

TABLE 1
J&L FARMS 14, 24-29 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 @ 15' | 7/17/2017 | 15 | 0.0069 | <0.0050 | 0.62 | 6.1 | 0.92 | 2,310 |
| SS02 @ 23' | 7/19/2017 | 23 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | 0.53 |
| SS03 @ 16' | 8/22/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS04 @ 16' | 8/22/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS05 @ 16' | 8/22/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS06 @ 16' | 8/23/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS07 @ 16' | 8/23/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS08 @ 16' | 8/24/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS09 @ 16' | 8/24/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | 120 |
| SS10 @ 16' | 8/24/2017 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | 100 |

Notes:

- Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective January 30, 2015.
- 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

BOLD = Analytical result is in exceedance of COGCC soil standards.

TABLE 2
J&L FARMS 14, 24-29 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 | 8/31/2017 | 6.4 | <1.0 | <1.0 | <2.0 | ~ 18 |
| GW02 | 9/5/2017 | 60 | 3.4 | 2.2 | 170 | ~ 18 |

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective January 30, 2015.

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.

BOLD = Analytical result is in exceedance of COGCC groundwater standards.

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 18, 2017

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 07/17/17 17:30. 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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS01@15' | 1707112-01 | Soil | 07/17/17 13:17 | 07/17/17 17:30 |

Summit Scientific

A handwritten signature in black ink, appearing to be 'MSM'.

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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

Sample Receipt Checklist

S2 Work Order: 1307112
Client: PDC Energy Client Project ID: J&L Farms 14, 24-29
Shipped Via: P/U Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

| | | | | | |
|-----------|------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>4.3</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⁾ ? | <input checked="" type="checkbox"/> | | | |
| 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⁾ ? | <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 short holding time analytes or samples with HTs due within 48 hours present? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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.

Nakita
Custodian Printed Name

MS
Signature or Initials of Custodian

7/17/17 1730
Date/Time



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

SS01@15'
1707112-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/17/17 13:17**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Analyst | Method | Notes |
|----------------------|-------------|-----------|-------|----------|---------|----------|----------|---------|--------|-------|
| | | Limit | Units | | | | | | | |
| C10-C28 (DRO) | 1900 | 50 | mg/kg | 1 | 1707135 | 07/17/17 | 07/18/17 | LS | 8015M | |

Date Sampled: **07/17/17 13:17**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Analyst | Method | Notes |
|-------------------------------|--------|-----------|-------|----------|-------|----------|----------|---------|--------|-------|
| | | Limit | Units | | | | | | | |
| <i>Surrogate: o-Terphenyl</i> | | 140 % | | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/17/17 13:17**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Analyst | Method | Notes |
|------------------------------------|---------------|-----------|-------|----------|---------|----------|----------|---------|-----------|-------|
| | | Limit | Units | | | | | | | |
| Naphthalene | 0.92 | 0.10 | mg/kg | 10 | 1707128 | " | 07/18/17 | LS | EPA 8260B | |
| Benzene | 0.0069 | 0.0020 | " | 1 | " | " | " | LS | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | LS | " | |
| Ethylbenzene | 0.62 | 0.50 | " | 100 | " | " | " | LS | " | |
| Xylenes (total) | 6.1 | 1.0 | " | " | " | " | " | LS | " | |
| Gasoline Range Hydrocarbons | 410 | 50 | " | " | " | " | 07/18/17 | LS | " | |

Date Sampled: **07/17/17 13:17**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Analyst | Method | Notes |
|---|--------|-----------|-------|----------|-------|----------|----------|----------|--------|-------|
| | | Limit | Units | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 119 % | | 23-173 | | " | " | 07/18/17 | " | |
| <i>Surrogate: Toluene-d8</i> | | 107 % | | 20-170 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 104 % | | 21-167 | | " | " | " | " | |

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/17/17 13:17**

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

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

SS01@15'
1707112-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

| | | | | | | | | |
|---------------------------|-------|----------------|---|---------|----------|----------|----|----------|
| pH | 8.71 | 0.100pH Units | 1 | 1707139 | 07/17/17 | 07/17/17 | LS | EPA 9045 |
| Specific Conductance (EC) | 0.810 | 0.0100umhos/cm | " | 1707138 | 07/17/17 | " | LS | SM 2510B |

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1707135 - EPA 3550A

Blank (1707135-BLK1)

Prepared & Analyzed: 07/17/17

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 14.2 " 12.5 113 30-150

LCS (1707135-BS1)

Prepared & Analyzed: 07/17/17

C10-C28 (DRO) 564 50 mg/kg 499 113 73-134

Surrogate: o-Terphenyl 15.3 " 12.5 122 30-150

Matrix Spike (1707135-MS1)

Source: 1707110-01

Prepared & Analyzed: 07/17/17

C10-C28 (DRO) 1010 50 mg/kg 998 37.1 97.2 50-148

Surrogate: o-Terphenyl 14.7 " 12.5 117 30-150

Matrix Spike Dup (1707135-MSD1)

Source: 1707110-01

Prepared & Analyzed: 07/17/17

C10-C28 (DRO) 516 50 mg/kg 499 37.1 96.0 50-148 64.5 20 QR-02

Surrogate: o-Terphenyl 13.7 " 12.5 109 30-150

Summit Scientific

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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

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 1707128 - EPA 5030 Soil MS

Blank (1707128-BLK1)

Prepared & Analyzed: 07/17/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0463</i> | | <i>"</i> | <i>0.0400</i> | | <i>116</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0382</i> | | <i>"</i> | <i>0.0400</i> | | <i>95.5</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0398</i> | | <i>"</i> | <i>0.0400</i> | | <i>99.5</i> | <i>21-167</i> | | | |

LCS (1707128-BS1)

