

**TABLE 1  
FORMER GUTFELDER AMOCO 14-19 WELLHEAD  
SOIL ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH <sup>(4)</sup> (mg/kg)
Residential SSL <sup>(1,2)</sup>			1.2	490	5.8	58	30	27	2	500
Protection of Groundwater SSL <sup>(1,2,3)</sup>			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500
WH01 @ 6'	10/4/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR01 @ 3'	10/4/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50

**Notes:**

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

COGCC = Colorado Oil and Gas Conservation Commission

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

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

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

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

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

bgs = Below ground surface

**TABLE 2**  
**FORMER GUTFELDER AMOCO 14-19 WELLHEAD**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**  
**INORGANIC COMPOUNDS**

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
<b>Soil Suitability for Reclamation Standard <sup>(1)</sup></b>			<b>6-8.3</b>	<b>&lt;4</b>	<b>&lt;6</b>	<b>2</b>
WH01 @ 6'	10/4/2021	6 ft. bgs	<b>9.07</b>	1.24	<b>7.73</b>	0.0363
FLR01 @ 3'	10/4/2021	3 ft. bgs	7.86	0.351	1.25	0.0377
BKG01 @ 3'	10/4/2021	3 ft. bgs	5.97	NA	1.53	NA
BKG01 @ 6'	10/4/2021	6 ft. bgs	6.31	NA	0.978	NA

**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

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

NA = Constituent not analyzed

**TABLE 3  
FORMER GUTFELDER AMOCO 14-19 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)
<b>Residential SSL <sup>(1,2)</sup></b>			<b>360</b>	<b>1,800</b>	<b>1.1</b>	<b>0.11</b>	<b>1.1</b>	<b>11</b>	<b>110</b>	<b>0.11</b>	<b>240</b>	<b>240</b>	<b>1.1</b>	<b>180</b>	<b>18</b>	<b>24</b>
<b>Protection of Groundwater SSL <sup>(1,2,3)</sup></b>			<b>0.55</b>	<b>5.8</b>	<b>0.011</b>	<b>0.24</b>	<b>0.3</b>	<b>2.9</b>	<b>9</b>	<b>0.096</b>	<b>8.9</b>	<b>0.54</b>	<b>0.98</b>	<b>1.3</b>	<b>0.006</b>	<b>0.019</b>
WH01 @ 6'	10/4/2021	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 @ 3'	10/4/2021	3 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:**

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

Benzo(a) = Benzoanthracene

Benzo(a) = Benzopyrene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

M = Methylnaphthalene

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

**TABLE 4**  
**FORMER GUTFELDER AMOCO 14-19 WELLHEAD**  
**FIELD DATA SUMMARY TABLE**

Sample ID	Date Sampled	Depth	GPS Data <sup>(1)</sup>		PDOP Value	VOC Concentration <sup>(2)</sup> (ppm)
			Latitude	Longitude		
WH01 @ 6'	10/4/2021	6 ft. bgs	40.291427	-104.828120	1.4	5.2
FLR01 @ 3'	10/4/2021	4 ft. bgs	40.291412	-104.828122	1.2	0.2
WHS01-N @ 0-6"	10/4/2021	0-6 in. bgs	40.291465	-104.828125	1.2	0.0
WHS01-W @ 0-6"	10/4/2021	0-6 in. bgs	40.291416	-104.828195	1.2	0.0
WHS01-S @ 0-6"	10/4/2021	0-6 in. bgs	40.291355	-104.828081	1.4	0.0
WHS01-E @ 0-6"	10/4/2021	0-6 in. bgs	40.291410	-104.828015	1.3	0.1
FL01-01 @ 3'	10/4/2021	3 ft. bgs	40.290923	-104.827510	1.4	0.2
FL01-02 @ 3'	10/4/2021	3 ft. bgs	40.290550	-104.826954	1.2	0.6
BKG01 @ 3'	10/4/2021	3 ft. bgs	40.291364	-104.827899	1.2	0.6
BKG01 @ 6'	10/4/2021	6 ft. bgs	40.291364	-104.827899	1.2	0.3

