

**TABLE 1**  
**FORMER HALL 28-5 WELLHEAD**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**  
**ORGANIC COMPOUNDS**

| Sample ID  | Date Sampled | Depth     | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | 1, 2, 4-TMB (mg/kg) | 1, 3, 5-TMB (mg/kg) | Naphthalene (mg/kg) | TPH <sup>(4)</sup> (mg/kg) |
|--|--------------|-----------|-----------------|-----------------|----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------------|
| Residential SSL <sup>(1,2)</sup>                 |              |           | 1.2             | 490             | 5.8                  | 58                    | 30                  | 27                  | 2                   | 500                        |
| Protection of Groundwater SSL <sup>(1,2,3)</sup> |              |           | 0.0026          | 0.69            | 0.78                 | 9.9                   | 0.0081              | 0.0087              | 0.0038              | 500                        |
| WH01 @ 6'  | 10/21/2021   | 6 ft. bgs | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.0050             | <0.0050             | <0.0038             | <50                        |
| FLR01 @ 3'                                       | 10/21/2021   | 3 ft. bgs | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.0050             | <0.0050             | <0.0038             | <50                        |
| FL01-02 @ 3'                                     | 10/21/2021   | 3 ft. bgs | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.0050             | <0.0050             | <0.0038             | <50                        |
| FL01-04 @ 3'                                     | 10/21/2021   | 3 ft. bgs | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.0050             | <0.0050             | <0.0038             | <50                        |

**Notes:**

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

COGCC = Colorado Oil and Gas Conservation Commission

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

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

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

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

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

bgs = Below ground surface

**TABLE 2**  
**FORMER HALL 28-5 WELLHEAD**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**  
**INORGANIC COMPOUNDS**

| Sample ID   | Date Sampled | Depth     | pH (units)   | EC (mmhos/cm) | SAR (units)  | Boron (mg/L) |
|---|--------------|-----------|--------------|---------------|--------------|--------------|
| <b>Soil Suitability for Reclamation Standard <sup>(1)</sup></b> |              |           | <b>6-8.3</b> | <b>&lt;4</b>  | <b>&lt;6</b> | <b>2</b>     |
| WH01 @ 6'   | 10/8/2021    | 6 ft. bgs | <b>8.44</b>  | 1.77          | 4.42         | 0.135        |
| FLR01 @ 3'  | 10/21/2021   | 3 ft. bgs | 7.58         | 0.247         | 0.388        | 0.0906       |
| BKG01 @ 3'  | 10/21/2021   | 3 ft. bgs | 7.68         | NA            | NA           | NA           |
| BKG01 @ 6'  | 10/21/2021   | 6 ft. bgs | 7.89         | NA            | NA           | NA           |

**Notes:**

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.

COGCC = Colorado Oil and Gas Conservation Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

ft. = Feet

bgs = Below ground surface

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

NA = Constituent not analyzed

**TABLE 3**  
**FORMER HALL 28-5 WELLHEAD**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**  
**ORGANIC COMPOUNDS - PAHs**

| Sample ID  | Date Sampled | Depth     | Acenaphthene<br>(mg/kg) | Anthracene<br>(mg/kg) | Benz(a)<br>(mg/kg) | Benzo(a)<br>(mg/kg) | Benzo(b)<br>(mg/kg) | Benzo(k)<br>(mg/kg) | Chrysene<br>(mg/kg) | A,H<br>(mg/kg) | Fluoranthene<br>(mg/kg) | Fluorene<br>(mg/kg) | 1,2,3-CD<br>(mg/kg) | Pyrene<br>(mg/kg) | 1-M<br>(mg/kg) | 2-M<br>(mg/kg) |
|--|--------------|-----------|-------------------------|-----------------------|--------------------|---------------------|---------------------|---------------------|---------------------|----------------|-------------------------|---------------------|---------------------|-------------------|----------------|----------------|
| Residential SSL <sup>(1,2)</sup>                 |              |           | 360                     | 1,800                 | 1.1                | 0.11                | 1.1                 | 11                  | 110                 | 0.11           | 240                     | 240                 | 1.1                 | 180               | 18             | 24             |
| Protection of Groundwater SSL <sup>(1,2,3)</sup> |              |           | 0.55                    | 5.8                   | 0.011              | 0.24                | 0.3                 | 2.9                 | 9                   | 0.096          | 8.9                     | 0.54                | 0.98                | 1.3               | 0.006          | 0.019          |
| WH01 @ 6'  | 10/21/2021   | 6 ft. bgs | <0.00500                | <0.00500              | <0.00500           | <0.00500            | <0.00500            | <0.00500            | <0.00500            | <0.00500       | <0.00500                | <0.00500            | <0.00500            | <0.00500          | <0.00500       | <0.00500       |
| FLR01 @ 3'                                       | 10/21/2021   | 3 ft. bgs | <0.00500                | <0.00500              | <0.00500           | <0.00500            | <0.00500            | <0.00500            | <0.00500            | <0.00500       | <0.00500                | <0.00500            | <0.00500            | <0.00500          | <0.00500       | <0.00500       |

**Notes:**

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with

COGCC = Colorado Oil and Gas Conservation Commission

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

PAHs = Polycyclic aromatic hydrocarbons

Benzo(a) = Benzoanthracene

Benzo(a) = Benzopyrene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

M = Methylanthalene

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

**TABLE 4**  
**FORMER HALL 28-5 WELLHEAD**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**  
**ORGANIC COMPOUNDS**

| Sample ID   | Date Sampled | Benzene<br>(µg/L) | Toluene<br>(µg/L) | Ethylbenzene<br>(µg/L) | Total<br>Xylenes<br>(µg/L) | Naphthalene<br>(µg/L) | 1,2,4-TMB<br>(µg/L) | 1,3,5-TMB<br>(µg/L) | Depth to<br>Water <sup>(2)</sup><br>(ft.) |
|---|--------------|-------------------|-------------------|------------------------|----------------------------|-----------------------|---------------------|---------------------|---|
| COGCC Table 915-1 Groundwater<br>Standard (µg/L) <sup>(1)</sup> |              | 5                 | 560               | 700                    | 1,400                      | 140                   | 67                  | 67                  | -   |
| GW01  | 10/21/2021   | <1.0              | <1.0              | <1.0                   | <2.0                       | <1.0                  | <1.0                | <1.0                | 6   |
| GW02  | 10/21/2021   | <1.0              | <1.0              | <1.0                   | <2.0                       | <1.0                  | <1.0                | <1.0                | 3   |

