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[www.greenanalytical.com](http://www.greenanalytical.com)

12 May 2016

Darrell Savage  
Conoco Phillips-Farmington  
3401 30th Street  
Farmington, NM 87401  
RE: PO4 & API+ & Fe/Mn

Enclosed are the results of analyses for samples received by the laboratory on 04/27/16 15:40.  
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt  
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (\*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

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Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

#### ANALYTICAL REPORT FOR SAMPLES

| Sample ID             | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------------------|---------------|--------|----------------|----------------|
| Howell A #1B          | 1604242-01    | Water  | 04/25/16 12:10 | 04/27/16 15:40 |
| Howell A #300         | 1604242-02    | Water  | 04/25/16 13:30 | 04/27/16 15:40 |
| EPNG Com A #2A        | 1604242-03    | Water  | 04/25/16 14:07 | 04/27/16 15:40 |
| Howell J #300         | 1604242-04    | Water  | 04/25/16 13:00 | 04/27/16 15:40 |
| Burnt Mesa #1B        | 1604242-05    | Water  | 04/26/16 13:10 | 04/27/16 15:40 |
| Allison Unit #130S    | 1604242-06    | Water  | 04/26/16 10:20 | 04/27/16 15:40 |
| EPNG B #100S          | 1604242-07    | Water  | 04/26/16 12:16 | 04/27/16 15:40 |
| Allison Unit Com #144 | 1604242-08    | Water  | 04/26/16 12:43 | 04/27/16 15:40 |
| Burnt Mesa #101       | 1604242-09    | Water  | 04/26/16 13:50 | 04/27/16 15:40 |

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Debbie Zufelt, Reports Manager

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3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

### Howell A #1B

#### 1604242-01 (Water)

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

#### General Chemistry

|                          |        |       |        |          |    |          |               |    |     |
|--------------------------|--------|-------|--------|----------|----|----------|---------------|----|-----|
| Alkalinity, Bicarbonate* | 64.0   | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Alkalinity, Carbonate*   | <10.0  | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Alkalinity, Hydroxide*   | <10.0  | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Alkalinity, Total*       | 64.0   | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Chloride                 | 49.0   | 50.0  | 2.60   | mg/L     | 50 | 05/04/16 | EPA300.0      |    | JDA |
| Conductivity*            | 318    | 10.0  |        | uS/cm    | 1  | 04/28/16 | 2510 B        |    | KDG |
| pH*                      | 7.53   |       |        | pH Units | 1  | 04/28/16 | EPA150.1      | H1 | KDG |
| Phosphate (PO4)          | 5.62   | 0.768 | 0.276  | mg/L     | 5  | 05/11/16 | EPA365.3/Calc |    | LLG |
| Phosphorus, Total        | 1.83   | 0.250 | 0.0900 | mg/L     | 5  | 05/11/16 | EPA365.3      |    | LLG |
| Resistivity              | 3140   |       |        | ohm/cm   | 1  | 04/29/16 | 2510 B        |    | KDG |
| Total Dissolved Solids   | 110    | 10.0  |        | mg/L     | 1  | 05/03/16 | EPA160.1      |    | KDG |
| Specific Gravity         | 0.9980 |       |        | N/A      | 1  | 04/29/16 | Hydrometer    |    | KDG |
| Sulfate                  | <3.07  | 50.0  | 3.07   | mg/L     | 50 | 05/04/16 | EPA300.0      |    | JDA |

#### Potentially Dissolved Metals by ICP

|                              |        |       |       |      |    |          |          |  |     |
|------------------------------|--------|-------|-------|------|----|----------|----------|--|-----|
| Hardness                     | <2.80  | 9.23  | 2.80  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Silica Potentially Dissolved | <10.7  | 21.4  | 10.7  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Barium*                      | <0.200 | 0.200 | 0.053 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Calcium*                     | 0.739  | 0.400 | 0.055 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Iron*                        | 25.5   | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Lead*                        | <2.00  | 2.00  | 0.492 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Magnesium*                   | <0.648 | 2.00  | 0.648 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Manganese*                   | 0.163  | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Potassium*                   | <20.0  | 20.0  | 6.70  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Silicon                      | <10.0  | 10.0  | 4.99  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Sodium*                      | <20.0  | 20.0  | 6.11  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Strontium*                   | <2.00  | 2.00  | 0.007 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Zinc*                        | <1.00  | 1.00  | 0.044 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |

