

TABLE 1
FORMER GERRY 3 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

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"	1/20/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	0.020	0.013	0.0058	0.011	73
SEP01-FL @ 4'	1/20/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<50
SEP01-DL @ 4'	1/20/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<50
PWV01-B @ 4'	1/20/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<50
PWV01-N @ 2.5'	1/20/2022	2.5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<50

Notes:

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

COGCC = Colorado Oil and Gas Conservation Commission

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

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

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

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

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

Source material characterization sample

TABLE 2
FORMER GERRY 3 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
AST01 @ 0-6"	1/20/2022	0-6 in. bgs	7.94	0.316	0.0132	0.0567
PWV01-B @ 4'	1/20/2022	4 ft. bgs	7.71	0.962	2.47	0.0918
PWV01-N @ 2.5'	1/20/2022	2.5 ft. bgs	7.89	0.325	0.522	0.0444

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

in. = Inches

bgs = Below ground surface

= Source material characterization sample

TABLE 3
FORMER GERRY 3 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS - PAHs

Sample ID	Date Sampled	Depth	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ^(1,2)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^(1,2,3)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
AST01 @ 0-6"	1/20/2022	0-6 in. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

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

COGCC = Colorado Oil and Gas Conservation Commission

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

PAHs = Polycyclic aromatic hydrocarbons

Benz(a) = Benzantracene

Benzo(a) = Benzopyrene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

M = Methylanththalene

mg/kg = Milligrams per kilogram

 = Source material characterization sample

in. = Inches

bgs = Below ground surface

TABLE 4
FORMER GERRY 3 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
METALS

Sample ID	Date Sampled	Depth	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ^(1,2)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^(1,2,3)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
AST01 @ 0-6"	1/20/2022	0-6 in. bgs	4.95	99.8	<0.828 ⁽⁴⁾	<0.30 ⁽⁴⁾	9.15	8.88	11.4	1.05	<0.621	43.4
BKG01 @ 2.5'	1/20/2022	2.5 ft. bgs	7.67	129	<0.895 ⁽⁴⁾	<0.30 ⁽⁴⁾	12.3	10.1	16.4	<0.895 ⁽⁴⁾	<0.671	52.8
BKG01 @ 4'	1/20/2022	4 ft. bgs	6.35	175	<0.798 ⁽⁴⁾	<0.30 ⁽⁴⁾	11.0	9.73	14.9	0.869	<0.599	43.0

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. Compound falls within COGCC Table 915-1 Footnote 9.

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = Milligrams per kilogram

 = Source material characterization sample

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

BOLD = Analytical result is in exceedance of applicable standard, but within 1.25x background concentration.

Arsenic and Barium: The source material characterization sample (AST01) arsenic and barium concentrations were below both BKG01 at 2.5 feet and 4 feet arsenic and barium concentrations.

Selenium: The source material characterization sample (AST01) selenium concentration was observed within 1.25x the selenium concentration of BKG01 at 4 feet bgs.

(Concentration: 0.869 mg/kg; 1.25x Concentration: 1.09 mg/kg)

TABLE 5
FORMER GERRY 3 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
AST01 @ 0-6"	1/20/2022	0-6 in. bgs	40.471552	-104.716302	1.1	4.3
SEP01-FL @ 4'	1/20/2022	4 ft. bgs	40.471764	-104.716318	1.4	0.0
SEP01-DL @ 4'	1/20/2022	4 ft. bgs	40.471765	-104.716273	1.4	0.0
MH01 @ 0-6"	1/20/2022	0-6 in. bgs	40.471787	-104.716287	1.2	0.0
PWV01-B @ 4'	1/20/2022	4 ft. bgs	40.471497	-104.716299	1.0	0.0
PWV01-N @ 2.5'	1/20/2022	2.5 ft. bgs	40.471509	-104.716291	1.0	0.0
PWV01-W @ 2.5'	1/20/2022	2.5 ft. bgs	40.471494	-104.716310	1.0	0.0
PWV01-S @ 2.5'	1/20/2022	2.5 ft. bgs	40.471475	-104.716298	1.0	0.0
PWV01-E @ 2.5'	1/20/2022	2.5 ft. bgs	40.471493	-104.716265	1.0	0.0
BKG01 @ 2.5'	1/20/2022	2.5 ft. bgs	40.471356	-104.716109	1.0	0.0
BKG01 @ 4'	1/20/2022	4 ft. bgs	40.471356	-104.716109	1.0	0.1

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

 = Source material characterization sample

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 21, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

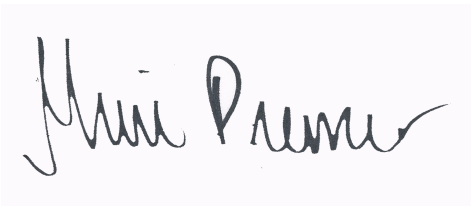
Denver, CO 80203

RE: Gerry 3 Tank Battery

Work Order #2201216

Enclosed are the results of analyses for samples received by Summit Scientific on 01/20/22 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer", is displayed on a light purple rectangular background.

