

TABLE 1
EDWARDS 33, 43-9 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 @ 20 | 7/31/2015 | 20 | 0.82 | 64 | 15 | 230 | 2.5 | 4,300 |
| SS02 @ 16 | 7/31/2015 | 16 | 0.0033 | 0.12 | 0.022 | 0.44 | 0.020 | 4.4 |
| SS03 @ 16 | 7/31/2015 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS04 @ 16 | 7/31/2015 | 16 | <0.0020 | 0.019 | <0.0050 | 0.014 | <0.010 | <50 |
| SS05 @ 16 | 8/3/2015 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS06 @ 16 | 8/3/2015 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

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

COGCC = Colorado Oil and Gas Conservation Commission

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

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total extractable petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

bgs = Below ground surface

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

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 01, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 07/31/15 18:06. 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS01@20' | 1507319-01 | Soil | 07/31/15 08:40 | 07/31/15 18:06 |
| SS02@16' | 1507319-02 | Soil | 07/31/15 10:30 | 07/31/15 18:06 |
| SS03@16' | 1507319-03 | Soil | 07/31/15 10:40 | 07/31/15 18:06 |
| SS04@16' | 1507319-04 | Soil | 07/31/15 12:55 | 07/31/15 18:06 |

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

Summit Scientific 1507319

S₂

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Client: PDC/Tasman Project Manager: Mark Longhurst Page 1 of 1
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 33, 43-9
Sampler Name: Eric Siegel Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|--------------------|-------|-----------|--|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | GC/MS | GC/MS DRO | | |
| 1 | SS01e20' | 7/31/15 | 8:40 | 1 | | | X | | | X | | | X | X | | |
| 2 | SS02e16' | ↓ | 10:30 | ↓ | | | | | | | | | | | | |
| 3 | SS03e16' | ↓ | 10:40 | ↓ | | | | | | | | | | | | |
| 4 | SS04e16' | ↓ | 12:55 | ↓ | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |

| | | | |
|---|--|--|---------------|
| Relinquished by: <u>E. A. Siegel</u> Date/Time: <u>7/31/15</u> | Received by: <u>Mark Longhurst</u> Date/Time: <u>7-31-15 2:44</u> | Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours _____ 24 hours _____ Standard _____ 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>9.8°C</u> Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Notes: |
| Relinquished by: <u>Mark Longhurst</u> Date/Time: <u>7-31-15 6:06</u> | Received by: <u>Mark Longhurst</u> Date/Time: <u>7/31/15 18:06</u> | | |
| Relinquished by: _____ Date/Time: _____ | Received by: _____ Date/Time: _____ | | |

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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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS01@20'
1507319-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/31/15 08:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 1200 | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: 07/31/15 08:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 108 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/31/15 08:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 2.5 | 1.0 | mg/kg | 100 | 1507338 | " | 07/31/15 | EPA 8260B | |
| Benzene | 0.82 | 0.20 | " | " | " | " | " | " | |
| Toluene | 64 | 0.50 | " | " | " | " | " | " | |
| Ethylbenzene | 15 | 0.50 | " | " | " | " | " | " | |
| Xylenes (total) | 230 | 1.0 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 3100 | 50 | " | " | " | " | " | " | |

Date Sampled: 07/31/15 08:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 101 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 115 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 131 % | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS02@16'
1507319-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/31/15 10:30

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: 07/31/15 10:30

| 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: 07/31/15 10:30

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.020 | 0.010 | mg/kg | 1 | 1507338 | " | 07/31/15 | EPA 8260B | |
| Benzene | 0.0033 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.12 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.022 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.44 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 4.4 | 0.50 | " | " | " | " | " | " | |

Date Sampled: 07/31/15 10:30

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 105 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.8 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 94.2 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS03@16'
1507319-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/31/15 10:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: **07/31/15 10:40**

| 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: **07/31/15 10:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1507338 | " | 07/31/15 | 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: **07/31/15 10:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 91.2 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.8 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS04@16'
1507319-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/31/15 12:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: **07/31/15 12:55**

| 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: **07/31/15 12:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1507338 | " | 07/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.019 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.014 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/31/15 12:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 105 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 96.6 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 97.0 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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 1507337 - EPA 3550A

Blank (1507337-BLK1)

Prepared & Analyzed: 07/31/15

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.6 " 12.2 103 30-150

LCS (1507337-BS1)

Prepared & Analyzed: 07/31/15

C10-C28 (DRO) 453 50 mg/kg 501 90.4 73-134

Surrogate: o-Terphenyl 12.8 " 12.2 105 30-150

Matrix Spike (1507337-MS1)

Source: 1507317-02

Prepared & Analyzed: 07/31/15

C10-C28 (DRO) 469 50 mg/kg 475 ND 98.7 50-148

Surrogate: o-Terphenyl 12.2 " 11.6 106 30-150

Matrix Spike Dup (1507337-MSD1)

