

TABLE 1
BAUER 5; 12, 21-4 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE

| Sample ID | Date Sampled | Depth (feet bgs) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Naphthalene (mg/kg) | TPH ⁽²⁾ (mg/kg) |
|--|--------------|---------------------|--------------------|--------------------|-------------------------|-----------------------------|------------------------|-------------------------------|
| COGCC standards for soil (mg/kg) ⁽¹⁾ | | | 0.17 | 85 | 100 | 175 | 23 | 500 |
| SS01 @ 18' | 6/20/2019 | 18 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS02 @ 15' | 6/20/2019 | 15 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS03 @ 17' | 6/20/2019 | 17 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS04 @ 15' | 6/26/2019 | 15 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS05 @ 17' | 6/26/2019 | 17 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS06 @ 15' | 6/28/2019 | 15 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS07 @ 17' | 6/28/2019 | 17 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS08 @ 18' | 7/1/2019 | 18 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS09 @ 15' | 7/1/2019 | 15 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS10 @ 17' | 7/1/2019 | 17 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS11 @ 15' | 7/1/2019 | 15 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS12 @ 17' | 7/1/2019 | 17 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS13 @ 15' | 7/1/2019 | 15 | 0.0040 | <0.0050 | <0.0050 | <0.010 | <0.010 | 1.2 |
| SS14 @ 17' | 7/1/2019 | 17 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS15 @ 18' | 7/1/2019 | 18 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective May 1, 2018.

2. TPH - Total volatile and extractable petroleum hydrocarbons. Value calculated by adding GRO and DRO concentrations.

COGCC = Colorado Oil and Gas Conservation Commission

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

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total extractable petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

bgs = Below ground surface

TABLE 2
BAUER 5; 12, 21-4 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

| Sample ID | Date Sampled | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | Depth to Water (feet bgs) ⁽²⁾ |
|---|--------------|-------------------|-------------------|------------------------|----------------------------|---|
| COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾ | | 5 | 560 | 700 | 1,400 | |
| GW01 | 7/3/2019 | 3.5 | <1.0 | 1.6 | 16 | ~16 |

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective May 1, 2018.

2. Depth to groundwater measured from ground surface.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L= Micrograms per liter

bgs = Below ground surface

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

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 23, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1906271

Enclosed are the results of analyses for samples received by Summit Scientific on 06/20/19 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS01@18' | 1906271-01 | Soil | 06/20/19 12:10 | 06/20/19 16:00 |
| SS02@15' | 1906271-02 | Soil | 06/20/19 13:01 | 06/20/19 16:00 |
| SS03@17' | 1906271-03 | Soil | 06/20/19 13:04 | 06/20/19 16:00 |

Summit Scientific

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Summit Scientific

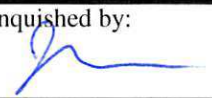

1906271

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | | Analyze For: | | | | | | | | | | | | Special Instructions | | |
|--|------------------|-----------------|----------------------|---|------------------|------|-----------------|--------------------------|------|-------------------------|-----------------|--|-----------|---|--|--|--|--|--|--|--|--|--|----------------------|--|--|
| | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air - Canister Serial # | Other (Specify) | GBTEXN (8260) | TPH - DRO | | | | | | | | | | | | | |
| SS01 @ 18' | 6/20/2019 | 12:10 | 1 | | | X | | | X | | | | X | X | | | | | | | | | | | | |
| SS02 @ 15' | 6/20/2019 | 1:01 | 1 | | | X | | | X | | | | X | X | | | | | | | | | | | | |
| SS03 @ 17' | 6/20/2019 | 1:04 | 1 | | | X | | | X | | | | X | X | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished by:  | 6/20/19 | Date/Time: 3:16 | | Received by:  | | | | Date/Time: 6-20-19 16:00 | | | | Turn Around Time (Check) | | | | | | | | | | | | | | |
| Relinquished by: _____ | Date/Time: _____ | | | Received by: _____ | | | | Date/Time: _____ | | | | Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 Hours <input type="checkbox"/> | | | | | | | | | | | | | | |
| Relinquished by: _____ | Date/Time: _____ | | | Received in Lab by: _____ | | | | Date/Time: _____ | | | | Sample Integrity: Temperature Upon Receipt: <u>10.2°</u> Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | | | | | | | | | | | | | |

Sample Receipt Checklist

S2 Work Order 1906271

Client: PDC Client Project ID: Bauer 5; 12, 21-4

Shipped Via: H.D. (P.U.) / FedEx / UPS / USPS / Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air ☒ Soil/Solid _____ Water _____ Other: _____
(Describe)

| | |
|-----------|--------------|
| Temp (°C) | <u>10.2°</u> |
|-----------|--------------|