**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

## Attachment A

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 08, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

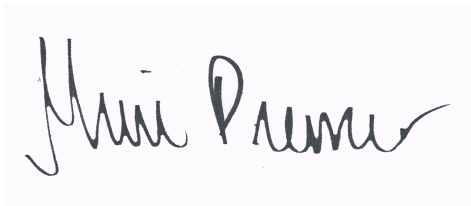
Denver, CO 80203

RE: Gutfelder Amaco 14-19 Wellhead

Work Order #2110044

Enclosed are the results of analyses for samples received by Summit Scientific on 10/04/21 14:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer For Paul Shrewsbury  
President



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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH01@6'	2110044-01	Soil	10/04/21 08:14	10/04/21 14:55
FLR01@3'	2110044-02	Soil	10/04/21 08:16	10/04/21 14:55
BKG01@3'	2110044-03	Soil	10/04/21 10:00	10/04/21 14:55
BKG01@6'	2110044-04	Soil	10/04/21 10:02	10/04/21 14:55

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.*



# S<sub>2</sub>

## 2110044

### Sample Receipt Checklist

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

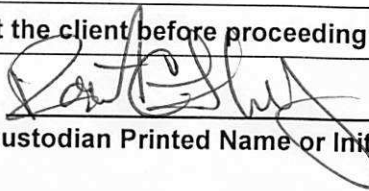
Client: DOC/TasmanClient Project ID: Gutfelder Amoco 14-19 wellheadShipped Via:  H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_  
    Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)Temp (°C) 16.8 °C

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation <b>(excluding cooling)</b> <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"/>	
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.

  
Custodian Printed Name or Initials10.4.21  
Date/Time



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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**WH01@6'**  
**2110044-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0104	10/06/21	10/08/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		130 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0105	10/06/21	10/07/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/04/21 08:14**

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

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**WH01@6'**  
**2110044-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEJ0249	10/14/21	10/16/21	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: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		78.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.6 %	40-150		"	"	"	"	

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

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0363</b>	0.0100	mg/L	1	BEJ0106	10/06/21	10/08/21	EPA 6020B	

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

Date Sampled: **10/04/21 08:14**

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: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**WH01@6'**  
**2110044-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.3	0.0519	mg/L dry	1	BEJ0098	10/06/21	10/08/21	EPA 6020B	
Magnesium	3.37	0.0519	"	"	"	"	"	"	
Sodium	161	0.0519	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.73	0.00100	units	1	BEJ0166	10/09/21	10/09/21	Calculation	

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

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.3		%	1	BEJ0067	10/05/21	10/05/21	Calculation	

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

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.24	0.0100	mmhos/cm	1	BEJ0123	10/07/21	10/07/21	EPA 120.1	

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

Date Sampled: **10/04/21 08:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.07		pH Units	1	BEJ0125	10/07/21	10/07/21	EPA 9045D	

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Denver CO, 80203

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**FLR01@3'**  
**2110044-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0104	10/06/21	10/08/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		125 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0105	10/06/21	10/07/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/04/21 08:16**

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

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**FLR01@3'**  
**2110044-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEJ0249	10/14/21	10/16/21	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: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		83.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		78.2 %	40-150		"	"	"	"	

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

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0377</b>	0.0100	mg/L	1	BEJ0106	10/06/21	10/08/21	EPA 6020B	

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

Date Sampled: **10/04/21 08:16**

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: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**FLR01@3'**  
**2110044-02 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.0	0.0527	mg/L dry	1	BEJ0098	10/06/21	10/08/21	EPA 6020B	
Magnesium	6.01	0.0527	"	"	"	"	"	"	
Sodium	26.0	0.0527	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.25	0.00100	units	1	BEJ0166	10/09/21	10/09/21	Calculation	

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

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.0		%	1	BEJ0067	10/05/21	10/05/21	Calculation	

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

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.351	0.0100	mmhos/cm	1	BEJ0123	10/07/21	10/07/21	EPA 120.1	

