

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.

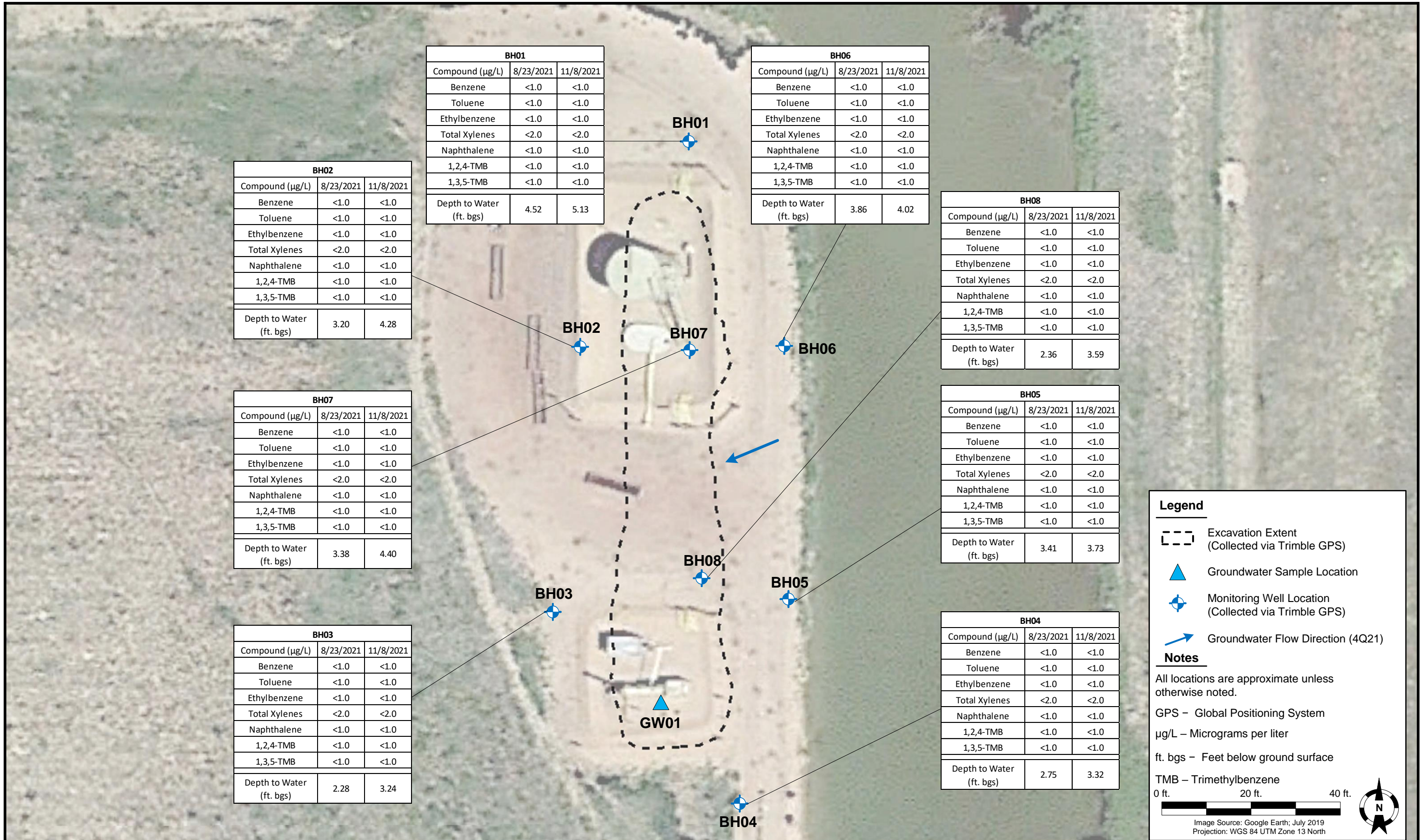
Fourth quarter 2021 analytical results indicated that organic compound concentrations were below the applicable COGCC Table 915-1 groundwater standards in all eight monitoring well locations. Additionally, inorganic parameters were below the applicable COGCC Table 915-1 standards or within 1.25x the 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.



| BH01 | | |
|--------------------------|--------------|-----------|
| Compound (mg/L) | 8/23/2021 | 11/8/2021 |
| Chloride | 205 | 235 |
| Sulfate | 8,210 | 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 | 4,190 |
| 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 | 3,400 |
| 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 | 7,330 |
| 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 | 2,720 | 3,750 |
| 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 | 3,690 |
| 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 | 3,700 | 4,590 |
| 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. 119th 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**