Muri Premer

Project Manager



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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2201216-01	Soil	01/20/22 13:30	01/20/22 17:45
SEP01-FL@4'	2201216-02	Soil	01/20/22 12:55	01/20/22 17:45
SEP01-DL@4'	2201216-03	Soil	01/20/22 13:00	01/20/22 17:45
PWV01-B@4'	2201216-04	Soil	01/20/22 14:35	01/20/22 17:45
PWV01-N@2.5'	2201216-05	Soil	01/20/22 14:40	01/20/22 17:45
BKG01@2.5'	2201216-09	Soil	01/20/22 15:15	01/20/22 17:45
BKG01@4'	2201216-10	Soil	01/20/22 15:17	01/20/22 17:45

Sample ID has been changed from **AST01@10"** to **AST01@6"** per request of BG 04/21/22
MP - 04/21/22

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

2201216

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of

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: Gerry 3 Tank Battery
 Sampler Name: Mataya W. Project Number:

					Preservative				Matrix				Analysis Requested							Special Instructions			
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	GBTEXN - 8260B	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	VOC - 915	PAH - 915	Metals - 915			pH, EC, SAR by saturated paste	
1	ASTOI @ 0-10"	1/20/22	1330	3			X			X			X	X	X						ON Hold	TimB	
2	SEPOI-FL @ 4'		1255	3									X	X									
3	SEPOI-DL @ 4'		1300	3									X	X									
4	PWV01-B @ 4'		1435	3									X	X	X	X							
5	PWV01-N @ 2.5'		1440	3									X	X	X	X							
6	PWV01-W @ 2.5'		1445	3																	X		
7	PWV01-S @ 2.5'		1450	3																	X		
8	PWV01-E @ 2.5'		1430	3																	X		
9	BKGD01 @ 2.5'		1515	1																	X		
10	BKGD01 @ 4'		1517	1																	X		

Relinquished by: <u>Mataya W.</u>	Date/Time:	Received by: <u>Tasman's Lock Box</u>	Date/Time:	Turn Around Time (Check)	Notes:
				Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/>	
				24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
				48 hours <input type="checkbox"/>	
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time:	Received by: <u>[Signature]</u>	Date/Time: <u>1/20/22 17:45</u>	Sample Integrity:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: <u>9.0</u>	
				Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

S₂

Sample Receipt Checklist

S2 Work Order#

2301216

Client: PDC/Tasman

Client Project ID: Gerry 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)	4.0
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Thermometer ID: G86A9201901378

	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 if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

CS

Custodian Printed Name or Initials

1/20/22

Date/Time



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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

AST01@0-6"
2201216-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFA0398	01/25/22	01/25/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.020	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.013	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.0058	0.0050	"	"	"	"	"	"	
Naphthalene	0.011	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		136 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	73	50	mg/kg	1	BFA0397	01/25/22	01/26/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		64.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

AST01@0-6"
2201216-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFB0049	02/07/22	02/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0567	0.0100	mg/L	1	BFC0460	03/22/22	03/25/22	EPA 6020B	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

AST01@0-6"
2201216-01 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFB0070	02/08/22	02/08/22	EPA 7196A
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Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	5.46	0.0585	mg/L dry	1	BFC0448	03/21/22	03/23/22	EPA 6020B	
Magnesium	1.00	0.0585	"	"	"	"	"	"	
Sodium	0.128	0.0585	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0132	0.00100	units	1	BFC0559	03/24/22	03/24/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.5		%	1	BFB0057	02/07/22	02/07/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.316	0.0100	mmhos/cm	1	BFC0450	03/21/22	03/21/22	EPA 120.1	

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

Date Sampled: **01/20/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Gerry 3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

AST01@0-6"
2201216-01 (Soil)

Summit Scientific

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

pH	7.94	pH Units	1	BFC0449	03/21/22	03/21/22	EPA 9045D
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Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

SEP01-FL@4'
2201216-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0398	01/25/22	01/25/22	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: **01/20/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		137 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/20/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0397	01/25/22	01/26/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		52.0 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

SEP01-DL@4'
2201216-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0398	01/25/22	01/25/22	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: **01/20/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		130 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/20/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0397	01/25/22	01/26/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		39.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PWV01-B@4'
2201216-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0398	01/25/22	01/25/22	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: **01/20/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		135 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0397	01/25/22	01/26/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		69.5 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PWV01-B@4'
2201216-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0918	0.0100	mg/L	1	BFA0364	01/24/22	02/08/22	EPA 6020B	

