

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax: (303)894-2109



FOR OGCC USE ONLY

RECEIVED
11/11/2012**SPILL/RELEASE REPORT**

This form is to be submitted by the party responsible for the oil and gas spill or release. Any spill or release which may impact waters of the State must be reported as soon as practicable; any spill over 20 bbls must be reported within 24 hours and all spills over five bbls must be reported within ten days. Submit a Site Investigation and

Spill report taken by:

FACILITY ID:
430821**OPERATOR INFORMATION**

| | | |
|---|------------------------------------|--------------------------------------|
| Name of Operator: <u>PDC Energy, Inc.</u> | OGCC Operator No: <u>69175</u> | Phone Numbers |
| Address: <u>1775 Sherman Street, Suite 3000</u> | | No: <u>(303) 831-3971</u> |
| City: <u>Denver</u> | State: <u>CO</u> Zip: <u>80203</u> | Fax: <u>(303) 860-5838</u> |
| Contact Person: <u>Brandon Bruns</u> | | Email: <u>brandon.bruns@pdce.com</u> |

DESCRIPTION OF SPILL OR RELEASE

| | | |
|--|---|--|
| Date of Incident: <u>10/16/2012</u> | Facility Name & No: <u>Patrick Anderson 1</u> | County: <u>Weld</u> |
| Type of Facility (well, tank battery, flow line, pit): <u>Tank Battery</u> | | QtrQtr: <u>SESE</u> Section: <u>34</u> |
| Well Name and Number: <u>Patrick Anderson 1</u> | | Township: <u>7N</u> Range: <u>66W</u> |
| API Number: <u>05-123-10803</u> | | Meridian: <u>6th</u> |

Specify volume spilled and recovered (in bbls) for the following materials:

Oil spilled: Unk Oil recov'd: 0 Water spilled: 0 Water recov'd: 0 Other spilled: 0 Other recov'd 0

Ground Water impacted? ☒ Yes ☐ No Surface Water impacted? ☐ Yes ☒ No

Contained within berm? ☐ Yes ☒ No Area and vertical extent of spill: ~918 ft² x ~13' bgs

Current land use: Oil and Gas Production Facility/Agriculture Weather conditions: High 40s

Soil/geology description: Tightly packed fine grained sands

IF LESS THAN A MILE, report distance IN FEET to nearest ... Surface water: ~1,290' W Wetlands: NA Buildings: ~990' SE

Livestock: NA Water wells: ~2,610' W Depth to shallowest ground water: ~10' bgs

Cause of spill (e.g. equipment failure, human error, etc.): Equipment failure Detailed description of the spill/release incident:

A historical release was discovered while replacing production lines at the Patrick Anderson 1 (API # 05-123-10803) tank battery. A topographic map of the site is included as Figure 1.

CORRECTIVE ACTION

Describe immediate response (how stopped, contained and recovered):
Excavation of impacted soil began on October 16, 2012 and concluded on October 22, 2012. Approximately 370 cubic yards (yd3) of impacted material was removed and transported to the Waste Management Facility in Ault, Colorado. The location and extent of the excavation is illustrated on Figure 2.

Describe any emergency pits constructed: NA

How was the extent of contamination determined?
On October 16, 2012, seven soil samples were collected to delineate the areas of impact within and around the initial excavation. Soil samples SS01 through SS05 were collected within the excavation on the floor and at each boundary wall. Two additional soil samples were collected in test pits located north and south of the excavation (SS06 and SS07, respectively) at 10 feet below ground surface (bgs). Soil samples were submitted to Summit Scientific Laboratories in Golden, Colorado for laboratory analysis of BTEX, TPH-GRO, and naphthalene by EPA Method 8260B and TPH-DRO by EPA Method 8015. Analytical results indicated elevated benzene and TPH concentrations in the five samples collected within the excavation. Subsequent excavation was conducted on October 17 and 18, 2012 to remove the remaining impacted material. Five confirmation soil samples were collected within the final extent of the excavation. One sample was collected on the floor of the excavation (SS08) at 12.5 feet bgs, one at the north wall (SS09) at 9 feet bgs, one at the east wall (SS10) at 7.5 feet bgs, one at the west wall (SS11) at 8.5 feet bgs, and one at the south wall (SS12) at 10 feet bgs. Soil sample locations were determined based on field screened photoionization detector (PID) readings. Soil analytical results are summarized in Table 1. Groundwater was encountered during the excavation activities at approximately 10 feet bgs. One groundwater sample was collected on October 16, 2012 in the south central area of the excavation and submitted for laboratory analysis of BTEX by EPA Method 8260B. Laboratory results indicated that benzene concentrations were in exceedance of COGCC regulatory standards. Following further excavation of the floor and south wall of the excavation and removal of impacted groundwater using a vacuum truck, a second groundwater sample was collected on October 18, 2012. Laboratory analytical results from the second groundwater sample indicate benzene concentrations above COGCC limits. Impacted groundwater was removed from the excavation seven more times using a vacuum truck between October 19, 2012 and October 22, 2012 with a third groundwater sample collected following the final event. Analytical results indicate that benzene concentrations continue to exceed regulatory standards. Groundwater analytical results are summarized in Table 2. The laboratory analytical reports are included as Attachment A. The extent of the excavation and test pit locations and soil and groundwater sample locations are illustrated on Figure 2.

Further remediation activities proposed (attach separate sheet if needed):
PDC is currently evaluating in-situ remediation strategies to address residual impacts in groundwater. Future remediation activities will be outlined in a Form 27.

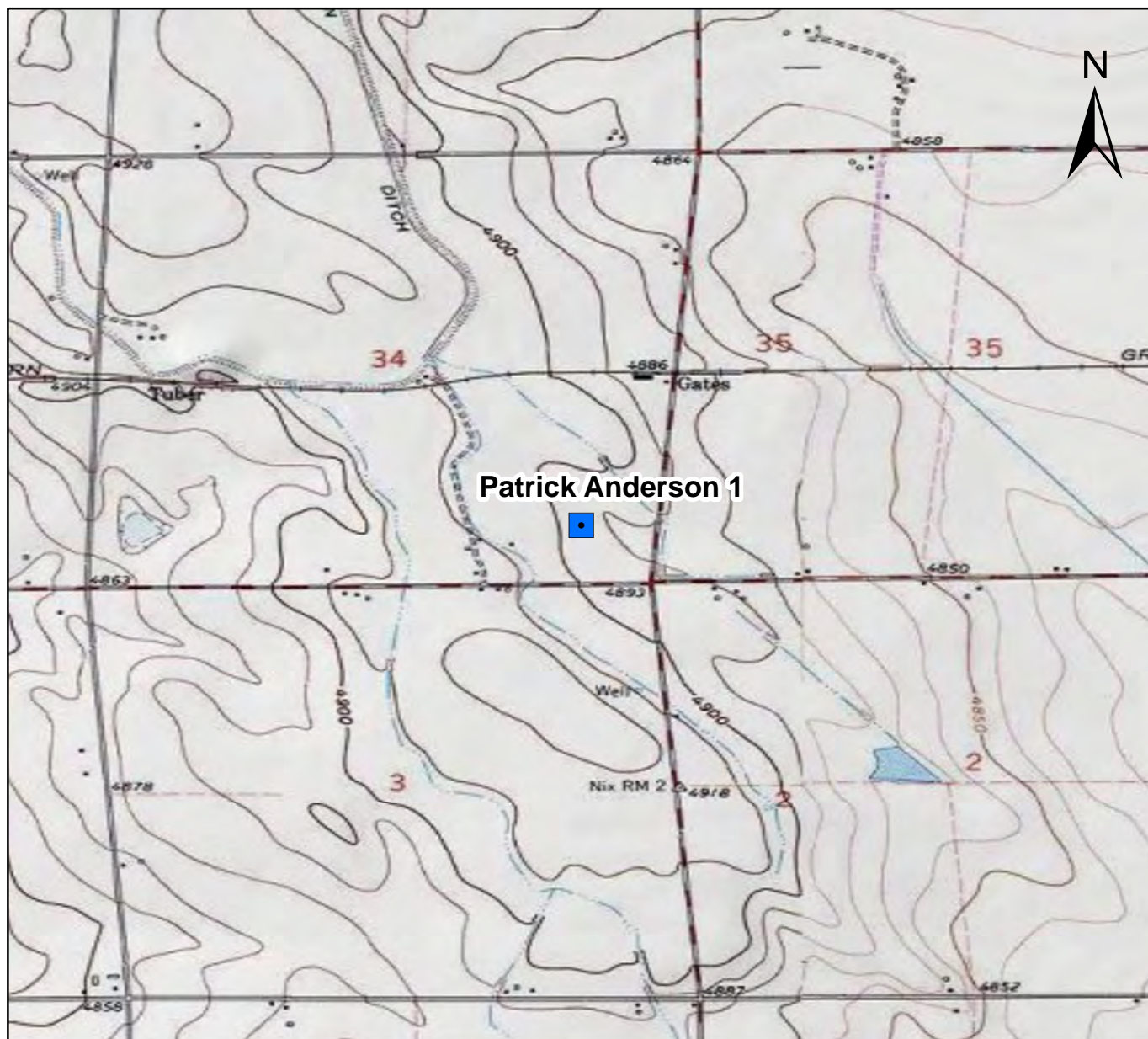
Describe measures taken to prevent problem from reoccurring:
PDC will continue yearly production line testing once remediation activities are completed and the location is back to being operational.

