

**TABLE 1**  
**FORMER GERRY 3 WELLHEAD**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**  
**CONTAMINANTS OF CONCERN**

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH <sup>(4)</sup> (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)
Residential SSL <sup>(1,2)</sup>			1.2	490	5.8	58	30	27	2	500	0.68	15,000	400	390
Protection of Groundwater SSL <sup>(1,2,3)</sup>			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	0.29	82	14	0.26
WH01 @ 6'	1/20/2022	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.032	<50	6.53	132	33.0	1.13
FLR01 @ 4'	1/20/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
FL01-01 @ 4'	1/20/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
FL01-02 @ 4'	1/20/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA

**Notes:**

- Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
  - Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
  - SSLs are applicable if a pathway for communication with groundwater is present.
  - Value calculated by adding TVPH-GRO, TEPH-DRO, and TEPH-ORO concentrations.
- COGCC = Colorado Oil and Gas Conservation Commission  
 (<) = Analytical result is less than the indicated laboratory reporting limit.  
 TVPH-GRO = Total volatile petroleum hydrocarbons - gasoline range organics  
 TEPH-DRO = Total extractable petroleum hydrocarbons - diesel range organics  
 TEPH-ORO = Total extractable petroleum hydrocarbons - oil range organics  
 mg/kg = Milligrams per kilogram  
 TMB = Trimethylbenzene

  = Source material characterization sample

ft. = Feet

bgs = Below ground surface

NA = Not analyzed

**BOLD** = Analytical result is in exceedance of applicable standard and above 1.25x background concentration.

**TABLE 2**  
**FORMER GERRY 3 WELLHEAD**  
**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 <sup>(1)</sup>			6-8.3	<4	<6	2
WH01 @ 6'	1/20/2022	6 ft. bgs	7.71	0.559	0.649	0.0208
FLR01 @ 4'	1/20/2022	4 ft. bgs	7.70	0.629	0.405	0.0227

**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

= Source material characterization sample

**TABLE 3**  
**FORMER GERRY 3 WELLHEAD**  
**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 <sup>(1,2)</sup>			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>(1,2,3)</sup>			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
WH01 @ 6'	1/20/2022	6 ft. 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
FLR01 @ 4'	1/20/2022	4 ft. 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:**

- 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

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 = Methylinaphthalene

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

  = Source material characterization sample

**TABLE 4**  
**FORMER GERRY 3 WELLHEAD**  
**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 <sup>(1,2)</sup>			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL <sup>(1,2,3)</sup>			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
WH01 @ 6'	1/20/2022	6 ft. bgs	6.53	132	<0.249	<0.30 <sup>(4)</sup>	9.44	33.0	11.6	1.13	0.0441	41.6
BKG01 @ 4'	1/20/2022	4 ft. bgs	3.43	70.5	<0.221	<0.30 <sup>(4)</sup>	6.19	6.06	8.73	0.558	0.0370	30.6
BKG01 @ 6'	1/20/2022	6 ft. bgs	3.09	68.6	<0.221	<0.30 <sup>(4)</sup>	5.35	5.36	7.14	0.478	0.0336	26.3

