

**TABLE 1
FORMER WALSH 24-24 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH ⁽⁴⁾ (mg/kg)
Residential SSL ^(1,2)			1.2	490	5.8	58	30	27	2	500
Protection of Groundwater SSL ^(1,2,3)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500
AST01 @ 0-6"	5/25/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-B @ 5'	5/25/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
PWV01-E @ 2.5'	5/25/2021	2.5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-FL @ 4'	5/25/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SEP01-DL @ 4'	5/25/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50

Notes:

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with groundwater is present.
4. Value calculated by adding TVPH-GRO, TEPH-DRO, and TEPH-ORO concentrations.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

TVPH-GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH-DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH-ORO = Total extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

in. = Inches

bgs = Below ground surface

TABLE 2
FORMER WALSH 24-24 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Soil Suitability for Reclamation Standard ⁽¹⁾			6-8.3	<4	<6	2
PWV01-B @ 5'	5/25/2021	5 ft. bgs	7.91	0.250	0.477	0.260
PWV01-E @ 2.5'	5/25/2021	2.5 ft. bgs	7.57	0.0505	0.881	0.209

Notes:

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.

COGCC = Colorado Oil and Gas Conservation Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

ft. = Feet

bgs = Below ground surface

TABLE 3
FORMER WALSH 24-24 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
			Latitude	Longitude		
AST01 @ 0-6"	5/25/2021	0-6 in. bgs	-104.9541667	40.12148952	1.2	3.5
PWV01-B @ 5'	5/25/2021	5 ft. bgs	-104.9541295	40.12153877	1.2	0.0
PWV01-N @ 2.5'	5/25/2021	2.5 ft. bgs	-104.9541197	40.12155356	1.2	0.0
PWV01-W @ 2.5'	5/25/2021	2.5 ft. bgs	-104.9541441	40.12154574	1.2	0.0
PWV01-S @ 2.5'	5/25/2021	2.5 ft. bgs	-104.9541354	40.12152317	1.2	0.0
PWV01-E @ 2.5'	5/25/2021	2.5 ft. bgs	-104.9541106	40.12152839	1.2	0.0
WDL01 @ 4'	5/25/2021	4 ft. bgs	-104.9541106	40.12152839	1.2	0.0
SEP01-FL @ 4'	5/25/2021	4 ft. bgs	-104.9539585	40.12186326	1.1	0.0
SEP01-DL @ 4'	5/25/2021	4 ft. bgs	-104.9539529	40.12183241	1.3	0.5
ECD01 @ 0-6"	5/25/2021	0-6 in. bgs	-104.9540038	40.12177219	1.3	0.0
MH01 @ 0-6"	5/25/2021	0-6 in. bgs	-104.9540427	40.12182593	1.1	0.2
BKG01 @ 2.5'	5/25/2021	2.5 ft. bgs	-104.9539993	40.12201144	1.2	0.0

Notes:

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

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

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

in. = Inches

bgs = Below ground surface

NC = Data not collected

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 08, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

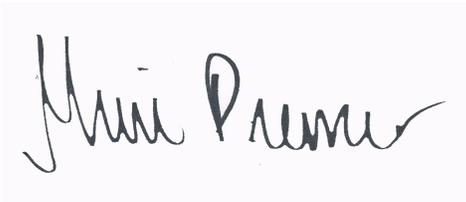
Denver, CO 80203

RE: Walsh 24-24 Tank Battery

Work Order #2105411

Enclosed are the results of analyses for samples received by Summit Scientific on 05/25/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer For Paul Shrewsbury
President



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2105411-01	Soil	05/25/21 10:50	05/25/21 17:00
PWV01-B@5'	2105411-02	Soil	05/25/21 10:55	05/25/21 17:00
PWV01-E@2.5'	2105411-06	Soil	05/25/21 11:03	05/25/21 17:00
SEP01-FL@4'	2105411-07	Soil	05/25/21 11:25	05/25/21 17:00
SEP01-DL@4'	2105411-08	Soil	05/25/21 11:30	05/25/21 17:00

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

S₂

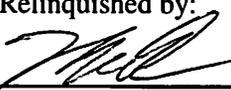
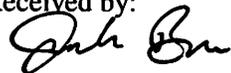
2105411