OTHER NOTIFICATIONS

List the parties and agencies notified (County, BLM, EPA, DOT, Local Emergency Planning Coordinator or other).

| Date | Agency | Contact | Phone | Response |
|------|--------|---------|-------|----------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Spill/Release Tracking No: **2231139**



0 1,000 2,000 4,000
Feet



Figure 1

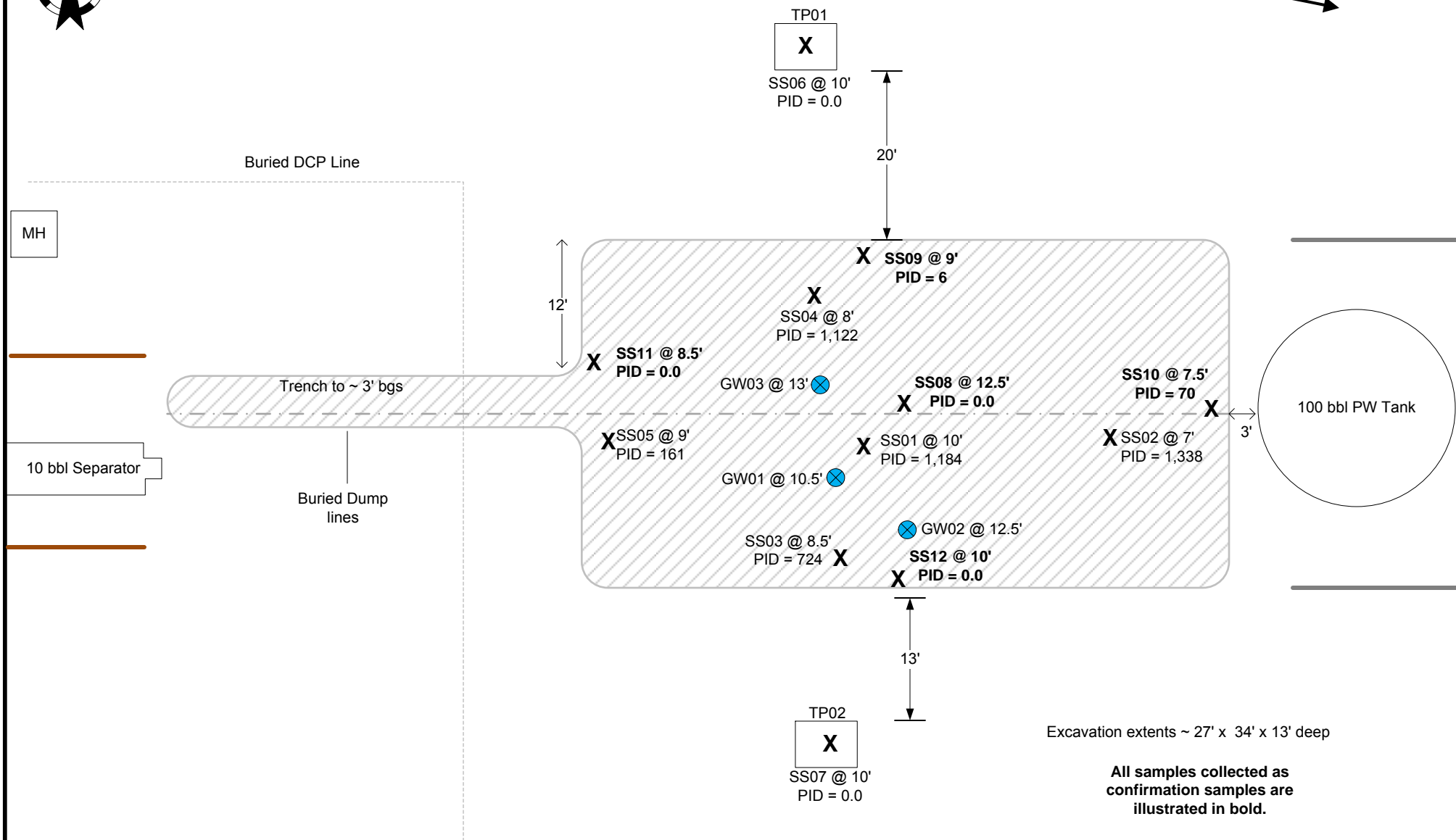
Site Location Map
Patrick Anderson 1
SESE S34 T7N R66W
Weld County, Colorado

Drawn By: CAW
Date: 10/24/2012





Surface
Drainage



| | | | | |
|-------------------|--|--|---|-------------------------------------|
| PROJECT NO: | Facility Diagram PDC Energy – DJ Basin Patrick Anderson 1 SESE Qtr S34 T7N R66W Weld County, CO |  5690 Webster Avenue Arvada CO 80002 | LEGEND <ul style="list-style-type: none">Earthen BermSteel BermApproximate extent of excavationSoil Sample LocationGroundwater Sample Location | FIGURE 2 Not to Scale |
| DRAWN BY: CAW | | | | |
| DATE: 10/18//2012 | | | | |

TABLE 1
PATRICK ANDERSON 1
SOIL ANALYTICAL RESULTS SUMMARY TABLE

| Sample ID | Date Sampled | Depth (Feet bgs) | PID Readings (ppm) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Naphthalene (mg/kg) | TPH ⁽²⁾ (mg/kg) |
|--|--------------|------------------|--------------------|-----------------|-----------------|----------------------|-----------------------|---------------------|----------------------------|
| SS01 | 10/16/2012 | 10 | 1,184 | 4.6 | <0.005 | 5.4 | 21 | 2.0 | 1,020 |
| SS02 | 10/16/2012 | 7 | 1,338 | 0.29 | 0.043 | 1.8 | 11 | 0.35 | 1,150 |
| SS03 | 10/16/2012 | 8.5 | 724 | 0.098 | <0.005 | 0.77 | 6.5 | 4.0 | 1,810 |
| SS04 | 10/16/2012 | 8 | 1,122 | 0.37 | <0.005 | 13 | 47 | 7.4 | 5,300 |
| SS05 | 10/16/2012 | 9 | 161 | <0.005 | <0.005 | 0.0092 | <0.010 | <0.005 | 710 |
| SS06 | 10/16/2012 | 10 | 0 | <0.005 | <0.005 | <0.005 | <0.010 | <0.005 | <50 |
| SS07 | 10/16/2012 | 10 | 0 | <0.005 | <0.005 | <0.005 | <0.010 | <0.005 | <50 |
| SS08 | 10/17/2012 | 12.5 | 0 | <0.005 | <0.005 | <0.005 | <0.010 | <0.005 | <50 |
| SS09 | 10/17/2012 | 9 | 6 | <0.005 | <0.005 | <0.005 | <0.010 | <0.005 | <50 |
| SS10 | 10/17/2012 | 7.5 | 70 | <0.005 | <0.005 | <0.005 | 0.021 | <0.005 | 0.55 |
| SS11 | 10/18/2012 | 8.5 | 0 | <0.005 | <0.005 | <0.005 | <0.010 | <0.005 | <50 |
| SS12 | 10/18/2012 | 10 | 0 | <0.005 | <0.005 | <0.005 | <0.010 | <0.005 | <50 |
| COGCC standards for Soil (mg/kg) ⁽¹⁾ | | | | 0.17 | 85 | 100 | 175 | 23 | 500 |

Notes:

1). Standards for Soil are taken from 2 CCR 404-1, Table 910-1, effective April 1, 2009.

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

GRO - Gasoline range organics.

DRO - Diesel range organics.

mg/kg= Milligrams per kilogram.

bgs - Below ground surface.

ppm - Parts per million

Bold red values indicate an exceedance of the COGCC soil standards for the Site.