**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.
- 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

bgs = Below ground surface

**BOLD** = Analytical result is in exceedance of applicable standard.

**TABLE 5**  
**FORMER GERRY 3 WELLHEAD**  
**FIELD DATA SUMMARY TABLE**

Sample ID	Date Sampled	Depth	GPS Data <sup>(1)</sup> Latitude / Longitude		PDOP Value	VOC Concentration <sup>(2)</sup> (ppm)
WH01 @ 6'	1/20/2022	6 ft. bgs	40.471962	-104.722328	1.2	1.0
FLR01 @ 4'	1/20/2022	4 ft. bgs	40.471961	-104.722322	1.2	0.0
FL01-01 @ 4'	1/20/2022	4 ft. bgs	40.471888	-104.721260	1.0	0.0
FL01-02 @ 4'	1/20/2022	4 ft. bgs	40.471893	-104.721217	1.0	0.0
WHS01-N @ 0-6"	1/20/2022	0-6 in. bgs	40.472089	-104.722373	1.1	0.0
WHS01-S @ 0-6"	1/20/2022	0-6 in. bgs	40.471856	-104.722333	1.2	0.0
WHS01-E @ 0-6"	1/20/2022	0-6 in. bgs	40.471981	-104.722201	1.2	0.0
WHS01-W @ 0-6"	1/20/2022	0-6 in. bgs	40.472018	-104.722471	1.1	0.0
BKG01 @ 4'	1/20/2022	4 ft. bgs	40.472024	-104.722478	1.6	0.0
BKG01 @ 6'	1/20/2022	6 ft. bgs	40.472024	-104.722478	1.6	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

WH01 @ 6' = Source material characterization sample

## **ATTACHMENT A**

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 04, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Gerry 3 Wellhead

Work Order #2201215

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, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury For Muri Premer  
Project Manager



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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH01@6'	2201215-01	Soil	01/20/22 11:00	01/20/22 17:45
FLR01@4'	2201215-02	Soil	01/20/22 11:15	01/20/22 17:45
BKG01@4'	2201215-03	Soil	01/20/22 12:00	01/20/22 17:45
BKG01@6'	2201215-04	Soil	01/20/22 12:05	01/20/22 17:45
FL01-01@4'	2201215-05	Soil	01/20/22 15:30	01/20/22 17:45
FL01-02@4'	2201215-06	Soil	01/20/22 15:35	01/20/22 17:45

Summit Scientific

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



# Summit Scientific

2201215

S<sub>2</sub>

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: Gerny 3 wellhead  
 Sampler Name: Matanga 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	WH01 @ 10	1/20/22	1100	3			X			X			X	X	X	X		X			on hold	TMBS	
2	FLR01 @ 4		1115	3			X			X			X	X	X	X		X					
3	BKG01 @ 4'		1200	1																X			
4	BKG01 @ 10		1205	1																X			
5	FI01-01 @ 4		1536	3									X	X									X
6	FI01-02 @ 4		1535	3									X	X									X
7																							
8																							
9																							
10																							

Relinquished by: Matanga W.	Date/Time:	Received by: Tasman's Lock Box	Date/Time: 1/20/22 17:45	Turn Around Time (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: Temperature Upon Receipt: 96 Samples Intact: Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2201215Client: PDC/Tasman Client Project ID: Gerry 3 WellheadShipped 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 <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

CS  
Custodian Printed Name or Initials

1/20/22  
Date/Time



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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**WH01@6'**  
**2201215-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFA0363	01/24/22	01/24/22	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	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.032</b>	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		130 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0368	01/24/22	01/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		112 %	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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**WH01@6'**  
**2201215-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0399	01/25/22	01/26/22	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 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0208</b>	0.0100	mg/L	1	BFA0364	01/24/22	02/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/20/22 11:00**

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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**WH01@6'**  
**2201215-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	6.53	0.249	mg/kg dry	1	BFC0082	03/04/22	03/09/22	EPA 6020B
Barium	132	0.499	"	"	"	"	"	"
Cadmium	ND	0.249	"	"	"	"	"	"
Copper	9.44	0.499	"	"	"	"	"	"
Lead	33.0	0.249	"	"	"	"	"	"
Nickel	11.6	0.499	"	"	"	"	"	"
Selenium	1.13	0.324	"	"	"	"	"	"
Silver	0.0441	0.0249	"	"	"	"	"	"
Zinc	41.6	0.499	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/20/22 11:00**

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

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

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.1	0.0623	mg/L dry	1	BFA0357	01/21/22	01/28/22	EPA 6020B	
Magnesium	17.8	0.0623	"	"	"	"	"	"	
Sodium	21.9	0.0623	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.649	0.00100	units	1	BFA0457	01/28/22	01/28/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/20/22 11:00**

