

**PDC Energy, Inc.**  
Fourth Quarter 2021 Groundwater Monitoring Summary

December 6, 2021

Former Anderson 12-13 Tank Battery  
SENW Section 13 T6N R65W  
Remediation # 17005

This groundwater monitoring summary has been prepared by Tasman, Inc. for the former Anderson 12-13 Tank Battery.

### Site History and Background

On March 31, 2021, a historic hydrocarbon release was discovered beneath the former tank battery infrastructure. Following the discovery, mitigation activities were initiated and between March 31, and April 6, 2021, approximately 706 cubic yards of impacted material were removed from the former excavation. During excavation activities, groundwater was encountered in the excavation at approximately 6 feet below ground surface (bgs). On July 27, 2021, eight monitoring wells (BH01 – BH08) were installed within and adjacent to the former excavation extent to confirm the absence of dissolved phase hydrocarbon impacts.

### Groundwater Monitoring Activities

On November 8, 2021, groundwater monitoring was conducted at all eight monitoring wells (BH01 – BH08). Eight groundwater samples were submitted to Summit Scientific Laboratories for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260B, chloride and sulfate anions by EPA Method 300.0, total dissolved solids (TDS) by Method SM 2540C, and dissolved selenium by EPA Method 200.8.

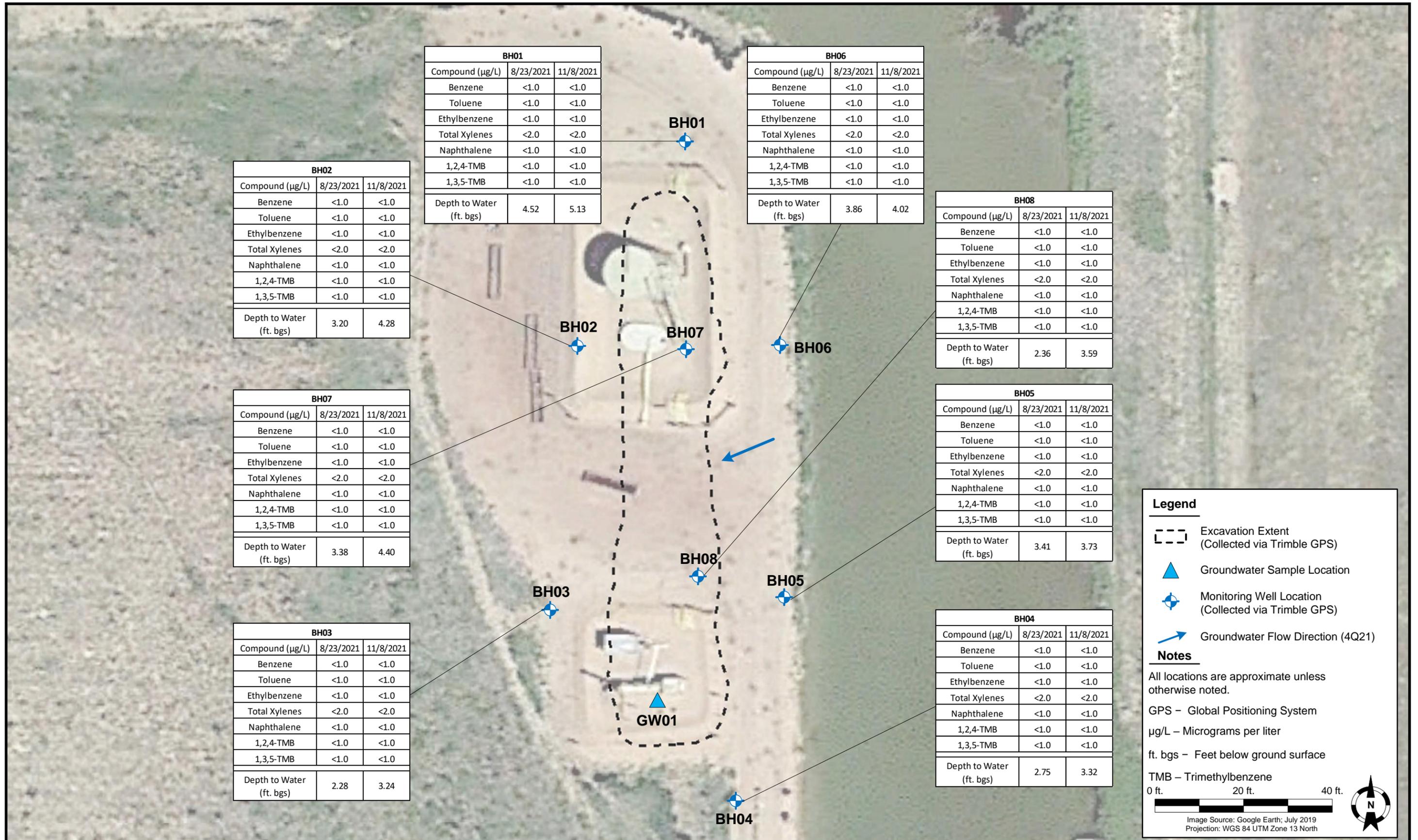
Fourth quarter 2021 analytical results indicated that organic compound concentrations were below the applicable COGCC Table 915-1 groundwater standards in all eight monitoring well locations. Additionally, inorganic parameters were below the applicable COGCC Table 915-1 standards or within 1.25x the background concentrations of the up- and cross-gradient monitoring wells (BH01 and BH06) in all monitoring well locations. Dissolved selenium concentrations were below the applicable Colorado Department of Health and Environment (CDPHE) domestic water supply standard in all monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figures 1 and 2. Groundwater elevation data is