TABLE 2
PATRICK ANDERSON 1
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

| Sample ID | Date Sampled | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Total Xylenes (ug/L) |
|--|--------------|-------------------|-------------------|------------------------|----------------------------|
| GW01 | 10/16/2012 | 10 | <1.0 | 80 | 280 |
| GW02 | 10/18/2012 | 10 | 6.3 | 29 | 120 |
| GW03 ⁽²⁾ | 10/22/2012 | 8.8 | <1.0 | 4.3 | 20 |
| COGCC standards for Groundwater (ug/L) ⁽¹⁾ | | 5 | 560 | 700 | 1,400 |

Notes:

1). The environmental cleanup standards for groundwater that are applicable to this site are the Colorado Oil and Gas Conservation Commission (COGCC) standards for contaminants in groundwater according to Table 910-1 of the COGCC 900 Series Rule for E&P Waste Management.

2). GW03 is reported as AW03 in the laboratory analytical report.

Bold red values indicate an exceedance of the COGCC soil standards for the Site.

ug/L= Micrograms per liter.

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 17, 2012

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Patrick Anderson 1

Enclosed are the results of analyses for samples received by Summit Scientific on 10/16/12 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV". The signature is stylized with a large, sweeping initial "J" and a distinct "IV" at the end.

Joseph J Egry IV
Laboratory Director



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:48

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS01 | R210138-01 | Soil | 10/16/12 12:45 | 10/16/12 16:15 |
| GW01 | R210138-02 | Water | 10/16/12 14:30 | 10/16/12 16:15 |

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: Patrick Anderson 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:48

Summit Scientific
R210038

52

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

| | | | | |
|-----------------|-------------------------------|--|------|----|
| Client: | PDC Energy, Inc. | | Page | of |
| Address: | 1735 Sherman St. #300 | | | |
| City/State/Zip: | Denver CO 80203 | | | |
| Phone: | | | | |
| Project Name: | Project Manager: Braden Buvas | | | |
| Project Number: | E-Mail: braden.buvas@pdc.com | | | |
| Sample Name: | Patrik Anderson 1 | | | |
| Sampler Number: | Bray Hum/Inoxy | | | |

[illegible]

Legal Eagle IV



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:48

SS01
R210138-01 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: 10/16/12 12:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | 110 | 50 | mg/kg | 1 | 2101606 | 10/16/12 | 10/16/12 | 8015 DRO | |

Date Sampled: 10/16/12 12:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 87.4 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/16/12 12:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 2.0 | 0.050 | mg/kg | 10 | 2101605 | 10/16/12 | 10/16/12 | EPA 8260B | |
| Benzene | 4.6 | 0.050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | 1 | " | " | " | " | |
| Ethylbenzene | 5.4 | 0.050 | " | 10 | " | " | " | " | |
| Xylenes (total) | 21 | 0.10 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 910 | 5.0 | " | " | " | " | " | " | E |

Date Sampled: 10/16/12 12:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 88.0 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.6 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 66.5 % | 30-150 | | " | " | " | " | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:48

GW01
R210138-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/16/12 14:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 10 | 1.0 | ug/l | 1 | 2101604 | 10/16/12 | 10/16/12 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | 80 | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | 280 | 1.0 | " | " | " | " | " | " | |

Date Sampled: **10/16/12 14:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|----------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 137 % | 49.7-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 145 % | 51-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 86.4 % | 50.1-150 | | " | " | " | " | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:48

Total 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 2101606 - EPA 3550A

Blank (2101606-BLK1)

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) ND 50 mg/kg

LCS (2101606-BS1)

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 555 50 mg/kg 501 111 73-134

LCS Dup (2101606-BSD1)

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 538 50 mg/kg 501 107 73-134 3.07 11

Matrix Spike (2101606-MS1)

Source: R210139-05

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 518 50 mg/kg 498 9.96 102 50-148

Matrix Spike Dup (2101606-MSD1)

Source: R210139-05

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 523 50 mg/kg 500 9.96 103 50-148 0.859 13

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:48

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

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

Batch 2101604 - EPA 5030 Water MS

Blank (2101604-BLK1)

Prepared & Analyzed: 10/16/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|----------|--|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 1.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 15.1 | | " | 13.2 | 114 | 49.7-150 | | | | |
| Surrogate: Toluene-d8 | 13.0 | | " | 13.3 | 97.7 | 51-150 | | | | |
| Surrogate: 4-Bromofluorobenzene | 14.1 | | " | 13.3 | 106 | 50.1-150 | | | | |

LCS (2101604-BS1)

Prepared & Analyzed: 10/16/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|----------|--|--|--|--|
| Benzene | 30.6 | 1.0 | ug/l | 33.3 | 91.7 | 51-132 | | | | |
| Toluene | 30.6 | 1.0 | " | 33.3 | 91.9 | 51-138 | | | | |
| Ethylbenzene | 29.6 | 1.0 | " | 33.3 | 88.8 | 58-146 | | | | |
| m,p-Xylene | 58.0 | 2.0 | " | 66.7 | 87.0 | 57-144 | | | | |
| o-Xylene | 29.8 | 1.0 | " | 33.3 | 89.4 | 53-146 | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 19.5 | | " | 13.2 | 147 | 49.7-150 | | | | |
| Surrogate: Toluene-d8 | 13.2 | | " | 13.3 | 98.9 | 51-150 | | | | |
| Surrogate: 4-Bromofluorobenzene | 14.1 | | " | 13.3 | 106 | 50.1-150 | | | | |

LCS Dup (2101604-BSD1)

Prepared & Analyzed: 10/16/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|----------|------|----|--|--|
| Benzene | 29.0 | 1.0 | ug/l | 33.3 | 87.1 | 51-132 | 5.20 | 17 | | |
| Toluene | 29.0 | 1.0 | " | 33.3 | 87.1 | 51-138 | 5.33 | 17 | | |
| Ethylbenzene | 27.7 | 1.0 | " | 33.3 | 83.0 | 58-146 | 6.81 | 16 | | |
| m,p-Xylene | 55.1 | 2.0 | " | 66.7 | 82.6 | 57-144 | 5.25 | 16 | | |
| o-Xylene | 28.3 | 1.0 | " | 33.3 | 84.8 | 53-146 | 5.30 | 15 | | |
| Surrogate: 1,2-Dichloroethane-d4 | 19.6 | | " | 13.2 | 148 | 49.7-150 | | | | |
| Surrogate: Toluene-d8 | 13.0 | | " | 13.3 | 97.2 | 51-150 | | | | |
| Surrogate: 4-Bromofluorobenzene | 13.7 | | " | 13.3 | 103 | 50.1-150 | | | | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:48

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

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

Batch 2101604 - EPA 5030 Water MS

| Matrix Spike (2101604-MS1) | | Source: R210126-05 | | | Prepared & Analyzed: 10/16/12 | | | | | |
|----------------------------------|------|--------------------|------|------|-------------------------------|------|----------|--|--|--|
| Benzene | 28.4 | 1.0 | ug/l | 33.3 | ND | 85.3 | 34-141 | | | |
| Toluene | 28.5 | 1.0 | " | 33.3 | ND | 85.6 | 27-151 | | | |
| Ethylbenzene | 27.1 | 1.0 | " | 33.3 | ND | 81.4 | 29-160 | | | |
| m,p-Xylene | 53.0 | 2.0 | " | 66.7 | ND | 79.5 | 20-166 | | | |
| o-Xylene | 27.2 | 1.0 | " | 33.3 | ND | 81.7 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 19.4 | | " | 13.2 | | 147 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 13.0 | | " | 13.3 | | 97.3 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.8 | | " | 13.3 | | 104 | 50.1-150 | | | |

| Matrix Spike Dup (2101604-MSD1) | | Source: R210126-05 | | | Prepared & Analyzed: 10/16/12 | | | | | |
|----------------------------------|------|--------------------|------|------|-------------------------------|------|----------|------|----|--|
| Benzene | 29.5 | 1.0 | ug/l | 33.3 | ND | 88.5 | 34-141 | 3.69 | 32 | |
| Toluene | 29.8 | 1.0 | " | 33.3 | ND | 89.4 | 27-151 | 4.36 | 25 | |
| Ethylbenzene | 29.2 | 1.0 | " | 33.3 | ND | 87.7 | 29-160 | 7.38 | 50 | |
| m,p-Xylene | 57.4 | 2.0 | " | 66.7 | ND | 86.1 | 20-166 | 7.86 | 36 | |
| o-Xylene | 29.5 | 1.0 | " | 33.3 | ND | 88.4 | 33-159 | 7.94 | 26 | |
| Surrogate: 1,2-Dichloroethane-d4 | 15.2 | | " | 13.2 | | 115 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 13.0 | | " | 13.3 | | 97.7 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 14.2 | | " | 13.3 | | 106 | 50.1-150 | | | |

