrix Spike (BEE0297-MS1)

Source: 2105243-01

Prepared & Analyzed: 05/17/21

Benzene	0.0814	0.0020	mg/kg	0.100	ND	81.4	70-130				
Toluene	0.0956	0.0050	"	0.100	ND	95.6	70-130				
Ethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130				
m,p-Xylene	0.246	0.010	"	0.200	ND	123	70-130				
o-Xylene	0.121	0.0050	"	0.100	ND	121	70-130				
1,2,4-Trimethylbenzene	0.122	0.0050	"	0.100	ND	122	70-130				
1,3,5-Trimethylbenzene	0.120	0.0050	"	0.100	ND	120	70-130				
Naphthalene	0.130	0.0038	"	0.100	ND	130	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0355		"	0.0400		88.8	23-173				
<i>Surrogate: Toluene-d8</i>	0.0407		"	0.0400		102	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0321		"	0.0400		80.3	21-167				

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/18/21 05:52

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0297 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0297-MSD1)	Source: 2105243-01			Prepared & Analyzed: 05/17/21						
Benzene	0.0794	0.0020	mg/kg	0.100	ND	79.4	70-130	2.46	30	
Toluene	0.0980	0.0050	"	0.100	ND	98.0	70-130	2.48	30	
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130	0.547	30	
m,p-Xylene	0.260	0.010	"	0.200	ND	130	70-130	5.58	30	
o-Xylene	0.120	0.0050	"	0.100	ND	120	70-130	0.622	30	
1,2,4-Trimethylbenzene	0.125	0.0050	"	0.100	ND	125	70-130	1.99	30	
1,3,5-Trimethylbenzene	0.123	0.0050	"	0.100	ND	123	70-130	2.02	30	
Naphthalene	0.120	0.0038	"	0.100	ND	120	70-130	8.50	30	
Surrogate: 1,2-Dichloroethane-d4	0.0348		"	0.0400		87.0	23-173			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0348		"	0.0400		87.0	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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/18/21 05:52

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEE0298 - EPA 3550A

Blank (BEE0298-BLK1)

Prepared & Analyzed: 05/17/21

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

LCS (BEE0298-BS1)

Prepared & Analyzed: 05/17/21

C10-C28 (DRO)	599	50	mg/kg	500	120	70-130				
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Matrix Spike (BEE0298-MS1)

Source: 2105243-01

Prepared & Analyzed: 05/17/21

C10-C28 (DRO)	537	50	mg/kg	500	17.7	104	70-130			
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Matrix Spike Dup (BEE0298-MSD1)

Source: 2105243-01

Prepared & Analyzed: 05/17/21

C10-C28 (DRO)	559	50	mg/kg	500	17.7	108	70-130	3.93	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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/18/21 05:52

Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 26, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105263

Enclosed are the results of analyses for samples received by Summit Scientific on 05/17/21 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large, stylized initial "M".

Muri Premer For Paul Shrewsbury

President



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

Project: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/26/21 11:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2105263-01	Soil	05/17/21 13:18	05/17/21 17:45
SEP01-FL@3'	2105263-02	Soil	05/17/21 13:40	05/17/21 17:45

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.

2105263

Summit Scientific

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

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCI.com
City/State/Zip: Broomfield/ CO/ 80020 Project Name: Flack 21-3 Tank Battery
Phone: 303-487-1228 Project Number:
Sampler Name: Cody Miller

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	915 GBTEXN - 8260B	915 TPH - (C6 - C36)	915 pH, EC, SAR	915 Boron - HWS	VOC - 915	PAH - 915	Metals - 915		915 TMB ₅ (1745)(1735)
1	AST01 20-6"	5/17/21	1318	2			X			X				X	X					X	pH, EC, SAR by saturated paste <u>Hold</u>
2	SEP01-FL 23'	↓	1340	2			X		X					X	X					X	
3	BKG01 225'		1446	1			X		X												
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: Cody Miller Date/Time: 5/17/21 1635 Received by: Tasman's Lock Box Date/Time: 5/17/21 1635 Turn Around Time (Check)
 Same Day 72 hours
 24 hours Standard
 48 hours
 Sample Integrity: 7
 Temperature Upon Receipt: 7
 Samples Intact: Yes No

Notes:

Sample Receipt Checklist

S2 Work Order 2105263

Client: POC / Tasman Client Project ID: Flack 21-3 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>7</u>
-----------	----------

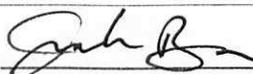
Thermometer ID: 61857155-K

	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.	✓			<u>On ice.</u>
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			/	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			/	
If dissolved metals are requested, were samples field filtered?			/	

Additional Comments (if any):

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

JB
Custodian Printed Name or Initials


Signature of Custodian

5/17/21
Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 11:10

AST01@0-6"
2105263-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/17/21 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0321	05/18/21	05/19/21	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: **05/17/21 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		90.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.5 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/17/21 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	160	50		mg/kg	1	BEE0387	05/20/21	05/21/21	EPA 8015M	
C28-C36 (ORO)	50	50		"	"	"	"	"	"	

Date Sampled: **05/17/21 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		107 %		30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 11:10

SEP01-FL@3'
2105263-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/17/21 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEE0321	05/18/21	05/19/21	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: **05/17/21 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		98.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/17/21 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0387	05/20/21	05/21/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/17/21 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		107 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 11:10

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 BEE0321 - EPA 5030 Soil MS

Blank (BEE0321-BLK1)

Prepared: 05/18/21 Analyzed: 05/19/21

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	0.0340		"	0.0400		85.1	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0349		"	0.0400		87.3	21-167			

LCS (BEE0321-BS1)

Prepared: 05/18/21 Analyzed: 05/19/21

Benzene	0.0763	0.0020	mg/kg	0.100		76.3	70-130			
Toluene	0.0974	0.0050	"	0.100		97.4	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.251	0.010	"	0.200		125	70-130			
o-Xylene	0.126	0.0050	"	0.100		126	70-130			
1,2,4-Trimethylbenzene	0.126	0.0050	"	0.100		126	70-130			
1,3,5-Trimethylbenzene	0.126	0.0050	"	0.100		126	70-130			
Naphthalene	0.106	0.0038	"	0.100		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0350		"	0.0400		87.4	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0343		"	0.0400		85.8	21-167			

Matrix Spike (BEE0321-MS1)

Source: 2105230-01

Prepared: 05/18/21 Analyzed: 05/19/21

Benzene	0.0705	0.0020	mg/kg	0.100	ND	70.5	70-130			
Toluene	0.0913	0.0050	"	0.100	ND	91.3	70-130			
Ethylbenzene	0.119	0.0050	"	0.100	ND	119	70-130			
m,p-Xylene	0.203	0.010	"	0.200	ND	102	70-130			
o-Xylene	0.126	0.0050	"	0.100	0.00321	123	70-130			
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
1,3,5-Trimethylbenzene	0.130	0.0050	"	0.100	0.00750	123	70-130			
Naphthalene	0.119	0.0038	"	0.100	ND	119	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0338		"	0.0400		84.4	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0363		"	0.0400		90.7	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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/26/21 11:10