illustrated on Figure 3. Groundwater analytical results are summarized in Tables 1 and 2. The laboratory analytical report is included as Attachment A.

### **Current Remediation Activities and Path Forward**

Monitored natural attenuation (MNA) was selected as the remediation strategy for this site during the third quarter 2021 and will remain the selected remediation strategy through the first quarter 2022.

First quarter 2022 groundwater sampling will be conducted in February 2022.



DATE: December 6, 2021

DESIGNED BY: C. Hamlin

DRAWN BY: J. Marcus



**Tasman, Inc.**  
 6855 W. 119<sup>th</sup> Ave.  
 Broomfield, CO 80020

**PDC Energy, Inc. – DJ Basin**  
**Former Anderson 12-13 Tank Battery**  
 SENW, Section 13 Township 6 North, Range 65 West  
 Weld County, Colorado

**GROUNDWATER  
 ANALYTICAL RESULTS  
 MAP**

**FIGURE  
 1**

BH01		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	205	235
Sulfate	<b>8,210</b>	9,810
TDS	8,970	11,100
Selenium (µg/L)	NA	19.0
Depth to Water (ft. bgs)	4.52	5.13

BH02		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	NA	86.4
Sulfate	NA	<b>4,190</b>
TDS	NA	6,160
Selenium (µg/L)	NA	13.7
Depth to Water (ft. bgs)	3.20	4.28

BH08		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	NA	80.2
Sulfate	NA	<b>3,400</b>
TDS	NA	3,730
Selenium (µg/L)	NA	40.9
Depth to Water (ft. bgs)	2.36	3.59

BH03		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	NA	403
Sulfate	NA	<b>7,330</b>
TDS	NA	12,600
Selenium (µg/L)	NA	43.8
Depth to Water (ft. bgs)	2.28	3.24

BH07		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	138	145
Sulfate	<b>2,720</b>	<b>3,750</b>
TDS	2,980	4,040
Selenium (µg/L)	NA	1.97
Depth to Water (ft. bgs)	3.38	4.40

BH06		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	NA	125
Sulfate	NA	4,240
TDS	NA	4,990
Selenium (µg/L)	NA	8.14
Depth to Water (ft. bgs)	3.86	4.02

BH05		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	NA	95.2
Sulfate	NA	<b>3,690</b>
TDS	NA	3,980
Selenium (µg/L)	NA	16.8
Depth to Water (ft. bgs)	3.41	3.73