Batch 2101605 - EPA 5030 Soil MS

| Blank (2101605-BLK1) | | Prepared: 10/16/12 Analyzed: 10/17/12 | | | | | | | | |
|----------------------------------|--------|---------------------------------------|-------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | | | | | |
| Benzene | ND | 0.0050 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0342 | | " | 0.0397 | | 86.1 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0386 | | " | 0.0400 | | 96.5 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0383 | | " | 0.0400 | | 95.7 | 30-150 | | | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:48

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

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

Batch 2101605 - EPA 5030 Soil MS

LCS (2101605-BS1)

Prepared: 10/16/12 Analyzed: 10/17/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.0965 | 0.0050 | " | 0.100 | | 96.5 | 58-130 | | | |
| Toluene | 0.105 | 0.0050 | " | 0.100 | | 105 | 61-134 | | | |
| Ethylbenzene | 0.110 | 0.0050 | " | 0.100 | | 110 | 74-139 | | | |
| m,p-Xylene | 0.228 | 0.010 | " | 0.200 | | 114 | 73-137 | | | |
| o-Xylene | 0.111 | 0.0050 | " | 0.100 | | 111 | 73-141 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0338 | | " | 0.0397 | | 85.1 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0395 | | " | 0.0400 | | 98.7 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0395 | | " | 0.0400 | | 98.7 | 30-150 | | | |

LCS Dup (2101605-BSD1)

Prepared: 10/16/12 Analyzed: 10/17/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--------|----|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | | 66-138 | | 12 | |
| Benzene | 0.107 | 0.0050 | " | 0.100 | | 107 | 58-130 | 10.3 | 13 | |
| Toluene | 0.109 | 0.0050 | " | 0.100 | | 109 | 61-134 | 3.95 | 16 | |
| Ethylbenzene | 0.114 | 0.0050 | " | 0.100 | | 114 | 74-139 | 3.56 | 12 | |
| m,p-Xylene | 0.228 | 0.010 | " | 0.200 | | 114 | 73-137 | 0.0658 | 14 | |
| o-Xylene | 0.111 | 0.0050 | " | 0.100 | | 111 | 73-141 | 0.135 | 12 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0338 | | " | 0.0397 | | 85.2 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0392 | | " | 0.0400 | | 98.1 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0381 | | " | 0.0400 | | 95.2 | 30-150 | | | |

Matrix Spike (2101605-MS1)

Source: R210139-05

Prepared: 10/16/12 Analyzed: 10/17/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|------|--------|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.0746 | 0.0050 | " | 0.0969 | 0.00 | 77.0 | 30-131 | | | |
| Toluene | 0.0801 | 0.0050 | " | 0.0969 | 0.00 | 82.6 | 30-134 | | | |
| Ethylbenzene | 0.0770 | 0.0050 | " | 0.0969 | 0.00 | 79.5 | 22-153 | | | |
| m,p-Xylene | 0.161 | 0.010 | " | 0.194 | 0.00 | 83.2 | 10-159 | | | |
| o-Xylene | 0.0835 | 0.0050 | " | 0.0969 | 0.00 | 86.2 | 31-151 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0378 | | " | 0.0385 | | 98.2 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0378 | | " | 0.0388 | | 97.5 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0374 | | " | 0.0388 | | 96.5 | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:48

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

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

Batch 2101605 - EPA 5030 Soil MS

| Matrix Spike Dup (2101605-MSD1) | | Source: R210139-05 | | | Prepared: 10/16/12 | | Analyzed: 10/17/12 | | | |
|----------------------------------|--------|--------------------|-------|--------|--------------------|--------|--------------------|------|----|--|
| Naphthalene | ND | 0.0050 | mg/kg | ND | ND | 10-158 | | | 42 | |
| Benzene | 0.0722 | 0.0050 | " | 0.0954 | 0.00 | 75.7 | 30-131 | 3.27 | 34 | |
| Toluene | 0.0777 | 0.0050 | " | 0.0954 | 0.00 | 81.5 | 30-134 | 2.96 | 30 | |
| Ethylbenzene | 0.0805 | 0.0050 | " | 0.0954 | 0.00 | 84.4 | 22-153 | 4.43 | 24 | |
| m,p-Xylene | 0.164 | 0.010 | " | 0.191 | 0.00 | 85.8 | 10-159 | 1.52 | 68 | |
| o-Xylene | 0.0954 | 0.0050 | " | 0.0954 | 0.00 | 100 | 31-151 | 13.4 | 38 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0354 | | " | 0.0379 | | 93.4 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0374 | | " | 0.0382 | | 97.9 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0387 | | " | 0.0382 | | 101 | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:48

Notes and Definitions

E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

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

October 17, 2012

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Patrick Anderson 1

Enclosed are the results of analyses for samples received by Summit Scientific on 10/16/12 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV". The signature is stylized with a large, sweeping "J" and "E".

Joseph J Egry IV
Laboratory Director



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:53

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS02 | R210139-01 | Soil | 10/16/12 12:55 | 10/16/12 16:15 |
| SS03 | R210139-02 | Soil | 10/16/12 13:05 | 10/16/12 16:15 |
| SS04 | R210139-03 | Soil | 10/16/12 13:15 | 10/16/12 16:15 |
| SS05 | R210139-04 | Soil | 10/16/12 13:25 | 10/16/12 16:15 |
| SS06 | R210139-05 | Soil | 10/16/12 13:30 | 10/16/12 16:15 |
| SS07 | R210139-06 | Soil | 10/16/12 13:50 | 10/16/12 16:15 |

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: Patrick Anderson 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:53

Summit Scientific
R210139

52

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

| | | | |
|-----------------|-----------------------|------------------|-----------------------|
| Client: | PAC Energy, Inc | Project Manager: | Raydon Bours |
| Address: | 775 Glenview St. #300 | E-Mail: | Raydon.bours@pace.com |
| City/State/Zip: | Denver, CO 80203 | Project Name: | Patrick Anderson I |
| Phone: | | Project Number: | |
| Fac: | | | |
| Sampler Name: | Brian Humphrey | | |

[illegible]

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.

Regel IV



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:53

SS02
R210139-01 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: 10/16/12 12:55

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | 900 | 50 | mg/kg | 1 | 2101606 | 10/16/12 | 10/16/12 | 8015 DRO | |

Date Sampled: 10/16/12 12:55

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 90.5 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/16/12 12:55

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.35 | 0.0050 | mg/kg | 1 | 2101605 | 10/16/12 | 10/16/12 | EPA 8260B | |
| Benzene | 0.29 | 0.0050 | " | " | " | " | " | " | |
| Toluene | 0.043 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 1.8 | 0.050 | " | 10 | " | " | " | " | |
| Xylenes (total) | 11 | 0.10 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 250 | 5.0 | " | " | " | " | " | " | |

Date Sampled: 10/16/12 12:55

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 94.7 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 94.7 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 88.1 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:53

SS03
R210139-02 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: **10/16/12 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------|------------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | 810 | 50 | mg/kg | 1 | 2101606 | 10/16/12 | 10/16/12 | 8015 DRO | |

Date Sampled: **10/16/12 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> | | 83.3 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/16/12 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 4.0 | 0.050 | mg/kg | 10 | 2101605 | 10/16/12 | 10/16/12 | EPA 8260B | |
| Benzene | 0.098 | 0.0050 | " | 1 | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.77 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 6.5 | 0.10 | " | 10 | " | " | " | " | |
| Gasoline Range Hydrocarbons | 1000 | 5.0 | " | " | " | " | " | " | E |

Date Sampled: **10/16/12 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 97.7 % | 30-150 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 101 % | 30-150 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 108 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:53

SS04
R210139-03 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: **10/16/12 13:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------|-------------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | 2700 | 50 | mg/kg | 1 | 2101606 | 10/16/12 | 10/16/12 | 8015 DRO | |

Date Sampled: **10/16/12 13:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> | | 83.2 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/16/12 13:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|-------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 7.4 | 0.050 | mg/kg | 10 | 2101605 | 10/16/12 | 10/17/12 | EPA 8260B | |
| Benzene | 0.37 | 0.0050 | " | 1 | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 13 | 0.050 | " | 10 | " | " | " | " | E |
| Xylenes (total) | 47 | 0.10 | " | " | " | " | " | " | E |
| Gasoline Range Hydrocarbons | 2600 | 5.0 | " | " | " | " | " | " | E |

Date Sampled: **10/16/12 13:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 103 % | 30-150 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 103 % | 30-150 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 94.3 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:53

SS05
R210139-04 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: **10/16/12 13:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | 240 | 50 | mg/kg | 1 | 2101606 | 10/16/12 | 10/16/12 | 8015 DRO | |

Date Sampled: **10/16/12 13:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 79.9 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/16/12 13:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101605 | 10/16/12 | 10/17/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.0092 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 470 | 5.0 | " | 10 | " | " | " | " | |

Date Sampled: **10/16/12 13:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 104 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 91.9 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 94.0 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:53