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|---|-------------------------------------|----|-------------------------------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | <input checked="" type="checkbox"/> | | | <u>on ice</u> |
| Were all samples received intact ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Was adequate sample volume provided ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| If custody seals are present, are they intact ⁽¹⁾ ? | | | <input checked="" type="checkbox"/> | |
| Are samples with holding times due within 48 hours sample due within 48 hours present? | <input checked="" type="checkbox"/> | | | <u>Same Day</u> |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | | | <input checked="" type="checkbox"/> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | <input checked="" type="checkbox"/> | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments. | | | <input checked="" type="checkbox"/> | |
| If dissolved metals are requested, were samples field filtered? | | | <input checked="" type="checkbox"/> | |
| Additional Comments (if any): | | | | |
| ⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative. | | | | |

AT
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

6-20-19 16:00
Date/Time



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

SS01@18'
1906271-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/19 12:10**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1906302 | 06/20/19 | 06/20/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/20/19 12:10**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 83.2 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 93.7 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 92.2 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/19 12:10**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1906306 | 06/20/19 | 06/20/19 | EPA 8015M | |

Date Sampled: **06/20/19 12:10**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | |
| Surrogate: o-Terphenyl | | 83.4 % | 30-150 | | " | " | " | " | |

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

SS02@15'
1906271-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/19 13:01**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1906302 | 06/20/19 | 06/20/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/20/19 13:01**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 84.8 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 90.3 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 92.1 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/19 13:01**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1906306 | 06/20/19 | 06/20/19 | EPA 8015M | |

Date Sampled: **06/20/19 13:01**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 85.5 % | 30-150 | | " | " | " | " | |

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

SS03@17'
1906271-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/19 13:04**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1906302 | 06/20/19 | 06/21/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/20/19 13:04**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 77.6 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 91.5 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 94.4 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/19 13:04**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1906306 | 06/20/19 | 06/20/19 | EPA 8015M | |

Date Sampled: **06/20/19 13:04**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 89.8 % | 30-150 | | " | " | " | " | |

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1906302 - EPA 5030 Soil MS

Blank (1906302-BLK1)

Prepared: 06/20/19 Analyzed: 06/21/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|-----|--------|--|--|--|
| Benzene | ND | 0.0020 | mg/kg | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Naphthalene | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0416 | | " | 0.0400 | | 104 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0403 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0405 | | " | 0.0400 | | 101 | 21-167 | | | |

LCS (1906302-BS1)

Prepared: 06/20/19 Analyzed: 06/21/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | 0.0939 | 0.0020 | mg/kg | 0.100 | | 93.9 | 70-130 | | | |
| Toluene | 0.102 | 0.0050 | " | 0.100 | | 102 | 70-130 | | | |
| Ethylbenzene | 0.116 | 0.0050 | " | 0.100 | | 116 | 70-130 | | | |
| m,p-Xylene | 0.228 | 0.010 | " | 0.200 | | 114 | 70-130 | | | |
| o-Xylene | 0.109 | 0.0050 | " | 0.100 | | 109 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0465 | | " | 0.0400 | | 116 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0391 | | " | 0.0400 | | 97.7 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0412 | | " | 0.0400 | | 103 | 21-167 | | | |

Matrix Spike (1906302-MS1)

Source: 1906272-21

Prepared: 06/20/19 Analyzed: 06/21/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Benzene | 0.0985 | 0.0020 | mg/kg | 0.100 | ND | 98.5 | 70-130 | | | |
| Toluene | 0.106 | 0.0050 | " | 0.100 | ND | 106 | 70-130 | | | |
| Ethylbenzene | 0.110 | 0.0050 | " | 0.100 | ND | 110 | 70-130 | | | |
| m,p-Xylene | 0.221 | 0.010 | " | 0.200 | ND | 110 | 70-130 | | | |
| o-Xylene | 0.106 | 0.0050 | " | 0.100 | ND | 106 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0501 | | " | 0.0400 | | 125 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0412 | | " | 0.0400 | | 103 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0406 | | " | 0.0400 | | 102 | 21-167 | | | |

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

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

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

Batch 1906302 - EPA 5030 Soil MS

| Matrix Spike Dup (1906302-MSD1) | | Source: 1906272-21 | | | Prepared: 06/20/19 Analyzed: 06/21/19 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|---------------------------------------|------|--------|------|----|--|
| Benzene | 0.0946 | 0.0020 | mg/kg | 0.100 | ND | 94.6 | 70-130 | 3.95 | 30 | |
| Toluene | 0.108 | 0.0050 | " | 0.100 | ND | 108 | 70-130 | 1.72 | 30 | |
| Ethylbenzene | 0.113 | 0.0050 | " | 0.100 | ND | 113 | 70-130 | 2.80 | 30 | |
| m,p-Xylene | 0.227 | 0.010 | " | 0.200 | ND | 113 | 70-130 | 2.70 | 30 | |
| o-Xylene | 0.109 | 0.0050 | " | 0.100 | ND | 109 | 70-130 | 2.26 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0439 | | " | 0.0400 | | 110 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0403 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0414 | | " | 0.0400 | | 103 | 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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1906306 - EPA 3550A

Blank (1906306-BLK1)

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1906306-BS1)

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) 464 50 mg/kg 500 92.7 70-130

Matrix Spike (1906306-MS1)

Source: 1906272-21

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) 449 50 mg/kg 500 15.9 86.6 70-130