BH04		
Compound (mg/L)	8/23/2021	11/8/2021
Chloride	105	111
Sulfate	<b>3,700</b>	<b>4,590</b>
TDS	3,980	4,810
Selenium (µg/L)	NA	8.77
Depth to Water (ft. bgs)	2.75	3.32

**Legend**

- Excavation Extent (Collected via Trimble GPS)
- Groundwater Sample Location
- Monitoring Well Location (Collected via Trimble GPS)
- Groundwater Flow Direction (4Q21)

**Notes**

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

µg/L – Micrograms per liter

mg/L – Milligrams per liter

ft. bgs – Feet below ground surface

TDS – Total dissolved solids

Red text – exceedances of COGCC Table 915-1 standards and above 1.25x BCKG concentration

Bold text – exceedances of COGCC Table 915-1 standards but within 1.25x BCKG concentration

COGCC – Colorado Oil and Gas Conservation Commission

BCKG – Background

NA – Constituent not analyzed

0 ft. 20 ft. 40 ft.

Image Source: Google Earth; July 2019  
Projection: WGS 84 UTM Zone 13 North

DATE: December 6, 2021

DESIGNED BY: C. Hamlin

DRAWN BY: J. Marcus



**Tasman, Inc.**  
6855 W. 119<sup>th</sup> Ave.  
Broomfield, CO 80020

**PDC Energy, Inc. – DJ Basin**  
**Former Anderson 12-13 Tank Battery**  
SENW, Section 13 Township 6 North, Range 65 West  
Weld County, Colorado

**GROUNDWATER ANALYTICAL RESULTS MAP (INORGANIC PARAMETERS)**

**FIGURE 2**



DATE: November 10, 2021

DESIGNED BY: C. Hamlin

DRAWN BY: C. Ambler



**Tasman, Inc.**  
6855 W. 119<sup>th</sup> Ave.  
Broomfield, CO 80020

**PDC Energy, Inc. – DJ Basin**  
**Former Anderson 12-13 Tank Battery**  
SENW, Section 13 Township 6 North, Range 65 West  
Weld County, Colorado

**GROUNDWATER  
ELEVATION CONTOUR  
MAP (11/08/2021)**

**FIGURE  
3**

**TABLE 1  
FORMER ANDERSON 12-13 TANK BATTERY  
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Depth to Water <sup>(2)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 915-1 Groundwater Standard (µg/L) <sup>(1)</sup>		5	560	700	1,400	140	67	67	-	-
BH01	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.52	4685.58
BH01	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.13	4684.97
BH02	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.20	4685.93
BH02	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.28	4684.85
BH03	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.28	4685.81
BH03	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.24	4684.85
BH04	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.75	4685.62
BH04	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.32	4685.05
BH05	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.41	4685.50
BH05	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.73	4685.18
BH06	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.86	4685.45
BH06	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.02	4685.29
BH07	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.38	4686.00
BH07	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.40	4684.98
BH08	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.36	4685.94
BH08	11/8/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.59	4684.71

**Notes:**

1. Groundwater standards referenced from 2 CCR 404-1, Table 915-1, January 15, 2021.

2. Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

TMB = Trimethylbenzene

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft. = Feet

AMSL = Above Mean Sea Level

**TABLE 2**  
**FORMER ANDERSON 12-13 TANK BATTERY**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**  
**INORGANIC PARAMETERS**