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 BEE0321 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0321-MSD1)	Source: 2105230-01			Prepared: 05/18/21 Analyzed: 05/19/21						
Benzene	0.0724	0.0020	mg/kg	0.100	ND	72.4	70-130	2.69	30	
Toluene	0.0844	0.0050	"	0.100	ND	84.4	70-130	7.78	30	
Ethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	11.9	30	
m,p-Xylene	0.234	0.010	"	0.200	ND	117	70-130	14.1	30	
o-Xylene	0.107	0.0050	"	0.100	0.00321	104	70-130	16.2	30	
1,2,4-Trimethylbenzene	0.120	0.0050	"	0.100	ND	120	70-130	17.1	30	
1,3,5-Trimethylbenzene	0.117	0.0050	"	0.100	0.00750	110	70-130	10.2	30	
Naphthalene	0.123	0.0038	"	0.100	ND	123	70-130	3.54	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0320</i>		<i>"</i>	<i>0.0400</i>		<i>80.0</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0411</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0322</i>		<i>"</i>	<i>0.0400</i>		<i>80.4</i>	<i>21-167</i>			

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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/26/21 11:10

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 BEE0387 - EPA 3550A

Blank (BEE0387-BLK1)

Prepared: 05/20/21 Analyzed: 05/21/21

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

LCS (BEE0387-BS1)

Prepared: 05/20/21 Analyzed: 05/21/21

C10-C28 (DRO)	501	50	mg/kg	500	100	70-130				
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Matrix Spike (BEE0387-MS1)

Source: 2105254-01

Prepared: 05/20/21 Analyzed: 05/21/21

C10-C28 (DRO)	490	50	mg/kg	500	17.2	94.6	70-130			
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Matrix Spike Dup (BEE0387-MSD1)

Source: 2105254-01

Prepared: 05/20/21 Analyzed: 05/21/21

C10-C28 (DRO)	455	50	mg/kg	500	17.2	87.6	70-130	7.36	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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 11:10

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 19, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105270

Enclosed are the results of analyses for samples received by Summit Scientific on 05/18/21 18:34. 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: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/19/21 06:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS02@16'	2105270-01	Soil	05/18/21 12:28	05/18/21 18:34

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

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
Project Manager: Mark Longhurst
E-Mail: mark.longhurst@PDCI.com
Project Name: Flack 21-3 Tank Battery
Project Number:
Sampler Name: Cody Miller

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 ⁹¹⁵	TPH - (C6 - C36) ⁹¹⁵	pH, EC, SAR ⁹¹⁵	Boron - HWS ⁹¹⁵	VOC - 915	PAH - 915	Metals - 915		TMBs (124)(1345) ⁹¹⁵	
1	<u>5502 21B</u>	<u>5/18/21</u>	<u>1228</u>	<u>3</u>			<u>X</u>			<u>X</u>											pH, EC, SAR by saturated paste	
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10	Relinquished by: <u>Cody Miller</u> Date/Time: <u>5/18/21 1630</u>				Received by: <u>Tasman's Lock Box</u> Date/Time: <u>5/18/21 1630</u>				Turn Around Time (Check) Same Day <u>X</u> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___							Notes:						
	Relinquished by: <u>Tasman's Lock Box</u> Date/Time: <u>5/18/21 1800</u>				Received by: <u>Jack Bm</u> Date/Time: <u>5/18/21 1800</u>				Sample Integrity: <u>9</u> Temperature Upon Receipt: <u>9</u>													
	Relinquished by:				Received by:				Samples Intact: <u>(Yes)</u> No													

Sample Receipt Checklist

S2 Work Order 2105270

Client: PDC / Tasman Client Project ID: Flack 21-3 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)	9
-----------	---

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.	✓			<i>On ice.</i>
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			<i>Same day</i>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

JJB
Custodian Printed Name or Initials

John B...
Signature of Custodian

5/18/21
Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/19/21 06:26

SS02@16'
2105270-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/18/21 12:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0326	05/18/21	05/18/21	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: **05/18/21 12:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		141 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/18/21 12:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEE0327	05/18/21	05/18/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/18/21 12:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		90.9 %		30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/19/21 06:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0326 - EPA 5030 Soil MS

Blank (BEE0326-BLK1)

Prepared & Analyzed: 05/18/21

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	0.0436		"	0.0400		109	23-173			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0338		"	0.0400		84.4	21-167			

LCS (BEE0326-BS1)

Prepared: 05/18/21 Analyzed: 05/19/21

Benzene	0.0896	0.0020	mg/kg	0.100		89.6	70-130			
Toluene	0.0908	0.0050	"	0.100		90.8	70-130			
Ethylbenzene	0.0820	0.0050	"	0.100		82.0	70-130			
m,p-Xylene	0.210	0.010	"	0.200		105	70-130			
o-Xylene	0.0968	0.0050	"	0.100		96.8	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100		102	70-130			
1,3,5-Trimethylbenzene	0.0848	0.0050	"	0.100		84.8	70-130			
Naphthalene	0.0839	0.0038	"	0.100		83.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0356		"	0.0400		88.9	21-167			

Matrix Spike (BEE0326-MS1)

Source: 2105268-02

Prepared: 05/18/21 Analyzed: 05/19/21

Benzene	0.0869	0.0020	mg/kg	0.100	ND	86.9	70-130			
Toluene	0.0963	0.0050	"	0.100	ND	96.3	70-130			
Ethylbenzene	0.0878	0.0050	"	0.100	ND	87.8	70-130			
m,p-Xylene	0.205	0.010	"	0.200	ND	102	70-130			
o-Xylene	0.0952	0.0050	"	0.100	ND	95.2	70-130			
1,2,4-Trimethylbenzene	0.0878	0.0050	"	0.100	ND	87.8	70-130			
1,3,5-Trimethylbenzene	0.0844	0.0050	"	0.100	ND	84.4	70-130			
Naphthalene	0.0909	0.0038	"	0.100	ND	90.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0368		"	0.0400		92.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0360		"	0.0400		90.1	21-167			

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/19/21 06:26

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 BEE0326 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0326-MSD1)	Source: 2105268-02			Prepared: 05/18/21 Analyzed: 05/19/21						
Benzene	0.0840	0.0020	mg/kg	0.100	ND	84.0	70-130	3.34	30	
Toluene	0.0976	0.0050	"	0.100	ND	97.6	70-130	1.27	30	
Ethylbenzene	0.0884	0.0050	"	0.100	ND	88.4	70-130	0.715	30	
m,p-Xylene	0.207	0.010	"	0.200	ND	104	70-130	1.17	30	
o-Xylene	0.0907	0.0050	"	0.100	ND	90.7	70-130	4.84	30	
1,2,4-Trimethylbenzene	0.0866	0.0050	"	0.100	ND	86.6	70-130	1.48	30	
1,3,5-Trimethylbenzene	0.0889	0.0050	"	0.100	ND	88.9	70-130	5.19	30	
Naphthalene	0.0893	0.0038	"	0.100	ND	89.3	70-130	1.73	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0420</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0375</i>		<i>"</i>	<i>0.0400</i>		<i>93.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>91.9</i>	<i>21-167</i>			

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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/19/21 06:26

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 BEE0327 - EPA 3550A

Blank (BEE0327-BLK1)

Prepared & Analyzed: 05/18/21

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

LCS (BEE0327-BS1)

Prepared & Analyzed: 05/18/21

C10-C28 (DRO)	418	50	mg/kg	500	83.6	70-130				
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Matrix Spike (BEE0327-MS1)

Source: 2105268-02

Prepared & Analyzed: 05/18/21

C10-C28 (DRO)	415	50	mg/kg	500	22.0	78.7	70-130			
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Matrix Spike Dup (BEE0327-MSD1)

Source: 2105268-02

Prepared & Analyzed: 05/18/21

C10-C28 (DRO)	508	50	mg/kg	500	22.0	97.1	70-130	20.0	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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/19/21 06:26

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 20, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105303

Enclosed are the results of analyses for samples received by Summit Scientific on 05/19/21 17:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



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

Project: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/20/21 06:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS03@9'	2105303-01	Soil	05/19/21 11:28	05/19/21 17:40
SS04@15'	2105303-02	Soil	05/19/21 11:40	05/19/21 17:40
SS05@9'	2105303-03	Soil	05/19/21 13:02	05/19/21 17:40
SS06@15'	2105303-04	Soil	05/19/21 13:14	05/19/21 17:40

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.