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

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**WH01@6'**  
**2201215-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	80.2	%	1	BFA0348	01/21/22	01/24/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.559	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**

Date Sampled: **01/20/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**FLR01@4'**  
**2201215-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0363	01/24/22	01/24/22	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 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		135 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0368	01/24/22	01/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		91.2 %	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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**FLR01@4'**  
**2201215-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0399	01/25/22	01/26/22	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 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0227</b>	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 11:15**

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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**FLR01@4'**  
**2201215-02 (Soil)**

### Summit Scientific

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

Calcium	66.7	0.0594	mg/L dry	1	BFA0357	01/21/22	01/28/22	EPA 6020B
Magnesium	21.7	0.0594	"	"	"	"	"	"
Sodium	14.9	0.0594	"	"	"	"	"	"

#### Calculated Analysis

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.405	0.00100	units	1	BFA0457	01/28/22	01/28/22	Calculation	

#### Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.2		%	1	BFA0348	01/21/22	01/24/22	Calculation	

#### Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.629	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

Date Sampled: **01/20/22 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.70		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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**BKG01@4'**  
**2201215-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **01/20/22 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.43	0.221	mg/kg dry	1	BFC0686	03/29/22	04/03/22	EPA 6020B	
Barium	70.5	0.441	"	"	"	"	"	"	
Cadmium	ND	0.221	"	"	"	"	"	"	
Copper	6.19	0.441	"	"	"	"	"	"	
Lead	6.06	0.221	"	"	"	"	"	"	
Nickel	8.73	0.441	"	"	"	"	"	"	
Selenium	0.558	0.287	"	"	"	"	"	"	
Silver	0.0370	0.0221	"	"	"	"	"	"	
Zinc	30.6	0.441	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/20/22 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.6		%	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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**BKG01@6'**  
**2201215-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **01/20/22 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.09	0.221	mg/kg dry	1	BFC0686	03/29/22	04/03/22	EPA 6020B	
Barium	68.6	0.442	"	"	"	"	"	"	
Cadmium	ND	0.221	"	"	"	"	"	"	
Copper	5.35	0.442	"	"	"	"	"	"	
Lead	5.36	0.221	"	"	"	"	"	"	
Nickel	7.14	0.442	"	"	"	"	"	"	
Selenium	0.478	0.287	"	"	"	"	"	"	
Silver	0.0336	0.0221	"	"	"	"	"	"	
Zinc	26.3	0.442	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/20/22 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.5		%	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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**FL01-01@4'**  
**2201215-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/20/22 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0363	01/24/22	01/24/22	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 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/20/22 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0368	01/24/22	01/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 15:30**

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

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**FL01-02@4'**  
**2201215-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/20/22 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0363	01/24/22	01/24/22	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 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		136 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/20/22 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0368	01/24/22	01/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/20/22 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		87.4 %	30-150		"	"	"	"	

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

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

### Summit Scientific

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

#### Batch BFA0363 - EPA 5030 Soil MS

##### Blank (BFA0363-BLK1)

Prepared & Analyzed: 01/24/22

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	0.0510		"	0.0400		127	23-173			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	21-167			

##### LCS (BFA0363-BS1)

Prepared & Analyzed: 01/24/22

Benzene	0.0756	0.0020	mg/kg	0.100		75.6	70-130			
Toluene	0.0824	0.0050	"	0.100		82.4	70-130			
Ethylbenzene	0.0800	0.0050	"	0.100		80.0	70-130			
m,p-Xylene	0.157	0.010	"	0.200		78.5	70-130			
o-Xylene	0.0790	0.0050	"	0.100		79.0	70-130			
1,2,4-Trimethylbenzene	0.0838	0.0050	"	0.100		83.8	70-130			
1,3,5-Trimethylbenzene	0.0849	0.0050	"	0.100		84.9	70-130			
Naphthalene	0.117	0.0038	"	0.100		117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0475		"	0.0400		119	23-173			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		105	21-167			