Matrix Spike Dup (1906306-MSD1)

Source: 1906272-21

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) 435 50 mg/kg 500 15.9 83.7 70-130 3.23 20

Summit Scientific

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



PDC Energy

1775 Sherman St. STE. 3000

Denver CO, 80203

Project: Bauer 5; 12, 21-4

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

06/23/19 12:19

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 |

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 27, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1906343

Enclosed are the results of analyses for samples received by Summit Scientific on 06/26/19 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS04@15' | 1906343-01 | Soil | 06/26/19 13:12 | 06/26/19 16:00 |
| SS05@17' | 1906343-02 | Soil | 06/26/19 13:15 | 06/26/19 16:00 |

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

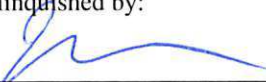
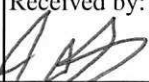
1906343

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | | Analyze For: | | | | | | | | | | | | Special Instructions | |
|--|------------------|---------------------------|--|---|--------------------------------|----------|--------------------------|-------------|--------------------------|-------------------------|-----------------|---------------|-----------|--|--|--|--|--|--|--|--|--|--|----------------------|--|
| | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air - Canister Serial # | Other (Specify) | GBTEXN (8260) | TPH - DRO | | | | | | | | | | | | |
| SS04 @ 15' | 6/26/2019 | 1:12 | 1 | | X | | | X | | | | X | X | | | | | | | | | | | | |
| SS05 @ 17' | 6/26/2019 | 1:15 | 1 | | X | | | X | | | | X | X | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished by:  | 6/26/19 | Date/Time: 3:22 | Received by:  | Date/Time: 6-26-19 10:00 | Turn Around Time (Check) | | | | | | | | | | | | | | | | | | | | |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | 48 Hours | <input type="checkbox"/> | 72 Hours | <input type="checkbox"/> | Standard | <input type="checkbox"/> | Sample Integrity: | | | | | | | | | | | | | | | |
| Relinquished by: _____ | Date/Time: _____ | Received in Lab by: _____ | Date/Time: _____ | Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Temperature Upon Receipt: 8.5° | | | | | | | | | | | | | | | | | | | | |

Sample Receipt Checklist

S2 Work Order 1906343

Client: PDC Client Project ID: Bauer 5; 12, 21-4

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

Matrix (check all that apply): _____ Air ☒ Soil/Solid _____ Water _____ Other: _____
(Describe)

| | |
|-----------|-------------|
| Temp (°C) | <u>8.5°</u> |
|-----------|-------------|

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|---|-------------------------------------|----|-------------------------------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | <input checked="" type="checkbox"/> | | | <u>on ice</u> |
| Were all samples received intact ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Was adequate sample volume provided ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| If custody seals are present, are they intact ⁽¹⁾ ? | | | <input checked="" type="checkbox"/> | |
| Are samples with holding times due within 48 hours sample due within 48 hours present? | <input checked="" type="checkbox"/> | | | <u>Same Day</u> |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | | | <input checked="" type="checkbox"/> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | <input checked="" type="checkbox"/> | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments. | | | <input checked="" type="checkbox"/> | |
| If dissolved metals are requested, were samples field filtered? | | | <input checked="" type="checkbox"/> | |

Additional Comments (if any):

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

Lopez
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

6-26-19 10:00
Date/Time



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

SS04@15'
1906343-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/19 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1906388 | 06/26/19 | 06/26/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/19 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 84.1 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 95.4 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 97.5 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/19 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1906390 | 06/26/19 | 06/26/19 | EPA 8015M | |

Date Sampled: **06/26/19 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 96.2 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

SS05@17'
1906343-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/19 13:15**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1906388 | 06/26/19 | 06/26/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/19 13:15**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 136 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.0 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 103 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/19 13:15**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1906390 | 06/26/19 | 06/26/19 | EPA 8015M | |

Date Sampled: **06/26/19 13:15**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 105 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1906388 - EPA 5030 Soil MS

Blank (1906388-BLK1)

Prepared: 06/26/19 Analyzed: 06/27/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | ND | 0.0020 | mg/kg | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Naphthalene | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0365 | | " | 0.0400 | | 91.4 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0330 | | " | 0.0400 | | 82.4 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0414 | | " | 0.0400 | | 104 | 21-167 | | | |

LCS (1906388-BS1)

Prepared: 06/26/19 Analyzed: 06/27/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | 0.0846 | 0.0020 | mg/kg | 0.100 | | 84.6 | 70-130 | | | |
| Toluene | 0.0976 | 0.0050 | " | 0.100 | | 97.6 | 70-130 | | | |
| Ethylbenzene | 0.112 | 0.0050 | " | 0.100 | | 112 | 70-130 | | | |
| m,p-Xylene | 0.223 | 0.010 | " | 0.200 | | 111 | 70-130 | | | |
| o-Xylene | 0.102 | 0.0050 | " | 0.100 | | 102 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0553 | | " | 0.0400 | | 138 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0392 | | " | 0.0400 | | 98.0 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0403 | | " | 0.0400 | | 101 | 21-167 | | | |