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

Date Sampled: **10/04/21 08:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86		pH Units	1	BEJ0125	10/07/21	10/07/21	EPA 9045D	

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**BKG01@3'**  
**2110044-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/04/21 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	18.1	0.0518	mg/L dry	1	BEK0048	11/02/21	11/03/21	EPA 6020B	
Magnesium	5.48	0.0518	"	"	"	"	"	"	
Sodium	28.9	0.0518	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/04/21 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.53	0.00100	units	1	BEK0100	11/04/21	11/04/21	Calculation	

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

Date Sampled: **10/04/21 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.5		%	1	BEJ0607	10/29/21	11/01/21	Calculation	

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

Date Sampled: **10/04/21 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	5.97		pH Units	1	BEK0085	11/03/21	11/08/21	EPA 9045D	I-04

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

**BKG01@6'**  
**2110044-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/04/21 10:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	12.8	0.0515	mg/L dry	1	BEK0048	11/02/21	11/03/21	EPA 6020B	
Magnesium	4.69	0.0515	"	"	"	"	"	"	
Sodium	16.1	0.0515	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/04/21 10:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.978	0.00100	units	1	BEK0100	11/04/21	11/04/21	Calculation	

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

Date Sampled: **10/04/21 10:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.0		%	1	BEJ0607	10/29/21	11/01/21	Calculation	

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

Date Sampled: **10/04/21 10:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	6.31		pH Units	1	BEK0085	11/03/21	11/08/21	EPA 9045D	I-04

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

### 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 BEJ0104 - EPA 5030 Soil MS

##### Blank (BEJ0104-BLK1)

Prepared: 10/06/21 Analyzed: 10/07/21

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0363</i>		<i>"</i>	<i>0.0400</i>		<i>90.7</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0518</i>		<i>"</i>	<i>0.0400</i>		<i>130</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0424</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>21-167</i>				

##### LCS (BEJ0104-BS1)

Prepared: 10/06/21 Analyzed: 10/07/21

Benzene	0.0723	0.0020	mg/kg	0.100		72.3	70-130				
Toluene	0.0848	0.0050	"	0.100		84.8	70-130				
Ethylbenzene	0.0729	0.0050	"	0.100		72.9	70-130				
m,p-Xylene	0.144	0.010	"	0.200		71.8	70-130				
o-Xylene	0.0731	0.0050	"	0.100		73.1	70-130				
1,2,4-Trimethylbenzene	0.0719	0.0050	"	0.100		71.9	70-130				
1,3,5-Trimethylbenzene	0.0710	0.0050	"	0.100		71.0	70-130				
Naphthalene	0.0823	0.0038	"	0.100		82.3	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0340</i>		<i>"</i>	<i>0.0400</i>		<i>84.9</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0469</i>		<i>"</i>	<i>0.0400</i>		<i>117</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0430</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>21-167</i>				

##### Matrix Spike (BEJ0104-MS1)

Source: 2110017-01

Prepared: 10/06/21 Analyzed: 10/07/21

Benzene	0.0789	0.0020	mg/kg	0.100	ND	78.9	70-130				
Toluene	0.0881	0.0050	"	0.100	ND	88.1	70-130				
Ethylbenzene	0.0712	0.0050	"	0.100	ND	71.2	70-130				
m,p-Xylene	0.145	0.010	"	0.200	ND	72.4	70-130				
o-Xylene	0.0741	0.0050	"	0.100	ND	74.1	70-130				
1,2,4-Trimethylbenzene	0.0725	0.0050	"	0.100	ND	72.5	70-130				
1,3,5-Trimethylbenzene	0.0715	0.0050	"	0.100	ND	71.5	70-130				
Naphthalene	0.0939	0.0038	"	0.100	ND	93.9	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0346</i>		<i>"</i>	<i>0.0400</i>		<i>86.6</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0478</i>		<i>"</i>	<i>0.0400</i>		<i>120</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0424</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>21-167</i>				