Sample ID	Date Sampled	TDS (unit)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Selenium <sup>(2)</sup> (µg/L)	Depth to Water <sup>(3)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
<b>COGCC Table 915-1 Groundwater Standard (mg/L) <sup>(1)</sup></b>		<b>&lt;1.25 x BCKG</b>	<b>250 or &lt;1.25 x BCKG</b>	<b>250 or &lt;1.25 x BCKG</b>	<b>50</b>	<b>-</b>	<b>-</b>
BH01	8/23/2021	8,970	205	<b>8,210</b>	NA	4.52	4685.58
BH01	11/8/2021	11,100	235	9,810	19.0	5.13	4684.97
BH02	11/8/2021	6,160	86.4	<b>4,190</b>	13.7	4.28	4684.85
BH03	11/8/2021	12,600	403	<b>7,330</b>	43.8	3.24	4684.85
BH04	8/23/2021	3,980	105	<b>3,700</b>	NA	2.75	4685.62
BH04	11/8/2021	4,810	111	<b>4,590</b>	8.77	3.32	4685.05
BH05	11/8/2021	3,980	95.2	<b>3,690</b>	16.8	3.73	4685.18
BH06	11/8/2021	4,990	125	4,240	8.14	4.02	4685.29
BH07	8/23/2021	2,980	138	<b>2,720</b>	NA	3.38	4686.00
BH07	11/8/2021	4,040	145	<b>3,750</b>	1.97	4.40	4684.98
BH08	11/8/2021	3,730	80.2	<b>3,400</b>	40.9	3.59	4684.71

**Notes:**

1. Groundwater standards referenced from 2 CCR 404-1, Table 915-1, January 15, 2021.
2. Selenium groundwater standard referenced from the 5 CCR 1002-41, Regulation No. 41, Table 1, Domestic Water Supply - Human Health Standards, January 31, 2013.
3. Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

TDS = Total dissolved solids

COGCC = Colorado Oil and Gas Conservation Commission

BCKG = Background

mg/L = Milligrams per liter

µg/L = Micrograms per liter

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

Up- / cross-gradient well location used for background concentration.

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

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

ft. = Feet

AMSL = Above Mean Sea Level

NA = Constituent not analyzed

## Attachment A

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 16, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

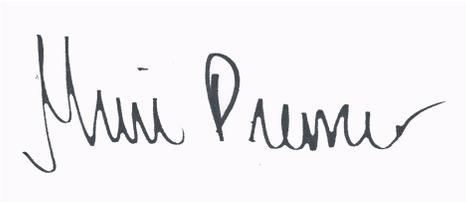
Denver, CO 80203

RE: Anderson 12-13

Work Order #2111151

Enclosed are the results of analyses for samples received by Summit Scientific on 11/08/21 14:30. 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: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2111151-01	Water	11/08/21 10:29	11/08/21 14:30
BH02	2111151-02	Water	11/08/21 10:41	11/08/21 14:30
BH03	2111151-03	Water	11/08/21 10:50	11/08/21 14:30
BH04	2111151-04	Water	11/08/21 11:01	11/08/21 14:30
BH05	2111151-05	Water	11/08/21 11:14	11/08/21 14:30
BH06	2111151-06	Water	11/08/21 11:31	11/08/21 14:30
BH07	2111151-07	Water	11/08/21 11:40	11/08/21 14:30
BH08	2111151-08	Water	11/08/21 11:24	11/08/21 14:30

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 2111151

S<sub>2</sub>

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

Page 1 of 1

Client: PDC / Tasman Geosciences Project Manager: Mark Longhurst  
 Address: 6855 W. 119th Ave. E-Mail: mark.longhurst@pdc.com  
 City/State/Zip: Broomfield / CO/ 80020  
 Phone: 303-487-1228 Project Name: Anderson 12-13  
 Sampler Name: Ben Wagner Project Number: \_\_\_\_\_

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	1,2,4 TMB	1,3,5 TMB	Cl	SO4		TDS	Selenium
1	BH01	11/8/21	1029	5			5		X					X	X	X	X	X	X	X	
2	BH02		1041																		
3	BH03		1050																		
4	BH04		1101																		
5	BH05		1114																		
6	BH06		1131																		
7	BH07		1140																		
8	BH08		1124																		
9																					
10																					

Relinquished by:	Date/Time: <u>11/8/21</u> <u>1430</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>11/8/21</u> <u>1430</u>	Turn Around Time (Check) <input type="checkbox"/> Same Day 72 hours <input checked="" type="checkbox"/> 24 hours Standard <input type="checkbox"/> 48 hours Sample Integrity: Temperature Upon Receipt: <u>46</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: _____	Received by:	Date/Time: <u>11/8/21</u> <u>1430</u>		
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____		

S<sub>2</sub>

2111151

Sample Receipt Checklist

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

Client: OC/Tasman Client Project ID: Anderson 12-13

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

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"/>	<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 checked="" type="checkbox"/>	<input 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"/>	
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.

