

**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 <sup>(4)</sup> (mg/kg)
Residential SSL <sup>(1,2)</sup>			1.2	490	5.8	58	30	27	2	500
Protection of Groundwater SSL <sup>(1,2,3)</sup>			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 extactable 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 <sup>(1)</sup> Latitude / Longitude		PDOP Value	VOC Concentration <sup>(2)</sup> (ppm)
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 <sup>(1)</sup> Latitude / Longitude	PDOP Value	VOC Concentration <sup>(2)</sup> (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

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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', with a stylized, flowing script.

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

of

1

Project Manager: Mark Longhurst

E-Mail: mark.longhurst@PDCE.com

Client: PDC / Tasman

Address: 6855 W 119th Ave

City/State/Zip: Broomfield/ CO/ 80020

Phone: 303-487-1228

Project Name: Flock 2+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, (174)(1735) 915		
1	SSOI 29'	5/17/21	1435	3			X			X				X	X	X	X	X	X	X	X	pH, EC, SAR by saturated paste
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by: <u>Cody Miller</u>	Date/Time: <u>5/17/21 1635</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/17/21 1635</u>	Turn Around Time (Check) Same Day <u>X</u> 72 hours 24 hours Standard 48 hours	Sample Integrity: <u>6</u> Temperature Upon Receipt: Samples Intact: <u>Yes</u> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/17/21 1740</u>	Received by: <u>John B.</u>	Date/Time: <u>5/17/21 1740</u>			
Relinquished by:	Date/Time:	Received by:	Date/Time:			



# 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 ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>6</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 <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):

<sup>(1)</sup> 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
<b>Benzene</b>	<b>5.5</b>	0.20	mg/kg	100	BEE0297	05/17/21	05/18/21	EPA 8260B	
Toluene	ND	0.0050	"	1	"	"	"	"	
<b>Ethylbenzene</b>	<b>11</b>	0.50	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>24</b>	1.0	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>59</b>	0.50	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>18</b>	0.50	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.30</b>	0.0038	"	1	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2600</b>	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
<b>C10-C28 (DRO)</b>	<b>5500</b>	50	mg/kg	1	BEE0298	"	05/17/21	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>840</b>	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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.6	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0351		"	0.0400		87.8	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0355		"	0.0400		88.8	23-173			
Surrogate: Toluene-d8	0.0407		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0321		"	0.0400		80.3	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

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 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		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

**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
---------------	-----	----	-------	-----	------	-----	--------

**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

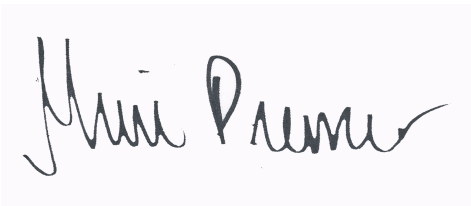
Denver, CO 80203

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, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury  
President



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

Project: 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

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	GBTEXN - 8260B 915	TPH - (C6 - C36) 915	pH, EC, SAR 915	Boron - HWS 915	VOC - 915	PAH - 915	Metals - 915 TMBS (12/4/135) 915		
1	ASTOI 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: <u>Cody Miller</u>	Date/Time: <u>5/17/21 1635</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/17/21 1635</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/17/21 1745</u>	Received by: <u>Paul Br</u>	Date/Time: <u>5/17/21 1745</u>	Sample Integrity: <u>7</u> Temperature Upon Receipt: <u>7</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

# Sample Receipt Checklist

S2 Work Order 2105263

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>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 <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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	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 13:40**

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

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**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	
Surrogate: 1,2-Dichloroethane-d4	0.0320		"	0.0400		80.0	23-173			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0322		"	0.0400		80.4	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

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 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', with a stylized, cursive script.