Prepared & Analyzed: 07/17/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.106 | 0.0020 | " | 0.100 | | 106 | 58-130 | | | |
| Toluene | 0.117 | 0.0050 | " | 0.100 | | 117 | 61-134 | | | |
| Ethylbenzene | 0.135 | 0.0050 | " | 0.0992 | | 136 | 74-139 | | | |
| m,p-Xylene | 0.250 | 0.010 | " | 0.200 | | 125 | 73-137 | | | |
| o-Xylene | 0.126 | 0.0050 | " | 0.0980 | | 129 | 73-141 | | | |
| Xylenes (total) | 0.376 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.94 | 0.50 | " | | | | 30-150 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0477</i> | | <i>"</i> | <i>0.0400</i> | | <i>119</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0393</i> | | <i>"</i> | <i>0.0400</i> | | <i>98.3</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0398</i> | | <i>"</i> | <i>0.0400</i> | | <i>99.5</i> | <i>21-167</i> | | | |

Matrix Spike (1707128-MS1)

Source: 1707108-07

Prepared & Analyzed: 07/17/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|----|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.107 | 0.0020 | " | 0.100 | ND | 107 | 30-131 | | | |
| Toluene | 0.118 | 0.0050 | " | 0.100 | ND | 118 | 30-134 | | | |
| Ethylbenzene | 0.137 | 0.0050 | " | 0.0992 | ND | 139 | 22-153 | | | |
| m,p-Xylene | 0.256 | 0.010 | " | 0.200 | ND | 128 | 10-159 | | | |
| o-Xylene | 0.130 | 0.0050 | " | 0.0980 | ND | 132 | 31-151 | | | |
| Xylenes (total) | 0.386 | 0.010 | " | | ND | | 30-160 | | | |
| Gasoline Range Hydrocarbons | 3.01 | 0.50 | " | | ND | | 30-160 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0495</i> | | <i>"</i> | <i>0.0400</i> | | <i>124</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0392</i> | | <i>"</i> | <i>0.0400</i> | | <i>97.9</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0410</i> | | <i>"</i> | <i>0.0400</i> | | <i>103</i> | <i>21-167</i> | | | |

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

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 1707128 - EPA 5030 Soil MS

| Matrix Spike Dup (1707128-MSD1) | | Source: 1707108-07 | | | Prepared & Analyzed: 07/17/17 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|-------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.107 | 0.0020 | " | 0.100 | ND | 107 | 30-131 | 0.617 | 34 | |
| Toluene | 0.118 | 0.0050 | " | 0.100 | ND | 118 | 30-134 | 0.280 | 30 | |
| Ethylbenzene | 0.139 | 0.0050 | " | 0.0992 | ND | 140 | 22-153 | 1.28 | 24 | |
| m,p-Xylene | 0.258 | 0.010 | " | 0.200 | ND | 129 | 10-159 | 0.817 | 68 | |
| o-Xylene | 0.132 | 0.0050 | " | 0.0980 | ND | 134 | 31-151 | 1.61 | 38 | |
| Xylenes (total) | 0.390 | 0.010 | " | | ND | | 30-160 | 1.08 | 30 | |
| Gasoline Range Hydrocarbons | 3.08 | 0.50 | " | | ND | | 30-160 | 2.57 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0481 | | " | 0.0400 | | 120 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0386 | | " | 0.0400 | | 96.4 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0408 | | " | 0.0400 | | 102 | 21-167 | | | |

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

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

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

Batch 1707138 - General Preparation

Blank (1707138-BLK1)

Prepared & Analyzed: 07/17/17

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (1707138-BS1)

Prepared & Analyzed: 07/17/17

Specific Conductance (EC) 0.500 0.0100 mmhos/cm 0.500 100 90-110

Duplicate (1707138-DUP1)

Source: 1707112-01

Prepared & Analyzed: 07/17/17

Specific Conductance (EC) 0.813 0.0100 mmhos/cm 0.810 0.431 20

Batch 1707139 - General Preparation

LCS (1707139-BS1)

Prepared & Analyzed: 07/17/17

pH 6.00 0.100 pH Units 6.00 100 95-105

Duplicate (1707139-DUP1)

Source: 1707112-01

Prepared & Analyzed: 07/17/17

pH 8.65 0.100 pH Units 8.71 0.691 20

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/18/17 07:21

Notes and Definitions

| | |
|-------|---|
| QR-02 | The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data. |
| 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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 20, 2017

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 07/19/17 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/17 06:04

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS02@23' | 1707134-01 | Soil | 07/19/17 11:45 | 07/19/17 16:30 |

Summit Scientific

A handwritten signature in black ink, appearing to be 'MSM'.

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/17 06:04

Sample Receipt Checklist

S2 Work Order: 1707134

Client: PDC

Client Project ID: J & L Farms 14, 24-29

Shipped Via: P/U

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #:

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

| | | | | | |
|-----------|-----|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | 8.6 | | | | |

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. | ✓ | | | |
| Were all samples received intact ⁽¹⁾ ? | ✓ | | | |
| Was adequate sample volume provided ⁽¹⁾ ? | ✓ | | | |
| If custody seals are present, are they intact ⁽¹⁾ ? | | | ✓ | |
| Are short holding time analytes or samples with HTs due within 48 hours present? | | | ✓ | |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | ✓ | | | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | ✓ | | | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | ✓ | | | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | ✓ | | | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | | | ✓ | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? | | | ✓ | |
| Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | ✓ | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | | | ✓ | |
| Record the pH in Comments. | | | ✓ | |
| If dissolved metals are requested, were samples field filtered? | | | ✓ | |
| Additional Comments (if any): | | | | |
| | | | | |
| ⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative. | | | | |

Nakita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

7/19/17 1735
Date/Time



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/17 06:04

SS02@23'
1707134-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/19/17 11:45**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Analyst | Method | Notes |
|---------------|--------|-----------|-------|----------|---------|----------|----------|---------|--------|-------|
| | | Limit | Units | | | | | | | |
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707175 | 07/19/17 | 07/19/17 | LS | 8015M | |

Date Sampled: **07/19/17 11:45**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/19/17 11:45**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Analyst | Method | Notes |
|------------------------------------|-------------|-----------|-------|----------|---------|----------|----------|---------|-----------|-------|
| | | Limit | Units | | | | | | | |
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1707174 | 07/19/17 | 07/19/17 | LS | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | LS | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | LS | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | LS | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | LS | " | |
| Gasoline Range Hydrocarbons | 0.53 | 0.50 | " | " | " | " | " | LS | " | |