##### Matrix Spike (BFA0363-MS1)

Source: 2201215-01

Prepared & Analyzed: 01/24/22

Benzene	0.0784	0.0020	mg/kg	0.100	ND	78.4	70-130			
Toluene	0.0845	0.0050	"	0.100	ND	84.5	70-130			
Ethylbenzene	0.0816	0.0050	"	0.100	ND	81.6	70-130			
m,p-Xylene	0.161	0.010	"	0.200	ND	80.4	70-130			
o-Xylene	0.0814	0.0050	"	0.100	ND	81.4	70-130			
1,2,4-Trimethylbenzene	0.0896	0.0050	"	0.100	ND	89.6	70-130			
1,3,5-Trimethylbenzene	0.0896	0.0050	"	0.100	ND	89.6	70-130			
Naphthalene	0.142	0.0038	"	0.100	0.0318	110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0483		"	0.0400		121	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0427		"	0.0400		107	21-167			

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**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 BFA0363 - EPA 5030 Soil MS**

Matrix Spike Dup (BFA0363-MSD1)	Source: 2201215-01			Prepared & Analyzed: 01/24/22						
Benzene	0.0810	0.0020	mg/kg	0.100	ND	81.0	70-130	3.24	30	
Toluene	0.0819	0.0050	"	0.100	ND	81.9	70-130	3.06	30	
Ethylbenzene	0.0717	0.0050	"	0.100	ND	71.7	70-130	13.0	30	
m,p-Xylene	0.143	0.010	"	0.200	ND	71.5	70-130	11.7	30	
o-Xylene	0.0731	0.0050	"	0.100	ND	73.1	70-130	10.7	30	
1,2,4-Trimethylbenzene	0.0790	0.0050	"	0.100	ND	79.0	70-130	12.7	30	
1,3,5-Trimethylbenzene	0.0784	0.0050	"	0.100	ND	78.4	70-130	13.4	30	
Naphthalene	0.146	0.0038	"	0.100	0.0318	114	70-130	2.38	30	
Surrogate: 1,2-Dichloroethane-d4	0.0504		"	0.0400		126	23-173			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	21-167			

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**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 BFA0368 - EPA 3550A**

**Blank (BFA0368-BLK1)**

Prepared: 01/24/22 Analyzed: 01/25/22

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

**LCS (BFA0368-BS1)**

Prepared: 01/24/22 Analyzed: 01/25/22

C10-C28 (DRO)	472	50	mg/kg	500	94.5	70-130
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**Matrix Spike (BFA0368-MS1)**

**Source: 2201215-01**

Prepared: 01/24/22 Analyzed: 01/25/22

C10-C28 (DRO)	554	50	mg/kg	500	21.6	107	70-130
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PDC Energy  
1775 Sherman St. STE. 3000  
Denver CO, 80203

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BFA0399 - EPA 5030 Soil MS

##### Blank (BFA0399-BLK1)

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

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	0.0214		"	0.0333		64.1	40-150			
Surrogate: Fluoranthene-d10	0.0228		"	0.0333		68.5	40-150			

##### LCS (BFA0399-BS1)

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

Acenaphthene	0.0249	0.00500	mg/kg	0.0333		74.6	31-137			
Anthracene	0.0251	0.00500	"	0.0333		75.4	30-120			
Benzo (a) anthracene	0.0257	0.00500	"	0.0333		77.1	30-120			
Benzo (a) pyrene	0.0268	0.00500	"	0.0333		80.4	30-120			
Benzo (b) fluoranthene	0.0276	0.00500	"	0.0333		82.7	30-120			
Benzo (k) fluoranthene	0.0309	0.00500	"	0.0333		92.7	30-120			
Chrysene	0.0271	0.00500	"	0.0333		81.4	30-120			
Dibenz (a,h) anthracene	0.0274	0.00500	"	0.0333		82.2	30-120			
Fluoranthene	0.0268	0.00500	"	0.0333		80.5	30-120			
Fluorene	0.0264	0.00500	"	0.0333		79.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0306	0.00500	"	0.0333		91.7	30-120			
Pyrene	0.0285	0.00500	"	0.0333		85.5	35-142			
1-Methylnaphthalene	0.0229	0.00500	"	0.0333		68.6	35-142			
2-Methylnaphthalene	0.0216	0.00500	"	0.0333		64.9	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0214		"	0.0333		64.3	40-150			
Surrogate: Fluoranthene-d10	0.0243		"	0.0333		72.9	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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