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

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	51.2	0.0565	mg/L dry	1	BFA0357	01/21/22	01/28/22	EPA 6020B	
Magnesium	16.4	0.0565	"	"	"	"	"	"	
Sodium	79.5	0.0565	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.47	0.00100	units	1	BFA0457	01/28/22	01/28/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.6		%	1	BFA0380	01/24/22	01/24/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.962	0.0100	mmhos/cm	1	BFA0377	01/24/22	01/24/22	EPA 120.1	

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

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PWV01-B@4'
2201216-04 (Soil)

Summit Scientific

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

Date Sampled: **01/20/22 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.71			pH Units	1	BFA0376	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PWV01-N@2.5'
2201216-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0398	01/25/22	01/25/22	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: **01/20/22 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		133 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0397	01/25/22	01/26/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		60.5 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PWV01-N@2.5'
2201216-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0444	0.0100	mg/L	1	BFA0364	01/24/22	02/08/22	EPA 6020B	

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

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.9	0.0553	mg/L dry	1	BFA0357	01/21/22	01/28/22	EPA 6020B	
Magnesium	8.66	0.0553	"	"	"	"	"	"	
Sodium	13.3	0.0553	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.522	0.00100	units	1	BFA0457	01/28/22	01/28/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.4		%	1	BFA0380	01/24/22	01/24/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.325	0.0100	mmhos/cm	1	BFA0377	01/24/22	01/24/22	EPA 120.1	

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

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PWV01-N@2.5'
2201216-05 (Soil)

Summit Scientific

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

Date Sampled: **01/20/22 14:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.89			pH Units	1	BFA0376	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

BKG01@2.5'
2201216-09 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 15:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFB0070	02/08/22	02/08/22	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/20/22 15:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.6			%	1	BFB0057	02/07/22	02/07/22	Calculation	

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

BKG01@4'
2201216-10 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFB0070	02/08/22	02/08/22	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/20/22 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.7			%	1	BFB0057	02/07/22	02/07/22	Calculation	

Summit Scientific

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

Project: Gerry 3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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 BFA0398 - EPA 5030 Soil MS

Blank (BFA0398-BLK1)

Prepared & Analyzed: 01/25/22

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	0.0554		"	0.0400		139	23-173			
Surrogate: Toluene-d8	0.0446		"	0.0400		111	20-170			
Surrogate: 4-Bromofluorobenzene	0.0413		"	0.0400		103	21-167			

LCS (BFA0398-BS1)

Prepared & Analyzed: 01/25/22

Benzene	0.0855	0.0020	mg/kg	0.100		85.5	70-130			
Toluene	0.0926	0.0050	"	0.100		92.6	70-130			
Ethylbenzene	0.0827	0.0050	"	0.100		82.7	70-130			
m,p-Xylene	0.164	0.010	"	0.200		82.0	70-130			
o-Xylene	0.0824	0.0050	"	0.100		82.4	70-130			
1,2,4-Trimethylbenzene	0.0908	0.0050	"	0.100		90.8	70-130			
1,3,5-Trimethylbenzene	0.0912	0.0050	"	0.100		91.2	70-130			
Naphthalene	0.109	0.0038	"	0.100		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0538		"	0.0400		135	23-173			
Surrogate: Toluene-d8	0.0439		"	0.0400		110	20-170			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	21-167			

Matrix Spike (BFA0398-MS1)

Source: 2201213-01

Prepared & Analyzed: 01/25/22

Benzene	0.0739	0.0020	mg/kg	0.100	ND	73.9	70-130			
Toluene	0.0776	0.0050	"	0.100	ND	77.6	70-130			
Ethylbenzene	0.0713	0.0050	"	0.100	ND	71.3	70-130			
m,p-Xylene	0.141	0.010	"	0.200	ND	70.3	70-130			
o-Xylene	0.0725	0.0050	"	0.100	ND	72.5	70-130			
1,2,4-Trimethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130			
1,3,5-Trimethylbenzene	0.0773	0.0050	"	0.100	ND	77.3	70-130			
Naphthalene	0.115	0.0038	"	0.100	ND	115	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0516		"	0.0400		129	23-173			
Surrogate: Toluene-d8	0.0437		"	0.0400		109	20-170			
Surrogate: 4-Bromofluorobenzene	0.0426		"	0.0400		106	21-167			

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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 BFA0398 - EPA 5030 Soil MS

Matrix Spike Dup (BFA0398-MSD1)		Source: 2201213-01			Prepared & Analyzed: 01/25/22					
Benzene	0.0850	0.0020	mg/kg	0.100	ND	85.0	70-130	14.0	30	
Toluene	0.0910	0.0050	"	0.100	ND	91.0	70-130	15.9	30	
Ethylbenzene	0.0847	0.0050	"	0.100	ND	84.7	70-130	17.2	30	
m,p-Xylene	0.167	0.010	"	0.200	ND	83.6	70-130	17.3	30	
o-Xylene	0.0853	0.0050	"	0.100	ND	85.3	70-130	16.2	30	
1,2,4-Trimethylbenzene	0.0931	0.0050	"	0.100	ND	93.1	70-130	16.7	30	
1,3,5-Trimethylbenzene	0.0937	0.0050	"	0.100	ND	93.7	70-130	19.1	30	
Naphthalene	0.101	0.0038	"	0.100	ND	101	70-130	12.2	30	
Surrogate: 1,2-Dichloroethane-d4		0.0528	"	0.0400		132	23-173			
Surrogate: Toluene-d8		0.0432	"	0.0400		108	20-170			
Surrogate: 4-Bromofluorobenzene		0.0436	"	0.0400		109	21-167			