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/08/21 15:22

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

**Summit Scientific**

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

**Batch BEJ0104 - EPA 5030 Soil MS**

Matrix Spike Dup (BEJ0104-MSD1)	Source: 2110017-01			Prepared: 10/06/21 Analyzed: 10/07/21						
Benzene	0.0808	0.0020	mg/kg	0.100	ND	80.8	70-130	2.40	30	
Toluene	0.0845	0.0050	"	0.100	ND	84.5	70-130	4.14	30	
Ethylbenzene	0.0839	0.0050	"	0.100	ND	83.9	70-130	16.5	30	
m,p-Xylene	0.142	0.010	"	0.200	ND	70.8	70-130	2.14	30	
o-Xylene	0.0722	0.0050	"	0.100	ND	72.2	70-130	2.67	30	
1,2,4-Trimethylbenzene	0.0719	0.0050	"	0.100	ND	71.9	70-130	0.831	30	
1,3,5-Trimethylbenzene	0.0728	0.0050	"	0.100	ND	72.8	70-130	1.75	30	
Naphthalene	0.0934	0.0038	"	0.100	ND	93.4	70-130	0.609	30	
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.5	23-173			
Surrogate: Toluene-d8	0.0459		"	0.0400		115	20-170			
Surrogate: 4-Bromofluorobenzene	0.0417		"	0.0400		104	21-167			

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/08/21 15:22

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

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

**Batch BEJ0105 - EPA 3550A**

**Blank (BEJ0105-BLK1)**

Prepared: 10/06/21 Analyzed: 10/07/21

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

**LCS (BEJ0105-BS1)**

Prepared: 10/06/21 Analyzed: 10/07/21

C10-C28 (DRO)	586	50	mg/kg	500	117	70-130				
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**Matrix Spike (BEJ0105-MS1)**

Source: 2110017-01

Prepared: 10/06/21 Analyzed: 10/07/21

C10-C28 (DRO)	519	50	mg/kg	500	22.5	99.4	70-130			
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**Matrix Spike Dup (BEJ0105-MSD1)**

Source: 2110017-01

Prepared: 10/06/21 Analyzed: 10/07/21

C10-C28 (DRO)	570	50	mg/kg	500	22.5	110	70-130	9.38	20	
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PDC Energy  
1775 Sherman St. STE. 3000  
Denver CO, 80203

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

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

**Summit Scientific**

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

**Batch BEJ0249 - EPA 5030 Soil MS**

**Blank (BEJ0249-BLK1)**

Prepared: 10/14/21 Analyzed: 10/16/21

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	"								
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0325</i>		"	<i>0.0333</i>		<i>97.4</i>		<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0304</i>		"	<i>0.0333</i>		<i>91.3</i>		<i>40-150</i>			

**LCS (BEJ0249-BS1)**

Prepared: 10/14/21 Analyzed: 10/16/21

Acenaphthene	0.0329	0.00500	mg/kg	0.0333	98.7	31-137
Anthracene	0.0312	0.00500	"	0.0333	93.5	30-120
Benzo (a) anthracene	0.0322	0.00500	"	0.0333	96.5	30-120
Benzo (a) pyrene	0.0205	0.00500	"	0.0333	61.5	30-120
Benzo (b) fluoranthene	0.0225	0.00500	"	0.0333	67.5	30-120
Benzo (k) fluoranthene	0.0175	0.00500	"	0.0333	52.5	30-120
Chrysene	0.0315	0.00500	"	0.0333	94.6	30-120
Dibenz (a,h) anthracene	0.0367	0.00500	"	0.0333	110	30-120
Fluoranthene	0.0285	0.00500	"	0.0333	85.4	30-120
Fluorene	0.0317	0.00500	"	0.0333	95.1	30-120
Indeno (1,2,3-cd) pyrene	0.0294	0.00500	"	0.0333	88.3	30-120
Pyrene	0.0271	0.00500	"	0.0333	81.2	35-142
1-Methylnaphthalene	0.0325	0.00500	"	0.0333	97.4	35-142
2-Methylnaphthalene	0.0319	0.00500	"	0.0333	95.7	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0308</i>		"	<i>0.0333</i>	<i>92.5</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0338</i>		"	<i>0.0333</i>	<i>102</i>	<i>40-150</i>