2105303

Sample Receipt Checklist

S2 Work Order _____

Client: PDC / Tasman Client Project ID: Fluck 21-3 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)	8
-----------	---

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"/>	On ice.
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day.
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.

JB
Custodian Printed Name or Initials

Josh Bn
Signature of Custodian

5/19/21
Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 06:17

SS03@9'
2105303-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/19/21 11:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0353	05/19/21	05/19/21	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: **05/19/21 11:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		138 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.7 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/19/21 11:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEE0354	05/19/21	05/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/19/21 11:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		107 %		30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 06:17

SS04@15'
2105303-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/19/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0353	05/19/21	05/19/21	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: **05/19/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		127 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/19/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0354	05/19/21	05/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/19/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 06:17

SS05@9'
2105303-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/19/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0353	05/19/21	05/19/21	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: **05/19/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		129 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/19/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0354	05/19/21	05/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/19/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 06:17

SS06@15'
2105303-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/19/21 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0353	05/19/21	05/19/21	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: **05/19/21 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/19/21 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0354	05/19/21	05/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/19/21 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		121 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 06:17

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 BEE0353 - EPA 5030 Soil MS

Blank (BEE0353-BLK1)

Prepared: 05/19/21 Analyzed: 05/20/21

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	0.0346		"	0.0400		86.5	23-173			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0371		"	0.0400		92.7	21-167			

LCS (BEE0353-BS1)

Prepared: 05/19/21 Analyzed: 05/20/21

Benzene	0.0947	0.0020	mg/kg	0.100		94.7	70-130			
Toluene	0.0783	0.0050	"	0.100		78.3	70-130			
Ethylbenzene	0.116	0.0050	"	0.100		116	70-130			
m,p-Xylene	0.256	0.010	"	0.200		128	70-130			
o-Xylene	0.119	0.0050	"	0.100		119	70-130			
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100		107	70-130			
1,3,5-Trimethylbenzene	0.0987	0.0050	"	0.100		98.7	70-130			
Naphthalene	0.119	0.0038	"	0.100		119	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0338		"	0.0400		84.6	23-173			
Surrogate: Toluene-d8	0.0367		"	0.0400		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0320		"	0.0400		80.0	21-167			

Matrix Spike (BEE0353-MS1)

Source: 2105298-01

Prepared: 05/19/21 Analyzed: 05/20/21

Benzene	0.0979	0.0020	mg/kg	0.100	ND	97.9	70-130			
Toluene	0.0933	0.0050	"	0.100	ND	93.3	70-130			
Ethylbenzene	0.127	0.0050	"	0.100	ND	127	70-130			
m,p-Xylene	0.206	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.0968	0.0050	"	0.100	ND	96.8	70-130			
1,2,4-Trimethylbenzene	0.0916	0.0050	"	0.100	ND	91.6	70-130			
1,3,5-Trimethylbenzene	0.0836	0.0050	"	0.100	ND	83.6	70-130			
Naphthalene	0.0993	0.0038	"	0.100	ND	99.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0400		95.6	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0365		"	0.0400		91.3	21-167			

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/20/21 06:17

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0353 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0353-MSD1)	Source: 2105298-01			Prepared: 05/19/21 Analyzed: 05/20/21					
Benzene	0.0959	0.0020	mg/kg	0.100	ND	95.9	70-130	2.01	30
Toluene	0.0790	0.0050	"	0.100	ND	79.0	70-130	16.5	30
Ethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	12.3	30
m,p-Xylene	0.216	0.010	"	0.200	ND	108	70-130	4.77	30
o-Xylene	0.125	0.0050	"	0.100	ND	125	70-130	25.5	30
1,2,4-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	21.0	30
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	23.9	30
Naphthalene	0.101	0.0038	"	0.100	ND	101	70-130	2.15	30
Surrogate: 1,2-Dichloroethane-d4	0.0354		"	0.0400		88.4	23-173		
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170		
Surrogate: 4-Bromofluorobenzene	0.0353		"	0.0400		88.2	21-167		

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/20/21 06:17

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEE0354 - EPA 3550A

Blank (BEE0354-BLK1)

Prepared: 05/19/21 Analyzed: 05/20/21

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

LCS (BEE0354-BS1)

Prepared: 05/19/21 Analyzed: 05/20/21

C10-C28 (DRO)	456	50	mg/kg	500	91.1	70-130				
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Matrix Spike (BEE0354-MS1)

Source: 2105298-01

Prepared: 05/19/21 Analyzed: 05/20/21

C10-C28 (DRO)	484	50	mg/kg	500	13.1	94.3	70-130			
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Matrix Spike Dup (BEE0354-MSD1)

Source: 2105298-01

Prepared: 05/19/21 Analyzed: 05/20/21

C10-C28 (DRO)	430	50	mg/kg	500	13.1	83.3	70-130	12.0	20	
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Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 06:17

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 21, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105323

Enclosed are the results of analyses for samples received by Summit Scientific on 05/20/21 17:37. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



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

Project: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS07@9'	2105323-01	Soil	05/20/21 10:46	05/20/21 17:37
SS08@15'	2105323-02	Soil	05/20/21 10:52	05/20/21 17:37
SS09@16'	2105323-03	Soil	05/20/21 10:57	05/20/21 17:37
SS10@9'	2105323-04	Soil	05/20/21 11:46	05/20/21 17:37
SS11@15'	2105323-05	Soil	05/20/21 11:54	05/20/21 17:37

Summit Scientific

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Summit Scientific

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

Project Manager: Mark Longhurst
E-Mail: mark.longhurst@PDCFL.com

Project Name: Flack 21-3 Tank Battery
Project Number:

Sampler Name: Cody Miller

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions			
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	915 GBTEXN - 8260B	915 TPH - (C6 - C36)	915 pH, EC, SAR	915 Boron - HWS	915 VOC - 915	915 PAH - 915	915 Metals - 915		915 7MB2 (13,15)		
1	SS07 @ 9'	5/20/21	1046	3			X			X			X	X								pH, EC, SAR by saturated paste	
2	SS08 @ 15'	↓	1052	3			X			X			X	X							X		
3	SS09 @ 16'		1057	3			X			X				X	X								X
4	SS10 @ 9'		1146	3			X			X				X	X								X
5	SS11 @ 15'		1154	3			X			X													X

Relinquished by: <u>Cody Miller</u> Date/Time: <u>5/20/21 1515</u>	Received by: <u>Tasman's Lock Box</u> Date/Time: <u>5/20/21 1515</u>	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: <u>8</u> Temperature Upon Receipt: ___ Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: <u>Tasman's Lock Box</u> Date/Time: <u>5/20/21 1715</u>	Received by: <u>John Bee</u> Date/Time: <u>5/20/21 1715</u>		
Relinquished by:	Received by:		