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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 BFA0397 - EPA 3550A

Blank (BFA0397-BLK1)

Prepared: 01/25/22 Analyzed: 01/26/22

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

LCS (BFA0397-BS1)

Prepared: 01/25/22 Analyzed: 01/26/22

C10-C28 (DRO)	451	50	mg/kg	500	90.2	70-130
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Matrix Spike (BFA0397-MS1)

Source: 2201213-01

Prepared: 01/25/22 Analyzed: 01/26/22

C10-C28 (DRO)	482	50	mg/kg	500	11.0	94.2	70-130
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Matrix Spike Dup (BFA0397-MSD1)

Source: 2201213-01

Prepared: 01/25/22 Analyzed: 01/26/22

C10-C28 (DRO)	431	50	mg/kg	500	11.0	84.1	70-130	11.0	20
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Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFB0049 - EPA 5030 Soil MS

Blank (BFB0049-BLK1)

Prepared & Analyzed: 02/07/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0156		"	0.0333		46.9	40-150			
Surrogate: Fluoranthene-d10	0.0173		"	0.0333		51.9	40-150			

LCS (BFB0049-BS1)

Prepared: 02/07/22 Analyzed: 02/08/22

Acenaphthene	0.0233	0.00500	mg/kg	0.0333	70.0	31-137
Anthracene	0.0252	0.00500	"	0.0333	75.6	30-120
Benzo (a) anthracene	0.0250	0.00500	"	0.0333	74.9	30-120
Benzo (a) pyrene	0.0250	0.00500	"	0.0333	75.1	30-120
Benzo (b) fluoranthene	0.0269	0.00500	"	0.0333	80.7	30-120
Benzo (k) fluoranthene	0.0276	0.00500	"	0.0333	82.9	30-120
Chrysene	0.0265	0.00500	"	0.0333	79.4	30-120
Dibenz (a,h) anthracene	0.0207	0.00500	"	0.0333	62.1	30-120
Fluoranthene	0.0269	0.00500	"	0.0333	80.6	30-120
Fluorene	0.0257	0.00500	"	0.0333	77.2	30-120
Indeno (1,2,3-cd) pyrene	0.0235	0.00500	"	0.0333	70.4	30-120
Pyrene	0.0233	0.00500	"	0.0333	69.9	35-142
1-Methylnaphthalene	0.0258	0.00500	"	0.0333	77.3	35-142
2-Methylnaphthalene	0.0242	0.00500	"	0.0333	72.6	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0245		"	0.0333	73.5	40-150
Surrogate: Fluoranthene-d10	0.0255		"	0.0333	76.5	40-150

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: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFB0049 - EPA 5030 Soil MS

Matrix Spike (BFB0049-MS1)

Source: 2201125-02

Prepared: 02/07/22 Analyzed: 02/08/22

Acenaphthene	0.0200	0.00500	mg/kg	0.0333	ND	60.1	31-137		
Anthracene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Benzo (a) anthracene	0.0230	0.00500	"	0.0333	ND	68.9	30-120		
Benzo (a) pyrene	0.0243	0.00500	"	0.0333	ND	73.0	30-120		
Benzo (b) fluoranthene	0.0264	0.00500	"	0.0333	ND	79.3	30-120		
Benzo (k) fluoranthene	0.0333	0.00500	"	0.0333	ND	100	30-120		
Chrysene	0.0251	0.00500	"	0.0333	ND	75.4	30-120		
Dibenz (a,h) anthracene	0.0216	0.00500	"	0.0333	ND	64.7	30-120		
Fluoranthene	0.0258	0.00500	"	0.0333	ND	77.5	30-120		
Fluorene	0.0217	0.00500	"	0.0333	ND	65.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0252	0.00500	"	0.0333	ND	75.6	30-120		
Pyrene	0.0277	0.00500	"	0.0333	ND	83.2	35-142		
1-Methylnaphthalene	0.0226	0.00500	"	0.0333	ND	67.7	15-130		
2-Methylnaphthalene	0.0218	0.00500	"	0.0333	ND	65.5	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0231		"	0.0333		69.4	40-150		
Surrogate: Fluoranthene-d10	0.0214		"	0.0333		64.3	40-150		

Matrix Spike Dup (BFB0049-MSD1)