Date Sampled: **07/19/17 11:45**

| Analyte | Result | Reporting | | Dilution | Batch | Prepared | Analyzed | Analyst | Method | Notes |
|----------------------------------|--------|-----------|-------|----------|-------|----------|----------|---------|--------|-------|
| | | Limit | Units | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 107 % | | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.8 % | | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 97.1 % | | 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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/17 06:04

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1707175 - EPA 3550A

Blank (1707175-BLK1)

Prepared & Analyzed: 07/19/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|-----|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 16.9 | | " | 12.5 | | 135 | 30-150 | | | |

LCS (1707175-BS1)

Prepared & Analyzed: 07/19/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|-----|--------|--|--|--|
| C10-C28 (DRO) | 609 | 50 | mg/kg | 499 | | 122 | 73-134 | | | |
| Surrogate: o-Terphenyl | 15.2 | | " | 12.5 | | 121 | 30-150 | | | |

Matrix Spike (1707175-MS1)

Source: 1707134-01

Prepared & Analyzed: 07/19/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|-----|--------|--|--|--|
| C10-C28 (DRO) | 553 | 50 | mg/kg | 499 | 41.1 | 103 | 50-148 | | | |
| Surrogate: o-Terphenyl | 14.6 | | " | 12.5 | | 117 | 30-150 | | | |

Matrix Spike Dup (1707175-MSD1)

Source: 1707134-01

Prepared & Analyzed: 07/19/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|-----|--------|------|----|--|
| C10-C28 (DRO) | 562 | 50 | mg/kg | 499 | 41.1 | 104 | 50-148 | 1.64 | 20 | |
| Surrogate: o-Terphenyl | 14.7 | | " | 12.5 | | 117 | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/17 06:04

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 1707174 - EPA 5030 Soil MS

Blank (1707174-BLK1)

Prepared & Analyzed: 07/19/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0413</i> | | <i>"</i> | <i>0.0400</i> | | <i>103</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0399</i> | | <i>"</i> | <i>0.0400</i> | | <i>99.7</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0386</i> | | <i>"</i> | <i>0.0400</i> | | <i>96.5</i> | <i>21-167</i> | | | |

LCS (1707174-BS1)

Prepared & Analyzed: 07/19/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.0840 | 0.0020 | " | 0.100 | | 84.0 | 58-130 | | | |
| Toluene | 0.0982 | 0.0050 | " | 0.100 | | 98.2 | 61-134 | | | |
| Ethylbenzene | 0.115 | 0.0050 | " | 0.0992 | | 116 | 74-139 | | | |
| m,p-Xylene | 0.218 | 0.010 | " | 0.200 | | 109 | 73-137 | | | |
| o-Xylene | 0.108 | 0.0050 | " | 0.0980 | | 110 | 73-141 | | | |
| Xylenes (total) | 0.326 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 3.50 | 0.50 | " | | | | 30-150 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0416</i> | | <i>"</i> | <i>0.0400</i> | | <i>104</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0388</i> | | <i>"</i> | <i>0.0400</i> | | <i>97.1</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0387</i> | | <i>"</i> | <i>0.0400</i> | | <i>96.7</i> | <i>21-167</i> | | | |

Matrix Spike (1707174-MS1)

Source: 1707134-01

Prepared & Analyzed: 07/19/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|-------|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.0849 | 0.0020 | " | 0.100 | ND | 84.9 | 30-131 | | | |
| Toluene | 0.0996 | 0.0050 | " | 0.100 | ND | 99.6 | 30-134 | | | |
| Ethylbenzene | 0.114 | 0.0050 | " | 0.0992 | ND | 115 | 22-153 | | | |
| m,p-Xylene | 0.216 | 0.010 | " | 0.200 | ND | 108 | 10-159 | | | |
| o-Xylene | 0.108 | 0.0050 | " | 0.0980 | ND | 111 | 31-151 | | | |
| Xylenes (total) | 0.325 | 0.010 | " | | ND | | 30-160 | | | |
| Gasoline Range Hydrocarbons | 3.62 | 0.50 | " | | 0.535 | | 30-160 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0405</i> | | <i>"</i> | <i>0.0400</i> | | <i>101</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0387</i> | | <i>"</i> | <i>0.0400</i> | | <i>96.8</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0377</i> | | <i>"</i> | <i>0.0400</i> | | <i>94.4</i> | <i>21-167</i> | | | |

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/17 06:04

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 1707174 - EPA 5030 Soil MS

| Matrix Spike Dup (1707174-MSD1) | | Source: 1707134-01 | | | Prepared & Analyzed: 07/19/17 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|-------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.0855 | 0.0020 | " | 0.100 | ND | 85.5 | 30-131 | 0.739 | 34 | |
| Toluene | 0.102 | 0.0050 | " | 0.100 | ND | 102 | 30-134 | 2.38 | 30 | |
| Ethylbenzene | 0.114 | 0.0050 | " | 0.0992 | ND | 115 | 22-153 | 0.158 | 24 | |
| m,p-Xylene | 0.219 | 0.010 | " | 0.200 | ND | 110 | 10-159 | 1.14 | 68 | |
| o-Xylene | 0.109 | 0.0050 | " | 0.0980 | ND | 111 | 31-151 | 0.249 | 38 | |
| Xylenes (total) | 0.328 | 0.010 | " | | ND | | 30-160 | 0.846 | 30 | |
| Gasoline Range Hydrocarbons | 3.94 | 0.50 | " | | 0.535 | | 30-160 | 8.30 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0392 | | " | 0.0400 | | 98.0 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0396 | | " | 0.0400 | | 98.9 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0384 | | " | 0.0400 | | 96.0 | 21-167 | | | |

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/17 06:04

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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 23, 2017

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 08/22/17 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS03@16' | 1708192-01 | Soil | 08/22/17 11:21 | 08/22/17 16:30 |
| SS04@16' | 1708192-02 | Soil | 08/22/17 12:31 | 08/22/17 16:30 |
| SS05@16' | 1708192-03 | Soil | 08/22/17 13:37 | 08/22/17 16:30 |

Summit Scientific

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



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

Summit Scientific 1768192

741 Corporate Circle Suite 1 ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address:
City/State/Zip:
Phone: Fax:
Sampler Name: Chris Armbruster