**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

NA = Not applicable

**TABLE 5  
FORMER HALL 28-5 WELLHEAD  
FIELD DATA SUMMARY TABLE**

| Sample ID      | Date Sampled | Depth       | GPS Data <sup>(1)</sup> |             | PDOP Value | VOC Concentration <sup>(2)</sup><br>(ppm) |
|----------------|--------------|-------------|-------------------------|-------------|------------|---|
|                |              |             | Latitude                | Longitude   |            |   |
| BKG01 @ 3'     | 10/21/2021   | 6 ft. bgs   | 40.374375               | -104.550683 | 1.1        | 0.6                                       |
| BKG01 @ 6'     | 10/21/2021   | 3 ft. bgs   | 40.374375               | -104.550683 | 1.1        | 0.8                                       |
| WHS01-N @ 0-6" | 10/21/2021   | 0-6 in. bgs | 40.374476               | -104.550547 | 1.1        | 1.1                                       |
| WHS01-W @ 0-6" | 10/21/2021   | 0-6 in. bgs | 40.374445               | -104.550566 | 1.1        | 1.3                                       |
| WHS01-S @ 0-6" | 10/21/2021   | 0-6 in. bgs | 40.374423               | -104.550496 | 1.1        | 1.3                                       |
| WHS01-E @ 0-6" | 10/21/2021   | 0-6 in. bgs | 40.374462               | -104.550459 | 1.1        | 1.4                                       |
| WH01 @ 6'      | 10/21/2021   | 6 ft. bgs   | 40.374456               | -104.550515 | 1.1        | 1.1                                       |
| FLR01 @ 4'     | 10/21/2021   | 4 ft. bgs   | 40.374467               | -104.550501 | 1.1        | 0.7                                       |
| FL01-01 @ 3'   | 10/21/2021   | 3 ft. bgs   | 40.374069               | -104.549392 | 1          | 1.3                                       |
| FL01-02 @ 3'   | 10/21/2021   | 3 ft. bgs   | 40.373893               | -104.548874 | 0.9        | 2.0                                       |
| FL01-03 @ 3'   | 10/21/2021   | 3 ft. bgs   | 40.373640               | -104.548133 | 1.1        | 1.6                                       |
| FL01-04 @ 3'   | 10/21/2021   | 3 ft. bgs   | 40.373360               | -104.547281 | 1          | 1.4                                       |
| FL01-05 @ 3'   | 10/21/2021   | 3 ft. bgs   | 40.373122               | -104.546584 | 1          | 1.6                                       |

**Notes:**

1. Global Positioning System (GPS) data is provided in decimal degrees using World Geodetic System (WGS) 84 UTM Zone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

in. = Inches

bgs = Below ground surface

## Attachment A

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 02, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Hall 28-5 Wellhead

Work Order #2110363

Enclosed are the results of analyses for samples received by Summit Scientific on 10/21/21 15:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', written in a cursive style.

Paul Shrewsbury

President



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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**ANALYTICAL REPORT FOR SAMPLES**

| Sample ID  | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------|---------------|--------|----------------|----------------|
| BKG01@3'   | 2110363-01    | Soil   | 10/21/21 11:20 | 10/21/21 15:45 |
| BKG01@6'   | 2110363-02    | Soil   | 10/21/21 11:22 | 10/21/21 15:45 |
| WH01@6'    | 2110363-03    | Soil   | 10/21/21 11:45 | 10/21/21 15:45 |
| FLR01@3'   | 2110363-04    | Soil   | 10/21/21 11:57 | 10/21/21 15:45 |
| FL01-02@3' | 2110363-05    | Soil   | 10/21/21 12:54 | 10/21/21 15:45 |
| FL01-04@3' | 2110363-06    | Soil   | 10/21/21 13:02 | 10/21/21 15:45 |
| GW01       | 2110363-07    | Water  | 10/21/21 11:53 | 10/21/21 15:45 |
| GW02       | 2110363-08    | Water  | 10/21/21 12:56 | 10/21/21 15:45 |

Summit Scientific

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



# Summit Scientific

2110363.2

S<sub>2</sub>

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

Page 2 of 2

Client: PDC / Tasman Project Manager: Mark Longhurst  
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com  
City/State/Zip: Broomfield/ CO/ 80020  
Phone: 303-487-1228 Project Name: Hull 28-5 wellhead  
Sampler Name: David Vigil 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 | GBTEXN - 8260B     | TPH - (C6 - C36) | pH, EC, SAR | Boron - HWS | VOC - 915 | PAH - 915 | Metals - 915 | TMBs (1,2,4)&(1,3,5) |                      |  |  |                                |  |
| 1  | GW01               | 10/21/21     | 1153         | 3               | X            |      |      |       | X      |      |                |       | X                  |                  |             |             |           |           |              |                      |                      |  |  | pH, EC, SAR by saturated paste |  |
| 2  | GW02               | ↓            | 1256         | 3               | X            |      |      |       | X      |      |                |       | X                  |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 3  |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 4  |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 5  |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 6  |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 7  |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 8  |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 9  |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |
| 10 |                    |              |              |                 |              |      |      |       |        |      |                |       |                    |                  |             |             |           |           |              |                      |                      |  |  |                                |  |

|  |  |   |   |  |               |
|--|--|---|---|--|---------------|
| Relinquished by:<br><u>David Vigil</u>       | Date/Time:<br><u>10/21/21</u><br><u>1545</u> | Received by:<br><b>Tasman's Lock Box</b>  | Date/Time:                                    | <b>Turn Around Time</b> (Check)<br>Same Day <input checked="" type="checkbox"/> 72 hours ___<br>24 hours ___ Standard ___<br>48 hours ___<br><b>Sample Integrity:</b><br>Temperature Upon Receipt: <u>7.8</u><br>Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No | <b>Notes:</b> |
| Relinquished by:<br><b>Tasman's Lock Box</b> | Date/Time:                                   | Received by:<br> | Date/Time:<br><u>10.21.21</u><br><u>15.45</u> |  |               |
| Relinquished by:                             | Date/Time:                                   | Received by:  | Date/Time:                                    |  |               |

S<sub>2</sub>

2/2

Sample Receipt Checklist

S2 Work Order# 2110363

Client: Pbc / Tasman Client Project ID: Hall 28-5 wellhead

Shipped Via:  H.D./P.U./FedEx/UPS/USPS/Other  Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C) 7.8

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> ?<br>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 <sup>(1)</sup> ?  | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Was adequate sample volume provided <sup>(1)</sup> ?   | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| If custody seals are present, are they intact <sup>(1)</sup> ?   | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Are samples with holding times due within 48 hours sample due within 48 hours present?   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Same day          |
| Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?  | <input 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 type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?  | <input 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 type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative.   | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |                   |
| Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?<br>Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, etc.                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | HCl               |
| If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?<br>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