## 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 BFA0399 - EPA 5030 Soil MS

##### Matrix Spike (BFA0399-MS1)

Source: 2201213-01

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

Acenaphthene	0.0203	0.00500	mg/kg	0.0333	ND	61.0	31-137		
Anthracene	0.0208	0.00500	"	0.0333	ND	62.4	30-120		
Benzo (a) anthracene	0.0211	0.00500	"	0.0333	ND	63.3	30-120		
Benzo (a) pyrene	0.0217	0.00500	"	0.0333	ND	65.2	30-120		
Benzo (b) fluoranthene	0.0222	0.00500	"	0.0333	ND	66.7	30-120		
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.6	30-120		
Chrysene	0.0230	0.00500	"	0.0333	ND	68.9	30-120		
Dibenz (a,h) anthracene	0.0227	0.00500	"	0.0333	ND	68.1	30-120		
Fluoranthene	0.0217	0.00500	"	0.0333	ND	65.0	30-120		
Fluorene	0.0211	0.00500	"	0.0333	ND	63.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0244	0.00500	"	0.0333	ND	73.1	30-120		
Pyrene	0.0239	0.00500	"	0.0333	ND	71.8	35-142		
1-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.4	15-130		
2-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.6	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0227		"	0.0333		68.2	40-150		
Surrogate: Fluoranthene-d10	0.0218		"	0.0333		65.3	40-150		

##### Matrix Spike Dup (BFA0399-MSD1)

Source: 2201213-01

Prepared: 01/25/22 Analyzed: 01/27/22

Acenaphthene	0.0200	0.00500	mg/kg	0.0333	ND	60.0	31-137	1.59	30
Anthracene	0.0228	0.00500	"	0.0333	ND	68.4	30-120	9.26	30
Benzo (a) anthracene	0.0231	0.00500	"	0.0333	ND	69.3	30-120	9.03	30
Benzo (a) pyrene	0.0239	0.00500	"	0.0333	ND	71.6	30-120	9.45	30
Benzo (b) fluoranthene	0.0246	0.00500	"	0.0333	ND	73.8	30-120	10.1	30
Benzo (k) fluoranthene	0.0280	0.00500	"	0.0333	ND	83.9	30-120	9.08	30
Chrysene	0.0245	0.00500	"	0.0333	ND	73.6	30-120	6.57	30
Dibenz (a,h) anthracene	0.0264	0.00500	"	0.0333	ND	79.3	30-120	15.2	30
Fluoranthene	0.0237	0.00500	"	0.0333	ND	71.1	30-120	8.94	30
Fluorene	0.0216	0.00500	"	0.0333	ND	64.7	30-120	2.41	30
Indeno (1,2,3-cd) pyrene	0.0275	0.00500	"	0.0333	ND	82.6	30-120	12.3	30
Pyrene	0.0245	0.00500	"	0.0333	ND	73.4	35-142	2.27	30
1-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.6	15-130	3.20	50
2-Methylnaphthalene	0.0237	0.00500	"	0.0333	ND	71.0	15-130	0.528	50
Surrogate: 2-Methylnaphthalene-d10	0.0242		"	0.0333		72.6	40-150		
Surrogate: Fluoranthene-d10	0.0234		"	0.0333		70.1	40-150		