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

Page

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	GBTEXN - 8260B 915	TPH - (C6 - C36) 915	pH, EC, SAR 915	Boron - HWS 915	VOC - 915	PAH - 915	Metals - 915	TMBs (124)(135) 915				
1	5502 D1B	5/18/21	1228	3			X			X				X	X									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>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: <u>9</u> 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)	<u>9</u>
-----------	----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):

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

JS  
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### 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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### 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	
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0375		"	0.0400		93.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		91.9	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

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 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,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: 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

## 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	GBTEXN - 8260B 415	TPH - (C6 - C36) 415	pH, EC, SAR 415	Boron - HWS 415	VOC - 915	PAH - 915	Metals - 915 TMB (12H) 803, 915			
1	5503 @ 9'	5/19/21	1128	3			X			X				X	X					X	pH, EC, SAR by saturated paste	
2	5504 @ 15'	↓	1140	3			X			X				X	X					X		
3	5505 @ 9'		1302	3			X				X				X	X						X
4	5506 @ 15'		1314	3			X				X											
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by: <u>Cody Miller</u>	Date/Time: <u>5/19/21 1520</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/19/21 1520</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>5/19/21 1715</u>	Received by: <u>John Bue</u>	Date/Time: <u>5/19/21 1715</u>	Sample Integrity: <u>8</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: <u>8</u> Samples Intact: <u>Yes</u> No	

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

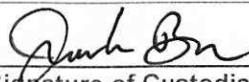
	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On ice.
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? 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):

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

JB

Custodian Printed Name or Initials



Signature of Custodian

5/19/21

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 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 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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:**  
05/20/21 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	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 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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:**  
05/20/21 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	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 13:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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 Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

#### 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,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: 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

*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

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst  
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCFL.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	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	915 GBENN - 8260B	915 TPH - (C6 - C36)	915 pH, EC, SAR	915 Boron - HWS	VOC - 915	PAH - 915	Metals - 915		7485 (124) (13,5) 915
1	SS07 @ 9'	5/20/21	1046	3			X			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											
6																					
7																					
8																					
9																					
10																					

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>	<b>Turn Around Time</b> (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours 48 hours <b>Sample Integrity:</b> <u>8</u> Temperature Upon Receipt: Samples Intact: <input checked="" type="checkbox"/> No	<b>Notes:</b>
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:	Date/Time:	Received by:	Date/Time:		

# 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
-----------	---

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):

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

JB  
Custodian Printed Name or Initials

Josh 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 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	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>3.2</b>	<b>0.50</b>	"	"	"	"	"	"	

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

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

**Extractable Petroleum Hydrocarbons by 8015**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>130</b>	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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.8 %	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:**  
05/21/21 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	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	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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:**  
05/21/21 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	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	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.8 %	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:**  
05/21/21 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	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	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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:**  
05/21/21 06:36

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0320		"	0.0400		80.1	23-173			
Surrogate: Toluene-d8	0.0371		"	0.0400		92.7	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0225		"	0.0400		56.2	23-173			
Surrogate: Toluene-d8	0.0344		"	0.0400		86.0	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0274		"	0.0400		68.5	23-173			
Surrogate: Toluene-d8	0.0347		"	0.0400		86.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0343		"	0.0400		85.8	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

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**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', with a stylized, flowing script.

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.*

2105350

# 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@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 GBEEN - 8260B	915 TPH - (C6 - C36)	915 pH, EC, SAR	915 Boron - HWS	VOC - 915	PAH - 915	Metals - 915	915 TMBs (1,2,4,6,8,10,15)	
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											
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

Relinquished by: Tasman's Lock Box Date/Time: 5/21/21 1800

Received by: John Brown Date/Time: 5/21/21 1800

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Turn Around Time (Check)

Same Day ☒ 72 hours \_\_\_\_\_

24 hours \_\_\_\_\_ Standard \_\_\_\_\_

48 hours \_\_\_\_\_

Sample Integrity: 5

Temperature Upon Receipt: \_\_\_\_\_

Samples Intact: ☒ Yes ☐ No

Notes:



# Sample Receipt Checklist

S2 Work Order 2105380

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>
-----------	----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):