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: J&L Farms 14, 24-29
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) | DRO (TPH) | | | | | | | | | | | |
| SS03@16' | 8/22/2017 | 11:21 | 1 | | X | | | X | | | | X | X | | | | | | | | | | | |
| SS04@16' | 8/22/2017 | 12:31 | 1 | | X | | | X | | | | X | X | | | | | | | | | | | |
| SS05@16' | 8/22/2017 | 1:37 | 1 | | X | | | X | | | | X | X | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Turn Around Time (Check) | | | | | | | | | | Notes: | | | | | | | | | | |
| Chris Armbruster | 8/22/17 1630 | MA | 8/22/17 1630 | Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> | | | | | | | | | | on ice | | | | | | | | | | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | 24 Hours <input type="checkbox"/> Standard <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | 48 Hours <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | |
| Relinquished by: | Date/Time: | Received in Lab by: | Date/Time: | Sample Integrity: | | | | | | | | | | | | | | | | | | | | |
| | | | | Temperature Upon Receipt: 1.8°C | | | | | | | | | | | | | | | | | | | | |
| | | | | Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No | | | | | | | | | | | | | | | | | | | | |

www.s2scientific.com

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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

Sample Receipt Checklist

S2 Work Order: 1708192

Client: PDC Client Project ID: J&L Farms 14, 24-29

Shipped Via: P/U Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

| | | | | | |
|-----------|------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>1.8</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⁾ ? | <input checked="" type="checkbox"/> | | | |
| 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⁾ ? | <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 short holding time analytes or samples with HTs due within 48 hours present? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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.

Nakita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

8/22/17 1700
Date/Time



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

SS03@16'
1708192-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/17 11:21**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1708211 | 08/22/17 | 08/23/17 | 8015M | |

Date Sampled: **08/22/17 11:21**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|--------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: <i>o</i> -Terphenyl | | 94.0 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/17 11:21**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708210 | 08/22/17 | 08/22/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/22/17 11:21**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 115 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 100 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

SS04@16'
1708192-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/17 12:31**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1708211 | 08/22/17 | 08/23/17 | 8015M | |

Date Sampled: **08/22/17 12:31**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/17 12:31**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708210 | 08/22/17 | 08/22/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/22/17 12:31**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 114 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

SS05@16'
1708192-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/17 13:37**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1708211 | 08/22/17 | 08/23/17 | 8015M | |

Date Sampled: **08/22/17 13:37**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 96.4 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/17 13:37**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708210 | 08/22/17 | 08/22/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/22/17 13:37**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 120 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1708211 - EPA 3550A

Blank (1708211-BLK1)

Prepared & Analyzed: 08/22/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 11.5 | | " | 12.5 | | 92.3 | 30-150 | | | |

LCS (1708211-BS1)

Prepared & Analyzed: 08/22/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | 461 | 50 | mg/kg | 499 | | 92.4 | 73-134 | | | |
| Surrogate: o-Terphenyl | 11.5 | | " | 12.5 | | 91.9 | 30-150 | | | |

Matrix Spike (1708211-MS1)

Source: 1708192-01

Prepared & Analyzed: 08/22/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|------|--------|--|--|--|
| C10-C28 (DRO) | 477 | 50 | mg/kg | 499 | 41.9 | 87.3 | 50-148 | | | |
| Surrogate: o-Terphenyl | 11.6 | | " | 12.5 | | 92.6 | 30-150 | | | |

Matrix Spike Dup (1708211-MSD1)

Source: 1708192-01

Prepared & Analyzed: 08/22/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|------|--------|-------|----|--|
| C10-C28 (DRO) | 476 | 50 | mg/kg | 499 | 41.9 | 87.1 | 50-148 | 0.226 | 20 | |
| Surrogate: o-Terphenyl | 11.5 | | " | 12.5 | | 92.1 | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

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 1708210 - EPA 5030 Soil MS

Blank (1708210-BLK1)

Prepared & Analyzed: 08/22/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0435</i> | | <i>"</i> | <i>0.0400</i> | | <i>109</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0407</i> | | <i>"</i> | <i>0.0400</i> | | <i>102</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0399</i> | | <i>"</i> | <i>0.0400</i> | | <i>99.8</i> | <i>21-167</i> | | | |

LCS (1708210-BS1)

Prepared & Analyzed: 08/22/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.107 | 0.0020 | " | 0.100 | | 107 | 58-130 | | | |
| Toluene | 0.110 | 0.0050 | " | 0.100 | | 110 | 61-134 | | | |
| Ethylbenzene | 0.103 | 0.0050 | " | 0.0992 | | 104 | 74-139 | | | |
| m,p-Xylene | 0.190 | 0.010 | " | 0.200 | | 95.3 | 73-137 | | | |
| o-Xylene | 0.0958 | 0.0050 | " | 0.0980 | | 97.7 | 73-141 | | | |
| Xylenes (total) | 0.286 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.16 | 0.50 | " | | | | 30-150 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0429</i> | | <i>"</i> | <i>0.0400</i> | | <i>107</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0466</i> | | <i>"</i> | <i>0.0400</i> | | <i>117</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0423</i> | | <i>"</i> | <i>0.0400</i> | | <i>106</i> | <i>21-167</i> | | | |

Matrix Spike (1708210-MS1)

Source: 1708192-01

Prepared & Analyzed: 08/22/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|----|------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.111 | 0.0020 | " | 0.100 | ND | 111 | 30-131 | | | |
| Toluene | 0.112 | 0.0050 | " | 0.100 | ND | 112 | 30-134 | | | |
| Ethylbenzene | 0.117 | 0.0050 | " | 0.0992 | ND | 118 | 22-153 | | | |
| m,p-Xylene | 0.217 | 0.010 | " | 0.200 | ND | 108 | 10-159 | | | |
| o-Xylene | 0.107 | 0.0050 | " | 0.0980 | ND | 110 | 31-151 | | | |
| Xylenes (total) | 0.324 | 0.010 | " | | ND | | 30-160 | | | |
| Gasoline Range Hydrocarbons | 2.56 | 0.50 | " | | ND | | 30-160 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0459</i> | | <i>"</i> | <i>0.0400</i> | | <i>115</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0421</i> | | <i>"</i> | <i>0.0400</i> | | <i>105</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0415</i> | | <i>"</i> | <i>0.0400</i> | | <i>104</i> | <i>21-167</i> | | | |