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**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

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFC0082 - EPA 3050B**

**Blank (BFC0082-BLK1)**

Prepared: 03/04/22 Analyzed: 03/09/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

**LCS (BFC0082-BS1)**

Prepared: 03/04/22 Analyzed: 03/09/22

Arsenic	40.5	0.200	mg/kg wet	40.0	101	80-120
Barium	34.7	0.400	"	40.0	86.7	80-120
Cadmium	1.81	0.200	"	2.00	90.7	80-120
Copper	36.3	0.400	"	40.0	90.8	80-120
Lead	17.2	0.200	"	20.0	85.8	80-120
Nickel	34.7	0.400	"	40.0	86.8	80-120
Selenium	3.33	0.260	"	4.00	83.3	80-120
Silver	1.84	0.0200	"	2.00	91.8	80-120
Zinc	41.3	0.400	"	40.0	103	80-120

**Duplicate (BFC0082-DUP1)**

Source: 2203001-09

Prepared: 03/04/22 Analyzed: 03/09/22

Arsenic	1.39	0.204	mg/kg dry	1.44	3.69	20
Barium	7.83	0.407	"	7.52	4.06	20
Cadmium	0.0754	0.204	"	0.0779	3.20	20
Copper	4.33	0.407	"	4.33	0.169	20
Lead	3.65	0.204	"	3.65	0.0954	20
Nickel	1.10	0.407	"	1.09	1.22	20
Selenium	0.777	0.265	"	0.757	2.61	20
Silver	0.0631	0.0204	"	0.0616	2.32	20
Zinc	13.4	0.407	"	13.1	1.97	20

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFC0082 - EPA 3050B**

**Matrix Spike (BFC0082-MS1)**

Source: 2203001-09

Prepared: 03/04/22 Analyzed: 03/09/22

Arsenic	43.3	0.204	mg/kg dry	40.7	1.44	103	75-125		
Barium	41.4	0.407	"	40.7	7.52	83.2	75-125		
Cadmium	1.90	0.204	"	2.04	0.0779	89.4	75-125		
Copper	40.5	0.407	"	40.7	4.33	88.8	75-125		
Lead	20.1	0.204	"	20.4	3.65	80.7	75-125		
Nickel	35.9	0.407	"	40.7	1.09	85.4	75-125		
Selenium	4.06	0.265	"	4.07	0.757	81.2	75-125		
Silver	1.82	0.0204	"	2.04	0.0616	86.2	75-125		
Zinc	57.1	0.407	"	40.7	13.1	108	75-125		

**Matrix Spike Dup (BFC0082-MSD1)**

Source: 2203001-09

Prepared: 03/04/22 Analyzed: 03/09/22

Arsenic	43.7	0.204	mg/kg dry	40.7	1.44	104	75-125	0.926	25
Barium	43.9	0.407	"	40.7	7.52	89.4	75-125	5.89	25
Cadmium	1.91	0.204	"	2.04	0.0779	90.0	75-125	0.597	25
Copper	40.9	0.407	"	40.7	4.33	89.7	75-125	0.958	25
Lead	20.1	0.204	"	20.4	3.65	80.9	75-125	0.227	25
Nickel	36.3	0.407	"	40.7	1.09	86.4	75-125	1.13	25
Selenium	4.03	0.265	"	4.07	0.757	80.3	75-125	0.883	25
Silver	1.84	0.0204	"	2.04	0.0616	87.5	75-125	1.51	25
Zinc	55.4	0.407	"	40.7	13.1	104	75-125	3.07	25

**Batch BFC0686 - EPA 3050B**

**Blank (BFC0686-BLK1)**

Prepared: 03/29/22 Analyzed: 04/03/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFC0686 - EPA 3050B**