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@PDCE.com
 City/State/Zip: Broomfield/ CO/ 80020
 Phone: 303-487-1228 Project Name: Walsh 24-24 Tank Battery
 Sampler Name: Max Dzhigren Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested					Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	915 - VOC	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	OW Hold		
1	ASTol @ 0-6"	5/25/21	1050	2			X			X									
2	PWV01-B @ 5'		1055	3										X	X	X	X		
3	PWV01-N @ 2.5'		1057	3														X	
4	PWV01-W @ 2.5'		1059	3														X	
5	PWV01-S @ 2.5'		1101	3														X	
6	PWV01-E @ 2.5'		1103	3								X	X	X	X				
7	SEPOL-FL @ 4'		1125	2								X	X						
8	SEPOL-DL @ 4'		1130	2								X	X						
9	BKGO1 @ 2.5'		1230	1														X	
10																			

Relinquished by: 	Date/Time: 5/25/21 1700	Received by: Tasman's Lock Box	Date/Time: 5/25/21 1715	Turn Around Time (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: <u>8</u> Temperature Upon Receipt: _____ Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 5/25/21 1715	Received by: 	Date/Time: 5/25/21 1715		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2105411

Client: PDC / Tasman Client Project ID: Walsh 24-24 Tank Battery

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

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

Temp (°C)	<u>8</u>
-----------	----------

Thermometer ID: 61857155-K

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

Additional Comments (if any):

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

JB
Custodian Printed Name or Initials

Grah B...
Signature of Custodian

5/25/21
Date/Time



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

AST01@0-6"
2105411-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEE0523	05/27/21	05/29/21	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 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0524	05/27/21	05/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		81.0 %	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: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

PWV01-B@5'
2105411-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0523	05/27/21	05/29/21	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 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		122 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0524	05/27/21	05/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		82.7 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

PWV01-B@5'
2105411-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.260	0.0100	mg/L	1	BEF0077	06/03/21	06/06/21	EPA 6020B	

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

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.2	0.0574	mg/L dry	1	BEF0010	06/01/21	06/04/21	EPA 6020B	
Magnesium	9.51	0.0574	"	"	"	"	"	"	
Sodium	11.2	0.0574	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.477	0.00100	units	1	BEF0121	06/04/21	06/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.1		%	1	BEF0021	06/02/21	06/02/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.250	0.0100	mmhos/cm	1	BEF0052	06/02/21	06/02/21	EPA 120.1	

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

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

PWV01-B@5'
2105411-02 (Soil)

Summit Scientific

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

Date Sampled: **05/25/21 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.91		pH Units	1	BEF0051	06/02/21	06/02/21	EPA 9045D	

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

PWV01-E@2.5'
2105411-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0523	05/27/21	05/29/21	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 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0524	05/27/21	05/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		82.3 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

PWV01-E@2.5'
2105411-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.209	0.0100	mg/L	1	BEF0077	06/03/21	06/06/21	EPA 6020B	

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

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3.45	0.0603	mg/L dry	1	BEF0010	06/01/21	06/04/21	EPA 6020B	
Magnesium	0.960	0.0603	"	"	"	"	"	"	
Sodium	7.18	0.0603	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.881	0.00100	units	1	BEF0121	06/04/21	06/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.9		%	1	BEF0021	06/02/21	06/02/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0505	0.0100	mmhos/cm	1	BEF0052	06/02/21	06/02/21	EPA 120.1	

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

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

PWV01-E@2.5'
2105411-06 (Soil)

Summit Scientific

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

Date Sampled: **05/25/21 11:03**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.57		pH Units	1	BEF0051	06/02/21	06/02/21	EPA 9045D	

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

SEP01-FL@4'
2105411-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0523	05/27/21	05/29/21	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 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		116 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0524	05/27/21	05/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		79.1 %	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: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

SEP01-DL@4'
2105411-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/25/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEE0523	05/27/21	05/29/21	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 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		118 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/25/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0524	05/27/21	05/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/25/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.9 %	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: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0523 - EPA 5030 Soil MS

Blank (BEE0523-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	0.0253		"	0.0400		63.2	23-173			
Surrogate: Toluene-d8	0.0520		"	0.0400		130	20-170			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	21-167			

LCS (BEE0523-BS1)

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

Benzene	0.0826	0.0020	mg/kg	0.100		82.6	70-130			
Toluene	0.111	0.0050	"	0.100		111	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.200	0.010	"	0.200		100	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
Naphthalene	0.0853	0.0038	"	0.100		85.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0274		"	0.0400		68.6	23-173			
Surrogate: Toluene-d8	0.0481		"	0.0400		120	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	21-167			

Matrix Spike (BEE0523-MS1)