Source: 2201125-02

Prepared: 02/07/22 Analyzed: 02/08/22

Acenaphthene	0.0234	0.00500	mg/kg	0.0333	ND	70.2	31-137	15.6	30
Anthracene	0.0237	0.00500	"	0.0333	ND	71.0	30-120	6.88	30
Benzo (a) anthracene	0.0246	0.00500	"	0.0333	ND	73.8	30-120	6.86	30
Benzo (a) pyrene	0.0252	0.00500	"	0.0333	ND	75.7	30-120	3.65	30
Benzo (b) fluoranthene	0.0262	0.00500	"	0.0333	ND	78.6	30-120	0.931	30
Benzo (k) fluoranthene	0.0302	0.00500	"	0.0333	ND	90.7	30-120	9.77	30
Chrysene	0.0264	0.00500	"	0.0333	ND	79.2	30-120	4.92	30
Dibenz (a,h) anthracene	0.0208	0.00500	"	0.0333	ND	62.5	30-120	3.43	30
Fluoranthene	0.0268	0.00500	"	0.0333	ND	80.3	30-120	3.60	30
Fluorene	0.0242	0.00500	"	0.0333	ND	72.6	30-120	10.8	30
Indeno (1,2,3-cd) pyrene	0.0243	0.00500	"	0.0333	ND	72.9	30-120	3.71	30
Pyrene	0.0300	0.00500	"	0.0333	ND	90.0	35-142	7.84	30
1-Methylnaphthalene	0.0284	0.00500	"	0.0333	ND	85.2	15-130	22.8	50
2-Methylnaphthalene	0.0289	0.00500	"	0.0333	ND	86.6	15-130	27.8	50
Surrogate: 2-Methylnaphthalene-d10	0.0279		"	0.0333		83.8	40-150		
Surrogate: Fluoranthene-d10	0.0239		"	0.0333		71.8	40-150		

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: Gerry 3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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

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

Batch BFA0364 - EPA 3050B

Blank (BFA0364-BLK1)

Prepared: 01/24/22 Analyzed: 02/08/22

Boron ND 0.0100 mg/L

LCS (BFA0364-BS1)

Prepared: 01/24/22 Analyzed: 02/08/22

Boron 4.43 0.0100 mg/L 5.00 88.6 80-120

Duplicate (BFA0364-DUP1)

Source: 2201215-01

Prepared: 01/24/22 Analyzed: 02/08/22

Boron 0.0195 0.0100 mg/L 0.0208 6.45 20

Matrix Spike (BFA0364-MS1)

Source: 2201215-01

Prepared: 01/24/22 Analyzed: 02/08/22

Boron 1.74 0.0100 mg/L 5.00 0.0208 34.4 75-125 QM-05

Matrix Spike Dup (BFA0364-MSD1)

Source: 2201215-01

Prepared: 01/24/22 Analyzed: 02/08/22

Boron 1.78 0.0100 mg/L 5.00 0.0208 35.2 75-125 2.27 25 QM-05

Batch BFC0460 - EPA 3050B

Blank (BFC0460-BLK1)

Prepared: 03/22/22 Analyzed: 03/25/22

Boron ND 0.0100 mg/L

LCS (BFC0460-BS1)

Prepared: 03/22/22 Analyzed: 03/25/22

Boron 4.68 0.0100 mg/L 5.00 93.7 80-120

Duplicate (BFC0460-DUP1)

Source: 2201185-01

Prepared: 03/22/22 Analyzed: 03/25/22

Boron 0.0905 0.0100 mg/L 0.103 12.8 20

Matrix Spike (BFC0460-MS1)

Source: 2201185-01

Prepared: 03/22/22 Analyzed: 03/25/22

Boron 4.65 0.0100 mg/L 5.00 0.103 91.0 75-125

Summit Scientific

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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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

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

Batch BFC0460 - EPA 3050B

Matrix Spike Dup (BFC0460-MSD1)

Source: 2201185-01

Prepared: 03/22/22 Analyzed: 03/25/22

Boron	4.64	0.0100	mg/L	5.00	0.103	90.7	75-125	0.348	25
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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: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFB0070 - 3060A Mod

Blank (BFB0070-BLK1)

Prepared & Analyzed: 02/08/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFB0070-BS1)

Prepared & Analyzed: 02/08/22

Chromium, Hexavalent 27.9 0.30 mg/kg wet 25.0 112 80-120

Duplicate (BFB0070-DUP1)

Source: 2201215-01

Prepared & Analyzed: 02/08/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFB0070-MS1)

Source: 2201215-01

Prepared & Analyzed: 02/08/22

Chromium, Hexavalent 33.9 0.30 mg/kg dry 31.2 ND 109 75-125

Matrix Spike Dup (BFB0070-MSD1)

Source: 2201215-01

Prepared & Analyzed: 02/08/22

Chromium, Hexavalent 31.7 0.30 mg/kg dry 31.2 ND 102 75-125 6.46 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: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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