Summit Scientific

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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

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 1708210 - EPA 5030 Soil MS

| Matrix Spike Dup (1708210-MSD1) | | Source: 1708192-01 | | | Prepared & Analyzed: 08/22/17 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|-----|--------|------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.123 | 0.0020 | " | 0.100 | ND | 123 | 30-131 | 9.72 | 34 | |
| Toluene | 0.125 | 0.0050 | " | 0.100 | ND | 125 | 30-134 | 10.8 | 30 | |
| Ethylbenzene | 0.133 | 0.0050 | " | 0.0992 | ND | 134 | 22-153 | 12.9 | 24 | |
| m,p-Xylene | 0.244 | 0.010 | " | 0.200 | ND | 122 | 10-159 | 11.9 | 68 | |
| o-Xylene | 0.122 | 0.0050 | " | 0.0980 | ND | 124 | 31-151 | 12.7 | 38 | |
| Xylenes (total) | 0.366 | 0.010 | " | | ND | | 30-160 | 12.2 | 30 | |
| Gasoline Range Hydrocarbons | 3.03 | 0.50 | " | | ND | | 30-160 | 16.6 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0467 | | " | 0.0400 | | 117 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0410 | | " | 0.0400 | | 103 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0408 | | " | 0.0400 | | 102 | 21-167 | | | |

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/23/17 07:11

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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 24, 2017

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 08/23/17 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS06@16' | 1708206-01 | Soil | 08/23/17 11:15 | 08/23/17 17:00 |
| SS07@16' | 1708206-02 | Soil | 08/23/17 11:25 | 08/23/17 17:00 |

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.



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

Sample Receipt Checklist

S2 Work Order: 17082036

Client: PDC

Client Project ID: J & L Farms 14, 24-29

Shipped Via: P/U

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: _____

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

| | | | | | |
|-----------|------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>9.8</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⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 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⁾ ? | <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 short holding time analytes or samples with HTs due within 48 hours present? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 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.

Nakita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

8/23/17 1715
Date/Time



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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

SS06@16'
1708206-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/17 11:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1708216 | 08/23/17 | 08/23/17 | 8015M | |

Date Sampled: **08/23/17 11:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 102 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/17 11:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708215 | 08/23/17 | 08/24/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/23/17 11:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 116 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.3 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 101 % | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

SS07@16'
1708206-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/17 11:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1708216 | 08/23/17 | 08/23/17 | 8015M | |

Date Sampled: **08/23/17 11:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 103 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/17 11:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708215 | 08/23/17 | 08/24/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/23/17 11:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 118 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 102 % | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1708216 - EPA 3550A

Blank (1708216-BLK1)

Prepared & Analyzed: 08/23/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|-----|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 13.2 | | " | 12.5 | | 106 | 30-150 | | | |

LCS (1708216-BS1)

Prepared & Analyzed: 08/23/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|-----|--------|--|--|--|
| C10-C28 (DRO) | 540 | 50 | mg/kg | 499 | | 108 | 73-134 | | | |
| Surrogate: o-Terphenyl | 13.1 | | " | 12.5 | | 105 | 30-150 | | | |

Matrix Spike (1708216-MS1)

Source: 1708195-01

Prepared & Analyzed: 08/23/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|------|--------|--|--|--|
| C10-C28 (DRO) | 1470 | 50 | mg/kg | 499 | 1180 | 58.7 | 50-148 | | | |
| Surrogate: o-Terphenyl | 12.4 | | " | 12.5 | | 99.1 | 30-150 | | | |

Matrix Spike Dup (1708216-MSD1)

Source: 1708195-01

Prepared & Analyzed: 08/23/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|------|--------|------|----|--|
| C10-C28 (DRO) | 1430 | 50 | mg/kg | 499 | 1180 | 50.6 | 50-148 | 2.78 | 20 | |
| Surrogate: o-Terphenyl | 12.2 | | " | 12.5 | | 97.3 | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

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 1708215 - EPA 5030 Soil MS

Blank (1708215-BLK1)

Prepared & Analyzed: 08/23/17

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|-----|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0460 | | " | 0.0400 | | 115 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0404 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0406 | | " | 0.0400 | | 102 | 21-167 | | | |

LCS (1708215-BS1)

Prepared & Analyzed: 08/23/17

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|-----|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.111 | 0.0020 | " | 0.100 | | 111 | 58-130 | | | |
| Toluene | 0.112 | 0.0050 | " | 0.100 | | 112 | 61-134 | | | |
| Ethylbenzene | 0.109 | 0.0050 | " | 0.0992 | | 110 | 74-139 | | | |
| m,p-Xylene | 0.201 | 0.010 | " | 0.200 | | 100 | 73-137 | | | |
| o-Xylene | 0.100 | 0.0050 | " | 0.0980 | | 102 | 73-141 | | | |
| Xylenes (total) | 0.301 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.30 | 0.50 | " | | | | 30-150 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0437 | | " | 0.0400 | | 109 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0446 | | " | 0.0400 | | 112 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0411 | | " | 0.0400 | | 103 | 21-167 | | | |

Matrix Spike (1708215-MS1)

Source: 1708205-01

Prepared & Analyzed: 08/23/17

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|---------|-----|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.120 | 0.0020 | " | 0.100 | 0.00669 | 114 | 30-131 | | | |
| Toluene | 0.123 | 0.0050 | " | 0.100 | 0.00822 | 115 | 30-134 | | | |
| Ethylbenzene | 0.123 | 0.0050 | " | 0.0992 | ND | 124 | 22-153 | | | |
| m,p-Xylene | 0.227 | 0.010 | " | 0.200 | ND | 114 | 10-159 | | | |
| o-Xylene | 0.115 | 0.0050 | " | 0.0980 | ND | 117 | 31-151 | | | |
| Xylenes (total) | 0.342 | 0.010 | " | | ND | | 30-160 | | | |
| Gasoline Range Hydrocarbons | 2.67 | 0.50 | " | | ND | | 30-160 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0461 | | " | 0.0400 | | 115 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0419 | | " | 0.0400 | | 105 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0422 | | " | 0.0400 | | 105 | 21-167 | | | |