Matrix Spike (1906388-MS1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|---------|------|--------|--|--|--|
| Benzene | 0.0877 | 0.0020 | mg/kg | 0.100 | ND | 87.7 | 70-130 | | | |
| Toluene | 0.0996 | 0.0050 | " | 0.100 | ND | 99.6 | 70-130 | | | |
| Ethylbenzene | 0.115 | 0.0050 | " | 0.100 | ND | 115 | 70-130 | | | |
| m,p-Xylene | 0.220 | 0.010 | " | 0.200 | 0.00981 | 105 | 70-130 | | | |
| o-Xylene | 0.107 | 0.0050 | " | 0.100 | ND | 107 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0564 | | " | 0.0400 | | 141 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0405 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0422 | | " | 0.0400 | | 106 | 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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

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

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

Batch 1906388 - EPA 5030 Soil MS

Matrix Spike Dup (1906388-MSD1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|---------|------|--------|-------|----|--|
| Benzene | 0.0878 | 0.0020 | mg/kg | 0.100 | ND | 87.8 | 70-130 | 0.137 | 30 | |
| Toluene | 0.102 | 0.0050 | " | 0.100 | ND | 102 | 70-130 | 2.09 | 30 | |
| Ethylbenzene | 0.117 | 0.0050 | " | 0.100 | ND | 117 | 70-130 | 2.22 | 30 | |
| m,p-Xylene | 0.217 | 0.010 | " | 0.200 | 0.00981 | 104 | 70-130 | 1.40 | 30 | |
| o-Xylene | 0.108 | 0.0050 | " | 0.100 | ND | 108 | 70-130 | 0.754 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0553 | | " | 0.0400 | | 138 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0395 | | " | 0.0400 | | 98.7 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0419 | | " | 0.0400 | | 105 | 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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1906390 - EPA 3550A

Blank (1906390-BLK1)

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1906390-BS1)

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) 483 50 mg/kg 500 96.7 70-130

Matrix Spike (1906390-MS1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) 516 50 mg/kg 500 ND 103 70-130

Matrix Spike Dup (1906390-MSD1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) 478 50 mg/kg 500 ND 95.5 70-130 7.66 20

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

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 |

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 01, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1906391

Enclosed are the results of analyses for samples received by Summit Scientific on 06/28/19 17:58. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS06@15' | 1906391-01 | Soil | 06/28/19 11:16 | 06/28/19 17:58 |
| SS07@17' | 1906391-02 | Soil | 06/28/19 11:19 | 06/28/19 17:58 |

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

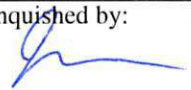
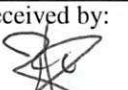
1906391

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | | Analyze For: | | | | | | | | | | Special Instructions | | | |
|--|---------------------------|-------------------------|----------------------|--|---------------------------|------|-------------------------|-------------|--------------------------|-------------------------------------|-----------------|---|-----------|--------------------------|----------|--------------------------|----------|--------------------------|--|--|--|----------------------|--|--|--|
| | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air - Canister Serial # | Other (Specify) | GBTEXN (8260) | TPH - DRO | | | | | | | | | | | | |
| SS06 @ 15' | 6/28/2019 | 11:16 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS07 @ 17' | 6/28/2019 | 11:19 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished by:  | Date/Time: <u>6/28/19</u> | Date/Time: <u>11:16</u> | | Received by:  | Date/Time: <u>6/28/19</u> | | Date/Time: <u>11:19</u> | | Turn Around Time (Check) | | | | | | | | | | | | | | | | |
| Relinquished by: | Date/Time: | Date/Time: | | Received by: | Date/Time: | | Date/Time: | | Same Day | <input checked="" type="checkbox"/> | 72 Hours | <input type="checkbox"/> | 24 Hours | <input type="checkbox"/> | Standard | <input type="checkbox"/> | 48 Hours | <input type="checkbox"/> | | | | | | | |
| Relinquished by: | Date/Time: | Date/Time: | | Received in Lab by: | Date/Time: | | Date/Time: | | Sample Integrity: | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Temperature Upon Receipt: <u>4.4</u> | | | | | | | | | | | | | |
| | | | | | | | | | | | | Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | | | | | | | | | | | | |

Sample Receipt Checklist

S2 Work Order 1906391

Client: PDC Client Project ID: Bauer S; 1271-4

Shipped Via: H.D. (P.U.) FedEx/UPS/USPS/Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air X Soil/Solid _____ Water _____ Other: _____
(Describe)

Temp (°C) 4.4

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|--|----------|----|----------|---------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? | <u>X</u> | | | |
| NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | | | | |
| Were all samples received intact ⁽¹⁾ ? | <u>X</u> | | | |
| Was adequate sample volume provided ⁽¹⁾ ? | <u>X</u> | | | |
| If custody seals are present, are they intact ⁽¹⁾ ? | | | <u>X</u> | |
| Are samples with holding times due within 48 hours sample due within 48 hours present? | <u>X</u> | | | <u>SAME DAY DEL</u> |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <u>X</u> | | | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <u>X</u> | | | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <u>X</u> | | | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <u>X</u> | | | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | | | <u>X</u> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? | | | <u>X</u> | |
| Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | <u>X</u> | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | | | <u>X</u> | |
| Record the pH in Comments. | | | <u>X</u> | |
| If dissolved metals are requested, were samples field filtered? | | | <u>X</u> | |