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

Batch BFA0357 - General Preparation

Blank (BFA0357-BLK1)

Prepared: 01/21/22 Analyzed: 01/28/22

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

LCS (BFA0357-BS1)

Prepared: 01/21/22 Analyzed: 01/28/22

Calcium	6.00	0.0500	mg/L wet	5.00	120	70-130
Magnesium	5.31	0.0500	"	5.00	106	70-130
Sodium	5.30	0.0500	"	5.00	106	70-130

Batch BFC0448 - General Preparation

Blank (BFC0448-BLK1)

Prepared: 03/21/22 Analyzed: 03/23/22

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

LCS (BFC0448-BS1)

Prepared: 03/21/22 Analyzed: 03/23/22

Calcium	5.56	0.0500	mg/L wet	5.00	111	70-130
Magnesium	5.84	0.0500	"	5.00	117	70-130
Sodium	5.74	0.0500	"	5.00	115	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: Gerry 3 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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

Summit Scientific

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

Batch BFA0380 - General Preparation

Duplicate (BFA0380-DUP1)

Source: 2201216-04

Prepared & Analyzed: 01/24/22

% Solids	89.2	%		88.6		0.675	20
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Batch BFB0057 - General Preparation

Duplicate (BFB0057-DUP1)

Source: 2201151-02

Prepared & Analyzed: 02/07/22

% Solids	86.0	%		86.5		0.596	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: Gerry 3 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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

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

Batch BFA0377 - General Preparation

Blank (BFA0377-BLK1)

Prepared & Analyzed: 01/24/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFA0377-BS1)

Prepared & Analyzed: 01/24/22

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 100 95-105

Duplicate (BFA0377-DUP1)

Source: 2112425-03

Prepared & Analyzed: 01/24/22

Specific Conductance (EC) 5.66 0.0100 mmhos/cm 5.67 0.194 20

Batch BFC0450 - General Preparation

Blank (BFC0450-BLK1)

Prepared & Analyzed: 03/21/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFC0450-BS1)

Prepared & Analyzed: 03/21/22

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BFC0450-DUP1)

Source: 2201122-02

Prepared & Analyzed: 03/21/22

Specific Conductance (EC) 4.31 0.0100 mmhos/cm 4.39 1.72 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: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

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

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

Batch BFA0376 - General Preparation

LCS (BFA0376-BS1)

Prepared & Analyzed: 01/24/22

pH	9.00		pH Units	9.18		98.0	95-105
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Duplicate (BFA0376-DUP1)

Source: 2201189-10

Prepared & Analyzed: 01/24/22

pH	7.05		pH Units		6.82		3.32	20
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Batch BFC0449 - General Preparation

LCS (BFC0449-BS1)

Prepared & Analyzed: 03/21/22

pH	9.12		pH Units	9.18		99.3	95-105
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Duplicate (BFC0449-DUP1)

Source: 2201125-02

Prepared & Analyzed: 03/21/22

pH	7.69		pH Units		7.65		0.522	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.



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Summit Scientific
Paul Shrewsbury
4653 Table Mountain Dr
Golden, CO 80403

RE: 2201216
Work Order Number: 2203074

March 19, 2022

Attention Paul Shrewsbury:

Fremont Analytical, Inc. received 3 sample(s) on 2/28/2022 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

CC:
Muri Premer

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

www.fremontanalytical.com

CLIENT: Summit Scientific
Project: 2201216
Work Order: 2203074

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2203074-001	2201216-01	01/20/2022 1:30 PM	02/28/2022 9:09 AM
2203074-001	2201216-01	01/20/2022 1:30 PM	02/28/2022 9:09 AM
2203074-002	2201216-09	01/20/2022 3:15 PM	02/28/2022 9:09 AM
2203074-003	2201216-10	01/20/2022 3:17 PM	02/28/2022 9:09 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Summit Scientific**Project:** 2201216

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Metals by EPA Method 6020 data is presented in this report. Boron by the Hot Water Soluble prep as well as the remaining analyses have been placed on hold and will be analyzed by Summit Scientific.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 2203074
Date Reported: 3/19/2022

CLIENT: Summit Scientific

Project: 2201216

Lab ID: 2203074-001

Collection Date: 1/20/2022 1:30:00 PM

Client Sample ID: 2201216-01

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35681

Analyst: EH

Arsenic	4.95	0.497	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Barium	99.8	2.48	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Cadmium	ND	0.828	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Copper	9.15	4.14	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Lead	8.88	0.828	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Nickel	11.4	2.07	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Selenium	1.05	0.828	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Silver	ND	0.621	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM
Zinc	43.4	7.24	D	mg/Kg-dry	5	3/11/2022 3:06:28 PM

NOTES:

Diluted due to matrix.