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
11/08/21 15:22

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEJ0249 - EPA 5030 Soil MS

Matrix Spike (BEJ0249-MS1)	Source: 2110189-02			Prepared: 10/14/21		Analyzed: 10/16/21				
Acenaphthene	0.0236	0.00500	mg/kg	0.0333	ND	70.7	31-137			
Anthracene	0.0241	0.00500	"	0.0333	ND	72.3	30-120			
Benzo (a) anthracene	0.0211	0.00500	"	0.0333	ND	63.4	30-120			
Benzo (a) pyrene	0.0292	0.00500	"	0.0333	ND	87.6	30-120			
Benzo (b) fluoranthene	0.0297	0.00500	"	0.0333	ND	89.0	30-120			
Benzo (k) fluoranthene	0.0319	0.00500	"	0.0333	ND	95.7	30-120			
Chrysene	0.0251	0.00500	"	0.0333	ND	75.3	30-120			
Dibenz (a,h) anthracene	0.0198	0.00500	"	0.0333	ND	59.5	30-120			
Fluoranthene	0.0190	0.00500	"	0.0333	ND	56.9	30-120			
Fluorene	0.0238	0.00500	"	0.0333	ND	71.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0151	0.00500	"	0.0333	ND	45.4	30-120			
Pyrene	0.0207	0.00500	"	0.0333	ND	62.0	35-142			
1-Methylnaphthalene	0.0244	0.00500	"	0.0333	ND	73.3	15-130			
2-Methylnaphthalene	0.0247	0.00500	"	0.0333	ND	74.1	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0229		"	0.0333		68.6	40-150			
Surrogate: Fluoranthene-d10	0.0198		"	0.0333		59.4	40-150			

Matrix Spike Dup (BEJ0249-MSD1)	Source: 2110189-02			Prepared: 10/14/21		Analyzed: 10/16/21				
Acenaphthene	0.0254	0.00500	mg/kg	0.0333	ND	76.3	31-137	7.58	30	
Anthracene	0.0252	0.00500	"	0.0333	ND	75.7	30-120	4.56	30	
Benzo (a) anthracene	0.0235	0.00500	"	0.0333	ND	70.4	30-120	10.5	30	
Benzo (a) pyrene	0.0321	0.00500	"	0.0333	ND	96.4	30-120	9.55	30	
Benzo (b) fluoranthene	0.0328	0.00500	"	0.0333	ND	98.3	30-120	9.99	30	
Benzo (k) fluoranthene	0.0346	0.00500	"	0.0333	ND	104	30-120	8.08	30	
Chrysene	0.0272	0.00500	"	0.0333	ND	81.6	30-120	8.08	30	
Dibenz (a,h) anthracene	0.0225	0.00500	"	0.0333	ND	67.4	30-120	12.6	30	
Fluoranthene	0.0212	0.00500	"	0.0333	ND	63.5	30-120	11.0	30	
Fluorene	0.0257	0.00500	"	0.0333	ND	77.2	30-120	7.75	30	
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	52.0	30-120	13.6	30	
Pyrene	0.0231	0.00500	"	0.0333	ND	69.3	35-142	11.1	30	
1-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.8	15-130	4.68	50	
2-Methylnaphthalene	0.0254	0.00500	"	0.0333	ND	76.2	15-130	2.73	50	
Surrogate: 2-Methylnaphthalene-d10	0.0246		"	0.0333		73.8	40-150			
Surrogate: Fluoranthene-d10	0.0223		"	0.0333		66.9	40-150			