[Signature]  
Custodian Printed Name or Initials

11-8-21  
Date/Time



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

Project: Anderson 12-13  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH01**  
**2111151-01 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 10:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 10:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		103 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 10:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>19.0</b>	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 10:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>235</b>	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	<b>9810</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

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: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**BH01**  
**2111151-01 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 10:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>11100</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

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: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH02**  
**2111151-02 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 10:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 10:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 10:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	13.7	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 10:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	86.4	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	4190	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**BH02**  
**2111151-02 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 10:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>6160</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH03**  
**2111151-03 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>43.8</b>	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>403</b>	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	<b>7330</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**BH03**

**2111151-03 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>12600</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH04**  
**2111151-04 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/11/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>8.77</b>	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>111</b>	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	<b>4590</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**BH04**

**2111151-04 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>4810</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH05**  
**2111151-05 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/12/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>16.8</b>	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>95.2</b>	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	<b>3690</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH05**

**2111151-05 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>3980</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH06**  
**2111151-06 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/12/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>8.14</b>	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>125</b>	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	<b>4240</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**BH06**  
**2111151-06 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>4990</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH07**  
**2111151-07 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/12/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>1.97</b>	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>145</b>	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	<b>3750</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**BH07**  
**2111151-07 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>4040</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

Summit Scientific



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

Project: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

**BH08**  
**2111151-08 (Water)**

**Summit Scientific**

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

Date Sampled: **11/08/21 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEK0201	11/09/21	11/12/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/08/21 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		102 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/08/21 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Selenium	<b>40.9</b>	1.00		ug/l	1	BEK0308	11/15/21	11/15/21	EPA 200.8	

**Anions by EPA Method 300.0**

Date Sampled: **11/08/21 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>80.2</b>	12.0		mg/L	200	BEK0294	11/12/21	11/12/21	EPA 300.0	
Sulfate	<b>3400</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**BH08**  
**2111151-08 (Water)**

**Summit Scientific**

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/08/21 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>3730</b>	10.0		mg/L	1	BEK0310	11/15/21	11/15/21	SM2540C	

Summit Scientific



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

Project: Anderson 12-13

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

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

#### Summit Scientific

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

#### Batch BEK0201 - EPA 5030 Water MS

##### Blank (BEK0201-BLK1)

Prepared: 11/09/21 Analyzed: 11/11/21

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
Naphthalene	ND	1.0	"								
1,2,4-Trimethylbenzene	ND	1.0	"								
1,3,5-Trimethylbenzene	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	12.8		"	13.3		96.4		23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9		20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101		21-167			

##### LCS (BEK0201-BS1)

Prepared: 11/09/21 Analyzed: 11/11/21

Benzene	34.7	1.0	ug/l	33.3		104		51-132			
Toluene	35.7	1.0	"	33.3		107		51-138			
Ethylbenzene	42.2	1.0	"	33.3		127		58-146			
m,p-Xylene	81.3	2.0	"	66.7		122		57-144			
o-Xylene	39.1	1.0	"	33.3		117		53-146			
Naphthalene	37.9	1.0	"	33.3		114		70-130			
1,2,4-Trimethylbenzene	36.7	1.0	"	33.3		110		70-130			
1,3,5-Trimethylbenzene	36.3	1.0	"	33.3		109		70-130			
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.3		99.2		23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.3		20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2		21-167			

##### Matrix Spike (BEK0201-MS1)

Source: 2111151-01

Prepared: 11/09/21 Analyzed: 11/11/21

Benzene	34.6	1.0	ug/l	33.3	ND	104		34-141			
Toluene	35.0	1.0	"	33.3	ND	105		27-151			
Ethylbenzene	42.0	1.0	"	33.3	ND	126		29-160			
m,p-Xylene	81.6	2.0	"	66.7	ND	122		20-166			
o-Xylene	38.9	1.0	"	33.3	ND	117		33-159			
Naphthalene	33.7	1.0	"	33.3	ND	101		70-130			
1,2,4-Trimethylbenzene	36.3	1.0	"	33.3	ND	109		70-130			
1,3,5-Trimethylbenzene	35.8	1.0	"	33.3	ND	107		70-130			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		104		23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.9		20-170			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105		21-167			