Tasman, Inc.
6855 W. 119th 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 ⁽²⁾ (ft.) | Groundwater Elevation (ft. AMSL) |
|---|--------------|-------------------|-------------------|------------------------|----------------------------|-----------------------|---------------------|---------------------|---|--|
| COGCC Table 915-1 Groundwater Standard (µg/L) ⁽¹⁾ | | 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 ⁽²⁾ (µg/L) | Depth to Water ⁽³⁾ (ft.) | Groundwater Elevation (ft. AMSL) |
|---|--------------|------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--|--|
| COGCC Table 915-1 Groundwater Standard (mg/L) ⁽¹⁾ | | <1.25 x BCKG | 250 or <1.25 x BCKG | 250 or <1.25 x BCKG | 50 | - | - |
| BH01 | 8/23/2021 | 8,970 | 205 | 8,210 | 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 | 4,190 | 13.7 | 4.28 | 4684.85 |
| BH03 | 11/8/2021 | 12,600 | 403 | 7,330 | 43.8 | 3.24 | 4684.85 |
| BH04 | 8/23/2021 | 3,980 | 105 | 3,700 | NA | 2.75 | 4685.62 |
| BH04 | 11/8/2021 | 4,810 | 111 | 4,590 | 8.77 | 3.32 | 4685.05 |
| BH05 | 11/8/2021 | 3,980 | 95.2 | 3,690 | 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 | 2,720 | NA | 3.38 | 4686.00 |
| BH07 | 11/8/2021 | 4,040 | 145 | 3,750 | 1.97 | 4.40 | 4684.98 |
| BH08 | 11/8/2021 | 3,730 | 80.2 | 3,400 | 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

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, reading "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier 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

S₂

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 | HNO ₃ | None | Other | Water | Soil | Air-Canister # | Other | BTEX | Naphthalene | 1,2,4 TMB | 1,3,5 TMB | Cl | SO ₄ | TDs | |
| 1 | BH01 | 11/8/21 | 1029 | 5 | | | S | | 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: <u>[Signature]</u> | Date/Time: <u>11/8/21 1430</u> | Received by: <u>Tasman's Lock Box</u> | Date/Time: <u>11/8/21 1430</u> | Turn Around Time (Check) ___ Same Day 72 hours ___ 24 hours <u>X</u> Standard ___ 48 hours Sample Integrity: Temperature Upon Receipt: <u>4.6</u> Samples Intact: <u>Yes</u> No | Notes: |
| Relinquished by: <u>Tasman's Lock Box</u> | Date/Time: | Received by: <u>[Signature]</u> | Date/Time: <u>11/8/21 1430</u> | | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | | |

S2 Work Order#

Client: RC 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) | 40 |
|-----------|----|

Thermometer ID: G86A9201901378

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

Additional Comments (if any):

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

Custodian Printed Name or Initials

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 | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| 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 | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | |
| 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 | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|-------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| Selenium | 19.0 | 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 | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|-------------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| Chloride | 235 | 12.0 | mg/L | 200 | BEK0294 | 11/12/21 | 11/12/21 | EPA 300.0 | |
| Sulfate | 9810 | 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 | | | | | | | | |
| Total Dissolved Solids | 11100 | 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

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

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

Total Dissolved Solids by SM2540C

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

| Analyte | Result | Reporting | | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|-------------|-----------|--|-------|----------|---------|----------|----------|---------|-------|
| | | Limit | | | | | | | | |
| Total Dissolved Solids | 6160 | 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

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 | 43.8 | 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 | 403 | 12.0 | mg/L | 200 | BEK0294 | 11/12/21 | 11/12/21 | EPA 300.0 | |
| Sulfate | 7330 | 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 | | | | | | | | |
| Total Dissolved Solids | 12600 | 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 | 8.77 | 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 | 111 | 12.0 | mg/L | 200 | BEK0294 | 11/12/21 | 11/12/21 | EPA 300.0 | |
| Sulfate | 4590 | 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 | | | | | | | | |
| Total Dissolved Solids | 4810 | 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 | 16.8 | 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 | 95.2 | 12.0 | mg/L | 200 | BEK0294 | 11/12/21 | 11/12/21 | EPA 300.0 | |
| Sulfate | 3690 | 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 | | | | | | | | |
| Total Dissolved Solids | 3980 | 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 | 8.14 | 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 | 125 | 12.0 | mg/L | 200 | BEK0294 | 11/12/21 | 11/12/21 | EPA 300.0 | |
| Sulfate | 4240 | 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 | | | | | | | | |
| Total Dissolved Solids | 4990 | 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 Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| 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 Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| 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 Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|-------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Selenium | 1.97 | 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 Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------|-------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Chloride | 145 | 12.0 | mg/L | 200 | BEK0294 | 11/12/21 | 11/12/21 | EPA 300.0 | |
| Sulfate | 3750 | 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 | | | | | | | | |
| Total Dissolved Solids | 4040 | 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 | 40.9 | 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 | 80.2 | 12.0 | mg/L | 200 | BEK0294 | 11/12/21 | 11/12/21 | EPA 300.0 | |
| Sulfate | 3400 | 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 | | | | | | | | |
| Total Dissolved Solids | 3730 | 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 | Reporting | | | Spike | Source | | %REC | | RPD | |
|---------|-----------|-------|-------|-------|--------|------|--------|-----|-------|-------|
| | Result | Limit | Units | Level | Result | %REC | Limits | RPD | Limit | Notes |

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

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 | |
|---------|-----------|-------|-------|-------|--------|------|--------|-----|-------|-------|
| | Result | Limit | Units | Level | Result | %REC | Limits | RPD | Limit | Notes |

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

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

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

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

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

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

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 |