Cation/Anion Balance -9.62

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Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

### Howell A #300

#### 1604242-02 (Water)

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

#### General Chemistry

|                          |       |      |      |          |      |          |            |    |     |
|--------------------------|-------|------|------|----------|------|----------|------------|----|-----|
| Alkalinity, Bicarbonate* | 8000  | 10.0 |      | mg/L     | 100  | 05/03/16 | 2320 B     |    | KDG |
| Alkalinity, Carbonate*   | <10.0 | 10.0 |      | mg/L     | 100  | 05/03/16 | 2320 B     |    | KDG |
| Alkalinity, Hydroxide*   | <10.0 | 10.0 |      | mg/L     | 100  | 05/03/16 | 2320 B     |    | KDG |
| Alkalinity, Total*       | 8000  | 10.0 |      | mg/L     | 100  | 05/03/16 | 2320 B     |    | KDG |
| Chloride                 | 2390  | 1000 | 51.9 | mg/L     | 1000 | 05/03/16 | EPA300.0   |    | JDA |
| Conductivity*            | 18400 | 10.0 |      | uS/cm    | 1    | 04/28/16 | 2510 B     |    | KDG |
| pH*                      | 7.24  |      |      | pH Units | 1    | 04/28/16 | EPA150.1   | H1 | KDG |
| Resistivity              | 54.4  |      |      | ohm/cm   | 1    | 04/29/16 | 2510 B     |    | KDG |
| Total Dissolved Solids   | 11100 | 10.0 |      | mg/L     | 1    | 05/03/16 | EPA160.1   |    | KDG |
| Specific Gravity         | 1.010 |      |      | N/A      | 1    | 04/29/16 | Hydrometer |    | KDG |
| Sulfate                  | <61.5 | 1000 | 61.5 | mg/L     | 1000 | 05/03/16 | EPA300.0   |    | JDA |

#### Potentially Dissolved Metals by ICP

|                              |       |       |       |      |    |          |          |  |     |
|------------------------------|-------|-------|-------|------|----|----------|----------|--|-----|
| Hardness                     | 159   | 9.23  | 2.80  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Silica Potentially Dissolved | 30.8  | 21.4  | 10.7  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Barium*                      | 30.9  | 0.200 | 0.053 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Calcium*                     | 29.7  | 0.400 | 0.055 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Iron*                        | 118   | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Lead*                        | 4.33  | 2.00  | 0.492 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Magnesium*                   | 20.6  | 2.00  | 0.648 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Manganese*                   | 1.42  | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Potassium*                   | 115   | 20.0  | 6.70  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Silicon                      | 14.4  | 10.0  | 4.99  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Sodium*                      | 4070  | 20.0  | 6.11  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Strontium*                   | 9.68  | 2.00  | 0.007 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Zinc*                        | 1.73  | 1.00  | 0.044 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Cation/Anion Balance         | -2.89 |       |       |      |    |          |          |  |     |