10-21-21  
Date/Time



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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

**BKG01@3'**  
**2110363-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/21/21 11:20**

| Analyte   | Result      | Reporting<br>Limit | Units    | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------|-------------|--------------------|----------|----------|---------|----------|----------|-----------|-------|
| <b>pH</b> | <b>7.68</b> |                    | pH Units | 1        | BEK0234 | 11/10/21 | 11/10/21 | EPA 9045D |       |

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

**BKG01@6'**  
**2110363-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/21/21 11:22**

| Analyte   | Result      | Reporting |          | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------|-------------|-----------|----------|----------|---------|----------|----------|-----------|-------|
|           |             | Limit     | Units    |          |         |          |          |           |       |
| <b>pH</b> | <b>7.89</b> |           | pH Units | 1        | BEK0234 | 11/10/21 | 11/10/21 | EPA 9045D |       |

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**WH01@6'**  
**2110363-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/21/21 11:45**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene                     | ND     | 0.0020          | mg/kg | 1        | BEJ0562 | 10/27/21 | 10/28/21 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| 1,2,4-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| 1,3,5-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.0038          | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 11:45**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 105 %           | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 101 %           | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 99.7 %          | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/21/21 11:45**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | BEJ0564 | 10/27/21 | 10/27/21 | EPA 8015M |       |
| C28-C36 (ORO) | ND     | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 11:45**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 109 %           | 30-150 |          | "     | "        | "        | "      |       |

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**WH01@6'**  
**2110363-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/21/21 11:45**

| Analyte                  | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method        | Notes |
|--------------------------|--------|-----------------|-------|----------|---------|----------|----------|---------------|-------|
| Acenaphthene             | ND     | 0.00500         | mg/kg | 1        | BEJ0399 | 10/22/21 | 11/05/21 | EPA 8270D SIM |       |
| Anthracene               | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (a) anthracene     | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (a) pyrene         | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (b) fluoranthene   | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (k) fluoranthene   | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Chrysene                 | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Dibenz (a,h) anthracene  | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Fluoranthene             | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Fluorene                 | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Indeno (1,2,3-cd) pyrene | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Pyrene                   | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| 1-Methylnaphthalene      | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| 2-Methylnaphthalene      | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |

Date Sampled: **10/21/21 11:45**

| Analyte                            | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 2-Methylnaphthalene-d10 |        | 67.3 %          | 40-150 |          | "     | "        | "        | "      |       |
| Surrogate: Fluoranthene-d10        |        | 55.7 %          | 40-150 |          | "     | "        | "        | "      |       |

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

Date Sampled: **10/21/21 11:45**

| Analyte      | Result       | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|--------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Boron</b> | <b>0.135</b> | 0.0100          | mg/L  | 1        | BEJ0516 | 10/26/21 | 10/27/21 | EPA 6020B |       |

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

Date Sampled: **10/21/21 11:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------|--------|-----------------|-------|----------|-------|----------|----------|--------|-------|
|---------|--------|-----------------|-------|----------|-------|----------|----------|--------|-------|

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: Hall 28-5 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**WH01@6'**  
**2110363-03 (Soil)**

**Summit Scientific**

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

| Analyte   | Result | Reporting Limit | Units    | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------|--------|-----------------|----------|----------|---------|----------|----------|-----------|-------|
| Calcium   | 140    | 0.0634          | mg/L dry | 1        | BEJ0538 | 10/27/21 | 10/28/21 | EPA 6020B |       |
| Magnesium | 34.5   | 0.0634          | "        | "        | "       | "        | "        | "         |       |
| Sodium    | 225    | 0.0634          | "        | "        | "       | "        | "        | "         |       |

**Calculated Analysis**

Date Sampled: **10/21/21 11:45**

| Analyte                 | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method      | Notes |
|-------------------------|--------|-----------------|-------|----------|---------|----------|----------|-------------|-------|
| Sodium Adsorption Ratio | 4.42   | 0.00100         | units | 1        | BEJ0605 | 10/29/21 | 10/29/21 | Calculation |       |

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

Date Sampled: **10/21/21 11:45**

| Analyte  | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method      | Notes |
|----------|--------|-----------------|-------|----------|---------|----------|----------|-------------|-------|
| % Solids | 78.8   |                 | %     | 1        | BEJ0448 | 10/22/21 | 10/22/21 | Calculation |       |

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

Date Sampled: **10/21/21 11:45**

| Analyte                   | Result | Reporting Limit | Units    | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------------------|--------|-----------------|----------|----------|---------|----------|----------|-----------|-------|
| Specific Conductance (EC) | 1.77   | 0.0100          | mmhos/cm | 1        | BEJ0586 | 10/28/21 | 10/28/21 | EPA 120.1 |       |

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

Date Sampled: **10/21/21 11:45**

| Analyte | Result | Reporting Limit | Units    | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------|--------|-----------------|----------|----------|---------|----------|----------|-----------|-------|
| pH      | 8.44   |                 | pH Units | 1        | BEJ0584 | 10/28/21 | 10/28/21 | EPA 9045D |       |

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**FLR01@3'**  
**2110363-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/21/21 11:57**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene                     | ND     | 0.0020          | mg/kg | 1        | BEJ0562 | 10/27/21 | 10/28/21 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| 1,2,4-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| 1,3,5-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.0038          | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 11:57**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 95.7 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 102 %           | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 102 %           | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/21/21 11:57**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | BEJ0564 | 10/27/21 | 10/27/21 | EPA 8015M |       |
| C28-C36 (ORO) | ND     | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 11:57**

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

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**FLR01@3'**  
**2110363-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/21/21 11:57**

| Analyte                  | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method        | Notes |
|--------------------------|--------|-----------------|-------|----------|---------|----------|----------|---------------|-------|
| Acenaphthene             | ND     | 0.00500         | mg/kg | 1        | BEJ0399 | 10/22/21 | 11/05/21 | EPA 8270D SIM |       |
| Anthracene               | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (a) anthracene     | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (a) pyrene         | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (b) fluoranthene   | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Benzo (k) fluoranthene   | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Chrysene                 | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Dibenz (a,h) anthracene  | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Fluoranthene             | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Fluorene                 | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Indeno (1,2,3-cd) pyrene | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| Pyrene                   | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| 1-Methylnaphthalene      | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |
| 2-Methylnaphthalene      | ND     | 0.00500         | "     | "        | "       | "        | "        | "             |       |