<sup>(1)</sup> 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 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 08:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 08:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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	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 08:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 08:50**

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

**SS14@9'**  
**2105350-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

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	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.0</b>	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>C10-C28 (DRO)</b>	<b>130</b>	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	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

**SS15@15'**  
**2105350-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

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 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 12:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 12:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.7	23-173			
Surrogate: Toluene-d8	0.0473		"	0.0400		118	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0323		"	0.0400		80.9	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0400		95.5	23-173			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### 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	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.8	23-173			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.6	21-167			

Summit Scientific

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



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

Project: 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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**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

*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

### 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,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: 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

*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.*

2105374

## Summit Scientific

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

Page

of

Client: PDC / Tasman Project Manager: Mark Longhurst  
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDC.com  
City/State/Zip: Broomfield/ CO/ 80020 Project Name: Flack 213 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	GBEEN - 8260B 915	TPH - (C6 - C36) 915	pH, EC, SAR 915	Boron - HWS 915	VOC - 915	PAH - 915		Metals - 915 7413, 12, 4, 1, 3, 5 915
1	SS19 @ 16'	5/24/21	1134	3			X			X			X	X					X	pH, EC, SAR by saturated paste
2	SS20 @ 9'	↓	1148	3			X			X			X	X					X	
3	SS21 @ 15'		1152	3			X			X										
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>Cody Miller</u>	Date/Time: <u>5/24/21 1530</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/24/21 1530</u>	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours 48 hours	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/24/21 1840</u>	Received by: <u>John Brun</u>	Date/Time: <u>5/24/21 1840</u>	Sample Integrity: Temperature Upon Receipt: <u>7</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

## Sample Receipt Checklist

## S2 Work Order

Client: PPC / Tasman

Client Project ID: Hack 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)

7

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	✓			
Was adequate sample volume provided <sup>(1)</sup> ?	✓			
If custody seals are present, are they intact <sup>(1)</sup> ?			✓	
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 <sup>(1)</sup> ?	✓			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	✓			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	✓			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>			✓	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

Custodian Printed Name or Initials

Signature of Custodian

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:**  
05/25/21 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 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 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 11:34**

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

**SS20@9'**  
**2105374-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

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

**SS21@15'**  
**2105374-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

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

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0289		"	0.0400		72.2	23-173			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.8	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0298		"	0.0400		74.6	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0318		"	0.0400		79.5	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		97.9	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:**  
05/25/21 06:47

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 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

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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

### 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,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, flowing script.

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

Page 1 of 1

Phone: 303-487-1228		Project Number:		Analysis Requested												Special Instructions								
Sampler Name: Cody Miller				Preservative				Matrix																
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	GBEEN - 8260B	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	VOC - 915	PAH - 915	Metals - 915	Metals - 915				
1	SS22 @ 16'	5/25/21	0907	3			X			X			X	X							X			
2	SS23 @ 9'		1234	3			X			X			X	X							X			
3	SS24 @ 15'		1256	3			X			X			X	X							X			
4	SS25 @ 16'		1334	3			X			X			X	X							X			
5	SS26 @ 16'		1342	3			X			X			X	X							X			
6	SS27 @ 16'		1350	3			X			X			X	X							X			
7																								
8																								
9																								
10																								

Relinquished by: Cody Miller

Date/Time: 5/25/21 1555

Received by: Tasman's Lock Box

Date/Time: 5/25/21 1555

Relinquished by: Tasman's Lock Box

Date/Time: 5/25/21 1715

Received by: Josh Brown

Date/Time: 5/25/21 1715

Relinquished by:

Date/Time:

Received by:

Date/Time:

Turn Around Time (Check)

Same Day X 72 hours

24 hours Standard

48 hours

Sample Integrity: 4

Temperature Upon Receipt:

Samples Intact: Yes No

Notes:

# 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On ice.
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> 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

5/25/21  
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 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 09:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 09:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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	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 12:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 12:34**