Sample Receipt Checklist

S2 Work Order 2105323

Client: PDC / Tasman Client Project ID: Flack 21-3 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)	8
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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.	✓			<i>On ice.</i>
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			<i>Same day.</i>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

JB
Custodian Printed Name or Initials

Juh Brn
Signature of Custodian

5/20/21
Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

SS07@9'
2105323-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0385	05/20/21	05/20/21	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	3.2	0.50		"	"	"	"	"	"	

Date Sampled: **05/20/21 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		134 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		116 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	130	50		mg/kg	1	BEE0386	05/20/21	05/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/20/21 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: o-Terphenyl</i>		92.8 %		30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

SS08@15'
2105323-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0385	05/20/21	05/20/21	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: **05/20/21 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0386	05/20/21	05/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		107 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

SS09@16'
2105323-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0385	05/20/21	05/20/21	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: **05/20/21 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0386	05/20/21	05/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

SS10@9'
2105323-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0385	05/20/21	05/20/21	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: **05/20/21 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		130 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0386	05/20/21	05/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/20/21 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

SS11@15'
2105323-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0385	05/20/21	05/20/21	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: **05/20/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		128 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0386	05/20/21	05/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/20/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0385 - EPA 5030 Soil MS

Blank (BEE0385-BLK1)

Prepared & Analyzed: 05/20/21

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>	0.0320		"	0.0400		80.1		23-173			
<i>Surrogate: Toluene-d8</i>	0.0371		"	0.0400		92.7		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0357		"	0.0400		89.3		21-167			

LCS (BEE0385-BS1)

Prepared & Analyzed: 05/20/21

Benzene	0.0977	0.0020	mg/kg	0.100		97.7		70-130			
Toluene	0.0950	0.0050	"	0.100		95.0		70-130			
Ethylbenzene	0.0762	0.0050	"	0.100		76.2		70-130			
m,p-Xylene	0.141	0.010	"	0.200		70.7		70-130			
o-Xylene	0.0729	0.0050	"	0.100		72.9		70-130			
1,2,4-Trimethylbenzene	0.0841	0.0050	"	0.100		84.1		70-130			
1,3,5-Trimethylbenzene	0.0910	0.0050	"	0.100		91.0		70-130			
Naphthalene	0.0993	0.0038	"	0.100		99.3		70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0225		"	0.0400		56.2		23-173			
<i>Surrogate: Toluene-d8</i>	0.0344		"	0.0400		86.0		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0336		"	0.0400		83.9		21-167			

Matrix Spike (BEE0385-MS1)

Source: 2105317-01

Prepared & Analyzed: 05/20/21

Benzene	0.0774	0.0020	mg/kg	0.100	ND	77.4		70-130			
Toluene	0.0730	0.0050	"	0.100	ND	73.0		70-130			
Ethylbenzene	0.0823	0.0050	"	0.100	ND	82.3		70-130			
m,p-Xylene	0.154	0.010	"	0.200	ND	77.1		70-130			
o-Xylene	0.0784	0.0050	"	0.100	ND	78.4		70-130			
1,2,4-Trimethylbenzene	0.0896	0.0050	"	0.100	ND	89.6		70-130			
1,3,5-Trimethylbenzene	0.0896	0.0050	"	0.100	ND	89.6		70-130			
Naphthalene	0.0796	0.0038	"	0.100	ND	79.6		70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0274		"	0.0400		68.5		23-173			
<i>Surrogate: Toluene-d8</i>	0.0347		"	0.0400		86.8		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0343		"	0.0400		85.8		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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/21/21 06:36

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0385 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0385-MSD1)	Source: 2105317-01			Prepared: 05/20/21 Analyzed: 05/21/21					
Benzene	0.0730	0.0020	mg/kg	0.100	ND	73.0	70-130	5.82	30
Toluene	0.0725	0.0050	"	0.100	ND	72.5	70-130	0.701	30
Ethylbenzene	0.0826	0.0050	"	0.100	ND	82.6	70-130	0.437	30
m,p-Xylene	0.155	0.010	"	0.200	ND	77.4	70-130	0.447	30
o-Xylene	0.0788	0.0050	"	0.100	ND	78.8	70-130	0.382	30
1,2,4-Trimethylbenzene	0.0914	0.0050	"	0.100	ND	91.4	70-130	1.96	30
1,3,5-Trimethylbenzene	0.0866	0.0050	"	0.100	ND	86.6	70-130	3.30	30
Naphthalene	0.0859	0.0038	"	0.100	ND	85.9	70-130	7.65	30
Surrogate: 1,2-Dichloroethane-d4	0.0247		"	0.0400		61.7	23-173		
Surrogate: Toluene-d8	0.0344		"	0.0400		86.1	20-170		
Surrogate: 4-Bromofluorobenzene	0.0338		"	0.0400		84.4	21-167		

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/21/21 06:36

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 BEE0386 - EPA 3550A

Blank (BEE0386-BLK1)

Prepared: 05/20/21 Analyzed: 05/21/21

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

LCS (BEE0386-BS1)

Prepared: 05/20/21 Analyzed: 05/21/21

C10-C28 (DRO)	485	50	mg/kg	500	97.0	70-130				
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Matrix Spike (BEE0386-MS1)

Source: 2105317-01

Prepared: 05/20/21 Analyzed: 05/21/21

C10-C28 (DRO)	499	50	mg/kg	500	14.3	96.9	70-130			
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Matrix Spike Dup (BEE0386-MSD1)

Source: 2105317-01

Prepared: 05/20/21 Analyzed: 05/21/21

C10-C28 (DRO)	453	50	mg/kg	500	14.3	87.7	70-130	9.73	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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/21/21 06:36

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 23, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105350

Enclosed are the results of analyses for samples received by Summit Scientific on 05/21/21 18:02. 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: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS12@16'	2105350-01	Soil	05/21/21 08:25	05/21/21 18:02
SS13@16'	2105350-02	Soil	05/21/21 08:50	05/21/21 18:02
SS14@9'	2105350-03	Soil	05/21/21 11:02	05/21/21 18:02
SS15@15'	2105350-04	Soil	05/21/21 11:18	05/21/21 18:02
SS16@9'	2105350-05	Soil	05/21/21 12:52	05/21/21 18:02
SS17@15'	2105350-06	Soil	05/21/21 13:02	05/21/21 18:02
SS18@16'	2105350-07	Soil	05/21/21 13:14	05/21/21 18:02

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

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@PDCI.com
 City/State/Zip: Broomfield/ CO/ 80020 Project Name: **Flack 21-3 Tank Battery**
 Phone: 303-487-1228 Project Number:
 Sampler Name: **Cody Miller**

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	⁹¹⁵ GBTEXN - 8260B	⁹¹⁵ TPH - (C6 - C36)	⁹¹⁵ pH, EC, SAR	⁹¹⁵ Boron - HWS	VOC - 915	PAH - 915	
1	SS12 @ 16'	5/21/21 ↓	0825	3			X		X			X	X					X	pH, EC, SAR by saturated paste
2	SS13 @ 16'		0850	3			X		X			X	X					X	
3	SS14 @ 9'		1102	3			X		X			X	X					X	
4	SS15 @ 15'		1118	3			X		X			X	X					X	
5	SS16 @ 9'		1252	3			X		X			X	X					X	
6	SS17 @ 15'		1302	3			X		X			X	X					X	
7	SS18 @ 16'		1314	3			X		X			X	X					X	
8																			
9																			
10																			