Date Sampled: **10/21/21 11:57**

| Analyte                            | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 2-Methylnaphthalene-d10 |        | 55.8 %          | 40-150 |          | "     | "        | "        | "      |       |
| Surrogate: Fluoranthene-d10        |        | 40.9 %          | 40-150 |          | "     | "        | "        | "      |       |

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

Date Sampled: **10/21/21 11:57**

| Analyte      | Result        | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|--------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Boron</b> | <b>0.0906</b> | 0.0100          | mg/L  | 1        | BEJ0516 | 10/26/21 | 10/27/21 | EPA 6020B |       |

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

Date Sampled: **10/21/21 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------|--------|-----------------|-------|----------|-------|----------|----------|--------|-------|
|---------|--------|-----------------|-------|----------|-------|----------|----------|--------|-------|

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: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**FLR01@3'**  
**2110363-04 (Soil)**

**Summit Scientific**

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

| Analyte   | Result | Reporting Limit | Units    | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------|--------|-----------------|----------|----------|---------|----------|----------|-----------|-------|
| Calcium   | 19.0   | 0.0535          | mg/L dry | 1        | BEJ0538 | 10/27/21 | 10/28/21 | EPA 6020B |       |
| Magnesium | 6.34   | 0.0535          | "        | "        | "       | "        | "        | "         |       |
| Sodium    | 7.64   | 0.0535          | "        | "        | "       | "        | "        | "         |       |

**Calculated Analysis**

Date Sampled: **10/21/21 11:57**

| Analyte                 | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method      | Notes |
|-------------------------|--------|-----------------|-------|----------|---------|----------|----------|-------------|-------|
| Sodium Adsorption Ratio | 0.388  | 0.00100         | units | 1        | BEJ0605 | 10/29/21 | 10/29/21 | Calculation |       |

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

Date Sampled: **10/21/21 11:57**

| Analyte  | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method      | Notes |
|----------|--------|-----------------|-------|----------|---------|----------|----------|-------------|-------|
| % Solids | 93.4   |                 | %     | 1        | BEJ0448 | 10/22/21 | 10/22/21 | Calculation |       |

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

Date Sampled: **10/21/21 11:57**

| Analyte                   | Result | Reporting Limit | Units    | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------------------|--------|-----------------|----------|----------|---------|----------|----------|-----------|-------|
| Specific Conductance (EC) | 0.247  | 0.0100          | mmhos/cm | 1        | BEJ0586 | 10/28/21 | 10/28/21 | EPA 120.1 |       |

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

Date Sampled: **10/21/21 11:57**

| Analyte | Result | Reporting Limit | Units    | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------|--------|-----------------|----------|----------|---------|----------|----------|-----------|-------|
| pH      | 7.58   |                 | pH Units | 1        | BEJ0584 | 10/28/21 | 10/28/21 | EPA 9045D |       |

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**FL01-02@3'**  
**2110363-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/21/21 12:54**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene                     | ND     | 0.0020          | mg/kg | 1        | BEJ0562 | 10/27/21 | 10/28/21 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| 1,2,4-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| 1,3,5-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.0038          | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 12:54**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 98.1 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 102 %           | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 101 %           | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/21/21 12:54**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | BEJ0564 | 10/27/21 | 10/27/21 | EPA 8015M |       |
| C28-C36 (ORO) | ND     | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 12:54**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 119 %           | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

**FL01-04@3'**  
**2110363-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/21/21 13:02**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene                     | ND     | 0.0020          | mg/kg | 1        | BEJ0562 | 10/27/21 | 10/28/21 | EPA 8260B |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| 1,2,4-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| 1,3,5-Trimethylbenzene      | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Naphthalene                 | ND     | 0.0038          | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 13:02**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 97.2 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 102 %           | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 101 %           | 21-167 |          | "     | "        | "        | "      |       |

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/21/21 13:02**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | BEJ0564 | 10/27/21 | 10/27/21 | EPA 8015M |       |
| C28-C36 (ORO) | ND     | 50              | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **10/21/21 13:02**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 120 %           | 30-150 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

**GW01**  
**2110363-07 (Water)**

**Summit Scientific**

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

Date Sampled: **10/21/21 11:53**

| Analyte                | Result | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|--------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                        |        | Limit     |  |       |          |         |          |          |           |       |
| Benzene                | ND     | 1.0       |  | ug/l  | 1        | BEJ0410 | 10/21/21 | 10/22/21 | 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: **10/21/21 11:53**

| Analyte                          | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     |  |        |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 116 %     |  | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.5 %    |  | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 95.8 %    |  | 21-167 |          | "     | "        | "        | "      |       |

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: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

**GW02**  
**2110363-08 (Water)**

**Summit Scientific**

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

Date Sampled: **10/21/21 12:56**

| Analyte                | Result | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|--------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                        |        | Limit     |  |       |          |         |          |          |           |       |
| Benzene                | ND     | 1.0       |  | ug/l  | 1        | BEJ0410 | 10/21/21 | 10/22/21 | 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: **10/21/21 12:56**

| Analyte                          | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     |  |        |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 113 %     |  | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 101 %     |  | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 95.3 %    |  | 21-167 |          | "     | "        | "        | "      |       |

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

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

#### Summit Scientific

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

#### Batch BEJ0410 - EPA 5030 Water MS

##### Blank (BEJ0410-BLK1)

Prepared: 10/21/21 Analyzed: 10/22/21

|   |      |     |      |      |  |     |  |        |  |  |
|---|------|-----|------|------|--|-----|--|--------|--|--|
| 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 | "    |      |  |     |  |        |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 14.9 |     | "    | 13.3 |  | 112 |  | 23-173 |  |  |
| <i>Surrogate: Toluene-d8</i>            | 13.3 |     | "    | 13.3 |  | 100 |  | 20-170 |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 13.6 |     | "    | 13.3 |  | 102 |  | 21-167 |  |  |

##### LCS (BEJ0410-BS1)

Prepared: 10/21/21 Analyzed: 10/22/21

|   |      |     |      |      |  |      |  |        |  |  |
|---|------|-----|------|------|--|------|--|--------|--|--|
| Benzene                                 | 36.1 | 1.0 | ug/l | 33.3 |  | 108  |  | 51-132 |  |  |
| Toluene                                 | 43.7 | 1.0 | "    | 33.3 |  | 131  |  | 51-138 |  |  |
| Ethylbenzene                            | 42.8 | 1.0 | "    | 33.3 |  | 128  |  | 58-146 |  |  |
| m,p-Xylene                              | 82.2 | 2.0 | "    | 66.7 |  | 123  |  | 57-144 |  |  |
| o-Xylene                                | 42.7 | 1.0 | "    | 33.3 |  | 128  |  | 53-146 |  |  |
| Naphthalene                             | 36.2 | 1.0 | "    | 33.3 |  | 109  |  | 70-130 |  |  |
| 1,2,4-Trimethylbenzene                  | 40.2 | 1.0 | "    | 33.3 |  | 121  |  | 70-130 |  |  |
| 1,3,5-Trimethylbenzene                  | 39.2 | 1.0 | "    | 33.3 |  | 118  |  | 70-130 |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 15.4 |     | "    | 13.3 |  | 116  |  | 23-173 |  |  |
| <i>Surrogate: Toluene-d8</i>            | 13.3 |     | "    | 13.3 |  | 100  |  | 20-170 |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 12.6 |     | "    | 13.3 |  | 94.5 |  | 21-167 |  |  |