SS06
R210139-05 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: **10/16/12 13:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 2101606 | 10/16/12 | 10/16/12 | 8015 DRO | |

Date Sampled: **10/16/12 13:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 75.4 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/16/12 13:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101605 | 10/16/12 | 10/16/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **10/16/12 13:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 93.2 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.2 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 96.1 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:53

SS07
R210139-06 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: **10/16/12 13:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 2101606 | 10/16/12 | 10/16/12 | 8015 DRO | |

Date Sampled: **10/16/12 13:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 74.5 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/16/12 13:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101605 | 10/16/12 | 10/16/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **10/16/12 13:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 83.9 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.6 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 95.0 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:53

Total 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 2101606 - EPA 3550A

Blank (2101606-BLK1)

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) ND 50 mg/kg

LCS (2101606-BS1)

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 555 50 mg/kg 501 111 73-134

LCS Dup (2101606-BSD1)

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 538 50 mg/kg 501 107 73-134 3.07 11

Matrix Spike (2101606-MS1)

Source: R210139-05

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 518 50 mg/kg 498 9.96 102 50-148

Matrix Spike Dup (2101606-MSD1)

Source: R210139-05

Prepared: 10/16/12 Analyzed: 10/17/12

C10-C28 (DRO) 523 50 mg/kg 500 9.96 103 50-148 0.859 13

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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/17/12 14:53

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 2101605 - EPA 5030 Soil MS

Blank (2101605-BLK1)

Prepared: 10/16/12 Analyzed: 10/17/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | | | | | |
| Benzene | ND | 0.0050 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0342 | | " | 0.0397 | 86.1 | 30-150 | | | | |
| Surrogate: Toluene-d8 | 0.0386 | | " | 0.0400 | 96.5 | 30-150 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0383 | | " | 0.0400 | 95.7 | 30-150 | | | | |

LCS (2101605-BS1)

Prepared: 10/16/12 Analyzed: 10/17/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | 66-138 | | | | |
| Benzene | 0.0965 | 0.0050 | " | 0.100 | 96.5 | 58-130 | | | | |
| Toluene | 0.105 | 0.0050 | " | 0.100 | 105 | 61-134 | | | | |
| Ethylbenzene | 0.110 | 0.0050 | " | 0.100 | 110 | 74-139 | | | | |
| m,p-Xylene | 0.228 | 0.010 | " | 0.200 | 114 | 73-137 | | | | |
| o-Xylene | 0.111 | 0.0050 | " | 0.100 | 111 | 73-141 | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0338 | | " | 0.0397 | 85.1 | 30-150 | | | | |
| Surrogate: Toluene-d8 | 0.0395 | | " | 0.0400 | 98.7 | 30-150 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0395 | | " | 0.0400 | 98.7 | 30-150 | | | | |

LCS Dup (2101605-BSD1)

Prepared: 10/16/12 Analyzed: 10/17/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--------|--|----|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | 66-138 | | | 12 | |
| Benzene | 0.107 | 0.0050 | " | 0.100 | 107 | 58-130 | 10.3 | | 13 | |
| Toluene | 0.109 | 0.0050 | " | 0.100 | 109 | 61-134 | 3.95 | | 16 | |
| Ethylbenzene | 0.114 | 0.0050 | " | 0.100 | 114 | 74-139 | 3.56 | | 12 | |
| m,p-Xylene | 0.228 | 0.010 | " | 0.200 | 114 | 73-137 | 0.0658 | | 14 | |
| o-Xylene | 0.111 | 0.0050 | " | 0.100 | 111 | 73-141 | 0.135 | | 12 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0338 | | " | 0.0397 | 85.2 | 30-150 | | | | |
| Surrogate: Toluene-d8 | 0.0392 | | " | 0.0400 | 98.1 | 30-150 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0381 | | " | 0.0400 | 95.2 | 30-150 | | | | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:53

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 2101605 - EPA 5030 Soil MS

| Matrix Spike (2101605-MS1) | | | | Source: R210139-05 | | Prepared: 10/16/12 | | Analyzed: 10/17/12 | |
|----------------------------------|--------|--------|-------|--------------------|------|--------------------|--------|--------------------|--|
| Naphthalene | ND | 0.0050 | mg/kg | | ND | | | 10-158 | |
| Benzene | 0.0746 | 0.0050 | " | 0.0969 | 0.00 | 77.0 | 30-131 | | |
| Toluene | 0.0801 | 0.0050 | " | 0.0969 | 0.00 | 82.6 | 30-134 | | |
| Ethylbenzene | 0.0770 | 0.0050 | " | 0.0969 | 0.00 | 79.5 | 22-153 | | |
| m,p-Xylene | 0.161 | 0.010 | " | 0.194 | 0.00 | 83.2 | 10-159 | | |
| o-Xylene | 0.0835 | 0.0050 | " | 0.0969 | 0.00 | 86.2 | 31-151 | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0378 | | " | 0.0385 | | 98.2 | 30-150 | | |
| Surrogate: Toluene-d8 | 0.0378 | | " | 0.0388 | | 97.5 | 30-150 | | |
| Surrogate: 4-Bromofluorobenzene | 0.0374 | | " | 0.0388 | | 96.5 | 30-150 | | |

| Matrix Spike Dup (2101605-MSD1) | | | | Source: R210139-05 | | Prepared: 10/16/12 | | Analyzed: 10/17/12 | |
|----------------------------------|--------|--------|-------|--------------------|------|--------------------|--------|--------------------|----|
| Naphthalene | ND | 0.0050 | mg/kg | | ND | | 10-158 | | 42 |
| Benzene | 0.0722 | 0.0050 | " | 0.0954 | 0.00 | 75.7 | 30-131 | 3.27 | 34 |
| Toluene | 0.0777 | 0.0050 | " | 0.0954 | 0.00 | 81.5 | 30-134 | 2.96 | 30 |
| Ethylbenzene | 0.0805 | 0.0050 | " | 0.0954 | 0.00 | 84.4 | 22-153 | 4.43 | 24 |
| m,p-Xylene | 0.164 | 0.010 | " | 0.191 | 0.00 | 85.8 | 10-159 | 1.52 | 68 |
| o-Xylene | 0.0954 | 0.0050 | " | 0.0954 | 0.00 | 100 | 31-151 | 13.4 | 38 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0354 | | " | 0.0379 | | 93.4 | 30-150 | | |
| Surrogate: Toluene-d8 | 0.0374 | | " | 0.0382 | | 97.9 | 30-150 | | |
| Surrogate: 4-Bromofluorobenzene | 0.0387 | | " | 0.0382 | | 101 | 30-150 | | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/17/12 14:53

Notes and Definitions

E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 18, 2012

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Patrick Anderson 1

Enclosed are the results of analyses for samples received by Summit Scientific on 10/17/12 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV". The signature is fluid and cursive, with a distinct "IV" at the end.

Joseph J Egry IV
Laboratory Director



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/18/12 16:46

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|------------|---------------|--------|----------------|----------------|
| SS08@12.5' | R210152-01 | Soil | 10/17/12 11:45 | 10/17/12 17:25 |
| SS09@9' | R210152-02 | Soil | 10/17/12 12:45 | 10/17/12 17:25 |
| SS10@7.5' | R210152-03 | Soil | 10/17/12 15:20 | 10/17/12 17:25 |

Summit Scientific

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Summit Scientific
R210152

S₂
741 Corporate Circle Suite I • Golden, Colorado 80401
303-277-9310 • 303-374-5933 Fax

Page | of

Client: PDV, Erdem Project Manager: Shashin Prasad
 Address: _____ E-Mail: _____
 City/State/Zip: _____ Project Name: ThruLink/500K/2007
 Phone: _____ Fax: _____ Project Number: _____
 Sample Name: CW15TH1108163

[illegible]

www.s2scientific.com

Regel IV



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/18/12 16:46

SS08@12.5'
R210152-01 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: 10/17/12 11:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 2101712 | 10/17/12 | 10/17/12 | 8015 DRO | |

Date Sampled: 10/17/12 11:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 74.8 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/17/12 11:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101711 | 10/17/12 | 10/17/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 10/17/12 11:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 95.2 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 96.9 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 95.7 % | 30-150 | | " | " | " | " | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/18/12 16:46

SS09@9'
R210152-02 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/12 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 2101712 | 10/17/12 | 10/17/12 | 8015 DRO | |

Date Sampled: **10/17/12 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 74.8 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/12 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101711 | 10/17/12 | 10/17/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **10/17/12 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 95.9 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 96.0 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 93.8 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/18/12 16:46

SS10@7.5'
R210152-03 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/12 15:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 2101712 | 10/17/12 | 10/17/12 | 8015 DRO | |