Relinquished by: Cody Miller Date/Time: 5/21/21 1535	Received by: Tasman's Lock Box Date/Time: 5/21/21 1535	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: 5 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: Tasman's Lock Box Date/Time: 5/21/21 1800	Received by: John Brown Date/Time: 5/21/21 1800		
Relinquished by:	Received by:		

Sample Receipt Checklist

S2 Work Order 2105350

Client: PDC/Tasman Client Project ID: Flack 21-3 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>5</u>
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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.	✓			<u>on ice.</u>
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			<u>same day</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

JB
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

5/21/21
Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

SS12@16'
2105350-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/21/21 08:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0411	05/21/21	05/21/21	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: **05/21/21 08:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		119 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.6 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/21/21 08:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEE0412	"	05/21/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/21/21 08:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		118 %		30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

SS13@16'
2105350-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/21/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0411	05/21/21	05/21/21	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: **05/21/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		128 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/21/21 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0412	"	05/21/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/21/21 08:50**

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

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

SS14@9'
2105350-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/21/21 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0411	05/21/21	05/21/21	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	1.0	0.50	"	"	"	"	"	"	

Date Sampled: **05/21/21 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		130 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		128 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/21/21 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	130	50	mg/kg	1	BEE0412	"	05/21/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/21/21 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		126 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

SS15@15'
2105350-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/21/21 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0411	05/21/21	05/21/21	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: **05/21/21 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		133 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		111 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/21/21 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0412	"	05/21/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/21/21 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		121 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

SS16@9'
2105350-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/21/21 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0411	05/21/21	05/21/21	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: **05/21/21 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		134 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/21/21 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0412	"	05/21/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/21/21 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		106 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

SS17@15'
2105350-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/21/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0411	05/21/21	05/21/21	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: **05/21/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		147 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/21/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0412	"	05/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/21/21 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

SS18@16'
2105350-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/21/21 13:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0411	05/21/21	05/21/21	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: **05/21/21 13:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		137 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.7 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/21/21 13:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEE0412	"	05/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/21/21 13:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		126 %		30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

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 BEE0411 - EPA 5030 Soil MS

Blank (BEE0411-BLK1)

Prepared & Analyzed: 05/21/21

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>	0.0375		"	0.0400		93.7	23-173			
<i>Surrogate: Toluene-d8</i>	0.0473		"	0.0400		118	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0379		"	0.0400		94.8	21-167			

LCS (BEE0411-BS1)

Prepared & Analyzed: 05/21/21

Benzene	0.0789	0.0020	mg/kg	0.100		78.9	70-130			
Toluene	0.0928	0.0050	"	0.100		92.8	70-130			
Ethylbenzene	0.0979	0.0050	"	0.100		97.9	70-130			
m,p-Xylene	0.188	0.010	"	0.200		94.0	70-130			
o-Xylene	0.0945	0.0050	"	0.100		94.5	70-130			
1,2,4-Trimethylbenzene	0.0926	0.0050	"	0.100		92.6	70-130			
1,3,5-Trimethylbenzene	0.0931	0.0050	"	0.100		93.1	70-130			
Naphthalene	0.0712	0.0038	"	0.100		71.2	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0323		"	0.0400		80.9	23-173			
<i>Surrogate: Toluene-d8</i>	0.0413		"	0.0400		103	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0368		"	0.0400		92.1	21-167			

Matrix Spike (BEE0411-MS1)

Source: 2105349-01

Prepared & Analyzed: 05/21/21

Benzene	0.0854	0.0020	mg/kg	0.100	ND	85.4	70-130			
Toluene	0.0998	0.0050	"	0.100	ND	99.8	70-130			
Ethylbenzene	0.0998	0.0050	"	0.100	ND	99.8	70-130			
m,p-Xylene	0.192	0.010	"	0.200	ND	96.0	70-130			
o-Xylene	0.0976	0.0050	"	0.100	ND	97.6	70-130			
1,2,4-Trimethylbenzene	0.0959	0.0050	"	0.100	ND	95.9	70-130			
1,3,5-Trimethylbenzene	0.0951	0.0050	"	0.100	ND	95.1	70-130			
Naphthalene	0.0875	0.0038	"	0.100	ND	87.5	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0382		"	0.0400		95.5	23-173			
<i>Surrogate: Toluene-d8</i>	0.0417		"	0.0400		104	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0385		"	0.0400		96.2	21-167			

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/23/21 20:11

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 BEE0411 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0411-MSD1)	Source: 2105349-01			Prepared & Analyzed: 05/21/21						
Benzene	0.0870	0.0020	mg/kg	0.100	ND	87.0	70-130	1.81	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	0.778	30	
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	4.35	30	
m,p-Xylene	0.200	0.010	"	0.200	ND	99.8	70-130	3.92	30	
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130	3.89	30	
1,2,4-Trimethylbenzene	0.0978	0.0050	"	0.100	ND	97.8	70-130	1.98	30	
1,3,5-Trimethylbenzene	0.0986	0.0050	"	0.100	ND	98.6	70-130	3.62	30	
Naphthalene	0.0832	0.0038	"	0.100	ND	83.2	70-130	5.03	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0375</i>		<i>"</i>	<i>0.0400</i>		<i>93.8</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0420</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0386</i>		<i>"</i>	<i>0.0400</i>		<i>96.6</i>	<i>21-167</i>			

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/23/21 20:11

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEE0412 - EPA 3550A

Blank (BEE0412-BLK1)

Prepared & Analyzed: 05/21/21

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

LCS (BEE0412-BS1)

Prepared & Analyzed: 05/21/21

C10-C28 (DRO)	490	50	mg/kg	500	98.0	70-130				
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Matrix Spike (BEE0412-MS1)

Source: 2105349-01

Prepared & Analyzed: 05/21/21

C10-C28 (DRO)	452	50	mg/kg	500	32.4	84.0	70-130			
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Matrix Spike Dup (BEE0412-MSD1)

Source: 2105349-01

Prepared & Analyzed: 05/21/21

C10-C28 (DRO)	497	50	mg/kg	500	32.4	92.9	70-130	9.36	20	
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Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/21 20:11

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 25, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105374

Enclosed are the results of analyses for samples received by Summit Scientific on 05/24/21 18:49. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



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

Project: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/25/21 06:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS19@16'	2105374-01	Soil	05/24/21 11:34	05/24/21 18:49
SS20@9'	2105374-02	Soil	05/24/21 11:48	05/24/21 18:49
SS21@15'	2105374-03	Soil	05/24/21 11:52	05/24/21 18:49

Summit Scientific

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2105374

Summit Scientific

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

Page 1 of 1

Client: PDCT / Tasman Project Manager: Mark Longhurst
 Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCT.com
 City/State/Zip: Broomfield/ CO/ 80020 Project Name: Flack 21-3 Tank Battery
 Phone: 303-487-1228 Project Number:
 Sampler Name: Cody Miller