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/08/21 15:22

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

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

**Batch BEJ0106 - EPA 3050B**

**Blank (BEJ0106-BLK1)**

Prepared: 10/06/21 Analyzed: 10/08/21

Boron ND 0.0100 mg/L

**LCS (BEJ0106-BS1)**

Prepared: 10/06/21 Analyzed: 10/08/21

Boron 5.32 0.0100 mg/L 5.00 106 80-120

**Duplicate (BEJ0106-DUP1)**

Source: 2110043-03

Prepared: 10/06/21 Analyzed: 10/08/21

Boron 0.0251 0.0100 mg/L 0.0358 35.0 20 QR-03

**Matrix Spike (BEJ0106-MS1)**

Source: 2110043-03

Prepared: 10/06/21 Analyzed: 10/08/21

Boron 5.43 0.0100 mg/L 5.00 0.0358 108 75-125

**Matrix Spike Dup (BEJ0106-MSD1)**

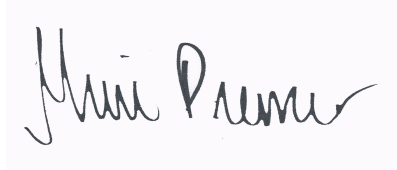
Source: 2110043-03

Prepared: 10/06/21 Analyzed: 10/08/21

Boron 5.69 0.0100 mg/L 5.00 0.0358 113 75-125 4.59 25

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/08/21 15:22

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

**Summit Scientific**

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

**Batch BEJ0098 - General Preparation**

**Blank (BEJ0098-BLK1)**

Prepared: 10/06/21 Analyzed: 10/08/21

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

**LCS (BEJ0098-BS1)**

Prepared: 10/06/21 Analyzed: 10/08/21

Calcium	5.42	0.0500	mg/L wet	5.00	108	70-130
Magnesium	5.29	0.0500	"	5.00	106	70-130
Sodium	5.28	0.0500	"	5.00	106	70-130

**Batch BEK0048 - General Preparation**

**Blank (BEK0048-BLK1)**

Prepared: 11/02/21 Analyzed: 11/03/21

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

**LCS (BEK0048-BS1)**

Prepared: 11/02/21 Analyzed: 11/03/21

Calcium	5.11	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.35	0.0500	"	5.00	107	70-130
Sodium	5.22	0.0500	"	5.00	104	70-130

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/08/21 15:22

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

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

**Batch BEJ0067 - General Preparation**

<b>Duplicate (BEJ0067-DUP1)</b>		<b>Source: 2110031-01</b>			<b>Prepared &amp; Analyzed: 10/05/21</b>			
% Solids	89.6		%		89.5		0.0878	20

**Batch BEJ0607 - General Preparation**

<b>Duplicate (BEJ0607-DUP1)</b>		<b>Source: 2110044-03</b>			<b>Prepared: 10/29/21 Analyzed: 11/01/21</b>			
% Solids	93.8		%		96.5		2.80	20

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/08/21 15:22

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

**Summit Scientific**

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

**Batch BEJ0123 - General Preparation**

**Blank (BEJ0123-BLK1)**

Prepared & Analyzed: 10/07/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BEJ0123-BS1)**

Prepared & Analyzed: 10/07/21

Specific Conductance (EC) 0.136 0.0100 mmhos/cm 0.150 90.7 90-110

**Duplicate (BEJ0123-DUP1)**

Source: 2110027-01

Prepared & Analyzed: 10/07/21

Specific Conductance (EC) 1.43 0.0100 mmhos/cm 1.42 0.982 20

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/08/21 15:22

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

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

**Batch BEJ0125 - General Preparation**

LCS (BEJ0125-BS1)										
										Prepared & Analyzed: 10/07/21
pH	8.97		pH Units	9.21		97.4	95-105			
Duplicate (BEJ0125-DUP1)										
										Source: 2110027-01
										Prepared & Analyzed: 10/07/21
pH	8.15		pH Units		8.12			0.369	20	

**Batch BEK0085 - General Preparation**

LCS (BEK0085-BS1)										
										Prepared & Analyzed: 11/03/21
pH	9.11		pH Units	9.18		99.2	95-105			
Duplicate (BEK0085-DUP1)										
										Source: 2110415-01
										Prepared & Analyzed: 11/03/21
pH	6.89		pH Units		7.23			4.82	20	

Summit Scientific

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

Project: Gutfelder Amaco 14-19 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/08/21 15:22

### Notes and Definitions

- QR-03      The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- I-04      Sample was analyzed out of recommended holding time per clients request.
- 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