

State of Colorado  
**Oil and Gas Conservation Commission**

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



#8388

FOR OGCC USE ONLY

Received  
4/21/2014

**SITE INVESTIGATION AND REMEDIATION WORKPLAN**

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

Spill or Release    Plug & Abandon    Central Facility Closure    Site/Facility Closure    Other (describe): \_\_\_\_\_

|   |                                   |
|---|-----------------------------------|
| OGCC Operator Number: _____   | Contact Name and Telephone: _____ |
| Name of Operator: _____   | _____                             |
| Address: _____  | No: _____                         |
| City: _____ State: _____ Zip: _____   | Fax: _____                        |
| API Number: _____   | County: _____                     |
| Facility Name: _____  | Facility Number: _____            |
| Well Name: _____  | Well Number: _____                |
| Location: (QtrQtr, Sec, Twp, Rng, Meridian): _____ Latitude: _____ Longitude: _____ |                                   |

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): \_\_\_\_\_

Site Conditions: Is location within a sensitive area (according to Rule 901e)?      Y      N      If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): \_\_\_\_\_

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: \_\_\_\_\_

Potential receptors (water wells within 1/4 mi, surface waters, etc.): \_\_\_\_\_

\_\_\_\_\_

Description of Impact (if previously provided, refer to that form or document):

| Impacted Media (check): | Extent of Impact: | How Determined: |
|-------------------------|-------------------|-----------------|
| Soils                   | _____             | _____           |
| Vegetation              | _____             | _____           |
| Groundwater             | _____             | _____           |
| Surface Water           | _____             | _____           |

**REMEDIALTION WORKPLAN**

Describe initial action taken (if previously provided, refer to that form or document):

\_\_\_\_\_

Describe how source is to be removed:

\_\_\_\_\_

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

\_\_\_\_\_



Tracking Number: \_\_\_\_\_  
Name of Operator: \_\_\_\_\_  
OGCC Operator No: \_\_\_\_\_  
Received Date: \_\_\_\_\_  
Well Name & No: \_\_\_\_\_  
Facility Name & No: \_\_\_\_\_

**REMEDIATION WORKPLAN (Cont.)**

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? Y N If yes, describe:

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: \_\_\_\_\_ Date Site Investigation Completed: \_\_\_\_\_ Date Remediation Plan Submitted: \_\_\_\_\_  
Remediation Start Date: \_\_\_\_\_ Anticipated Completion Date: \_\_\_\_\_ Actual Completion Date: \_\_\_\_\_

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: \_\_\_\_\_ Signed: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

OGCC Approved: \_\_\_\_\_ Title: **Northeast EPS** Date: **4/24/2014**

Condition of Approval: Define the horizontal extent of impacts to ground water. Collect ground water samples in accordance with Rule 910.b.(4). Report results of the additional assessment to the Director within 90 days of this Form 27 approval.

# **EXCAVATION REPORT**

Bauer 9-1  
Weld County, Colorado

## **Prepared For:**

Noble Energy, Inc.  
1625 Broadway, Suite 2000  
Denver, CO 80202



## **Prepared by:**

Tasman Geosciences, LLC  
6899 Pecos Street, Unit C  
Denver, CO 80221



**April 3, 2014**

April 3, 2014

Mr. Jacob Evans  
Noble Energy Inc.  
1625 Broadway, Suite 2000  
Denver, CO 80202

Subject:       **Excavation Report**  
                  Bauer 9-1  
                  API # 05-123-12217, Release Tracking # 2147151  
                  Weld County, Colorado

Dear Mr. Evans:

Below please find a copy of the above referenced Excavation Report for the Bauer 9-1, 43 Tank Battery site in Weld County, Colorado. The text below describes soil and groundwater assessment activities conducted to confirm the removal of impacted soil and groundwater proximate to the former produced water tank, and secondary containment berm.