Source: 1507317-02

Prepared & Analyzed: 07/31/15

C10-C28 (DRO) 447 50 mg/kg 470 ND 95.1 50-148 4.89 13

Surrogate: o-Terphenyl 11.6 " 11.4 101 30-150

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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 1507338 - EPA 5030 Soil MS

Blank (1507338-BLK1)

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| 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 | 0.0396 | | " | 0.0396 | | 100 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0388 | | " | 0.0400 | | 97.0 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0377 | | " | 0.0400 | | 94.2 | 21-167 | | | |

LCS (1507338-BS1)

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.120 | 0.0020 | " | 0.100 | | 120 | 58-130 | | | |
| Toluene | 0.119 | 0.0050 | " | 0.100 | | 119 | 61-134 | | | |
| Ethylbenzene | 0.129 | 0.0050 | " | 0.0992 | | 130 | 74-139 | | | |
| m,p-Xylene | 0.267 | 0.010 | " | 0.200 | | 134 | 73-137 | | | |
| o-Xylene | 0.131 | 0.0050 | " | 0.0984 | | 133 | 73-141 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0390 | | " | 0.0396 | | 98.5 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0400 | | " | 0.0400 | | 100 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0373 | | " | 0.0400 | | 93.3 | 21-167 | | | |

Matrix Spike (1507338-MS1)

Source: 1507317-03

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|---------|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | 0.00677 | | 10-158 | | | |
| Benzene | 0.119 | 0.0020 | " | 0.0916 | 0.00617 | 123 | 30-131 | | | |
| Toluene | 0.125 | 0.0050 | " | 0.0916 | 0.0180 | 117 | 30-134 | | | |
| Ethylbenzene | 0.134 | 0.0050 | " | 0.0908 | 0.00880 | 138 | 22-153 | | | |
| m,p-Xylene | 0.300 | 0.010 | " | 0.183 | 0.0741 | 123 | 10-159 | | | |
| o-Xylene | 0.153 | 0.0050 | " | 0.0901 | 0.0447 | 121 | 31-151 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0378 | | " | 0.0363 | | 104 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0368 | | " | 0.0366 | | 100 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0349 | | " | 0.0366 | | 95.2 | 21-167 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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 1507338 - EPA 5030 Soil MS

| Matrix Spike Dup (1507338-MSD1) | | | Source: 1507317-03 | | | Prepared & Analyzed: 07/31/15 | | | | |
|----------------------------------|--------|--------|--------------------|--------|---------|-------------------------------|--------|------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | 0.00677 | | 10-158 | | 42 | |
| Benzene | 0.127 | 0.0020 | " | 0.0978 | 0.00617 | 124 | 30-131 | 6.95 | 34 | |
| Toluene | 0.137 | 0.0050 | " | 0.0978 | 0.0180 | 122 | 30-134 | 9.50 | 30 | |
| Ethylbenzene | 0.144 | 0.0050 | " | 0.0971 | 0.00880 | 139 | 22-153 | 6.81 | 24 | |
| m,p-Xylene | 0.354 | 0.010 | " | 0.195 | 0.0741 | 143 | 10-159 | 16.6 | 68 | |
| o-Xylene | 0.181 | 0.0050 | " | 0.0963 | 0.0447 | 142 | 31-151 | 16.6 | 38 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0385 | | " | 0.0387 | | 99.3 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0392 | | " | 0.0391 | | 100 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0370 | | " | 0.0391 | | 94.4 | 21-167 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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

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.

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 04, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/03/15 18:27. 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS05@16' | 1508008-01 | Soil | 08/03/15 11:00 | 08/03/15 18:27 |
| SS06@16' | 1508008-02 | Soil | 08/03/15 11:30 | 08/03/15 18:27 |

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

Summit Scientific 1508008

S₂

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: PDC/Tasman

Project Manager: Mark Longhurst

Address:

E-Mail:

City/State/Zip:

Phone:

Fax:

Project Name: Edwards 33, 43-9

Sampler Name: Eric Siegel

Project Number:

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|-----------------|--------------------|-------|-------|-------|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | GC/MS | GC/MS | GC/MS | GC/MS | |
| 1 | SS05e 16' | 8/3/15 | 1100 | 1 | | | X | | | X | | | | | | | |
| 2 | SS06e 16' | 8/3/15 | 1130 | 1 | | | X | | | X | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | |
|--|-------------------|------------------------------------|---------------------|--|--------|
| Relinquished by: <i>E. Siegel</i> | Date/Time: 8/3/15 | Received by: <i>Mark Longhurst</i> | Date/Time: 8-3-2015 | Turn Around Time (Check) | Notes: |
| Relinquished by: <i>Mark Longhurst</i> | Date/Time: 8-3-15 | Received by: <i>Eric Siegel</i> | Date/Time: 8/3/15 | Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/> | |
| | | | | 24 hours <input type="checkbox"/> Standard <input type="checkbox"/> | |
| | | | | 48 hours <input type="checkbox"/> | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Sample Integrity: | |
| | | | | Temperature Upon Receipt: 4.1°C | |
| | | | | Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