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*Debbie Zufelt*

Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

### EPNG Com A #2A

#### 1604242-03 (Water)

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

#### General Chemistry

|                          |        |       |        |          |    |          |               |    |     |
|--------------------------|--------|-------|--------|----------|----|----------|---------------|----|-----|
| Alkalinity, Bicarbonate* | 76.0   | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Alkalinity, Carbonate*   | <10.0  | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Alkalinity, Hydroxide*   | <10.0  | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Alkalinity, Total*       | 76.0   | 10.0  |        | mg/L     | 1  | 05/03/16 | 2320 B        |    | KDG |
| Chloride                 | 71.8   | 50.0  | 2.60   | mg/L     | 50 | 05/04/16 | EPA300.0      |    | JDA |
| Conductivity*            | 420    | 10.0  |        | uS/cm    | 1  | 04/28/16 | 2510 B        |    | KDG |
| pH*                      | 6.25   |       |        | pH Units | 1  | 04/28/16 | EPA150.1      | H1 | KDG |
| Phosphate (PO4)          | 4.93   | 0.768 | 0.276  | mg/L     | 5  | 05/11/16 | EPA365.3/Calc |    | LLG |
| Phosphorus, Total        | 1.61   | 0.250 | 0.0900 | mg/L     | 5  | 05/11/16 | EPA365.3      |    | LLG |
| Resistivity              | 2380   |       |        | ohm/cm   | 1  | 04/29/16 | 2510 B        |    | KDG |
| Total Dissolved Solids   | 155    | 10.0  |        | mg/L     | 1  | 05/06/16 | EPA160.1      |    | KDG |
| Specific Gravity         | 0.9990 |       |        | N/A      | 1  | 04/29/16 | Hydrometer    |    | KDG |
| Sulfate                  | <3.07  | 50.0  | 3.07   | mg/L     | 50 | 05/04/16 | EPA300.0      |    | JDA |

#### Potentially Dissolved Metals by ICP

|                              |        |       |       |      |    |          |          |  |     |
|------------------------------|--------|-------|-------|------|----|----------|----------|--|-----|
| Hardness                     | 5.30   | 9.23  | 2.80  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Silica Potentially Dissolved | <10.7  | 21.4  | 10.7  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Barium*                      | <0.200 | 0.200 | 0.053 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Calcium*                     | 2.12   | 0.400 | 0.055 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Iron*                        | 28.5   | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Lead*                        | <2.00  | 2.00  | 0.492 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Magnesium*                   | <0.648 | 2.00  | 0.648 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Manganese*                   | 0.282  | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Potassium*                   | <20.0  | 20.0  | 6.70  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Silicon                      | <10.0  | 10.0  | 4.99  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Sodium*                      | 46.9   | 20.0  | 6.11  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Strontium*                   | <2.00  | 2.00  | 0.007 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Zinc*                        | <1.00  | 1.00  | 0.044 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |

Cation/Anion Balance 2.42

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Debbie Zufelt, Reports Manager

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Page 5 of 16



Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

**Howell J #300**

**1604242-04 (Water)**

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

**General Chemistry**

|                   |      |       |        |      |   |          |               |  |     |
|-------------------|------|-------|--------|------|---|----------|---------------|--|-----|
| Phosphate (PO4)   | 6.59 | 0.768 | 0.276  | mg/L | 5 | 05/11/16 | EPA365.3/Calc |  | LLG |
| Phosphorus, Total | 2.15 | 0.250 | 0.0900 | mg/L | 5 | 05/11/16 | EPA365.3      |  | LLG |

**Potentially Dissolved Metals by ICP**

|                      |      |       |       |      |    |          |          |  |     |
|----------------------|------|-------|-------|------|----|----------|----------|--|-----|
| Iron*                | 197  | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Manganese*           | 3.12 | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Cation/Anion Balance | 100. |       |       |      |    |          |          |  |     |

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Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