##### Matrix Spike (BEJ0410-MS1)

Source: 2110271-01

Prepared: 10/21/21 Analyzed: 10/22/21

|   |      |     |      |      |    |      |  |        |  |  |
|---|------|-----|------|------|----|------|--|--------|--|--|
| Benzene                                 | 35.9 | 1.0 | ug/l | 33.3 | ND | 108  |  | 34-141 |  |  |
| Toluene                                 | 38.9 | 1.0 | "    | 33.3 | ND | 117  |  | 27-151 |  |  |
| Ethylbenzene                            | 42.3 | 1.0 | "    | 33.3 | ND | 127  |  | 29-160 |  |  |
| m,p-Xylene                              | 81.9 | 2.0 | "    | 66.7 | ND | 123  |  | 20-166 |  |  |
| o-Xylene                                | 41.8 | 1.0 | "    | 33.3 | ND | 125  |  | 33-159 |  |  |
| Naphthalene                             | 37.2 | 1.0 | "    | 33.3 | ND | 112  |  | 70-130 |  |  |
| 1,2,4-Trimethylbenzene                  | 40.3 | 1.0 | "    | 33.3 | ND | 121  |  | 70-130 |  |  |
| 1,3,5-Trimethylbenzene                  | 38.4 | 1.0 | "    | 33.3 | ND | 115  |  | 70-130 |  |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 15.5 |     | "    | 13.3 |    | 116  |  | 23-173 |  |  |
| <i>Surrogate: Toluene-d8</i>            | 13.2 |     | "    | 13.3 |    | 99.3 |  | 20-170 |  |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 12.8 |     | "    | 13.3 |    | 95.7 |  | 21-167 |  |  |

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

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

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

**Batch BEJ0410 - EPA 5030 Water MS**

**Matrix Spike Dup (BEJ0410-MSD1)**

Source: 2110271-01

Prepared: 10/21/21 Analyzed: 10/22/21

|                                  |      |     |      |      |    |      |        |       |    |  |
|----------------------------------|------|-----|------|------|----|------|--------|-------|----|--|
| Benzene                          | 36.4 | 1.0 | ug/l | 33.3 | ND | 109  | 34-141 | 1.25  | 30 |  |
| Toluene                          | 39.2 | 1.0 | "    | 33.3 | ND | 118  | 27-151 | 0.768 | 30 |  |
| Ethylbenzene                     | 42.1 | 1.0 | "    | 33.3 | ND | 126  | 29-160 | 0.427 | 30 |  |
| m,p-Xylene                       | 81.0 | 2.0 | "    | 66.7 | ND | 122  | 20-166 | 1.06  | 30 |  |
| o-Xylene                         | 41.3 | 1.0 | "    | 33.3 | ND | 124  | 33-159 | 1.13  | 30 |  |
| Naphthalene                      | 40.0 | 1.0 | "    | 33.3 | ND | 120  | 70-130 | 7.24  | 30 |  |
| 1,2,4-Trimethylbenzene           | 39.8 | 1.0 | "    | 33.3 | ND | 119  | 70-130 | 1.40  | 30 |  |
| 1,3,5-Trimethylbenzene           | 39.1 | 1.0 | "    | 33.3 | ND | 117  | 70-130 | 1.57  | 30 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 17.0 |     | "    | 13.3 |    | 128  | 23-173 |       |    |  |
| Surrogate: Toluene-d8            | 13.6 |     | "    | 13.3 |    | 102  | 20-170 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 12.7 |     | "    | 13.3 |    | 95.0 | 21-167 |       |    |  |

**Batch BEJ0562 - EPA 5030 Soil MS**

**Blank (BEJ0562-BLK1)**

Prepared: 10/27/21 Analyzed: 10/28/21

|                                  |        |        |       |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene                          | ND     | 0.0020 | mg/kg |        |  |      |        |  |  |  |
| Toluene                          | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| Ethylbenzene                     | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| Xylenes (total)                  | ND     | 0.010  | "     |        |  |      |        |  |  |  |
| 1,2,4-Trimethylbenzene           | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| 1,3,5-Trimethylbenzene           | ND     | 0.0050 | "     |        |  |      |        |  |  |  |
| Naphthalene                      | ND     | 0.0038 | "     |        |  |      |        |  |  |  |
| Gasoline Range Hydrocarbons      | ND     | 0.50   | "     |        |  |      |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0419 |        | "     | 0.0400 |  | 105  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0403 |        | "     | 0.0400 |  | 101  | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0390 |        | "     | 0.0400 |  | 97.6 | 21-167 |  |  |  |

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

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

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

**Batch BEJ0562 - EPA 5030 Soil MS**

**LCS (BEJ0562-BS1)**

Prepared: 10/27/21 Analyzed: 10/28/21

|                                  |        |        |       |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene                          | 0.137  | 0.0020 | mg/kg | 0.150  |  | 91.6 | 70-130 |  |  |  |
| Toluene                          | 0.139  | 0.0050 | "     | 0.150  |  | 92.5 | 70-130 |  |  |  |
| Ethylbenzene                     | 0.137  | 0.0050 | "     | 0.150  |  | 91.1 | 70-130 |  |  |  |
| m,p-Xylene                       | 0.279  | 0.010  | "     | 0.300  |  | 92.9 | 70-130 |  |  |  |
| o-Xylene                         | 0.138  | 0.0050 | "     | 0.150  |  | 92.1 | 70-130 |  |  |  |
| 1,2,4-Trimethylbenzene           | 0.140  | 0.0050 | "     | 0.150  |  | 93.4 | 70-130 |  |  |  |
| 1,3,5-Trimethylbenzene           | 0.137  | 0.0050 | "     | 0.150  |  | 91.2 | 70-130 |  |  |  |
| Naphthalene                      | 0.136  | 0.0038 | "     | 0.150  |  | 90.9 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0405 |        | "     | 0.0400 |  | 101  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0402 |        | "     | 0.0400 |  | 101  | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0405 |        | "     | 0.0400 |  | 101  | 21-167 |  |  |  |