Additional Comments (if any):

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

Custodian Printed Name or Initials RE

Signature of Custodian [Signature]

Date/Time 06/28/19

1802



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

SS06@15'
1906391-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/19 11:16**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1906445 | 06/28/19 | 06/29/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/28/19 11:16**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.2 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 97.6 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/19 11:16**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1906446 | 06/28/19 | 06/28/19 | EPA 8015M | |

Date Sampled: **06/28/19 11:16**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 99.6 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

SS07@17'
1906391-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/19 11:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1906445 | 06/28/19 | 06/29/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/28/19 11:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 105 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.8 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 99.1 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/19 11:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1906446 | 06/28/19 | 06/28/19 | EPA 8015M | |

Date Sampled: **06/28/19 11:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 95.4 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1906445 - EPA 5030 Soil MS

Blank (1906445-BLK1)

Prepared & Analyzed: 06/28/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | ND | 0.0020 | mg/kg | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Naphthalene | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0405 | | " | 0.0400 | | 101 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0396 | | " | 0.0400 | | 99.1 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0390 | | " | 0.0400 | | 97.6 | 21-167 | | | |

LCS (1906445-BS1)

Prepared & Analyzed: 06/28/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | 0.0856 | 0.0020 | mg/kg | 0.100 | | 85.6 | 70-130 | | | |
| Toluene | 0.0940 | 0.0050 | " | 0.100 | | 94.0 | 70-130 | | | |
| Ethylbenzene | 0.103 | 0.0050 | " | 0.100 | | 103 | 70-130 | | | |
| m,p-Xylene | 0.206 | 0.010 | " | 0.200 | | 103 | 70-130 | | | |
| o-Xylene | 0.0976 | 0.0050 | " | 0.100 | | 97.6 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0405 | | " | 0.0400 | | 101 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0399 | | " | 0.0400 | | 99.8 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0408 | | " | 0.0400 | | 102 | 21-167 | | | |

Matrix Spike (1906445-MS1)

Source: 1906391-01

Prepared: 06/28/19 Analyzed: 06/29/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Benzene | 0.0846 | 0.0020 | mg/kg | 0.100 | ND | 84.6 | 70-130 | | | |
| Toluene | 0.0919 | 0.0050 | " | 0.100 | ND | 91.9 | 70-130 | | | |
| Ethylbenzene | 0.102 | 0.0050 | " | 0.100 | ND | 102 | 70-130 | | | |
| m,p-Xylene | 0.205 | 0.010 | " | 0.200 | ND | 102 | 70-130 | | | |
| o-Xylene | 0.0968 | 0.0050 | " | 0.100 | ND | 96.8 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0422 | | " | 0.0400 | | 105 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0398 | | " | 0.0400 | | 99.6 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0403 | | " | 0.0400 | | 101 | 21-167 | | | |

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

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

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

Batch 1906445 - EPA 5030 Soil MS

| Matrix Spike Dup (1906445-MSD1) | | Source: 1906391-01 | | | Prepared: 06/28/19 Analyzed: 06/29/19 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|---------------------------------------|------|--------|-------|----|--|
| Benzene | 0.0838 | 0.0020 | mg/kg | 0.100 | ND | 83.8 | 70-130 | 0.962 | 30 | |
| Toluene | 0.0912 | 0.0050 | " | 0.100 | ND | 91.2 | 70-130 | 0.754 | 30 | |
| Ethylbenzene | 0.101 | 0.0050 | " | 0.100 | ND | 101 | 70-130 | 1.19 | 30 | |
| m,p-Xylene | 0.201 | 0.010 | " | 0.200 | ND | 100 | 70-130 | 1.95 | 30 | |
| o-Xylene | 0.0968 | 0.0050 | " | 0.100 | ND | 96.8 | 70-130 | 0.00 | 30 | |
| <hr/> | | | | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0419 | | " | 0.0400 | | 105 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0394 | | " | 0.0400 | | 98.4 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0407 | | " | 0.0400 | | 102 | 21-167 | | | |

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1906446 - EPA 3550A

Blank (1906446-BLK1)

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1906446-BS1)

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) 487 50 mg/kg 500 97.4 70-130

Matrix Spike (1906446-MS1)

Source: 1906387-01

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) 506 50 mg/kg 500 87.8 83.7 70-130

Matrix Spike Dup (1906446-MSD1)

Source: 1906387-01

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) 497 50 mg/kg 500 87.8 81.8 70-130 1.92 20

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

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 |

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 02, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

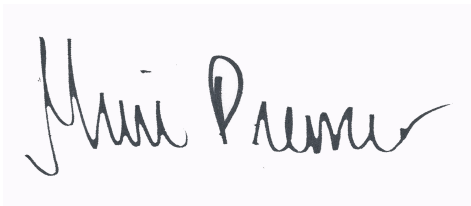
Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1907010

Enclosed are the results of analyses for samples received by Summit Scientific on 07/01/19 18:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", on a light blue background.