Summit Scientific

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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

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 1708215 - EPA 5030 Soil MS

| Matrix Spike Dup (1708215-MSD1) | | | Source: 1708205-01 | | Prepared & Analyzed: 08/23/17 | | | | | |
|----------------------------------|--------|--------|--------------------|--------|-------------------------------|-----|--------|-------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.121 | 0.0020 | " | 0.100 | 0.00669 | 114 | 30-131 | 0.249 | 34 | |
| Toluene | 0.126 | 0.0050 | " | 0.100 | 0.00822 | 118 | 30-134 | 2.16 | 30 | |
| Ethylbenzene | 0.127 | 0.0050 | " | 0.0992 | ND | 128 | 22-153 | 3.08 | 24 | |
| m,p-Xylene | 0.234 | 0.010 | " | 0.200 | ND | 117 | 10-159 | 3.00 | 68 | |
| o-Xylene | 0.116 | 0.0050 | " | 0.0980 | ND | 119 | 31-151 | 1.38 | 38 | |
| Xylenes (total) | 0.350 | 0.010 | " | | ND | | 30-160 | 2.45 | 30 | |
| Gasoline Range Hydrocarbons | 2.85 | 0.50 | " | | ND | | 30-160 | 6.38 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0470 | | " | 0.0400 | | 117 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0413 | | " | 0.0400 | | 103 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0412 | | " | 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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/17 06:46

Notes and Definitions

| | |
|-----|--|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 25, 2017

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 08/24/17 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS08@16' | 1708214-01 | Soil | 08/24/17 11:57 | 08/24/17 17:30 |
| SS09@16' | 1708214-02 | Soil | 08/24/17 12:45 | 08/24/17 17:30 |
| SS10@16' | 1708214-03 | Soil | 08/24/17 13:01 | 08/24/17 17:30 |

Summit Scientific

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

Page 2 of 10



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

Sample Receipt Checklist

S2 Work Order: 1708214

Client: PDC Client Project ID: J&L Farms 14, 24-29

Shipped Via: P/U Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

| | | | | | |
|-----------|------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>4.1</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⁾ ? | <input checked="" type="checkbox"/> | | | |
| 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⁾ ? | <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 short holding time analytes or samples with HTs due within 48 hours present? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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.

Nakita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

8/24/17 1830
Date/Time



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

SS08@16'
1708214-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1708236 | 08/24/17 | 08/24/17 | 8015M | |

Date Sampled: **08/24/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 97.6 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708235 | " | 08/24/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/24/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 114 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 101 % | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

SS09@16'
1708214-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/17 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 120 | 50 | mg/kg | 1 | 1708236 | 08/24/17 | 08/24/17 | 8015M | D-04 |

Date Sampled: **08/24/17 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 100 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/17 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708235 | " | 08/24/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/24/17 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 117 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 104 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

SS10@16'
1708214-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/17 13:01**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 100 | 50 | mg/kg | 1 | 1708236 | 08/24/17 | 08/24/17 | 8015M | D-04 |

Date Sampled: **08/24/17 13:01**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 95.8 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/17 13:01**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1708235 | " | 08/24/17 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/24/17 13:01**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 115 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 100 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 100 % | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1708236 - EPA 3550A

Blank (1708236-BLK1)

Prepared & Analyzed: 08/24/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 12.2 | | " | 12.5 | | 97.5 | 30-150 | | | |

LCS (1708236-BS1)

Prepared & Analyzed: 08/24/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | 578 | 50 | mg/kg | 499 | | 116 | 73-134 | | | |
| Surrogate: o-Terphenyl | 12.2 | | " | 12.5 | | 97.3 | 30-150 | | | |

Matrix Spike (1708236-MS1)

Source: 1708214-01

Prepared & Analyzed: 08/24/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|--|--|--|
| C10-C28 (DRO) | 507 | 50 | mg/kg | 499 | ND | 102 | 50-148 | | | |
| Surrogate: o-Terphenyl | 12.0 | | " | 12.5 | | 96.0 | 30-150 | | | |

Matrix Spike Dup (1708236-MSD1)

Source: 1708214-01

Prepared & Analyzed: 08/24/17

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|-----|--------|------|----|--|
| C10-C28 (DRO) | 527 | 50 | mg/kg | 499 | ND | 106 | 50-148 | 3.93 | 20 | |
| Surrogate: o-Terphenyl | 12.5 | | " | 12.5 | | 100 | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

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 1708235 - EPA 5030 Soil MS

Blank (1708235-BLK1)

Prepared & Analyzed: 08/24/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0450</i> | | <i>"</i> | <i>0.0400</i> | | <i>112</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0406</i> | | <i>"</i> | <i>0.0400</i> | | <i>101</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0407</i> | | <i>"</i> | <i>0.0400</i> | | <i>102</i> | <i>21-167</i> | | | |

LCS (1708235-BS1)

Prepared & Analyzed: 08/24/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.107 | 0.0020 | " | 0.100 | | 107 | 58-130 | | | |
| Toluene | 0.110 | 0.0050 | " | 0.100 | | 110 | 61-134 | | | |
| Ethylbenzene | 0.107 | 0.0050 | " | 0.0992 | | 108 | 74-139 | | | |
| m,p-Xylene | 0.198 | 0.010 | " | 0.200 | | 99.0 | 73-137 | | | |
| o-Xylene | 0.0989 | 0.0050 | " | 0.0980 | | 101 | 73-141 | | | |
| Xylenes (total) | 0.296 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.34 | 0.50 | " | | | | 30-150 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0437</i> | | <i>"</i> | <i>0.0400</i> | | <i>109</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0450</i> | | <i>"</i> | <i>0.0400</i> | | <i>112</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0403</i> | | <i>"</i> | <i>0.0400</i> | | <i>101</i> | <i>21-167</i> | | | |

Matrix Spike (1708235-MS1)