Date Sampled: **10/17/12 15:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 72.2 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/12 15:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101711 | 10/17/12 | 10/18/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.021 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 0.55 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **10/17/12 15:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 94.7 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.3 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.0 % | 30-150 | | " | " | " | " | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/18/12 16:46

Total 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 2101712 - EPA 3550A

Blank (2101712-BLK1)

Prepared & Analyzed: 10/17/12

C10-C28 (DRO) ND 50 mg/kg

LCS (2101712-BS1)

Prepared & Analyzed: 10/17/12

C10-C28 (DRO) 520 50 mg/kg 501 104 73-134

LCS Dup (2101712-BSD1)

Prepared & Analyzed: 10/17/12

C10-C28 (DRO) 497 50 mg/kg 501 99.3 73-134 4.39 11

Matrix Spike (2101712-MS1)

Source: R210152-01

Prepared & Analyzed: 10/17/12

C10-C28 (DRO) 496 50 mg/kg 501 13.4 96.3 50-148

Matrix Spike Dup (2101712-MSD1)

Source: R210152-01

Prepared & Analyzed: 10/17/12

C10-C28 (DRO) 494 50 mg/kg 501 13.4 95.9 50-148 0.473 13

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/18/12 16:46

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 2101711 - EPA 5030 Soil MS

Blank (2101711-BLK1)

Prepared: 10/17/12 Analyzed: 10/18/12

| | | | |
|-----------------------------|----|--------|-------|
| Naphthalene | ND | 0.0050 | mg/kg |
| Benzene | ND | 0.0050 | " |
| Toluene | ND | 0.0050 | " |
| Ethylbenzene | ND | 0.0050 | " |
| Xylenes (total) | ND | 0.010 | " |
| Gasoline Range Hydrocarbons | ND | 0.50 | " |

| | | | | | |
|----------------------------------|--------|---|--------|------|--------|
| Surrogate: 1,2-Dichloroethane-d4 | 0.0341 | " | 0.0397 | 86.0 | 30-150 |
| Surrogate: Toluene-d8 | 0.0385 | " | 0.0400 | 96.2 | 30-150 |
| Surrogate: 4-Bromofluorobenzene | 0.0372 | " | 0.0400 | 93.0 | 30-150 |

LCS (2101711-BS1)

Prepared: 10/17/12 Analyzed: 10/18/12

| | | | | | |
|--------------|--------|--------|-------|-------|-------------|
| Naphthalene | ND | 0.0050 | mg/kg | | 66-138 |
| Benzene | 0.0940 | 0.0050 | " | 0.100 | 94.0 58-130 |
| Toluene | 0.102 | 0.0050 | " | 0.100 | 102 61-134 |
| Ethylbenzene | 0.105 | 0.0050 | " | 0.100 | 105 74-139 |
| m,p-Xylene | 0.217 | 0.010 | " | 0.200 | 108 73-137 |
| o-Xylene | 0.107 | 0.0050 | " | 0.100 | 107 73-141 |

| | | | | | |
|----------------------------------|--------|---|--------|------|--------|
| Surrogate: 1,2-Dichloroethane-d4 | 0.0339 | " | 0.0397 | 85.5 | 30-150 |
| Surrogate: Toluene-d8 | 0.0390 | " | 0.0400 | 97.5 | 30-150 |
| Surrogate: 4-Bromofluorobenzene | 0.0377 | " | 0.0400 | 94.4 | 30-150 |

LCS Dup (2101711-BSD1)

Prepared: 10/17/12 Analyzed: 10/18/12

| | | | | | | | |
|--------------|--------|--------|-------|-------|--------|--------|---------|
| Naphthalene | ND | 0.0050 | mg/kg | | 66-138 | | 12 |
| Benzene | 0.0987 | 0.0050 | " | 0.100 | 98.7 | 58-130 | 4.92 13 |
| Toluene | 0.107 | 0.0050 | " | 0.100 | 107 | 61-134 | 5.06 16 |
| Ethylbenzene | 0.109 | 0.0050 | " | 0.100 | 109 | 74-139 | 3.25 12 |
| m,p-Xylene | 0.222 | 0.010 | " | 0.200 | 111 | 73-137 | 2.69 14 |
| o-Xylene | 0.111 | 0.0050 | " | 0.100 | 111 | 73-141 | 3.00 12 |

| | | | | | |
|----------------------------------|--------|---|--------|------|--------|
| Surrogate: 1,2-Dichloroethane-d4 | 0.0346 | " | 0.0397 | 87.3 | 30-150 |
| Surrogate: Toluene-d8 | 0.0390 | " | 0.0400 | 97.6 | 30-150 |
| Surrogate: 4-Bromofluorobenzene | 0.0368 | " | 0.0400 | 92.0 | 30-150 |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/18/12 16:46

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 2101711 - EPA 5030 Soil MS

| Matrix Spike (2101711-MS1) | | | | Source: R210152-01 | | Prepared: 10/17/12 | | Analyzed: 10/18/12 | |
|----------------------------------|--------|--------|-------|--------------------|------|--------------------|--------|--------------------|--|
| Naphthalene | ND | 0.0050 | mg/kg | | ND | | | 10-158 | |
| Benzene | 0.0794 | 0.0050 | " | 0.0975 | 0.00 | 81.5 | 30-131 | | |
| Toluene | 0.0862 | 0.0050 | " | 0.0975 | 0.00 | 88.4 | 30-134 | | |
| Ethylbenzene | 0.0848 | 0.0050 | " | 0.0975 | 0.00 | 87.0 | 22-153 | | |
| m,p-Xylene | 0.172 | 0.010 | " | 0.195 | 0.00 | 88.3 | 10-159 | | |
| o-Xylene | 0.0859 | 0.0050 | " | 0.0975 | 0.00 | 88.2 | 31-151 | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0370 | | " | 0.0387 | | 95.7 | 30-150 | | |
| Surrogate: Toluene-d8 | 0.0384 | | " | 0.0390 | | 98.6 | 30-150 | | |
| Surrogate: 4-Bromofluorobenzene | 0.0352 | | " | 0.0390 | | 90.4 | 30-150 | | |

| Matrix Spike Dup (2101711-MSD1) | | | | Source: R210152-01 | | Prepared: 10/17/12 | | Analyzed: 10/18/12 | |
|----------------------------------|--------|--------|-------|--------------------|------|--------------------|--------|--------------------|----|
| Naphthalene | ND | 0.0050 | mg/kg | | ND | | 10-158 | | 42 |
| Benzene | 0.0759 | 0.0050 | " | 0.0956 | 0.00 | 79.4 | 30-131 | 4.50 | 34 |
| Toluene | 0.0819 | 0.0050 | " | 0.0956 | 0.00 | 85.6 | 30-134 | 5.13 | 30 |
| Ethylbenzene | 0.0831 | 0.0050 | " | 0.0956 | 0.00 | 86.9 | 22-153 | 2.10 | 24 |
| m,p-Xylene | 0.171 | 0.010 | " | 0.191 | 0.00 | 89.5 | 10-159 | 0.547 | 68 |
| o-Xylene | 0.0861 | 0.0050 | " | 0.0956 | 0.00 | 90.1 | 31-151 | 0.190 | 38 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0352 | | " | 0.0380 | | 92.8 | 30-150 | | |
| Surrogate: Toluene-d8 | 0.0370 | | " | 0.0382 | | 96.8 | 30-150 | | |
| Surrogate: 4-Bromofluorobenzene | 0.0362 | | " | 0.0382 | | 94.7 | 30-150 | | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/18/12 16:46

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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 19, 2012

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Patrick Anderson 1

Enclosed are the results of analyses for samples received by Summit Scientific on 10/18/12 13:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV". The signature is stylized with a large, sweeping initial "J" and a distinct "IV" at the end.