**Matrix Spike (BEJ0562-MS1)**

Source: 2110363-03

Prepared: 10/27/21 Analyzed: 10/28/21

|                                  |        |        |       |        |    |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Benzene                          | 0.140  | 0.0020 | mg/kg | 0.150  | ND | 93.5 | 70-130 |  |  |  |
| Toluene                          | 0.140  | 0.0050 | "     | 0.150  | ND | 93.2 | 70-130 |  |  |  |
| Ethylbenzene                     | 0.137  | 0.0050 | "     | 0.150  | ND | 91.1 | 70-130 |  |  |  |
| m,p-Xylene                       | 0.277  | 0.010  | "     | 0.300  | ND | 92.3 | 70-130 |  |  |  |
| o-Xylene                         | 0.136  | 0.0050 | "     | 0.150  | ND | 90.4 | 70-130 |  |  |  |
| 1,2,4-Trimethylbenzene           | 0.138  | 0.0050 | "     | 0.150  | ND | 92.1 | 70-130 |  |  |  |
| 1,3,5-Trimethylbenzene           | 0.137  | 0.0050 | "     | 0.150  | ND | 91.3 | 70-130 |  |  |  |
| Naphthalene                      | 0.134  | 0.0038 | "     | 0.150  | ND | 89.5 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0416 |        | "     | 0.0400 |    | 104  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0407 |        | "     | 0.0400 |    | 102  | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0401 |        | "     | 0.0400 |    | 100  | 21-167 |  |  |  |

**Matrix Spike Dup (BEJ0562-MSD1)**

Source: 2110363-03

Prepared: 10/27/21 Analyzed: 10/28/21

|                                  |        |        |       |        |    |      |        |       |    |  |
|----------------------------------|--------|--------|-------|--------|----|------|--------|-------|----|--|
| Benzene                          | 0.141  | 0.0020 | mg/kg | 0.150  | ND | 93.8 | 70-130 | 0.363 | 30 |  |
| Toluene                          | 0.141  | 0.0050 | "     | 0.150  | ND | 93.9 | 70-130 | 0.706 | 30 |  |
| Ethylbenzene                     | 0.139  | 0.0050 | "     | 0.150  | ND | 92.6 | 70-130 | 1.59  | 30 |  |
| m,p-Xylene                       | 0.282  | 0.010  | "     | 0.300  | ND | 94.0 | 70-130 | 1.76  | 30 |  |
| o-Xylene                         | 0.137  | 0.0050 | "     | 0.150  | ND | 91.5 | 70-130 | 1.19  | 30 |  |
| 1,2,4-Trimethylbenzene           | 0.142  | 0.0050 | "     | 0.150  | ND | 94.4 | 70-130 | 2.47  | 30 |  |
| 1,3,5-Trimethylbenzene           | 0.140  | 0.0050 | "     | 0.150  | ND | 93.1 | 70-130 | 1.97  | 30 |  |
| Naphthalene                      | 0.137  | 0.0038 | "     | 0.150  | ND | 91.6 | 70-130 | 2.25  | 30 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0411 |        | "     | 0.0400 |    | 103  | 23-173 |       |    |  |
| Surrogate: Toluene-d8            | 0.0403 |        | "     | 0.0400 |    | 101  | 20-170 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0401 |        | "     | 0.0400 |    | 100  | 21-167 |       |    |  |

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

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

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

**Batch BEJ0564 - EPA 3550A**

**Blank (BEJ0564-BLK1)**

Prepared: 10/27/21 Analyzed: 10/28/21

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

**LCS (BEJ0564-BS1)**

Prepared: 10/27/21 Analyzed: 10/28/21

|               |     |    |       |     |      |        |  |  |  |  |
|---------------|-----|----|-------|-----|------|--------|--|--|--|--|
| C10-C28 (DRO) | 451 | 50 | mg/kg | 500 | 90.3 | 70-130 |  |  |  |  |
|---------------|-----|----|-------|-----|------|--------|--|--|--|--|

**Matrix Spike (BEJ0564-MS1)**

Source: 2110363-03

Prepared: 10/27/21 Analyzed: 10/28/21

|               |     |    |       |     |      |      |        |  |  |  |
|---------------|-----|----|-------|-----|------|------|--------|--|--|--|
| C10-C28 (DRO) | 493 | 50 | mg/kg | 500 | 26.8 | 93.3 | 70-130 |  |  |  |
|---------------|-----|----|-------|-----|------|------|--------|--|--|--|

**Matrix Spike Dup (BEJ0564-MSD1)**

Source: 2110363-03

Prepared: 10/27/21 Analyzed: 10/28/21

|               |     |    |       |     |      |     |        |      |    |  |
|---------------|-----|----|-------|-----|------|-----|--------|------|----|--|
| C10-C28 (DRO) | 531 | 50 | mg/kg | 500 | 26.8 | 101 | 70-130 | 7.36 | 20 |  |
|---------------|-----|----|-------|-----|------|-----|--------|------|----|--|

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

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

**Summit Scientific**

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

**Batch BEJ0399 - EPA 5030 Soil MS**

**Blank (BEJ0399-BLK1)**

Prepared: 10/21/21 Analyzed: 11/04/21

| Analyte                            | Result | Limit   | Units | Spike Level | Source Result | Source %REC | Source Limits | RPD | RPD Limit | Notes |
|------------------------------------|--------|---------|-------|-------------|---------------|-------------|---------------|-----|-----------|-------|
| Acenaphthene                       | ND     | 0.00500 | mg/kg |             |               |             |               |     |           |       |
| Anthracene                         | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Benzo (a) anthracene               | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Benzo (a) pyrene                   | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Benzo (b) fluoranthene             | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Benzo (k) fluoranthene             | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Chrysene                           | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Dibenz (a,h) anthracene            | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Fluoranthene                       | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Fluorene                           | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Indeno (1,2,3-cd) pyrene           | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Pyrene                             | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| 1-Methylnaphthalene                | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| 2-Methylnaphthalene                | ND     | 0.00500 | "     |             |               |             |               |     |           |       |
| Surrogate: 2-Methylnaphthalene-d10 | 0.0213 |         | "     | 0.0333      |               | 63.8        | 40-150        |     |           |       |
| Surrogate: Fluoranthene-d10        | 0.0186 |         | "     | 0.0333      |               | 55.7        | 40-150        |     |           |       |