**Burnt Mesa #1B****1604242-05 (Water)**

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

**General Chemistry**

|                          |       |      |      |          |    |          |            |  |     |
|--------------------------|-------|------|------|----------|----|----------|------------|--|-----|
| Alkalinity, Bicarbonate* | 100   | 10.0 |      | mg/L     | 1  | 05/03/16 | 2320 B     |  | KDG |
| Alkalinity, Carbonate*   | <10.0 | 10.0 |      | mg/L     | 1  | 05/03/16 | 2320 B     |  | KDG |
| Alkalinity, Hydroxide*   | <10.0 | 10.0 |      | mg/L     | 1  | 05/03/16 | 2320 B     |  | KDG |
| Alkalinity, Total*       | 100   | 10.0 |      | mg/L     | 1  | 05/03/16 | 2320 B     |  | KDG |
| Chloride                 | 74.2  | 50.0 | 2.60 | mg/L     | 50 | 05/04/16 | EPA300.0   |  | JDA |
| Conductivity*            | 417   | 10.0 |      | uS/cm    | 1  | 04/28/16 | 2510 B     |  | KDG |
| pH*                      | 6.34  |      |      | pH Units | 1  | 04/28/16 | EPA150.1   |  | KDG |
| Resistivity              | 2400  |      |      | ohm/cm   | 1  | 04/29/16 | 2510 B     |  | KDG |
| Total Dissolved Solids   | 195   | 10.0 |      | mg/L     | 1  | 05/06/16 | EPA160.1   |  | KDG |
| Specific Gravity         | 1.001 |      |      | N/A      | 1  | 04/29/16 | Hydrometer |  | KDG |
| Sulfate                  | <3.07 | 50.0 | 3.07 | mg/L     | 50 | 05/04/16 | EPA300.0   |  | JDA |

**Potentially Dissolved Metals by ICP**

|                              |        |       |       |      |    |          |          |  |     |
|------------------------------|--------|-------|-------|------|----|----------|----------|--|-----|
| Hardness                     | 4.12   | 9.23  | 2.80  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Silica Potentially Dissolved | <10.7  | 21.4  | 10.7  | mg/L | 20 | 05/02/16 | 2340 B   |  | JLM |
| Barium*                      | <0.200 | 0.200 | 0.053 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Calcium*                     | 1.65   | 0.400 | 0.055 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Iron*                        | 40.6   | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Lead*                        | <2.00  | 2.00  | 0.492 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Magnesium*                   | <0.648 | 2.00  | 0.648 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Manganese*                   | 0.323  | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Potassium*                   | <20.0  | 20.0  | 6.70  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Silicon                      | <10.0  | 10.0  | 4.99  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Sodium*                      | 65.6   | 20.0  | 6.11  | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Strontium*                   | <2.00  | 2.00  | 0.007 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Zinc*                        | <1.00  | 1.00  | 0.044 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |

Cation/Anion Balance 9.33

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

**Allison Unit #130S****1604242-06 (Water)**

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

**General Chemistry**

|                              |      |       |        |      |   |          |               |  |     |
|------------------------------|------|-------|--------|------|---|----------|---------------|--|-----|
| Phosphate (PO <sub>4</sub> ) | 15.4 | 0.768 | 0.276  | mg/L | 5 | 05/11/16 | EPA365.3/Calc |  | LLG |
| Phosphorus, Total            | 5.01 | 0.250 | 0.0900 | mg/L | 5 | 05/11/16 | EPA365.3      |  | LLG |

**Potentially Dissolved Metals by ICP**

|            |        |       |       |      |    |          |          |  |     |
|------------|--------|-------|-------|------|----|----------|----------|--|-----|
| Iron*      | 9.15   | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Manganese* | <0.100 | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |

Cation/Anion Balance 100.

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Debbie Zufelt, Reports Manager

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

**Reported:**  
05/12/16 13:15

**EPNG B #100S**

**1604242-07 (Water)**

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

**Potentially Dissolved Metals by ICP**

|                             |              |       |       |      |    |          |          |  |     |
|-----------------------------|--------------|-------|-------|------|----|----------|----------|--|-----|
| <b>Iron*</b>                | <b>44.9</b>  | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| <b>Manganese*</b>           | <b>0.805</b> | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| <b>Cation/Anion Balance</b> | <b>100.</b>  |       |       |      |    |          |          |  |     |

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

**Allison Unit Com #144**

**1604242-08 (Water)**

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

**Potentially Dissolved Metals by ICP**

|                      |        |       |       |      |    |          |          |  |     |
|----------------------|--------|-------|-------|------|----|----------|----------|--|-----|
| Iron*                | 9.32   | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Manganese*           | <0.100 | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| Cation/Anion Balance | 100.   |       |       |      |    |          |          |  |     |