Source: 2105384-01

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

Benzene	0.0805	0.0020	mg/kg	0.100	ND	80.5	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.206	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
Naphthalene	0.0998	0.0038	"	0.100	ND	99.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0269		"	0.0400		67.4	23-173			
Surrogate: Toluene-d8	0.0465		"	0.0400		116	20-170			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	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: Walsh 24-24 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0523 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0523-MSD1)	Source: 2105384-01			Prepared: 05/27/21 Analyzed: 05/28/21							
Benzene	0.0840	0.0020	mg/kg	0.100	ND	84.0	70-130	4.34	30		
Toluene	0.106	0.0050	"	0.100	ND	106	70-130	1.51	30		
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	0.0867	30		
m,p-Xylene	0.204	0.010	"	0.200	ND	102	70-130	1.20	30		
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130	0.808	30		
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	0.206	30		
1,3,5-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	0.599	30		
Naphthalene	0.0955	0.0038	"	0.100	ND	95.5	70-130	4.39	30		
Surrogate: 1,2-Dichloroethane-d4	0.0284		"	0.0400		71.1	23-173				
Surrogate: Toluene-d8	0.0465		"	0.0400		116	20-170				
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	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: Walsh 24-24 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEE0524 - EPA 3550A

Blank (BEE0524-BLK1)

Prepared & Analyzed: 05/27/21

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

LCS (BEE0524-BS1)

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

C10-C28 (DRO)	561	50	mg/kg	500	112	70-130				
---------------	-----	----	-------	-----	-----	--------	--	--	--	--

Matrix Spike (BEE0524-MS1)

Source: 2105384-01

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

C10-C28 (DRO)	522	50	mg/kg	500	19.0	101	70-130			
---------------	-----	----	-------	-----	------	-----	--------	--	--	--

Matrix Spike Dup (BEE0524-MSD1)

Source: 2105384-01

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

C10-C28 (DRO)	496	50	mg/kg	500	19.0	95.5	70-130	4.97	20	
---------------	-----	----	-------	-----	------	------	--------	------	----	--

Summit Scientific

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





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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

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

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

Batch BEF0077 - EPA 3050B

Blank (BEF0077-BLK1)

Prepared: 06/03/21 Analyzed: 06/06/21

Boron ND 0.0100 mg/L

LCS (BEF0077-BS1)

Prepared: 06/03/21 Analyzed: 06/06/21

Boron 5.93 0.0100 mg/L 5.00 119 80-120

Duplicate (BEF0077-DUP1)

Source: 2105410-02

Prepared: 06/03/21 Analyzed: 06/06/21

Boron 0.260 0.0100 mg/L 0.247 5.06 20

Matrix Spike (BEF0077-MS1)

Source: 2105410-02

Prepared: 06/03/21 Analyzed: 06/06/21

Boron 5.66 0.0100 mg/L 5.00 0.247 108 75-125

Matrix Spike Dup (BEF0077-MSD1)

Source: 2105410-02

Prepared: 06/03/21 Analyzed: 06/06/21

Boron 5.58 0.0100 mg/L 5.00 0.247 107 75-125 1.31 25

Summit Scientific

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





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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

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

Summit Scientific

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

Batch BEF0010 - General Preparation

Blank (BEF0010-BLK1)

Prepared: 06/01/21 Analyzed: 06/04/21

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

LCS (BEF0010-BS1)

Prepared: 06/01/21 Analyzed: 06/04/21

Calcium	5.00	0.0500	mg/L wet	5.00	100	70-130				
Magnesium	5.69	0.0500	"	5.00	114	70-130				
Sodium	5.08	0.0500	"	5.00	102	70-130				

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: Walsh 24-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

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

Summit Scientific

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

Batch BEF0021 - General Preparation

Duplicate (BEF0021-DUP1)

Source: 2105198-05

Prepared & Analyzed: 06/02/21

% Solids	86.6		%		86.1			0.569		20	
----------	------	--	---	--	------	--	--	-------	--	----	--

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

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

Summit Scientific

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

Batch BEF0052 - General Preparation

Blank (BEF0052-BLK1)

Prepared & Analyzed: 06/02/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEF0052-BS1)

Prepared & Analyzed: 06/02/21

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.2 90-110

Duplicate (BEF0052-DUP1)

Source: 2105410-02

Prepared & Analyzed: 06/02/21

Specific Conductance (EC) 0.137 0.0100 mmhos/cm 0.136 0.366 20

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
 06/08/21 17:32

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

Summit Scientific

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

Batch BEF0051 - General Preparation

LCS (BEF0051-BS1)

Prepared & Analyzed: 06/02/21

pH	9.19	pH Units	9.21	99.8	95-105
----	------	----------	------	------	--------

Duplicate (BEF0051-DUP1)

Source: 2105410-02

Prepared & Analyzed: 06/02/21

pH	7.79	pH Units	7.78	0.128	20
----	------	----------	------	-------	----

Summit Scientific

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



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

Project: Walsh 24-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/08/21 17:32

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