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 ⁹¹⁵	TPH - (C6 - C36) ⁹¹⁵	pH, EC, SAR ⁹¹⁵	Boron - HWS ⁹¹⁵	VOC - 915	PAH - 915		Metals - 915	
1	5519 @ 16'	5/24/21	1134	3			X			X			X							pH, EC, SAR by saturated paste	
2	5520 @ 9'	↓	1148	3			X			X			X								
3	5521 @ 15'		1152	3			X			X			X								
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: Cody Miller Date/Time: 5/24/21 1530 Received by: Tasman's Lock Box Date/Time: 5/24/21 1530
 Relinquished by: Tasman's Lock Box Date/Time: 5/24/21 1840 Received by: John Brun Date/Time: 5/24/21 1840
 Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

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

Sample Integrity: _____
 Temperature Upon Receipt: 7
 Samples Intact: Yes No

Notes:



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/25/21 06:47

SS19@16'
2105374-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/21 11:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEE0443	05/24/21	05/25/21	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: **05/24/21 11:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/21 11:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0444	05/24/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/21 11:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		122 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/25/21 06:47

SS20@9'
2105374-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/21 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0443	05/24/21	05/25/21	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: **05/24/21 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/21 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0444	05/24/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/21 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/25/21 06:47

SS21@15'
2105374-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/21 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0443	05/24/21	05/25/21	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: **05/24/21 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/21 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0444	05/24/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/21 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		112 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/25/21 06:47

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0443 - EPA 5030 Soil MS

Blank (BEE0443-BLK1)

Prepared: 05/24/21 Analyzed: 05/25/21

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	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0289		"	0.0400		72.2	23-173				
<i>Surrogate: Toluene-d8</i>	0.0387		"	0.0400		96.8	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0374		"	0.0400		93.5	21-167				

LCS (BEE0443-BS1)

Prepared: 05/24/21 Analyzed: 05/25/21

Benzene	0.112	0.0020	mg/kg	0.100		112	70-130				
Toluene	0.118	0.0050	"	0.100		118	70-130				
Ethylbenzene	0.0970	0.0050	"	0.100		97.0	70-130				
m,p-Xylene	0.202	0.010	"	0.200		101	70-130				
o-Xylene	0.0994	0.0050	"	0.100		99.4	70-130				
1,2,4-Trimethylbenzene	0.0760	0.0050	"	0.100		76.0	70-130				
1,3,5-Trimethylbenzene	0.0751	0.0050	"	0.100		75.1	70-130				
Naphthalene	0.0964	0.0038	"	0.100		96.4	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0298		"	0.0400		74.6	23-173				
<i>Surrogate: Toluene-d8</i>	0.0394		"	0.0400		98.5	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0399		"	0.0400		99.8	21-167				

Matrix Spike (BEE0443-MS1)

Source: 2105369-01

Prepared: 05/24/21 Analyzed: 05/25/21

Benzene	0.112	0.0020	mg/kg	0.100	ND	112	70-130				
Toluene	0.119	0.0050	"	0.100	ND	119	70-130				
Ethylbenzene	0.0949	0.0050	"	0.100	ND	94.9	70-130				
m,p-Xylene	0.196	0.010	"	0.200	ND	97.9	70-130				
o-Xylene	0.0967	0.0050	"	0.100	ND	96.7	70-130				
1,2,4-Trimethylbenzene	0.0797	0.0050	"	0.100	ND	79.7	70-130				
1,3,5-Trimethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130				
Naphthalene	0.0767	0.0038	"	0.100	ND	76.7	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0318		"	0.0400		79.5	23-173				
<i>Surrogate: Toluene-d8</i>	0.0393		"	0.0400		98.2	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0392		"	0.0400		97.9	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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/25/21 06:47

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 BEE0444 - EPA 3550A

Blank (BEE0444-BLK1)

Prepared: 05/24/21 Analyzed: 05/25/21

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

LCS (BEE0444-BS1)

Prepared: 05/24/21 Analyzed: 05/25/21

C10-C28 (DRO)	609	50	mg/kg	500	122	70-130				
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Matrix Spike (BEE0444-MS1)

Source: 2105369-01

Prepared: 05/24/21 Analyzed: 05/25/21

C10-C28 (DRO)	556	50	mg/kg	500	16.8	108	70-130			
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Matrix Spike Dup (BEE0444-MSD1)

Source: 2105369-01

Prepared: 05/24/21 Analyzed: 05/25/21

C10-C28 (DRO)	586	50	mg/kg	500	16.8	114	70-130	5.12	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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/25/21 06:47

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 26, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105399

Enclosed are the results of analyses for samples received by Summit Scientific on 05/25/21 17:41. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



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

Project: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS22@16'	2105399-01	Soil	05/25/21 09:07	05/25/21 17:41
SS23@9'	2105399-02	Soil	05/25/21 12:34	05/25/21 17:41
SS24@15'	2105399-03	Soil	05/25/21 12:56	05/25/21 17:41
SS25@16'	2105399-04	Soil	05/25/21 13:34	05/25/21 17:41
SS26@16'	2105399-05	Soil	05/25/21 13:42	05/25/21 17:41
SS27@16'	2105399-06	Soil	05/25/21 13:50	05/25/21 17:41

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

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: Flack 21-3 Tank Battery
 Phone: 303-487-1228 Project Number:
 Sampler Name: Cody Miller

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	⁹¹⁵ GBTEEN - 8260B	⁹¹⁵ TPH - (C6 - C36)	⁹¹⁵ pH, EC, SAR	⁹¹⁵ Boron - HWS	YOC - 915	PAH - 915		Metals - 915	⁹¹⁵ TMBS (179)(C)(35)
1	SS22 @ 16'	5/25/21	0907	3			X			X										pH, EC, SAR by saturated paste	
2	SS23 @ 9'	↓	1234	3			X			X									X		
3	SS24 @ 15'		1256	3			X			X											X
4	SS25 @ 16'		1334	3			X			X											X
5	SS26 @ 16'		1342	3			X			X											X
6	SS27 @ 16'		1350	3			X			X											X

Relinquished by: <u>Cody Miller</u> Date/Time: <u>5/25/21 1555</u>	Received by: <u>Tasman's Lock Box</u> Date/Time: <u>5/25/21 1555</u>	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: <u>4</u> Temperature Upon Receipt: ___ Samples Intact: <input checked="" type="radio"/> Yes No	Notes:
Relinquished by: <u>Tasman's Lock Box</u> Date/Time: <u>5/25/21 1715</u>	Received by: <u>Josh Brown</u> Date/Time: <u>5/25/21 1715</u>		
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____		

Sample Receipt Checklist

S2 Work Order 2105399

Client: PDC / Tasman Client Project ID: Flack 21-3 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>4</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.	✓			<u>On ice.</u>
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			<u>Same day.</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

JB
Custodian Printed Name or Initials

John Br
Signature of Custodian

5/25/21
Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

SS22@16'
2105399-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 09:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0474	05/25/21	05/25/21	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: **05/25/21 09:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		91.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 09:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEE0475	05/25/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/25/21 09:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		108 %		30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

SS23@9'
2105399-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 12:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEE0474	05/25/21	05/25/21	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: **05/25/21 12:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 12:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0475	05/25/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 12:34**

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

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

SS24@15'
2105399-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0474	05/25/21	05/25/21	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: **05/25/21 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0475	05/25/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		115 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

SS25@16'
2105399-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0474	05/25/21	05/25/21	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: **05/25/21 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0475	05/25/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		105 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

SS26@16'
2105399-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0474	05/25/21	05/25/21	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: **05/25/21 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0475	05/25/21	05/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.4 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