Muri Premier For Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS08@18' | 1907010-01 | Soil | 07/01/19 08:49 | 07/01/19 18:46 |
| SS09@15' | 1907010-02 | Soil | 07/01/19 11:21 | 07/01/19 18:46 |
| SS10@17' | 1907010-03 | Soil | 07/01/19 11:24 | 07/01/19 18:46 |
| SS11@15' | 1907010-04 | Soil | 07/01/19 11:42 | 07/01/19 18:46 |
| SS12@17' | 1907010-05 | Soil | 07/01/19 11:45 | 07/01/19 18:46 |
| SS13@15' | 1907010-06 | Soil | 07/01/19 15:02 | 07/01/19 18:46 |
| SS14@17' | 1907010-07 | Soil | 07/01/19 15:05 | 07/01/19 18:46 |
| SS15@18' | 1907010-08 | Soil | 07/01/19 15:19 | 07/01/19 18:46 |

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

1907010

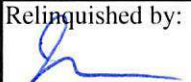
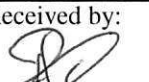
741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | | Analyze For: | | | | | | | | | | Special Instructions | | | |
|--------------------|--------------|--------------|----------------------|--------------|------------------|------|-----------------|-------------|------|-------------------------|-----------------|---------------|-----------|---|---|--|--|--|--|--|--|----------------------|--|--|--|
| | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air - Canister Serial # | Other (Specify) | GBTEXN (8260) | TPH - DRO | | | | | | | | | | | | |
| SS08 @ 18' | 7/1/2019 | 8:49 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS09 @ 15' | 7/1/2019 | 11:21 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS10 @ 17' | 7/1/2019 | 11:24 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS11 @ 15' | 7/1/2019 | 11:42 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS12 @ 17' | 7/1/2019 | 11:45 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS13 @ 15' | 7/1/2019 | 3:02 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS14 @ 17' | 7/1/2019 | 3:05 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| SS15 @ 18' | 7/1/2019 | 3:19 | 1 | | | X | | | X | | | | | X | X | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|--|-------------------------------|--|---------------------------------|---|---|
| Relinquished by:  | Date/Time: <u>7/1/19 4:42</u> | Received by:  | Date/Time: <u>07/01/19 1800</u> | Turn Around Time (Check) | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Same Day | <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> |
| | | | | 24 Hours | <input type="checkbox"/> Standard <input type="checkbox"/> |
| | | | | 48 Hours | <input type="checkbox"/> |
| Relinquished by: | Date/Time: | Received in Lab by: | Date/Time: | Sample Integrity: | |
| | | | | Temperature Upon Receipt: <u>3.8</u> | |
| | | | | Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |

Sample Receipt Checklist

S2 Work Order

1907010

Client:

PDC

Client Project ID:

BAUER 5; 12, 21-4

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):

Air

X

Soil/Solid

Water

Other:

(Describe)

Temp (°C)

3.8

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|--|-----|----|-----|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? | X | | | |
| NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | | | | |
| Were all samples received intact ⁽¹⁾ ? | X | | | |
| Was adequate sample volume provided ⁽¹⁾ ? | X | | | |
| If custody seals are present, are they intact ⁽¹⁾ ? | | | X | |
| Are samples with holding times due within 48 hours sample due within 48 hours present? | X | | | SAME DAY/TEST |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | X | | | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | X | | | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | X | | | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | X | | | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | | | X | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? | | | | |
| Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | X | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | | | X | |
| Record the pH in Comments. | | | X | |
| If dissolved metals are requested, were samples field filtered? | | | X | |

Additional Comments (if any):

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

Custodian Printed Name or Initials

RZ

Signature of Custodian

[Signature]

Date/Time

07/01/19

1840



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS08@18'
1907010-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 08:49**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 08:49**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 102 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.6 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.7 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 08:49**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | Units | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/01/19 | EPA 8015M | |

Date Sampled: **07/01/19 08:49**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | |
| Surrogate: o-Terphenyl | | 123 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS09@15'
1907010-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:21**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 11:21**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 99.2 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.5 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 93.4 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:21**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/01/19 | EPA 8015M | |

Date Sampled: **07/01/19 11:21**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 130 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS10@17'
1907010-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:24**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 11:24**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 104 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.5 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 95.5 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:24**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/01/19 | EPA 8015M | |

Date Sampled: **07/01/19 11:24**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 135 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS11@15'
1907010-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:42**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 11:42**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 101 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.1 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 96.6 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:42**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/01/19 | EPA 8015M | |

Date Sampled: **07/01/19 11:42**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 136 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS12@17'
1907010-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:45**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 11:45**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 102 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.2 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 97.6 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:45**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/01/19 | EPA 8015M | |