Source: 1708214-01

Prepared & Analyzed: 08/24/17

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|----|------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.118 | 0.0020 | " | 0.100 | ND | 118 | 30-131 | | | |
| Toluene | 0.119 | 0.0050 | " | 0.100 | ND | 119 | 30-134 | | | |
| Ethylbenzene | 0.127 | 0.0050 | " | 0.0992 | ND | 128 | 22-153 | | | |
| m,p-Xylene | 0.232 | 0.010 | " | 0.200 | ND | 116 | 10-159 | | | |
| o-Xylene | 0.118 | 0.0050 | " | 0.0980 | ND | 120 | 31-151 | | | |
| Xylenes (total) | 0.350 | 0.010 | " | | ND | | 30-160 | | | |
| Gasoline Range Hydrocarbons | 2.79 | 0.50 | " | | ND | | 30-160 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0465</i> | | <i>"</i> | <i>0.0400</i> | | <i>116</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0415</i> | | <i>"</i> | <i>0.0400</i> | | <i>104</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0400</i> | | <i>"</i> | <i>0.0400</i> | | <i>100</i> | <i>21-167</i> | | | |

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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

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 1708235 - EPA 5030 Soil MS

| Matrix Spike Dup (1708235-MSD1) | | Source: 1708214-01 | | | Prepared & Analyzed: 08/24/17 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|-----|--------|------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.121 | 0.0020 | " | 0.100 | ND | 121 | 30-131 | 2.43 | 34 | |
| Toluene | 0.123 | 0.0050 | " | 0.100 | ND | 123 | 30-134 | 3.34 | 30 | |
| Ethylbenzene | 0.133 | 0.0050 | " | 0.0992 | ND | 134 | 22-153 | 4.61 | 24 | |
| m,p-Xylene | 0.245 | 0.010 | " | 0.200 | ND | 123 | 10-159 | 5.56 | 68 | |
| o-Xylene | 0.123 | 0.0050 | " | 0.0980 | ND | 125 | 31-151 | 3.79 | 38 | |
| Xylenes (total) | 0.368 | 0.010 | " | | ND | | 30-160 | 4.97 | 30 | |
| Gasoline Range Hydrocarbons | 2.98 | 0.50 | " | | ND | | 30-160 | 6.65 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0464 | | " | 0.0400 | | 116 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0411 | | " | 0.0400 | | 103 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0416 | | " | 0.0400 | | 104 | 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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/17 05:31

Notes and Definitions

D-04 The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.

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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 31, 2017

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 08/31/17 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ben Shrewsbury', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury
Laboratory Manager



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/31/17 23:52

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| GW01 | 1708284-01 | Water | 08/31/17 12:10 | 08/31/17 17:30 |

Summit Scientific

A handwritten signature in black ink, appearing to be 'Mark Longhurst'.

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.

Page 2 of 7



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/31/17 23:52

Sample Receipt Checklist

S2 Work Order: 1708284

Client: PDC

Client Project ID: J & L Farms 14, 24-29

Shipped Via: P/U

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: _____

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

| | | | | | |
|-----------|------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>1.9</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⁾ ? | <input checked="" type="checkbox"/> | | | |
| 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⁾ ? | <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 short holding time analytes or samples with HTs due within 48 hours present? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | | | <input checked="" type="checkbox"/> | |
| 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. | | | | |

Nakitz
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

8/31/17 BCD
Date/Time



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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/31/17 23:52

GW01
1708284-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/31/17 12:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 6.4 | 1.0 | ug/l | 1 | 1708304 | 08/31/17 | 08/31/17 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 2.0 | " | " | " | " | " | " | |

Date Sampled: **08/31/17 12:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|---------------|----------|----------|----------|----------|----------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | <i>115 %</i> | <i>37-154</i> | | <i>"</i> | <i>"</i> | <i>"</i> | <i>"</i> | |
| <i>Surrogate: Toluene-d8</i> | | <i>101 %</i> | <i>45-149</i> | | <i>"</i> | <i>"</i> | <i>"</i> | <i>"</i> | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | <i>99.1 %</i> | <i>45-146</i> | | <i>"</i> | <i>"</i> | <i>"</i> | <i>"</i> | |

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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/31/17 23:52

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 1708304 - EPA 5030 Water MS

Blank (1708304-BLK1)

Prepared & Analyzed: 08/31/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|-----|--------|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 2.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 14.1 | | " | 13.3 | | 106 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.4 | | " | 13.3 | | 101 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.5 | | " | 13.3 | | 101 | 45-146 | | | |

LCS (1708304-BS1)

Prepared & Analyzed: 08/31/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|-----|--------|--|--|--|
| Benzene | 38.2 | 1.0 | ug/l | 33.3 | | 115 | 51-132 | | | |
| Toluene | 38.1 | 1.0 | " | 33.3 | | 114 | 51-138 | | | |
| Ethylbenzene | 37.6 | 1.0 | " | 33.1 | | 114 | 58-146 | | | |
| m,p-Xylene | 68.5 | 2.0 | " | 66.5 | | 103 | 57-144 | | | |
| o-Xylene | 34.8 | 1.0 | " | 32.7 | | 106 | 53-146 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 14.7 | | " | 13.3 | | 110 | 37-154 | | | |
| Surrogate: Toluene-d8 | 14.8 | | " | 13.3 | | 111 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.4 | | " | 13.3 | | 101 | 45-146 | | | |

Matrix Spike (1708304-MS1)

Source: 1708270-01

Prepared & Analyzed: 08/31/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|----|-----|--------|--|--|--|
| Benzene | 40.7 | 1.0 | ug/l | 33.3 | ND | 122 | 34-141 | | | |
| Toluene | 40.0 | 1.0 | " | 33.3 | ND | 120 | 27-151 | | | |
| Ethylbenzene | 42.6 | 1.0 | " | 33.1 | ND | 129 | 29-160 | | | |
| m,p-Xylene | 78.2 | 2.0 | " | 66.5 | ND | 118 | 20-166 | | | |
| o-Xylene | 39.5 | 1.0 | " | 32.7 | ND | 121 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 15.4 | | " | 13.3 | | 116 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.7 | | " | 13.3 | | 103 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.4 | | " | 13.3 | | 101 | 45-146 | | | |