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

**Reported:**  
05/12/16 13:15

**Burnt Mesa #101**

**1604242-09 (Water)**

| Analyte | Result | RL | MDL | Units | Dilution | Analyzed | Method | Notes | Analyst |
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|
|---------|--------|----|-----|-------|----------|----------|--------|-------|---------|

**Potentially Dissolved Metals by ICP**

|                             |             |       |       |      |    |          |          |  |     |
|-----------------------------|-------------|-------|-------|------|----|----------|----------|--|-----|
| <b>Iron*</b>                | <b>4.25</b> | 1.00  | 0.070 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| <b>Manganese*</b>           | <0.100      | 0.100 | 0.015 | mg/L | 20 | 05/02/16 | EPA200.7 |  | JLM |
| <b>Cation/Anion Balance</b> | <b>100.</b> |       |       |      |    |          |          |  |     |

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

**Reported:**  
05/12/16 13:15

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

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Conoco Phillips-Farmington  
3401 30th Street  
Farmington NM, 87401

Project: PO4 & API+ & Fe/Mn  
Project Name / Number: Area 4  
Project Manager: Darrell Savage

Reported:  
05/12/16 13:15

### Notes and Definitions

|     |   |
|-----|---|
| H1  | Sample was received several days after collected and subsequently analyzed past hold time.                        |
| 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<br>*Results reported on as received basis unless designated as dry. |
| RPD | Relative Percent Difference   |
| LCS | Laboratory Control Sample (Blank Spike)   |
| RL  | Report Limit  |
| MDL | Method Detection Limit  |

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Debbie Zufelt, Reports Manager

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|  |  |                         |
|--|--|-------------------------|
| Client: COP                                    | Phone# (505) 320-2634  | Contact: Darrell Savage |
| Address: 3401 E. 30th St. Farmington, NM 87402 | E-Mail Address: <a href="mailto:darrell.q.savage@conocophillips.com">darrell.q.savage@conocophillips.com</a> |                         |

|  |                     |
|--|---------------------|
|  | 75 Suttle Street    |
|  | Durango, CO 81303   |
|  | Phone: 970-247-4220 |
|  | FAX: 970-247-4227   |

| CHAIN OF CUSTODY RECORD          |
|----------------------------------|
| GAL Work Order # <u>1604-242</u> |
| PO#                              |
| Project Name: <u>Area 4</u>      |

|  |   |
|--|---|
| <b>Sample Location:</b><br>(1)BumperSpring, (2)CompressorDischarge, (3)Flowline, (4)Meter, (5)Oil Tank<br>(6)PigLauncher, (7)PigReceiver, (8)Pipeline, (9)Pit Tank, (10)PostFilter, (11)PreFilter<br>(12)SeparatorInlet, (13)SeparatorOutlet, (14)SeparatorDump, (15)SWDInlet<br>(16)SWDOutlet, (17)TransferPump, (18)ValveCan, (19)WaterTank, (20)Wellhead<br>(21)Other | <b>Sample Type:</b><br>(1)Casing, (2)CO2GasTube, (3)Coupon, (4)Water, (5)H2SGasTube, (6)Metals<br>(7)O2GasTube, (8)PipeSection, (9)Residual, (10)Sludge, (11)Solid, (12)Tubing, (13)Other |
|--|---|