Sample Moisture (Percent Moisture)

Batch ID: R73899

Analyst: KJ

Percent Moisture	11.2	0.500		wt%	1	3/10/2022 3:38:36 PM
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Analytical Report

Work Order: 2203074
Date Reported: 3/19/2022

CLIENT: Summit Scientific

Project: 2201216

Lab ID: 2203074-002

Collection Date: 1/20/2022 3:15:00 PM

Client Sample ID: 2201216-09

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35681

Analyst: EH

Arsenic	7.67	0.537	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Barium	129	2.69	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Cadmium	ND	0.895	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Copper	12.3	4.48	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Lead	10.1	0.895	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Nickel	16.4	2.24	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Selenium	ND	0.895	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Silver	ND	0.671	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM
Zinc	52.8	7.83	D	mg/Kg-dry	5	3/11/2022 3:15:52 PM

NOTES:

Diluted due to matrix.

Sample Moisture (Percent Moisture)

Batch ID: R73899

Analyst: KJ

Percent Moisture	14.7	0.500		wt%	1	3/10/2022 3:38:36 PM
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Analytical Report

Work Order: 2203074
Date Reported: 3/19/2022

CLIENT: Summit Scientific

Project: 2201216

Lab ID: 2203074-003

Collection Date: 1/20/2022 3:17:00 PM

Client Sample ID: 2201216-10

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35681

Analyst: EH

Arsenic	6.35	0.479	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Barium	175	2.40	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Cadmium	ND	0.798	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Copper	11.0	3.99	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Lead	9.73	0.798	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Nickel	14.9	2.00	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Selenium	0.869	0.798	DQ	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Silver	ND	0.599	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM
Zinc	43.0	6.99	D	mg/Kg-dry	5	3/11/2022 3:18:36 PM

NOTES:

Diluted due to matrix.

Q - Associated calibration verification is above acceptance criteria. Result may be high-biased.

Sample Moisture (Percent Moisture)

Batch ID: R73899

Analyst: KJ

Percent Moisture	13.0	0.500	wt%	1	3/10/2022 3:38:36 PM
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Work Order: 2203074
 CLIENT: Summit Scientific
 Project: 2201216

QC SUMMARY REPORT

Total Metals by EPA Method 6020B

Sample ID: MB-35681		SampType: MBLK		Units: mg/Kg		Prep Date: 3/11/2022			RunNo: 73920		
Client ID: MBLKS		Batch ID: 35681		Analysis Date: 3/11/2022					SeqNo: 1514370		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0960									
Barium	ND	0.480									
Cadmium	ND	0.160									
Copper	ND	0.800									
Lead	ND	0.160									
Nickel	ND	0.400									
Selenium	ND	0.160									
Silver	ND	0.120									
Zinc	ND	1.40									

Sample ID: LCS-35681	SampType: LCS	Units: mg/Kg				Prep Date: 3/11/2022			RunNo: 73920		
Client ID: LCSS	Batch ID: 35681	Analysis Date: 3/11/2022						SeqNo: 1514371			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.5	0.0960	40.00	0	96.2	80	120				
Barium	42.5	0.480	40.00	0	106	80	120				
Cadmium	2.07	0.160	2.000	0	103	80	120				
Copper	39.1	0.800	40.00	0	97.7	80	120				
Lead	19.7	0.160	20.00	0	98.5	80	120				
Nickel	39.2	0.400	40.00	0	98.1	80	120				
Selenium	3.86	0.160	4.000	0	96.4	80	120				
Silver	1.96	0.120	2.000	0	97.9	80	120				
Zinc	38.8	1.40	40.00	0	96.9	80	120				

Sample ID: 2203218-002AMS		SampType: MS			Units: mg/Kg-dry		Prep Date: 3/11/2022		RunNo: 73920		
Client ID: BATCH		Batch ID: 35681			Analysis Date: 3/11/2022				SeqNo: 1514374		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.3	0.103	42.84	2.348	100	75	125				

Work Order: 2203074
CLIENT: Summit Scientific
Project: 2201216

QC SUMMARY REPORT

Total Metals by EPA Method 6020B

Sample ID: 2203218-002AMS		SampType: MS		Units: mg/Kg-dry		Prep Date: 3/11/2022			RunNo: 73920		
Client ID: BATCH		Batch ID: 35681					Analysis Date: 3/11/2022			SeqNo: 1514374	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	100	0.514	42.84	59.38	95.2	75	125				
Cadmium	2.21	0.171	2.142	0.06220	100	75	125				
Copper	53.4	0.857	42.84	13.14	94.0	75	125				
Lead	21.3	0.171	21.42	1.862	90.8	75	125				
Nickel	81.7	0.428	42.84	43.97	88.0	75	125				
Selenium	4.86	0.171	4.284	0.5611	100	75	125				
Silver	1.94	0.129	2.142	0	90.7	75	125				
Zinc	73.4	1.50	42.84	31.49	97.8	75	125				