**LCS (BEJ0399-BS1)**

Prepared: 10/21/21 Analyzed: 11/04/21

| Analyte                            | Result | Limit   | Units | Spike Level | Source Result | Source %REC | Source Limits | RPD | RPD Limit | Notes |
|------------------------------------|--------|---------|-------|-------------|---------------|-------------|---------------|-----|-----------|-------|
| Acenaphthene                       | 0.0350 | 0.00500 | mg/kg | 0.0333      | 105           | 31-137      |               |     |           |       |
| Anthracene                         | 0.0329 | 0.00500 | "     | 0.0333      | 98.8          | 30-120      |               |     |           |       |
| Benzo (a) anthracene               | 0.0334 | 0.00500 | "     | 0.0333      | 100           | 30-120      |               |     |           |       |
| Benzo (a) pyrene                   | 0.0337 | 0.00500 | "     | 0.0333      | 101           | 30-120      |               |     |           |       |
| Benzo (b) fluoranthene             | 0.0355 | 0.00500 | "     | 0.0333      | 106           | 30-120      |               |     |           |       |
| Benzo (k) fluoranthene             | 0.0341 | 0.00500 | "     | 0.0333      | 102           | 30-120      |               |     |           |       |
| Chrysene                           | 0.0305 | 0.00500 | "     | 0.0333      | 91.5          | 30-120      |               |     |           |       |
| Dibenz (a,h) anthracene            | 0.0342 | 0.00500 | "     | 0.0333      | 102           | 30-120      |               |     |           |       |
| Fluoranthene                       | 0.0350 | 0.00500 | "     | 0.0333      | 105           | 30-120      |               |     |           |       |
| Fluorene                           | 0.0369 | 0.00500 | "     | 0.0333      | 111           | 30-120      |               |     |           |       |
| Indeno (1,2,3-cd) pyrene           | 0.0251 | 0.00500 | "     | 0.0333      | 75.4          | 30-120      |               |     |           |       |
| Pyrene                             | 0.0336 | 0.00500 | "     | 0.0333      | 101           | 35-142      |               |     |           |       |
| 1-Methylnaphthalene                | 0.0394 | 0.00500 | "     | 0.0333      | 118           | 35-142      |               |     |           |       |
| 2-Methylnaphthalene                | 0.0394 | 0.00500 | "     | 0.0333      | 118           | 35-142      |               |     |           |       |
| Surrogate: 2-Methylnaphthalene-d10 | 0.0337 |         | "     | 0.0333      | 101           | 40-150      |               |     |           |       |
| Surrogate: Fluoranthene-d10        | 0.0343 |         | "     | 0.0333      | 103           | 40-150      |               |     |           |       |

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

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

**Summit Scientific**

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

**Batch BEJ0399 - EPA 5030 Soil MS**

| <b>Matrix Spike (BEJ0399-MS1)</b>         | <b>Source: 2110325-02</b> |         |          | Prepared: 10/21/21 Analyzed: 11/04/21 |         |             |               |  |  |
|---|---------------------------|---------|----------|---------------------------------------|---------|-------------|---------------|--|--|
| Acenaphthene                              | 0.0168                    | 0.00500 | mg/kg    | 0.0333                                | ND      | 50.5        | 31-137        |  |  |
| Anthracene                                | 0.0174                    | 0.00500 | "        | 0.0333                                | ND      | 52.2        | 30-120        |  |  |
| Benzo (a) anthracene                      | 0.0196                    | 0.00500 | "        | 0.0333                                | 0.00211 | 52.4        | 30-120        |  |  |
| Benzo (a) pyrene                          | 0.0201                    | 0.00500 | "        | 0.0333                                | 0.00316 | 50.9        | 30-120        |  |  |
| Benzo (b) fluoranthene                    | 0.0209                    | 0.00500 | "        | 0.0333                                | 0.00652 | 43.1        | 30-120        |  |  |
| Benzo (k) fluoranthene                    | 0.0210                    | 0.00500 | "        | 0.0333                                | ND      | 62.9        | 30-120        |  |  |
| Chrysene                                  | 0.0178                    | 0.00500 | "        | 0.0333                                | 0.00658 | 33.8        | 30-120        |  |  |
| Dibenz (a,h) anthracene                   | 0.0211                    | 0.00500 | "        | 0.0333                                | ND      | 63.2        | 30-120        |  |  |
| Fluoranthene                              | 0.0190                    | 0.00500 | "        | 0.0333                                | ND      | 56.9        | 30-120        |  |  |
| Fluorene                                  | 0.0191                    | 0.00500 | "        | 0.0333                                | ND      | 57.4        | 30-120        |  |  |
| Indeno (1,2,3-cd) pyrene                  | 0.0144                    | 0.00500 | "        | 0.0333                                | 0.00315 | 33.7        | 30-120        |  |  |
| Pyrene                                    | 0.0201                    | 0.00500 | "        | 0.0333                                | 0.00326 | 50.4        | 35-142        |  |  |
| 1-Methylnaphthalene                       | 0.0189                    | 0.00500 | "        | 0.0333                                | ND      | 56.8        | 15-130        |  |  |
| 2-Methylnaphthalene                       | 0.0195                    | 0.00500 | "        | 0.0333                                | ND      | 58.4        | 15-130        |  |  |
| <i>Surrogate: 2-Methylnaphthalene-d10</i> | <i>0.0197</i>             |         | <i>"</i> | <i>0.0333</i>                         |         | <i>59.0</i> | <i>40-150</i> |  |  |
| <i>Surrogate: Fluoranthene-d10</i>        | <i>0.0197</i>             |         | <i>"</i> | <i>0.0333</i>                         |         | <i>59.2</i> | <i>40-150</i> |  |  |