19.5°C  
No, ice  
3.5°C  
on ice, D<sub>2</sub>O

| Collection               |         |       |                       |                 |             |                   | Preservative  |             | Analyses Required |        |                    |           |                |
|--------------------------|---------|-------|-----------------------|-----------------|-------------|-------------------|---------------|-------------|-------------------|--------|--------------------|-----------|----------------|
| Well Name (Sample Name)  | Date    | Time  | Collected By: (Init.) | Sample Location | Sample Type | No. of Containers | Filtered: Y/N | Unpreserved | H2SO4             | Other: | Iron and Manganese | Phosphate | Full Water API |
| 1. Howell A #1B          | 4-25-16 | 12:10 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        | X                  | X         | X              |
| 2. Howell A #300         | "       | 13:30 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        |                    |           | X              |
| 3. EPNG com A #2A        | "       | 14:07 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        | X                  | X         | X              |
| 4. Howell J #300         | "       | 13:00 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        | X                  | X         | X              |
| 5. Burnt Mesa #1B        | 4-26-16 | 13:10 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        |                    |           | X              |
| 6. Allison Unit #1305    | "       | 10:20 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        | X                  | X         |                |
| 7. EPNG B #1005          | "       | 12:16 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        | X                  |           |                |
| 8. Allison Unit com #144 | "       | 12:43 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        | X                  |           |                |
| 9. Burnt Mesa #101       | "       | 13:50 | DS                    | 20              | 4           | 1                 | N             | Y           |                   |        | X                  |           |                |
| 10.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 11.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 12.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 13.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 14.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 15.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 16.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 17.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 18.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 19.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |
| 20.                      |         |       |                       |                 |             |                   |               |             |                   |        |                    |           |                |

|                       |                |              |                         |                |             |
|-----------------------|----------------|--------------|-------------------------|----------------|-------------|
| Relinquished by:      | Date:          | Time:        | Received By:            | Date:          | Time:       |
| <u>Darrell Savage</u> | <u>4-27-16</u> | <u>15:40</u> | <u>Matthew Clain</u>    | <u>4/27/16</u> | <u>1540</u> |
| <u>Christen Clain</u> | <u>4/27/16</u> | <u>1655</u>  | <u>Kangaroo Express</u> | <u>4/27/16</u> | <u>1655</u> |
|                       |                |              | <u>Kangaroo</u>         | <u>4-28-16</u> | <u>1000</u> |
|                       |                |              | <u>Michael Valentin</u> |                |             |







| Well Name   | Sampler Initials | Collection date & time | Temp. (F)                  | Sample PSI    | Water color / clarity | PH                    | Dissolved CO <sub>2</sub> (titration) turns X 4 = PPM | Total Alkalinity (titration) turns X 10 = PPM | CO <sub>2</sub> Partial pressure | Comments |
|---|------------------|------------------------|----------------------------|---------------|-----------------------|-----------------------|---|---|----------------------------------|----------|
| Burnt mesa # 18                                     | DS               | 4-26-16<br>13:10       | 53.8                       | 144           | CLR                   | 6.50                  | 400   | 265   | 5.68                             |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
| "Residual" water sample only (requires 60 ML water) |                  |                        |                            |               |                       |                       |   |   |                                  |          |
| Well Name   | Sampler Initials | Collection date & time | Temp. (F)                  | Sample PSI    | Water color / clarity | PH                    | CO <sub>2</sub> Partial pressure if requested         |   |                                  | Comments |
| Allison unit # 1305                                 | DS               | 4-26-16<br>10:20       | 64.2                       | 14            | CLR                   | 7.64                  |   |   |                                  |          |
| EPNG B # 1005                                       | DS               | 4-26-16<br>12:16       | 60.4                       | 5             | CLR                   | 6.76                  |   |   |                                  |          |
| Allison unit com # 1414                             | DS               | 4-26-16<br>12:43       | 62.2                       | 10            | CLR                   | 7.06                  |   |   |                                  |          |
| Burnt mesa # 101                                    | DS               | 4-26-16<br>13:50       | 62                         | 2             | CLR                   | 6.54                  |   |   |                                  |          |
| "Solid" sample collected for (solvent testing)      |                  |                        |                            |               |                       |                       |   |   |                                  |          |
| Well Name   | Sampler Initials | Collection date & time | Type Paraffin/Scale/Ot her | Norm test Y/N | Acid Soluble Y/N      | Other tests conducted |   |   |                                  | Comments |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |
|   |                  |                        |                            |               |                       |                       |   |   |                                  |          |