Sample ID: 2203218-002AMSD		SampType: MSD		Units: mg/Kg-dry		Prep Date: 3/11/2022			RunNo: 73920		
Client ID: BATCH		Batch ID: 35681		Analysis Date: 3/11/2022					SeqNo: 1514375		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.1	0.103	42.84	2.348	104	75	125	45.34	3.70	20	
Barium	101	0.514	42.84	59.38	96.4	75	125	100.2	0.489	20	
Cadmium	2.32	0.171	2.142	0.06220	105	75	125	2.214	4.63	20	
Copper	55.5	0.857	42.84	13.14	98.8	75	125	53.40	3.77	20	
Lead	21.8	0.171	21.42	1.862	93.0	75	125	21.31	2.18	20	
Nickel	85.4	0.428	42.84	43.97	96.7	75	125	81.65	4.48	20	
Selenium	5.05	0.171	4.284	0.5611	105	75	125	4.864	3.85	20	
Silver	2.02	0.129	2.142	0	94.1	75	125	1.942	3.67	20	
Zinc	74.4	1.50	42.84	31.49	100	75	125	73.39	1.31	20	

Client Name: **SUMSCI**
 Logged by: **Clare Griggs**

Work Order Number: **2203074**
 Date Received: **2/28/2022 9:09:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
 2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
 4. Shipping container/cooler in good condition? Yes ☒ No ☐
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Present ☒
 6. Was an attempt made to cool the samples? Yes ☐ No ☒ NA ☐
Unknown prior to receipt.
 7. Were all items received at a temperature of >2°C to 6°C * Yes ☐ No ☐ NA ☒
 8. Sample(s) in proper container(s)? Yes ☒ No ☐
 9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
 10. Are samples properly preserved? Yes ☒ No ☐
 11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
 12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
 13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
 14. Does paperwork match bottle labels? Yes ☒ No ☐
 15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
 16. Is it clear what analyses were requested? Yes ☒ No ☐
 17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	<u>Muri Premer</u>	Date:	<u>3/2/2022</u>
By Whom:	<u>Clare Griggs</u>	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<u>Confirming metals list.</u>		
Client Instructions:	<u>Include CU.</u>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	10.5

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



Fremont
ANALYTICAL

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 2/25/22 Page: 1 of 1 Laboratory Project No (Internal): 2203074

Special Remarks:

Client: Summit Scientific

Address: 4653 Table Mountain Drive

City, State, Zip: Golden, CO. 80403

Telephone: 303-277-9310

Fax:

Project Name: 2201210

Project No:

Collected by:

Location:

Report To (PM):

PM Email:

mpremier@s2scientific.com, pshrewsbury@s2scientific.com

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	SAR, EC, pH	Metals	Comments
1 2201210-01	1/20/22	13:30	S	X	X	SAR, EC, pH by saturated paste.
2 2201210-09	↓	15:15	↓		X	Boron by hot water soluble.
3 2201210-10	↓	15:17	↓	X		Metals - As, Ba, Cd, Pb, Ni, Se, Ag, Zn
4						
5						
6						
7						
8						
9						
10						

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Metals (Circle):

Anions (Circle): ☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ D-Phosphate ☐ Fluoride ☐ Nitrate-Nitrite

Turn-around Time:

☒ Standard ☐ 3 Day ☐ 2 Day ☐ Next Day ☐ Same Day (specify)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished

Sheree Barber

Date/Time

Relinquished

Date/Time

Received

x

Date/Time

Elizabeth Savage 2/28/22 9:09

Received

x

Date/Time

COC 1.2 - 2.22.17

www.fremontanalytical.com



Fremont
ANALYTICAL

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 2/25/22 Page: 1 of 1 Laboratory Project No (Internal): 2203074

Project Name: 2201210 Special Remarks: Report metals only per P.S. 3/17/22 -BB

Client: Summit Scientific
Address: 4653 Table Mountain Drive
City, State, Zip: Golden, CO. 80403
Telephone: 303-277-9310
Fax:

Project No:
Collected by:
Location:
Report To (PM):
PM Email: mpremer@s2scientific.com, pshrewsbury@s2scientific.com

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	SAR, EC, pH	Metals	Comments
1 2201210-01	1/20/22	13:30	S	X	X	SAR, EC, pH by saturated paste.
2 2201210-09	↓	15:15	↓	X	X	Boron by hot water soluble.
3 2201210-10	↓	15:17	↓	X	X	Metals - As, Ba, Cd, Pb, Ni, Se, Ag, Zn
4						
5						
6						
7						
8						
9						
10						

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Individual: ☐ Anions (Circle): ☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ D-Phosphate ☐ Fluoride ☐ Nitrate-Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished x Sherie Barber Date/Time
Received x Elizabeth Javey 2/28/22 9:09 Date/Time

Turn-around Time: ☒ Standard ☐ 3 Day ☐ 2 Day ☐ Next Day ☐ Same Day (specify)



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

Project: Gerry 3 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/21/22 12:14

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.

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