Joseph J Egry IV
Laboratory Director



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS11@8.5' | R210156-01 | Soil | 10/18/12 08:15 | 10/18/12 13:15 |
| SS12@10' | R210156-02 | Soil | 10/18/12 11:25 | 10/18/12 13:15 |
| GW02 | R210156-03 | Water | 10/18/12 10:00 | 10/18/12 13:15 |

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: Patrick Anderson 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

Summit Scientific
R210156

5:
741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-574-5933 Fax

Client: PDC Energy
Address: 1775 Sherman St.
City/State/Zip: Denver, CO 80203
Phone: 303-277-9310
Fax: 303-574-5933
Project Manager: Brandon Bruns
E-Mail: bbruns@pdcenergy.com
Project Name: Patrick Anderson 1
Project Number: [none]

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | | Analyze For: | | | | Special Instructions |
|-------------------------------|---------------------------|--------------------------|---------------------------|---------------------------------------|------------------|------|-----------------|---------------|------|-------------------------|-----------------|--------------------------|----------|----------|----------|----------------------|
| | | | | HCl | HNO ₃ | Zone | Other (Specify) | Groundwater | Soil | Air - Canister Serial # | Other (Specify) | 2015 DPA | 2015 PDC | 2015 PDC | 2015 PDC | |
| 511685 | 10/18/12 | 8:15 | 1 | | | | | | | | | | | | | |
| 512014 | 10/18/12 | 11:05 | 1 | | | | | | | | | | | | | |
| 61002 | 10/18/12 | 10:00 | 1 | | | | | | | | | | | | | STUDY DAY 1 AT |
| Requisitioned by: [Signature] | Date/Time: 10/18/12 13:15 | Received by: [Signature] | Date/Time: 10/19/12 13:15 | Turn Around Time (Check) | | | | Notes: | | | | | | | | |
| Requisitioned by: [Signature] | Date/Time: 10/18/12 13:15 | Received by: [Signature] | Date/Time: 10/19/12 13:15 | Same Day | | | | 72 Hours | | | | Standard | | | | |
| Requisitioned by: [Signature] | Date/Time: 10/18/12 13:15 | Received by: [Signature] | Date/Time: 10/19/12 13:15 | 24 Hours | | | | 48 Hours | | | | Sample Integrity: Yes No | | | | |
| Requisitioned by: [Signature] | Date/Time: 10/18/12 13:15 | Received by: [Signature] | Date/Time: 10/19/12 13:15 | Temperature Upon Receipt: [Signature] | | | | Inact: Yes No | | | | Please CC [Signature] | | | | |

www.s2scientific.com

[Signature]



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/19/12 08:59

SS11@8.5'
R210156-01 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: 10/18/12 08:15

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 2101814 | 10/18/12 | 10/18/12 | 8015 DRO | |

Date Sampled: 10/18/12 08:15

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/18/12 08:15

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101813 | 10/18/12 | 10/18/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 10/18/12 08:15

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 98.0 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 95.6 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 92.0 % | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/19/12 08:59

SS12@10'
R210156-02 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: 10/18/12 11:25

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|----------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 2101814 | 10/18/12 | 10/18/12 | 8015 DRO | |

Date Sampled: 10/18/12 11:25

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 96.3 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/18/12 11:25

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.0050 | mg/kg | 1 | 2101813 | 10/18/12 | 10/18/12 | EPA 8260B | |
| Benzene | ND | 0.0050 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 10/18/12 11:25

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 95.7 % | 30-150 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 96.2 % | 30-150 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 96.2 % | 30-150 | | " | " | " | " | |

Summit Scientific

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



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

GW02
R210156-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/12 10:00**

| Analyte | Result | Reporting | | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | | |
| Benzene | 10 | 1.0 | | ug/l | 1 | 2101811 | 10/18/12 | 10/18/12 | EPA 8260B | |
| Toluene | 6.3 | 1.0 | | " | " | " | " | " | " | |
| Ethylbenzene | 29 | 1.0 | | " | " | " | " | " | " | |
| Xylenes (total) | 120 | 1.0 | | " | " | " | " | " | " | |

Date Sampled: **10/18/12 10:00**

| Analyte | Result | Reporting | | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--|----------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 100 % | | 49.7-150 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 114 % | | 51-150 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 164 % | | 50.1-150 | | " | " | " | " | S-02 |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

Total 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 2101814 - EPA 3550A

Blank (2101814-BLK1)

Prepared: 10/18/12 Analyzed: 10/19/12

C10-C28 (DRO) ND 50 mg/kg

LCS (2101814-BS1)

Prepared: 10/18/12 Analyzed: 10/19/12

C10-C28 (DRO) 543 50 mg/kg 501 108 73-134

LCS Dup (2101814-BSD1)

Prepared: 10/18/12 Analyzed: 10/19/12

C10-C28 (DRO) 531 50 mg/kg 501 106 73-134 2.24 11

Matrix Spike (2101814-MS1)

Source: R210156-01

Prepared: 10/18/12 Analyzed: 10/19/12

C10-C28 (DRO) 479 50 mg/kg 485 25.9 93.6 50-148

Matrix Spike Dup (2101814-MSD1)

Source: R210156-01

Prepared: 10/18/12 Analyzed: 10/19/12

C10-C28 (DRO) 512 50 mg/kg 495 25.9 98.1 50-148 6.50 13

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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

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 2101811 - EPA 5030 Water MS

Blank (2101811-BLK1)

Prepared & Analyzed: 10/18/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|----------|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 1.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.5 | | " | 13.2 | | 94.2 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 13.0 | | " | 13.3 | | 97.4 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 14.0 | | " | 13.3 | | 105 | 50.1-150 | | | |

LCS (2101811-BS1)

Prepared & Analyzed: 10/18/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|----------|--|--|--|
| Benzene | 21.3 | 1.0 | ug/l | 33.3 | | 63.9 | 51-132 | | | |
| Toluene | 21.4 | 1.0 | " | 33.3 | | 64.2 | 51-138 | | | |
| Ethylbenzene | 22.2 | 1.0 | " | 33.3 | | 66.6 | 58-146 | | | |
| m,p-Xylene | 45.1 | 2.0 | " | 66.7 | | 67.6 | 57-144 | | | |
| o-Xylene | 22.0 | 1.0 | " | 33.3 | | 66.2 | 53-146 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.0 | | " | 13.2 | | 98.4 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 13.3 | | " | 13.3 | | 99.9 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.6 | | " | 13.3 | | 102 | 50.1-150 | | | |

Matrix Spike (2101811-MS1)

Source: R210135-01

Prepared & Analyzed: 10/18/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|----|------|----------|--|--|--|
| Benzene | 20.2 | 1.0 | ug/l | 33.3 | ND | 60.6 | 34-141 | | | |
| Toluene | 18.6 | 1.0 | " | 33.3 | ND | 55.7 | 27-151 | | | |
| Ethylbenzene | 19.9 | 1.0 | " | 33.3 | ND | 59.6 | 29-160 | | | |
| m,p-Xylene | 39.5 | 2.0 | " | 66.7 | ND | 59.3 | 20-166 | | | |
| o-Xylene | 19.3 | 1.0 | " | 33.3 | ND | 57.8 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.7 | | " | 13.2 | | 95.7 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 13.4 | | " | 13.3 | | 100 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.1 | | " | 13.3 | | 98.0 | 50.1-150 | | | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

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 2101811 - EPA 5030 Water MS

| Matrix Spike Dup (2101811-MSD1) | | | Source: R210135-01 | | Prepared & Analyzed: 10/18/12 | | | | | |
|----------------------------------|------|-----|--------------------|------|-------------------------------|------|----------|------|----|--|
| Benzene | 24.8 | 1.0 | ug/l | 33.3 | ND | 74.3 | 34-141 | 20.3 | 32 | |
| Toluene | 21.7 | 1.0 | " | 33.3 | ND | 65.0 | 27-151 | 15.5 | 25 | |
| Ethylbenzene | 23.7 | 1.0 | " | 33.3 | ND | 71.2 | 29-160 | 17.6 | 50 | |
| m,p-Xylene | 46.4 | 2.0 | " | 66.7 | ND | 69.5 | 20-166 | 16.0 | 36 | |
| o-Xylene | 22.7 | 1.0 | " | 33.3 | ND | 68.0 | 33-159 | 16.2 | 26 | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.8 | | " | 13.2 | | 96.5 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 13.4 | | " | 13.3 | | 101 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.1 | | " | 13.3 | | 98.4 | 50.1-150 | | | |

Batch 2101813 - EPA 5030 Soil MS

| Blank (2101813-BLK1) | | | Prepared & Analyzed: 10/18/12 | | | | | | | |
|----------------------------------|--------|--------|-------------------------------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | | | | | |
| Benzene | ND | 0.0050 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0355 | | " | 0.0397 | | 89.4 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0393 | | " | 0.0400 | | 98.2 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0376 | | " | 0.0400 | | 93.9 | 30-150 | | | |

| LCS (2101813-BS1) | | | Prepared: 10/18/12 Analyzed: 10/19/12 | | | | | | | |
|----------------------------------|--------|--------|---------------------------------------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | | | | | |
| Benzene | 0.0956 | 0.0050 | " | 0.100 | | 95.6 | 58-130 | | | |
| Toluene | 0.0988 | 0.0050 | " | 0.100 | | 98.8 | 61-134 | | | |
| Ethylbenzene | 0.102 | 0.0050 | " | 0.100 | | 102 | 74-139 | | | |
| m,p-Xylene | 0.209 | 0.010 | " | 0.200 | | 105 | 73-137 | | | |
| o-Xylene | 0.104 | 0.0050 | " | 0.100 | | 104 | 73-141 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0357 | | " | 0.0397 | | 89.8 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0386 | | " | 0.0400 | | 96.4 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0364 | | " | 0.0400 | | 91.0 | 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: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