## **Introduction**

The purpose of this document is to describe the removal of impacted soil and groundwater and subsequent confirmation sampling activities at the Bauer 9-1, 43 Tank Battery (Site). The activities described below were performed to remove impacted material encountered during the investigation of the produced water vault and confirm via laboratory analytical methods that materials impacted above applicable regulatory standards were removed.

## **Facility Background**

The Site is located approximately 1.5 miles northeast of the town of Kersey, Colorado in Weld County, as illustrated in Figure 1. The Site is surrounded by agricultural land and a small residential area, and is approximately 0.2 miles north of the South Platte River, and 0.6 miles southeast of the intersection of County Road 58 and County Road 388. The Site legal description is the NW ¼ of the SE ¼ of Section 9, Township 5N, Range 64W.

The Site water vault became dislodged during a heavy precipitation event. During inspection of the tank and associated piping it was observed that all connections remained intact; however, historic impacts to soil were observed beneath the tank. Site production equipment was shut in and the tanks were removed.

## Field Activities

On November 22, 2013, a test pit was dug under the water vault location. A groundwater sample was collected and submitted to Summit Scientific Laboratories in Golden, CO for analysis of benzene, toluene, ethylbenzene and total xylenes (collectively referred to as BTEX) using United States Environmental Protection Agency (USEPA) Method 8260B. Laboratory analysis indicated benzene concentrations in excess of COGCC Table 910-1 standard. The test pit was closed and excavation activities were suspended until additional heavy equipment could be mobilized to the site.

Excavation activities resumed on January 2, 2014 and continued through January 6, 2014. Soil removal activities produced an excavation with final dimensions of approximately 18 feet (ft.) by 50 ft. by 4 ft. below ground surface (bgs) with approximately 150 cubic yards (yd<sup>3</sup>) of impacted soil removed (Figure 2). Eleven soil samples were collected from the sidewalls of the excavation. The soil samples were field screened for volatile organic compounds (VOC) using a photoionization detector (PID) and standard headspace sampling techniques. Seven perimeter soil samples with PID values ranging between 1.2 parts per million (ppm) and 324 ppm were retained for laboratory confirmation analysis. Samples were submitted to Summit Scientific for analysis of BTEX, naphthalene, and total petroleum hydrocarbons-gasoline range organics (TPH-GRO) using USEPA Method 8260B and TPH-diesel range organics (TPH-DRO) using USEPA Method 8015.

Groundwater was encountered within the excavation at a depth of approximately 3 ft. bgs. One groundwater sample (GW01) was collected from the open excavation and submitted to Summit Scientific for analysis of BTEX using USEPA Method 8260B. GW01 exhibited benzene concentrations in excess of the COGCC Table 910-1 standard. Vacuum trucks were mobilized to the site on January 3 and 6 and were utilized to remove a total of 970 barrels of groundwater. Confirmation groundwater samples GW04 and GW05 were collected on January 6 and analyzed for BTEX.

## Results

Soil confirmation sample analysis indicated that confirmation samples collected from the final extent of the excavation were below applicable COGCC standards. These data are presented in Table 1. The analytical results of confirmation groundwater samples were likewise below the applicable COGCC standards. Groundwater analytical data are presented in Table 2. Soil and groundwater laboratory analytical reports are included as appendices.

## Conclusions

The final laboratory data indicate that BTEX, naphthalene, TPH-GRO, and TPH-DRO concentrations are below the applicable COGCC Table 910-1 standards for confirmation soil and groundwater samples collected from the excavation. These data indicate that impacted material was successfully removed from the Site. As such, a no further action (NFA) designation is appropriate for the release.

## Remarks

The discussion and conclusions contained in this report represent the professional opinions of Tasman Geosciences, LLC. These opinions are based on currently available information and are arrived at in accordance with currently accepted geologic and engineering practices. Tasman appreciates the opportunity to provide Noble with the services described above. Please feel free to contact me with any questions or comments at 303-487-1228.