SS27@16'
2105399-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0474	05/25/21	05/25/21	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: **05/25/21 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0475	05/25/21	05/26/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.4 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

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 BEE0474 - EPA 5030 Soil MS

Blank (BEE0474-BLK1)

Prepared: 05/25/21 Analyzed: 05/26/21

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>	0.0281		"	0.0400		70.2	23-173				
<i>Surrogate: Toluene-d8</i>	0.0401		"	0.0400		100	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0373		"	0.0400		93.2	21-167				

LCS (BEE0474-BS1)

Prepared: 05/25/21 Analyzed: 05/26/21

Benzene	0.136	0.0020	mg/kg	0.150		90.8	70-130				
Toluene	0.139	0.0050	"	0.150		92.4	70-130				
Ethylbenzene	0.114	0.0050	"	0.150		75.8	70-130				
m,p-Xylene	0.232	0.010	"	0.300		77.2	70-130				
o-Xylene	0.120	0.0050	"	0.150		80.1	70-130				
1,2,4-Trimethylbenzene	0.151	0.0050	"	0.150		101	70-130				
1,3,5-Trimethylbenzene	0.148	0.0050	"	0.150		98.9	70-130				
Naphthalene	0.126	0.0038	"	0.150		83.8	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0283		"	0.0400		70.8	23-173				
<i>Surrogate: Toluene-d8</i>	0.0369		"	0.0400		92.3	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0373		"	0.0400		93.3	21-167				

Matrix Spike (BEE0474-MS1)

Source: 2105391-01

Prepared: 05/25/21 Analyzed: 05/26/21

Benzene	0.120	0.0020	mg/kg	0.150	0.00744	74.8	70-130				
Toluene	0.121	0.0050	"	0.150	0.00402	77.8	70-130				
Ethylbenzene	0.133	0.0050	"	0.150	ND	88.5	70-130				
m,p-Xylene	0.217	0.010	"	0.300	0.00315	71.4	70-130				
o-Xylene	0.110	0.0050	"	0.150	ND	73.1	70-130				
1,2,4-Trimethylbenzene	0.146	0.0050	"	0.150	ND	97.4	70-130				
1,3,5-Trimethylbenzene	0.144	0.0050	"	0.150	ND	96.2	70-130				
Naphthalene	0.144	0.0038	"	0.150	0.0134	87.0	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0286		"	0.0400		71.6	23-173				
<i>Surrogate: Toluene-d8</i>	0.0360		"	0.0400		90.1	20-170				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0408		"	0.0400		102	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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/26/21 06:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0474 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0474-MSD1)	Source: 2105391-01			Prepared: 05/25/21 Analyzed: 05/26/21							
Benzene	0.132	0.0020	mg/kg	0.150	0.00744	83.2	70-130	10.0	30		
Toluene	0.125	0.0050	"	0.150	0.00402	80.6	70-130	3.39	30		
Ethylbenzene	0.132	0.0050	"	0.150	ND	87.8	70-130	0.772	30		
m,p-Xylene	0.222	0.010	"	0.300	0.00315	73.0	70-130	2.14	30		
o-Xylene	0.114	0.0050	"	0.150	ND	76.3	70-130	4.18	30		
1,2,4-Trimethylbenzene	0.148	0.0050	"	0.150	ND	98.3	70-130	0.919	30		
1,3,5-Trimethylbenzene	0.140	0.0050	"	0.150	ND	93.3	70-130	3.04	30		
Naphthalene	0.127	0.0038	"	0.150	0.0134	75.9	70-130	12.3	30		
Surrogate: 1,2-Dichloroethane-d4	0.0310		"	0.0400		77.4	23-173				
Surrogate: Toluene-d8	0.0368		"	0.0400		91.9	20-170				
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.1	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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/26/21 06:37

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEE0475 - EPA 3550A

Blank (BEE0475-BLK1)

Prepared: 05/25/21 Analyzed: 05/26/21

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

LCS (BEE0475-BS1)

Prepared: 05/25/21 Analyzed: 05/26/21

C10-C28 (DRO)	601	50	mg/kg	500	120	70-130				
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Matrix Spike (BEE0475-MS1)

Source: 2105391-01

Prepared: 05/25/21 Analyzed: 05/26/21

C10-C28 (DRO)	438	50	mg/kg	500	17.3	84.2	70-130			
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Matrix Spike Dup (BEE0475-MSD1)

Source: 2105391-01

Prepared: 05/25/21 Analyzed: 05/26/21

C10-C28 (DRO)	450	50	mg/kg	500	17.3	86.5	70-130	2.59	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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/26/21 06:37

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 27, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105421

Enclosed are the results of analyses for samples received by Summit Scientific on 05/26/21 17:59. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

DRAFT REPORT

DATA SUBJECT TO CHANGE



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

Project: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/27/21 06:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS28@9'	2105421-01	Soil	05/26/21 10:11	05/26/21 17:59
SS29@15'	2105421-02	Soil	05/26/21 10:17	05/26/21 17:59
SS30@16'	2105421-03	Soil	05/26/21 11:15	05/26/21 17:59

DRAFT REPORT

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.

2105421

Summit Scientific

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

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
 Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCI.com
 City/State/Zip: Broomfield/ CO/ 80020 Project Name: **Flack 21-3 Tank Battery**
 Phone: 303-487-1228 Project Number:
 Sampler Name: **Cody Miller**

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions			
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	GBTENN - 8260B ⁹¹⁵	TPH - (C6 - C36) ⁹¹⁵	pH, EC, SAR ⁹¹⁵	Boron - HWS ⁹¹⁵	VOC - 915	PAH - 915		Metals - 915	TMBAL(1,2,4)(1,2,5) ⁹¹⁵	
1	5528 @ 9'	5/26/21	1011	3			X			X			X	X							pH, EC, SAR by saturated paste	
2	5529 @ 15'	↓	1017	3			X			X			X	X								
3	5530 @ 16'		1115	3			X			X												
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by: Cody Miller Date/Time: 5/26/21 1615	Received by: Tasman's Lock Box Date/Time: 5/26/21 1615	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: 4 Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box Date/Time: 5/26/21 1730	Received by: [Signature] Date/Time: 5/26/21 1730		
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____		

Sample Receipt Checklist

S2 Work Order 2105421

Client: PDC/Tasman Client Project ID: Flack 21-3 Tank Battery

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

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

Temp (°C)	4
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Thermometer ID: 61857155-K

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

Additional Comments (if any):

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

JB
 Custodian Printed Name or Initials

[Signature]
 Signature of Custodian

5/26/21
 Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/27/21 06:57

SS28@9'
2105421-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/26/21 10:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEE0501	05/26/21	05/27/21	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: **05/26/21 10:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		129 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		109 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/26/21 10:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEE0502	05/26/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/26/21 10:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: o-Terphenyl</i>		94.0 %		30-150		"	"	"	"	

DRAFT REPORT

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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/27/21 06:57

SS29@15'
2105421-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/26/21 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0501	05/26/21	05/27/21	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: **05/26/21 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		128 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/26/21 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0502	05/26/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/26/21 10:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.6 %	30-150		"	"	"	"	

DRAFT REPORT

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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/27/21 06:57

SS30@16'
2105421-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0501	05/26/21	05/27/21	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: **05/26/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		136 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0502	05/26/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/26/21 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.9 %	30-150		"	"	"	"	

DRAFT REPORT

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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/27/21 06:57

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 BEE0502 - EPA 3550A

Blank (BEE0502-BLK1)

Prepared: 05/26/21 Analyzed: 05/27/21

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

LCS (BEE0502-BS1)

Prepared: 05/26/21 Analyzed: 05/27/21

C10-C28 (DRO)	588	50	mg/kg	500	118	70-130					
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Matrix Spike (BEE0502-MS1)

Source: 2105414-04

Prepared: 05/26/21 Analyzed: 05/27/21

C10-C28 (DRO)	458	50	mg/kg	500	13.1	89.0	70-130				
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Matrix Spike Dup (BEE0502-MSD1)

Source: 2105414-04

Prepared: 05/26/21 Analyzed: 05/27/21

C10-C28 (DRO)	461	50	mg/kg	500	13.1	89.7	70-130	0.680	20		
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DRAFT REPORT

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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/27/21 06:57

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

DRAFT REPORT

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.