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 2101813 - EPA 5030 Soil MS

LCS Dup (2101813-BSD1)

Prepared: 10/18/12 Analyzed: 10/19/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|------|----|--|
| Naphthalene | ND | 0.0050 | mg/kg | | | | 66-138 | | 12 | |
| Benzene | 0.112 | 0.0050 | " | 0.100 | | 112 | 58-130 | 15.5 | 13 | |
| Toluene | 0.0956 | 0.0050 | " | 0.100 | | 95.6 | 61-134 | 3.30 | 16 | |
| Ethylbenzene | 0.106 | 0.0050 | " | 0.100 | | 106 | 74-139 | 3.52 | 12 | |
| m,p-Xylene | 0.215 | 0.010 | " | 0.200 | | 108 | 73-137 | 2.77 | 14 | |
| o-Xylene | 0.107 | 0.0050 | " | 0.100 | | 107 | 73-141 | 2.24 | 12 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0393 | | " | 0.0397 | | 99.1 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0356 | | " | 0.0400 | | 89.1 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0362 | | " | 0.0400 | | 90.4 | 30-150 | | | |

Matrix Spike (2101813-MS1)

Source: R210156-01

Prepared: 10/18/12 Analyzed: 10/19/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|------|--------|--|--|--|
| Naphthalene | ND | 0.0050 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.0486 | 0.0050 | " | 0.0996 | 0.00 | 48.8 | 30-131 | | | |
| Toluene | 0.0549 | 0.0050 | " | 0.0996 | 0.00 | 55.1 | 30-134 | | | |
| Ethylbenzene | 0.0745 | 0.0050 | " | 0.0996 | 0.00 | 74.8 | 22-153 | | | |
| m,p-Xylene | 0.150 | 0.010 | " | 0.199 | 0.00 | 75.4 | 10-159 | | | |
| o-Xylene | 0.0774 | 0.0050 | " | 0.0996 | 0.00 | 77.7 | 31-151 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0367 | | " | 0.0395 | | 92.8 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0372 | | " | 0.0398 | | 93.5 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0386 | | " | 0.0398 | | 96.8 | 30-150 | | | |

Matrix Spike Dup (2101813-MSD1)

Source: R210156-01

Prepared: 10/18/12 Analyzed: 10/19/12

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|------|--------|------|----|--|
| Naphthalene | ND | 0.0050 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.0443 | 0.0050 | " | 0.0978 | 0.00 | 45.3 | 30-131 | 9.17 | 34 | |
| Toluene | 0.0500 | 0.0050 | " | 0.0978 | 0.00 | 51.1 | 30-134 | 9.23 | 30 | |
| Ethylbenzene | 0.0696 | 0.0050 | " | 0.0978 | 0.00 | 71.2 | 22-153 | 6.79 | 24 | |
| m,p-Xylene | 0.140 | 0.010 | " | 0.196 | 0.00 | 71.5 | 10-159 | 7.09 | 68 | |
| o-Xylene | 0.0717 | 0.0050 | " | 0.0978 | 0.00 | 73.3 | 31-151 | 7.66 | 38 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0373 | | " | 0.0388 | | 96.0 | 30-150 | | | |
| Surrogate: Toluene-d8 | 0.0372 | | " | 0.0391 | | 95.1 | 30-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0381 | | " | 0.0391 | | 97.4 | 30-150 | | | |

Summit Scientific

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



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/19/12 08:59

Notes and Definitions

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 23, 2012

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Patrick Anderson 1

Enclosed are the results of analyses for samples received by Summit Scientific on 10/22/12 09:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV". The signature is stylized with a large, sweeping initial "J" and a distinct "IV" at the end.

Joseph J Egry IV
Laboratory Director



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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/23/12 13:56

AW03
R210176-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/22/12 07:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 8.8 | 1.0 | ug/l | 1 | 2102210 | 10/22/12 | 10/22/12 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | 4.3 | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | 20 | 1.0 | " | " | " | " | " | " | |

Date Sampled: **10/22/12 07:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|----------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 91.2 % | 49.7-150 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 92.9 % | 51-150 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 89.6 % | 50.1-150 | | " | " | " | " | |

Summit Scientific

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/23/12 13:56

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 2102210 - EPA 5030 Water MS

Blank (2102210-BLK1)

Prepared & Analyzed: 10/22/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|----------|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 1.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 11.7 | | " | 13.2 | | 88.7 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 12.7 | | " | 13.3 | | 95.1 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.2 | | " | 13.3 | | 99.3 | 50.1-150 | | | |

LCS (2102210-BS1)

Prepared & Analyzed: 10/22/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|----------|--|--|--|
| Benzene | 43.3 | 1.0 | ug/l | 66.7 | | 64.9 | 51-132 | | | |
| Toluene | 44.8 | 1.0 | " | 66.7 | | 67.2 | 51-138 | | | |
| Ethylbenzene | 54.6 | 1.0 | " | 66.7 | | 81.9 | 58-146 | | | |
| m,p-Xylene | 108 | 2.0 | " | 133 | | 80.6 | 57-144 | | | |
| o-Xylene | 53.9 | 1.0 | " | 66.7 | | 80.8 | 53-146 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.0 | | " | 13.2 | | 90.3 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 12.4 | | " | 13.3 | | 92.6 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 12.3 | | " | 13.3 | | 92.2 | 50.1-150 | | | |

LCS Dup (2102210-BSD1)

Prepared & Analyzed: 10/22/12

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|----------|------|----|--|
| Benzene | 44.6 | 1.0 | ug/l | 66.7 | | 66.9 | 51-132 | 2.98 | 17 | |
| Toluene | 46.2 | 1.0 | " | 66.7 | | 69.4 | 51-138 | 3.21 | 17 | |
| Ethylbenzene | 55.8 | 1.0 | " | 66.7 | | 83.6 | 58-146 | 2.12 | 16 | |
| m,p-Xylene | 111 | 2.0 | " | 133 | | 83.0 | 57-144 | 2.82 | 16 | |
| o-Xylene | 55.2 | 1.0 | " | 66.7 | | 82.8 | 53-146 | 2.42 | 15 | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.0 | | " | 13.2 | | 90.7 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 12.5 | | " | 13.3 | | 94.0 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 12.6 | | " | 13.3 | | 94.4 | 50.1-150 | | | |

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
10/23/12 13:56

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 2102210 - EPA 5030 Water MS

| Matrix Spike (2102210-MS1) | | | | Source: R210150-02 | | Prepared & Analyzed: 10/22/12 | | | | |
|----------------------------------|------|-----|------|--------------------|------|-------------------------------|----------|-------|----|--|
| Benzene | 44.2 | 1.0 | ug/l | 66.7 | ND | 66.2 | 34-141 | | | |
| Toluene | 45.6 | 1.0 | " | 66.7 | ND | 68.5 | 27-151 | | | |
| Ethylbenzene | 55.9 | 1.0 | " | 66.7 | ND | 83.9 | 29-160 | | | |
| m,p-Xylene | 111 | 2.0 | " | 133 | 1.00 | 82.4 | 20-166 | | | |
| o-Xylene | 55.6 | 1.0 | " | 66.7 | ND | 83.4 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.0 | | " | 13.2 | | 90.8 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 12.4 | | " | 13.3 | | 93.2 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 10.8 | | " | 13.3 | | 81.0 | 50.1-150 | | | |
| Matrix Spike Dup (2102210-MSD1) | | | | Source: R210150-02 | | Prepared & Analyzed: 10/22/12 | | | | |
| Benzene | 43.7 | 1.0 | ug/l | 66.7 | ND | 65.5 | 34-141 | 1.14 | 32 | |
| Toluene | 45.4 | 1.0 | " | 66.7 | ND | 68.1 | 27-151 | 0.549 | 25 | |
| Ethylbenzene | 55.2 | 1.0 | " | 66.7 | ND | 82.8 | 29-160 | 1.30 | 50 | |
| m,p-Xylene | 110 | 2.0 | " | 133 | 1.00 | 81.6 | 20-166 | 0.924 | 36 | |
| o-Xylene | 55.4 | 1.0 | " | 66.7 | ND | 83.1 | 33-159 | 0.397 | 26 | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.1 | | " | 13.2 | | 91.5 | 49.7-150 | | | |
| Surrogate: Toluene-d8 | 12.6 | | " | 13.3 | | 94.3 | 51-150 | | | |
| Surrogate: 4-Bromofluorobenzene | 11.9 | | " | 13.3 | | 89.4 | 50.1-150 | | | |

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

Project: Patrick Anderson 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
10/23/12 13:56

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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.