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

**SS24@15'**  
**2105399-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

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 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 12:56**

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

**SS25@16'**  
**2105399-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

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 13:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:34**

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

**SS26@16'**  
**2105399-05 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

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 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0281		"	0.0400		70.2	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0283		"	0.0400		70.8	23-173			
Surrogate: Toluene-d8	0.0369		"	0.0400		92.3	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0286		"	0.0400		71.6	23-173			
Surrogate: Toluene-d8	0.0360		"	0.0400		90.1	20-170			
Surrogate: 4-Bromofluorobenzene	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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**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		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

**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@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	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	q15 GBEEN - 8260B	q15 TPH - (C6 - C36)	q15 pH, EC, SAR	q15 Boron - HWS	VOC - 915	PAH - 915	Metals - 915		q15 TMB (1,2,4) (1,2,5)
1	5528 @ 9'	5/26/21	1011	3			X			X				X	X					X	pH, EC, SAR by saturated paste
2	5529 @ 15'	↓	1017	3			X			X				X	X				X		
3	5530 @ 16'		1115	3			X			X											
4																					
5																					
6																					
7																					
8																					
9																					
10																					

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

# Sample Receipt Checklist

S2 Work Order

**2105421**

Client: POL/ 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 <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation <b>(excluding cooling)</b> <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):

<sup>(1)</sup> 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 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 10:11**

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

**Extractable Petroleum Hydrocarbons by 8015**

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

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 10:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		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	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 10:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 10:17**

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

DRAFT REPORT

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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:**  
05/27/21 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	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 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 11:15**

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

DRAFT REPORT

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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:**  
05/27/21 06:57

## Extractable Petroleum Hydrocarbons by 8015 - Quality Control

### Summit Scientific

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

#### Batch 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

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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:**  
05/27/21 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

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## 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', with a stylized, cursive script.

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.*



## 2105447

Page 1 of 1

Phone: 303-487-1228		Project Number: 1712		Analysis Requested										Special Instructions										
Sampler Name: Cody Miller				Preservative				Matrix																
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	pH	GBIENN - 8260B	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	VOC - 915	PAH - 915	Metals - 915	Metals - 915	Metals - 915	Metals - 915	
1	SS31 @ 9'	5/27/21	0840	3			X			X				X	X							X	X	X
2	SS32 @ 15'		0847	3			X			X				X	X							X	X	X
3	SS33 @ 16'		0854	3			X			X				X	X							X	X	X
4	SS34 @ 16'		1110	3			X			X				X	X							X	X	X
5	SS35 @ 16'		1154	3			X			X				X	X							X	X	X
6	SS36 @ 9'		1412	3			X			X				X	X							X	X	X
7	SS37 @ 15'		1428	3			X			X				X	X							X	X	X
8																								
9																								
10																								

Relinquished by: Cody Miller

Date/Time: 5/27/21 1605

Received by: Tasman's Lock Box

Date/Time: 5/27/21 11605

Turn Around Time (Check)

Same Day X 72 hours

24 hours Standard

48 hours

Sample Integrity: 4

Temperature Upon Receipt:

Samples Intact: Yes No

Relinquished by: Tasman's Lock Box

Date/Time: 5/27/21 1900

Received by: Josh Bm

Date/Time: 5/27/21 1900

Relinquished by:

Date/Time:

Received by:

Date/Time:

Notes:

## Sample Receipt Checklist

2105447

S2 Work Order \_\_\_\_\_

Client: PDC / TasmanClient Project ID: Flack 21-3 Tank BatteryShipped 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 <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):				
<sup>(1)</sup> 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 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 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 08:40**

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

**SS32@15'**  
**2105447-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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:**  
05/28/21 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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		116 %	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

**SS37@15'**  
**2105447-07 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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:**  
05/28/21 06:54

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 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

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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

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 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	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0451		"	0.0400		113	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0381		"	0.0400		95.3	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:**  
05/28/21 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

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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

### 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