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			VERSION 6.21:1002
			Default Report (not modified)

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 28, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Flack 21-3 Tank Battery

Work Order #2105447

Enclosed are the results of analyses for samples received by Summit Scientific on 05/27/21 19:11. 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: Flack 21-3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS31@9'	2105447-01	Soil	05/27/21 08:40	05/27/21 19:11
SS32@15'	2105447-02	Soil	05/27/21 08:47	05/27/21 19:11
SS33@16'	2105447-03	Soil	05/27/21 08:54	05/27/21 19:11
SS34@16'	2105447-04	Soil	05/27/21 11:10	05/27/21 19:11
SS35@16'	2105447-05	Soil	05/27/21 11:54	05/27/21 19:11
SS36@9'	2105447-06	Soil	05/27/21 14:12	05/27/21 19:11
SS37@15'	2105447-07	Soil	05/27/21 14:28	05/27/21 19:11

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.

Sample Receipt Checklist

2105447

S2 Work Order _____

Client: PDC / Tasman Client Project ID: Flack 21-3 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)	4
-----------	---

Thermometer ID: 61857155-K

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

Additional Comments (if any):

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

JB
Custodian Printed Name or Initials

John Br
Signature of Custodian

5/27/21
Date/Time



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

SS31@9'
2105447-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/21 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEE0527	05/27/21	05/27/21	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: **05/27/21 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/27/21 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0528	05/27/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/27/21 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		127 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

SS32@15'
2105447-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/21 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0527	05/27/21	05/27/21	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: **05/27/21 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/27/21 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0528	05/27/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/27/21 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		126 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

SS33@16'
2105447-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/21 08:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEE0527	05/27/21	05/27/21	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: **05/27/21 08:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/27/21 08:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0528	05/27/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/27/21 08:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		131 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

SS34@16'
2105447-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/21 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0527	05/27/21	05/27/21	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: **05/27/21 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		114 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/27/21 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0528	05/27/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/27/21 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		124 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

SS35@16'
2105447-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0527	05/27/21	05/27/21	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: **05/27/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/27/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0528	05/27/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/27/21 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		122 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

SS36@9'
2105447-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0527	05/27/21	05/27/21	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: **05/27/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/27/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0528	05/27/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/27/21 14:12**

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

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

SS37@15'
2105447-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/21 14:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0527	05/27/21	05/27/21	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: **05/27/21 14:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/27/21 14:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0528	05/27/21	05/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/27/21 14:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		121 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

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 BEE0527 - EPA 5030 Soil MS

Blank (BEE0527-BLK1)

Prepared: 05/27/21 Analyzed: 05/28/21

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	0.0425		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0358		"	0.0400		89.4	21-167			

LCS (BEE0527-BS1)

Prepared: 05/27/21 Analyzed: 05/28/21

Benzene	0.171	0.0020	mg/kg	0.150		114	70-130			
Toluene	0.167	0.0050	"	0.150		112	70-130			
Ethylbenzene	0.164	0.0050	"	0.150		110	70-130			
m,p-Xylene	0.340	0.010	"	0.300		113	70-130			
o-Xylene	0.158	0.0050	"	0.150		106	70-130			
1,2,4-Trimethylbenzene	0.171	0.0050	"	0.150		114	70-130			
1,3,5-Trimethylbenzene	0.160	0.0050	"	0.150		107	70-130			
Naphthalene	0.152	0.0038	"	0.150		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0365		"	0.0400		91.2	21-167			

Matrix Spike (BEE0527-MS1)

Source: 2105438-01

Prepared: 05/27/21 Analyzed: 05/28/21

Benzene	0.162	0.0020	mg/kg	0.150	0.00966	102	70-130			
Toluene	0.148	0.0050	"	0.150	0.00318	96.3	70-130			
Ethylbenzene	0.146	0.0050	"	0.150	ND	97.5	70-130			
m,p-Xylene	0.298	0.010	"	0.300	ND	99.3	70-130			
o-Xylene	0.142	0.0050	"	0.150	ND	94.8	70-130			
1,2,4-Trimethylbenzene	0.149	0.0050	"	0.150	ND	99.5	70-130			
1,3,5-Trimethylbenzene	0.141	0.0050	"	0.150	ND	93.8	70-130			
Naphthalene	0.150	0.0038	"	0.150	ND	100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0447		"	0.0400		112	23-173			
Surrogate: Toluene-d8	0.0426		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.7	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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/28/21 06:54

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		

Batch BEE0527 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0527-MSD1)	Source: 2105438-01			Prepared: 05/27/21 Analyzed: 05/28/21						
Benzene	0.163	0.0020	mg/kg	0.150	0.00966	102	70-130	0.589	30	
Toluene	0.147	0.0050	"	0.150	0.00318	95.6	70-130	0.714	30	
Ethylbenzene	0.145	0.0050	"	0.150	ND	97.0	70-130	0.535	30	
m,p-Xylene	0.294	0.010	"	0.300	ND	98.0	70-130	1.31	30	
o-Xylene	0.139	0.0050	"	0.150	ND	92.9	70-130	2.00	30	
1,2,4-Trimethylbenzene	0.155	0.0050	"	0.150	ND	103	70-130	3.54	30	
1,3,5-Trimethylbenzene	0.144	0.0050	"	0.150	ND	95.9	70-130	2.28	30	
Naphthalene	0.174	0.0038	"	0.150	ND	116	70-130	14.5	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0451</i>		<i>"</i>	<i>0.0400</i>		<i>113</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0410</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0381</i>		<i>"</i>	<i>0.0400</i>		<i>95.3</i>	<i>21-167</i>			

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: Flack 21-3 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 05/28/21 06:54

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEE0528 - EPA 3550A

Blank (BEE0528-BLK1)

Prepared & Analyzed: 05/27/21

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

LCS (BEE0528-BS1)

Prepared & Analyzed: 05/27/21

C10-C28 (DRO)	479	50	mg/kg	500	95.8	70-130				
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Matrix Spike (BEE0528-MS1)

Source: 2105438-01

Prepared & Analyzed: 05/27/21

C10-C28 (DRO)	527	50	mg/kg	500	13.2	103	70-130			
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Matrix Spike Dup (BEE0528-MSD1)

Source: 2105438-01

Prepared & Analyzed: 05/27/21

C10-C28 (DRO)	503	50	mg/kg	500	13.2	97.9	70-130	4.73	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: Flack 21-3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/28/21 06:54

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