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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/31/17 23:52

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 1708304 - EPA 5030 Water MS

| Matrix Spike Dup (1708304-MSD1) | Source: 1708270-01 | | | Prepared & Analyzed: 08/31/17 | | | | | | |
|----------------------------------|--------------------|-----|------|-------------------------------|----|------|--------|-------|----|--|
| Benzene | 40.7 | 1.0 | ug/l | 33.3 | ND | 122 | 34-141 | 0.197 | 32 | |
| Toluene | 40.6 | 1.0 | " | 33.3 | ND | 122 | 27-151 | 1.49 | 25 | |
| Ethylbenzene | 43.4 | 1.0 | " | 33.1 | ND | 131 | 29-160 | 1.84 | 50 | |
| m,p-Xylene | 79.2 | 2.0 | " | 66.5 | ND | 119 | 20-166 | 1.27 | 36 | |
| o-Xylene | 40.5 | 1.0 | " | 32.7 | ND | 124 | 33-159 | 2.40 | 26 | |
| Surrogate: 1,2-Dichloroethane-d4 | 15.7 | | " | 13.3 | | 118 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.4 | | " | 13.3 | | 101 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.2 | | " | 13.3 | | 99.2 | 45-146 | | | |

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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/31/17 23:52

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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

September 06, 2017

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 09/05/17 16:30. 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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/06/17 06:44

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| GW02 | 1709013-01 | Water | 09/05/17 12:54 | 09/05/17 16:30 |

Summit Scientific

A handwritten signature in black ink, appearing to be 'MSM'.

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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/06/17 06:44

Sample Receipt Checklist

S2 Work Order: 1709013

Client: PDC/Tarman Client Project ID: J&L Farms 14, 24-29

Shipped Via: P/U Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

| | | | | | |
|-----------|------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>9.0</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"/> | | | |
| 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 short holding time analytes or samples with HTs due within 48 hours present? | | | <input checked="" type="checkbox"/> | |
| 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⁾ ? | <input checked="" type="checkbox"/> | | | <u>HCl</u> |
| Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | | | <input checked="" type="checkbox"/> | |
| Record the pH in Comments. | | | | |
| 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.

Nakita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

9/5/17 1710
Date/Time



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

Project: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/06/17 06:44

GW02
1709013-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/05/17 12:54**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 60 | 1.0 | ug/l | 1 | 1709027 | 09/05/17 | 09/05/17 | EPA 8260B | |
| Toluene | 3.4 | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | 2.2 | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | 170 | 2.0 | " | " | " | " | " | " | |

Date Sampled: **09/05/17 12:54**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 97.6 % | 37-154 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 95.9 % | 45-149 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 98.3 % | 45-146 | | " | " | " | " | |

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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/06/17 06:44

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 1709027 - EPA 5030 Water MS

Blank (1709027-BLK1)

Prepared & Analyzed: 09/05/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 2.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.8 | | " | 13.3 | | 96.3 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.6 | | " | 13.3 | | 102 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 12.8 | | " | 13.3 | | 96.1 | 45-146 | | | |

LCS (1709027-BS1)

Prepared & Analyzed: 09/05/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | 27.0 | 1.0 | ug/l | 33.3 | | 81.1 | 51-132 | | | |
| Toluene | 41.8 | 1.0 | " | 33.3 | | 125 | 51-138 | | | |
| Ethylbenzene | 36.7 | 1.0 | " | 33.1 | | 111 | 58-146 | | | |
| m,p-Xylene | 71.0 | 2.0 | " | 66.5 | | 107 | 57-144 | | | |
| o-Xylene | 34.5 | 1.0 | " | 32.7 | | 105 | 53-146 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.8 | | " | 13.3 | | 96.0 | 37-154 | | | |
| Surrogate: Toluene-d8 | 17.5 | | " | 13.3 | | 131 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.2 | | " | 13.3 | | 98.6 | 45-146 | | | |

Matrix Spike (1709027-MS1)

Source: 1709012-01

Prepared & Analyzed: 09/05/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|------|--------|--|--|--|
| Benzene | 34.4 | 1.0 | ug/l | 33.3 | 2.65 | 95.3 | 34-141 | | | |
| Toluene | 33.5 | 1.0 | " | 33.3 | ND | 100 | 27-151 | | | |
| Ethylbenzene | 40.3 | 1.0 | " | 33.1 | 1.01 | 119 | 29-160 | | | |
| m,p-Xylene | 86.8 | 2.0 | " | 66.5 | 5.51 | 122 | 20-166 | | | |
| o-Xylene | 43.8 | 1.0 | " | 32.7 | 5.17 | 118 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.0 | | " | 13.3 | | 97.4 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.0 | | " | 13.3 | | 97.8 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.3 | | " | 13.3 | | 99.5 | 45-146 | | | |

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: J&L Farms 14, 24-29
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/06/17 06:44

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 1709027 - EPA 5030 Water MS

| Matrix Spike Dup (1709027-MSD1) | | Source: 1709012-01 | | | Prepared & Analyzed: 09/05/17 | | | | | |
|----------------------------------|------|--------------------|------|------|-------------------------------|------|--------|-------|----|--|
| Benzene | 34.2 | 1.0 | ug/l | 33.3 | 2.65 | 94.7 | 34-141 | 0.525 | 32 | |
| Toluene | 34.1 | 1.0 | " | 33.3 | ND | 102 | 27-151 | 1.75 | 25 | |
| Ethylbenzene | 39.3 | 1.0 | " | 33.1 | 1.01 | 116 | 29-160 | 2.61 | 50 | |
| m,p-Xylene | 82.1 | 2.0 | " | 66.5 | 5.51 | 115 | 20-166 | 5.58 | 36 | |
| o-Xylene | 41.1 | 1.0 | " | 32.7 | 5.17 | 110 | 33-159 | 6.40 | 26 | |
| Surrogate: 1,2-Dichloroethane-d4 | 15.2 | | " | 13.3 | | 114 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.3 | | " | 13.3 | | 99.7 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.4 | | " | 13.3 | | 100 | 45-146 | | | |

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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/06/17 06:44

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 |