Date Sampled: **07/01/19 11:45**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 126 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS13@15'
1907010-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 15:02**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 0.0040 | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 1.2 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 15:02**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 101 % | 23-173 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 97.6 % | 20-170 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 104 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 15:02**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/01/19 | EPA 8015M | |

Date Sampled: **07/01/19 15:02**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> | | 136 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS14@17'
1907010-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 15:05**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 15:05**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 101 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.3 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 96.4 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 15:05**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/01/19 | EPA 8015M | |

Date Sampled: **07/01/19 15:05**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 114 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS15@18'
1907010-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 15:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 0.0020 | mg/kg | 1 | 1907020 | 07/01/19 | 07/02/19 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Naphthalene | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/01/19 15:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 97.1 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 100 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 107 % | 21-167 | | " | " | " | " | |

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 15:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1907022 | 07/01/19 | 07/02/19 | EPA 8015M | |

Date Sampled: **07/01/19 15:19**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: o-Terphenyl | | 139 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1907020 - EPA 5030 Soil MS

Blank (1907020-BLK1)

Prepared: 07/01/19 Analyzed: 07/02/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | ND | 0.0020 | mg/kg | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Naphthalene | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0361 | | " | 0.0400 | | 90.2 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0406 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0382 | | " | 0.0400 | | 95.6 | 21-167 | | | |

LCS (1907020-BS1)

Prepared: 07/01/19 Analyzed: 07/02/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | 0.162 | 0.0020 | mg/kg | 0.150 | | 108 | 70-130 | | | |
| Toluene | 0.164 | 0.0050 | " | 0.150 | | 109 | 70-130 | | | |
| Ethylbenzene | 0.161 | 0.0050 | " | 0.150 | | 107 | 70-130 | | | |
| m,p-Xylene | 0.316 | 0.010 | " | 0.300 | | 105 | 70-130 | | | |
| o-Xylene | 0.166 | 0.0050 | " | 0.150 | | 111 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0386 | | " | 0.0400 | | 96.5 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0407 | | " | 0.0400 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0396 | | " | 0.0400 | | 98.9 | 21-167 | | | |

Matrix Spike (1907020-MS1)

Source: 1907010-01

Prepared: 07/01/19 Analyzed: 07/02/19

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Benzene | 0.168 | 0.0020 | mg/kg | 0.150 | ND | 112 | 70-130 | | | |
| Toluene | 0.169 | 0.0050 | " | 0.150 | ND | 113 | 70-130 | | | |
| Ethylbenzene | 0.166 | 0.0050 | " | 0.150 | ND | 111 | 70-130 | | | |
| m,p-Xylene | 0.326 | 0.010 | " | 0.300 | ND | 109 | 70-130 | | | |
| o-Xylene | 0.169 | 0.0050 | " | 0.150 | ND | 113 | 70-130 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0382 | | " | 0.0400 | | 95.6 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0404 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0389 | | " | 0.0400 | | 97.3 | 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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

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

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

Batch 1907020 - EPA 5030 Soil MS

| Matrix Spike Dup (1907020-MSD1) | Source: 1907010-01 | | | Prepared: 07/01/19 Analyzed: 07/02/19 | | | | | | |
|----------------------------------|--------------------|--------|-------|---------------------------------------|----|------|--------|--------|----|--|
| Benzene | 0.167 | 0.0020 | mg/kg | 0.150 | ND | 111 | 70-130 | 0.323 | 30 | |
| Toluene | 0.168 | 0.0050 | " | 0.150 | ND | 112 | 70-130 | 0.696 | 30 | |
| Ethylbenzene | 0.166 | 0.0050 | " | 0.150 | ND | 111 | 70-130 | 0.0180 | 30 | |
| m,p-Xylene | 0.328 | 0.010 | " | 0.300 | ND | 109 | 70-130 | 0.698 | 30 | |
| o-Xylene | 0.170 | 0.0050 | " | 0.150 | ND | 113 | 70-130 | 0.460 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0386 | | " | 0.0400 | | 96.6 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0406 | | " | 0.0400 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0380 | | " | 0.0400 | | 94.9 | 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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1907022 - EPA 3550A

Blank (1907022-BLK1)

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1907022-BS1)

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) 474 50 mg/kg 500 94.7 70-130

Matrix Spike (1907022-MS1)

Source: 1907010-01

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) 497 50 mg/kg 500 ND 99.4 70-130

Matrix Spike Dup (1907022-MSD1)

Source: 1907010-01

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) 511 50 mg/kg 500 ND 102 70-130 2.76 20

Summit Scientific

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



PDC Energy

1775 Sherman St. STE. 3000

Denver CO, 80203

Project: Bauer 5; 12, 21-4

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

07/02/19 17:38

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 |

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 04, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1907052

Enclosed are the results of analyses for samples received by Summit Scientific on 07/03/19 17:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| GW01 | 1907052-01 | Water | 07/03/19 08:34 | 07/03/19 17:20 |

Summit Scientific

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

1907052

Page 1 of 1

| | |
|------------------|-------------------------|
| Project Manager: | Mark Longhurst |
| E-Mail: | Mark.Longhurst@pdce.com |
| Project Name: | Bauer 5; 12, 21-4 |
| Project Number: | |