| <b>Matrix Spike Dup (BEJ0399-MSD1)</b>    | <b>Source: 2110325-02</b> |         |          | Prepared: 10/21/21 Analyzed: 11/04/21 |         |             |               |       |    |
|---|---------------------------|---------|----------|---------------------------------------|---------|-------------|---------------|-------|----|
| Acenaphthene                              | 0.0176                    | 0.00500 | mg/kg    | 0.0333                                | ND      | 52.8        | 31-137        | 4.38  | 30 |
| Anthracene                                | 0.0177                    | 0.00500 | "        | 0.0333                                | ND      | 53.0        | 30-120        | 1.45  | 30 |
| Benzo (a) anthracene                      | 0.0202                    | 0.00500 | "        | 0.0333                                | 0.00211 | 54.3        | 30-120        | 3.30  | 30 |
| Benzo (a) pyrene                          | 0.0207                    | 0.00500 | "        | 0.0333                                | 0.00316 | 52.5        | 30-120        | 2.56  | 30 |
| Benzo (b) fluoranthene                    | 0.0215                    | 0.00500 | "        | 0.0333                                | 0.00652 | 45.0        | 30-120        | 2.88  | 30 |
| Benzo (k) fluoranthene                    | 0.0216                    | 0.00500 | "        | 0.0333                                | ND      | 64.7        | 30-120        | 2.78  | 30 |
| Chrysene                                  | 0.0182                    | 0.00500 | "        | 0.0333                                | 0.00658 | 35.0        | 30-120        | 2.30  | 30 |
| Dibenz (a,h) anthracene                   | 0.0222                    | 0.00500 | "        | 0.0333                                | ND      | 66.7        | 30-120        | 5.25  | 30 |
| Fluoranthene                              | 0.0197                    | 0.00500 | "        | 0.0333                                | ND      | 59.0        | 30-120        | 3.69  | 30 |
| Fluorene                                  | 0.0196                    | 0.00500 | "        | 0.0333                                | ND      | 58.7        | 30-120        | 2.29  | 30 |
| Indeno (1,2,3-cd) pyrene                  | 0.0156                    | 0.00500 | "        | 0.0333                                | 0.00315 | 37.3        | 30-120        | 8.00  | 30 |
| Pyrene                                    | 0.0202                    | 0.00500 | "        | 0.0333                                | 0.00326 | 50.7        | 35-142        | 0.486 | 30 |
| 1-Methylnaphthalene                       | 0.0204                    | 0.00500 | "        | 0.0333                                | ND      | 61.1        | 15-130        | 7.40  | 50 |
| 2-Methylnaphthalene                       | 0.0214                    | 0.00500 | "        | 0.0333                                | ND      | 64.1        | 15-130        | 9.20  | 50 |
| <i>Surrogate: 2-Methylnaphthalene-d10</i> | <i>0.0196</i>             |         | <i>"</i> | <i>0.0333</i>                         |         | <i>58.7</i> | <i>40-150</i> |       |    |
| <i>Surrogate: Fluoranthene-d10</i>        | <i>0.0204</i>             |         | <i>"</i> | <i>0.0333</i>                         |         | <i>61.1</i> | <i>40-150</i> |       |    |

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

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

**Summit Scientific**

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

**Batch BEJ0516 - EPA 3050B**

**Blank (BEJ0516-BLK1)**

Prepared: 10/26/21 Analyzed: 10/27/21

Boron ND 0.0100 mg/L

**LCS (BEJ0516-BS1)**

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 4.59 0.0100 mg/L 5.00 91.8 80-120

**Duplicate (BEJ0516-DUP1)**

Source: 2110338-01

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 0.144 0.0100 mg/L 0.170 16.3 20

**Matrix Spike (BEJ0516-MS1)**

Source: 2110338-01

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 4.97 0.0100 mg/L 5.00 0.170 96.0 75-125

**Matrix Spike Dup (BEJ0516-MSD1)**

Source: 2110338-01

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 4.91 0.0100 mg/L 5.00 0.170 94.9 75-125 1.16 25

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

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

**Summit Scientific**

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

**Batch BEJ0538 - General Preparation**

**Blank (BEJ0538-BLK1)**

Prepared: 10/27/21 Analyzed: 10/28/21

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

**LCS (BEJ0538-BS1)**

Prepared: 10/27/21 Analyzed: 10/28/21

|           |      |        |          |      |  |     |        |  |  |  |
|-----------|------|--------|----------|------|--|-----|--------|--|--|--|
| Calcium   | 5.39 | 0.0500 | mg/L wet | 5.00 |  | 108 | 70-130 |  |  |  |
| Magnesium | 5.01 | 0.0500 | "        | 5.00 |  | 100 | 70-130 |  |  |  |
| Sodium    | 5.09 | 0.0500 | "        | 5.00 |  | 102 | 70-130 |  |  |  |

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

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

**Summit Scientific**

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

**Batch BEJ0448 - General Preparation**

**Duplicate (BEJ0448-DUP1)**

**Source: 2110363-03**

Prepared & Analyzed: 10/22/21

|          |      |  |   |  |      |  |  |      |  |    |  |
|----------|------|--|---|--|------|--|--|------|--|----|--|
| % Solids | 81.5 |  | % |  | 78.8 |  |  | 3.38 |  | 20 |  |
|----------|------|--|---|--|------|--|--|------|--|----|--|

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

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

**Summit Scientific**

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

**Batch BEJ0586 - General Preparation**

**Blank (BEJ0586-BLK1)**

Prepared & Analyzed: 10/28/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

**Duplicate (BEJ0586-DUP1)**

Source: 2110321-01

Prepared & Analyzed: 10/28/21

Specific Conductance (EC) 0.726 0.0100 mmhos/cm 0.722 0.594 20

Summit Scientific

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

Project: Hall 28-5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
 12/02/21 13:46

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

**Summit Scientific**

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

**Batch BEJ0584 - General Preparation**

**LCS (BEJ0584-BS1)**

Prepared & Analyzed: 10/28/21

|    |      |  |          |      |     |        |  |  |  |  |
|----|------|--|----------|------|-----|--------|--|--|--|--|
| pH | 9.20 |  | pH Units | 9.18 | 100 | 95-105 |  |  |  |  |
|----|------|--|----------|------|-----|--------|--|--|--|--|

**Duplicate (BEJ0584-DUP1)**

Source: 2110321-01

Prepared & Analyzed: 10/28/21

|    |      |  |          |  |      |  |       |    |  |  |
|----|------|--|----------|--|------|--|-------|----|--|--|
| pH | 8.06 |  | pH Units |  | 8.02 |  | 0.498 | 20 |  |  |
|----|------|--|----------|--|------|--|-------|----|--|--|

**Batch BEK0234 - General Preparation**

**LCS (BEK0234-BS1)**

Prepared & Analyzed: 11/10/21

|    |      |  |          |      |      |        |  |  |  |  |
|----|------|--|----------|------|------|--------|--|--|--|--|
| pH | 9.01 |  | pH Units | 9.18 | 98.1 | 95-105 |  |  |  |  |
|----|------|--|----------|------|------|--------|--|--|--|--|

**Duplicate (BEK0234-DUP1)**

Source: 2111099-01

Prepared & Analyzed: 11/10/21

|    |      |  |          |  |      |  |       |    |  |  |
|----|------|--|----------|--|------|--|-------|----|--|--|
| pH | 8.13 |  | pH Units |  | 8.10 |  | 0.370 | 20 |  |  |
|----|------|--|----------|--|------|--|-------|----|--|--|

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

Project: Hall 28-5 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/02/21 13:46

### Notes and Definitions

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