**LCS (BFC0686-BS1)**

Prepared: 03/29/22 Analyzed: 04/03/22

Arsenic	36.6	0.200	mg/kg wet	40.0		91.5	80-120
Barium	39.0	0.400	"	40.0		97.5	80-120
Cadmium	1.85	0.200	"	2.00		92.6	80-120
Copper	36.0	0.400	"	40.0		90.0	80-120
Lead	19.3	0.200	"	20.0		96.7	80-120
Nickel	34.5	0.400	"	40.0		86.4	80-120
Selenium	3.36	0.260	"	4.00		84.0	80-120
Silver	1.88	0.0200	"	2.00		93.9	80-120
Zinc	38.6	0.400	"	40.0		96.6	80-120

**Duplicate (BFC0686-DUP1)**

Source: 2201215-03

Prepared: 03/29/22 Analyzed: 04/03/22

Arsenic	3.53	0.221	mg/kg dry		3.43		2.66	20
Barium	73.4	0.441	"		70.5		3.94	20
Cadmium	0.143	0.221	"		0.138		3.45	20
Copper	6.38	0.441	"		6.19		3.04	20
Lead	6.34	0.221	"		6.06		4.54	20
Nickel	8.98	0.441	"		8.73		2.83	20
Selenium	0.590	0.287	"		0.558		5.57	20
Silver	0.0365	0.0221	"		0.0370		1.46	20
Zinc	31.6	0.441	"		30.6		3.19	20

**Matrix Spike (BFC0686-MS1)**

Source: 2201215-03

Prepared: 03/29/22 Analyzed: 04/03/22

Arsenic	40.1	0.221	mg/kg dry	44.1	3.43	83.0	75-125
Barium	107	0.441	"	44.1	70.5	82.9	75-125
Cadmium	2.00	0.221	"	2.21	0.138	84.4	75-125
Copper	41.5	0.441	"	44.1	6.19	80.0	75-125
Lead	23.1	0.221	"	22.1	6.06	77.4	75-125
Nickel	44.2	0.441	"	44.1	8.73	80.3	75-125
Selenium	3.12	0.287	"	4.41	0.558	58.1	75-125
Silver	1.79	0.0221	"	2.21	0.0370	79.3	75-125
Zinc	70.0	0.441	"	44.1	30.6	89.2	75-125

QM-05

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFC0686 - EPA 3050B**

Matrix Spike Dup (BFC0686-MSD1)		Source: 2201215-03			Prepared: 03/29/22 Analyzed: 04/03/22					
Arsenic	38.6	0.221	mg/kg dry	44.1	3.43	79.6	75-125	3.82	25	
Barium	108	0.441	"	44.1	70.5	84.3	75-125	0.574	25	
Cadmium	1.92	0.221	"	2.21	0.138	80.9	75-125	3.96	25	
Copper	39.5	0.441	"	44.1	6.19	75.5	75-125	4.87	25	
Lead	22.6	0.221	"	22.1	6.06	75.0	75-125	2.34	25	
Nickel	41.9	0.441	"	44.1	8.73	75.2	75-125	5.27	25	
Selenium	3.05	0.287	"	4.41	0.558	56.4	75-125	2.49	25	QM-05
Silver	1.71	0.0221	"	2.21	0.0370	75.7	75-125	4.49	25	
Zinc	67.1	0.441	"	44.1	30.6	82.8	75-125	4.15	25	

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**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

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

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

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		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

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

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

**Batch BFA0348 - General Preparation**

<b>Duplicate (BFA0348-DUP1)</b>		<b>Source: 2112425-03</b>			Prepared: 01/21/22 Analyzed: 01/24/22						
% Solids	85.9		%		85.9			0.0396		20	

**Batch BFB0057 - General Preparation**

<b>Duplicate (BFB0057-DUP1)</b>		<b>Source: 2201151-02</b>			Prepared & Analyzed: 02/07/22						
% Solids	86.0		%		86.5			0.596		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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

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

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

**Batch 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

Summit Scientific

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

Project: Gerry 3 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

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

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

**Batch 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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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 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/04/22 10:58

### 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