SS05@16'
1508008-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508005 | 08/03/15 | 08/03/15 | 8015M | |

Date Sampled: **08/03/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 101 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508006 | 08/03/15 | 08/03/15 | 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: **08/03/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 110 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.9 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.9 % | 21-167 | | " | " | " | " | |

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

SS06@16'
1508008-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508005 | 08/03/15 | 08/03/15 | 8015M | |

Date Sampled: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 98.9 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508006 | 08/03/15 | 08/03/15 | 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: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.6 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 95.5 % | 21-167 | | " | " | " | " | |

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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 1508005 - EPA 3550A

Blank (1508005-BLK1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.2 | 101 | 30-150 | | | | |

LCS (1508005-BS1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|--------|--|--|--|--|
| C10-C28 (DRO) | 490 | 50 | mg/kg | 501 | 97.9 | 73-134 | | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.2 | 101 | 30-150 | | | | |

Matrix Spike (1508005-MS1)

Source: 1508003-02

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--------|--|--|--|
| C10-C28 (DRO) | 512 | 50 | mg/kg | 485 | ND | 106 | 50-148 | | | |
| Surrogate: o-Terphenyl | 13.3 | | " | 11.8 | 112 | 30-150 | | | | |

Matrix Spike Dup (1508005-MSD1)

Source: 1508003-02

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--------|------|----|--|
| C10-C28 (DRO) | 487 | 50 | mg/kg | 494 | ND | 98.6 | 50-148 | 4.99 | 13 | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.0 | 102 | 30-150 | | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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 1508006 - EPA 5030 Soil MS

Blank (1508006-BLK1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--|--|--|--|
| 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 | 0.0400 | | " | 0.0396 | 101 | 23-173 | | | | |
| Surrogate: Toluene-d8 | 0.0397 | | " | 0.0400 | 99.2 | 20-170 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0400 | | " | 0.0400 | 100 | 21-167 | | | | |

LCS (1508006-BS1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | 66-138 | | | | |
| Benzene | 0.101 | 0.0020 | " | 0.100 | 101 | 58-130 | | | | |
| Toluene | 0.101 | 0.0050 | " | 0.100 | 101 | 61-134 | | | | |
| Ethylbenzene | 0.102 | 0.0050 | " | 0.0992 | 103 | 74-139 | | | | |
| m,p-Xylene | 0.212 | 0.010 | " | 0.200 | 106 | 73-137 | | | | |
| o-Xylene | 0.105 | 0.0050 | " | 0.0984 | 107 | 73-141 | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0369 | | " | 0.0396 | 93.3 | 23-173 | | | | |
| Surrogate: Toluene-d8 | 0.0419 | | " | 0.0400 | 105 | 20-170 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0378 | | " | 0.0400 | 94.4 | 21-167 | | | | |

Matrix Spike (1508006-MS1)

Source: 1508003-02

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | 10-158 | | | | |
| Benzene | 0.111 | 0.0020 | " | 0.0956 | ND | 116 | 30-131 | | | |
| Toluene | 0.110 | 0.0050 | " | 0.0956 | ND | 115 | 30-134 | | | |
| Ethylbenzene | 0.117 | 0.0050 | " | 0.0948 | ND | 123 | 22-153 | | | |
| m,p-Xylene | 0.241 | 0.010 | " | 0.191 | ND | 126 | 10-159 | | | |
| o-Xylene | 0.118 | 0.0050 | " | 0.0941 | ND | 125 | 31-151 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0383 | | " | 0.0379 | 101 | 23-173 | | | | |
| Surrogate: Toluene-d8 | 0.0399 | | " | 0.0382 | 104 | 20-170 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0369 | | " | 0.0382 | 96.6 | 21-167 | | | | |

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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 1508006 - EPA 5030 Soil MS

| Matrix Spike Dup (1508006-MSD1) | | Source: 1508003-02 | | | Prepared & Analyzed: 08/03/15 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.119 | 0.0020 | " | 0.0984 | ND | 121 | 30-131 | 6.65 | 34 | |
| Toluene | 0.120 | 0.0050 | " | 0.0984 | ND | 122 | 30-134 | 9.08 | 30 | |
| Ethylbenzene | 0.130 | 0.0050 | " | 0.0976 | ND | 133 | 22-153 | 10.9 | 24 | |
| m,p-Xylene | 0.266 | 0.010 | " | 0.196 | ND | 136 | 10-159 | 10.0 | 68 | |
| o-Xylene | 0.132 | 0.0050 | " | 0.0969 | ND | 136 | 31-151 | 11.3 | 38 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0405 | | " | 0.0390 | | 104 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0403 | | " | 0.0394 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0381 | | " | 0.0394 | | 96.8 | 21-167 | | | |

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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

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