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 19070S2

Client: PDC Client Project ID: Bauer 5; 12, 12-4

Shipped Via: H.D. (P.U.) / FedEx/UPS/USPS/Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air _____ Soil/Solid X Water _____ Other: _____
(Describe)

| | |
|-----------|-------------|
| Temp (°C) | <u>6-0°</u> |
|-----------|-------------|

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | on ice |
| Were all samples received intact ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was adequate sample volume provided ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If custody seals are present, are they intact ⁽¹⁾ ? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Are samples with holding times due within 48 hours sample due within 48 hours present? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Same Day |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | HCl |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If dissolved metals are requested, were samples field filtered? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

Additional Comments (if any):

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

AT
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

7-3-19 17:20
Date/Time



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

GW01
1907052-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/03/19 08:34**

| Analyte | Result | Reporting | | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | | |
| Benzene | 3.5 | 1.0 | | ug/l | 1 | 1907029 | 07/03/19 | 07/03/19 | EPA 8260B | |
| Toluene | ND | 1.0 | | " | " | " | " | " | " | |
| Ethylbenzene | 1.6 | 1.0 | | " | " | " | " | " | " | |
| Xylenes (total) | 16 | 2.0 | | " | " | " | " | " | " | |

Date Sampled: **07/03/19 08:34**

| Analyte | Result | Reporting | | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 94.7 % | | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 96.8 % | | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 99.2 % | | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1907029 - EPA 5030 Water MS

Blank (1907029-BLK1)

Prepared & Analyzed: 07/03/19

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 2.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.6 | | " | 13.3 | | 94.7 | 23-173 | | | |
| Surrogate: Toluene-d8 | 12.8 | | " | 13.3 | | 96.1 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 12.6 | | " | 13.3 | | 94.5 | 21-167 | | | |

LCS (1907029-BS1)

Prepared & Analyzed: 07/03/19

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | 27.3 | 1.0 | ug/l | 33.3 | | 82.0 | 51-132 | | | |
| Toluene | 29.9 | 1.0 | " | 33.3 | | 89.6 | 51-138 | | | |
| Ethylbenzene | 32.3 | 1.0 | " | 33.3 | | 96.8 | 58-146 | | | |
| m,p-Xylene | 64.5 | 2.0 | " | 66.7 | | 96.8 | 57-144 | | | |
| o-Xylene | 31.0 | 1.0 | " | 33.3 | | 93.1 | 53-146 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.0 | | " | 13.3 | | 97.7 | 23-173 | | | |
| Surrogate: Toluene-d8 | 13.0 | | " | 13.3 | | 97.8 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.2 | | " | 13.3 | | 99.3 | 21-167 | | | |

Matrix Spike (1907029-MS1)

Source: 1906398-01

Prepared & Analyzed: 07/03/19

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|----|------|--------|--|--|--|
| Benzene | 27.0 | 1.0 | ug/l | 33.3 | ND | 81.2 | 34-141 | | | |
| Toluene | 29.9 | 1.0 | " | 33.3 | ND | 89.6 | 27-151 | | | |
| Ethylbenzene | 31.9 | 1.0 | " | 33.3 | ND | 95.8 | 29-160 | | | |
| m,p-Xylene | 63.9 | 2.0 | " | 66.7 | ND | 95.8 | 20-166 | | | |
| o-Xylene | 31.0 | 1.0 | " | 33.3 | ND | 93.2 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.2 | | " | 13.3 | | 99.0 | 23-173 | | | |
| Surrogate: Toluene-d8 | 12.8 | | " | 13.3 | | 96.3 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.4 | | " | 13.3 | | 100 | 21-167 | | | |

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Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

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

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

Batch 1907029 - EPA 5030 Water MS

| Matrix Spike Dup (1907029-MSD1) | Source: 1906398-01 | | | Prepared & Analyzed: 07/03/19 | | | | | | |
|----------------------------------|--------------------|-----|------|-------------------------------|----|------|--------|-------|----|--|
| Benzene | 27.6 | 1.0 | ug/l | 33.3 | ND | 82.9 | 34-141 | 2.12 | 30 | |
| Toluene | 30.2 | 1.0 | " | 33.3 | ND | 90.5 | 27-151 | 0.999 | 30 | |
| Ethylbenzene | 32.4 | 1.0 | " | 33.3 | ND | 97.1 | 29-160 | 1.43 | 30 | |
| m,p-Xylene | 64.8 | 2.0 | " | 66.7 | ND | 97.2 | 20-166 | 1.40 | 30 | |
| o-Xylene | 31.4 | 1.0 | " | 33.3 | ND | 94.3 | 33-159 | 1.18 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 14.2 | | " | 13.3 | | 107 | 23-173 | | | |
| Surrogate: Toluene-d8 | 12.9 | | " | 13.3 | | 96.8 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.3 | | " | 13.3 | | 99.5 | 21-167 | | | |

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Denver CO, 80203

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

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 |