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

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

**Summit Scientific**

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

**Batch BEK0201 - EPA 5030 Water MS**

Matrix Spike Dup (BEK0201-MSD1)	Source: 2111151-01			Prepared: 11/09/21 Analyzed: 11/11/21					
Benzene	35.9	1.0	ug/l	33.3	ND	108	34-141	3.80	30
Toluene	36.7	1.0	"	33.3	ND	110	27-151	4.66	30
Ethylbenzene	43.2	1.0	"	33.3	ND	130	29-160	2.80	30
m,p-Xylene	83.1	2.0	"	66.7	ND	125	20-166	1.87	30
o-Xylene	39.8	1.0	"	33.3	ND	120	33-159	2.36	30
Naphthalene	38.2	1.0	"	33.3	ND	115	70-130	12.4	30
1,2,4-Trimethylbenzene	38.0	1.0	"	33.3	ND	114	70-130	4.76	30
1,3,5-Trimethylbenzene	37.1	1.0	"	33.3	ND	111	70-130	3.57	30
Surrogate: 1,2-Dichloroethane-d4	14.2		"	13.3		107	23-173		
Surrogate: Toluene-d8	13.1		"	13.3		98.6	20-170		
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167		

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**Total Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

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

**Batch BEK0308 - EPA 200.8**

**Blank (BEK0308-BLK1)**

Prepared & Analyzed: 11/15/21

Selenium ND 1.00 ug/l

**LCS (BEK0308-BS1)**

Prepared & Analyzed: 11/15/21

Selenium 48.8 1.00 ug/l 50.0 97.6 85-115

**Duplicate (BEK0308-DUP1)**

Source: 2111151-01

Prepared & Analyzed: 11/15/21

Selenium 18.7 1.00 ug/l 19.0 1.50 20

**Matrix Spike (BEK0308-MS1)**

Source: 2111151-01

Prepared & Analyzed: 11/15/21

Selenium 68.8 1.00 ug/l 50.0 19.0 99.7 70-130

**Matrix Spike Dup (BEK0308-MSD1)**

Source: 2111151-01

Prepared & Analyzed: 11/15/21

Selenium 66.9 1.00 ug/l 50.0 19.0 95.9 70-130 2.86 25

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

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

**Batch BEK0294 - General Preparation**

**Blank (BEK0294-BLK1)**

Prepared & Analyzed: 11/12/21

Chloride	ND	0.0600	mg/L							
Sulfate	ND	0.300	"							

**LCS (BEK0294-BS1)**

Prepared & Analyzed: 11/12/21

Chloride	3.28	0.0600	mg/L	3.00	109	90-110				
Sulfate	16.1	0.300	"	15.0	107	90-110				

**Duplicate (BEK0294-DUP1)**

Source: 2111151-01

Prepared & Analyzed: 11/12/21

Chloride	214	12.0	mg/L		235		9.46	20		
Sulfate	8680	60.0	"		9810		12.1	20		

**Matrix Spike (BEK0294-MS1)**

Source: 2111151-01

Prepared & Analyzed: 11/12/21

Chloride	1070	12.0	mg/L	600	235	139	80-120			QM-02
Sulfate	14300	60.0	"	3000	9810	149	80-120			QM-02

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 13:02

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

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

**Batch BEK0310 - General Preparation**

**Blank (BEK0310-BLK1)**

Prepared & Analyzed: 11/15/21

Total Dissolved Solids                      ND                      10.0                      mg/L

**Duplicate (BEK0310-DUP1)**

**Source: 2111151-01**

Prepared & Analyzed: 11/15/21

Total Dissolved Solids                      11900                      10.0                      mg/L                      11100                      6.79                      20

Summit Scientific

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

Project: Anderson 12-13

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
11/16/21 13:02

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- 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