Sincerely,  
Tasman Geosciences, LLC



Daniel Wade P.G.  
Senior Geologist – Assessment & Remediation

Attached:

Table 1 – Soil Analytical Data

Table 2 – Groundwater Analytical Data

Figure 1 – Site Location Map

Figure 2 – Excavation Extent & Soil Sample Locations

Appendices – Laboratory Analytical Reports

## Tables

**TABLE 1 - SOIL DATA**  
**NOBLE ENERGY, INC. - BAUER 9-1**  
**FIELD AND LABORATORY ANALYTICAL DATA**

| Date   | Soil Sample ID | PID (ppb) | Laboratory Results | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | TPH-GRO (mg/kg) | TPH-DRO (mg/kg) | Naphthalene (mg/kg) |
|--------|----------------|-----------|--------------------|-----------------|-----------------|----------------------|-----------------------|-----------------|-----------------|---------------------|
|        |                |           | COGCC Standard     | 0.17            | 85              | 100                  | 175                   | 500             |                 | 23                  |
| 1/2/14 | SS01@2'        | 78.3      | Result =           | 0.0029          | <0.0050         | <0.0050              | <0.010                | <0.50           | <50             | <0.010              |
| 1/2/14 | SS02@2'        | 12.2      | Result =           | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.50           | <50             | <0.010              |
| 1/2/14 | SS03@2'        | 34        | Result =           | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.50           | <50             | <0.010              |
| 1/2/14 | SS04@2'        | 4.3       | --                 | --              | --              | --                   | --                    | --              | --              | --                  |
| 1/2/14 | SS05@2'        | 7.3       | --                 | --              | --              | --                   | --                    | --              | --              | --                  |
| 1/2/14 | SS06@2'        | 324       | Result =           | <0.0020         | <0.0050         | <0.0050              | <0.010                | 700             | 370             | 0.14                |
| 1/2/14 | SS07@2'        | 1.2       | Result =           | <0.0020         | <0.0050         | <0.0050              | <0.010                | <0.50           | <50             | <0.010              |
| 1/2/14 | SS08@2'        | 88.4      | Result =           | <0.0020         | <0.0050         | <0.0050              | <0.010                | 68              | 150             | <0.010              |
| 1/3/14 | SS09@2'        | 35.4      | Result =           | <0.0020         | <0.0050         | <0.0050              | <0.010                | 3.3             | <50             | <0.010              |
| 1/3/14 | SS10@2'        | 76.8      | --                 | --              | --              | --                   | --                    | --              | --              | --                  |
| 1/3/14 | SS11@2'        | 19.1      | --                 | --              | --              | --                   | --                    | --              | --              | --                  |

PID photoionization detector (10.6 eV lamp)

COGCC Colorado Oil and Gas Conservation Commission

mg/Kg milligrams per kilogram

ppm parts per million

-- sample was not submitted for laboratory analysis

< denotes sample result was below the applicable laboratory reporting limit

Soil standards referenced from COGCC Table 910-1

Highlighted results exceed the COGCC Table 910-1 standard



**TABLE 2 - GROUNDWATER DATA  
NOBLE ENERGY, INC. - BAUER 9-1  
LABORATORY ANALYTICAL DATA**

| Date   | GW Sample ID | Laboratory Results | Benzene<br>µg/l | Toluene<br>µg/l | Ethylbenzene<br>µg/l | Total Xylenes<br>µg/l |
|--------|--------------|--------------------|-----------------|-----------------|----------------------|-----------------------|
|        |              | COGCC Standard     | 5               | 560             | 700                  | 1,400                 |
| 1/2/14 | GW01         | Result =           | 18              | 9.9             | 13                   | 52                    |
| 1/3/14 | GW02         | Result =           | 5.5             | 2.1             | 1.9                  | 8.0                   |
| 1/3/14 | GW03         | Result =           | 3.3             | <1              | 1.0                  | 4.4                   |
| 1/6/14 | GW04         | Result =           | 4.1             | 1.5             | 1.7                  | 7.1                   |
| 1/6/14 | GW05         | Result =           | 2.7             | 1.1             | 1.1                  | 4.3                   |

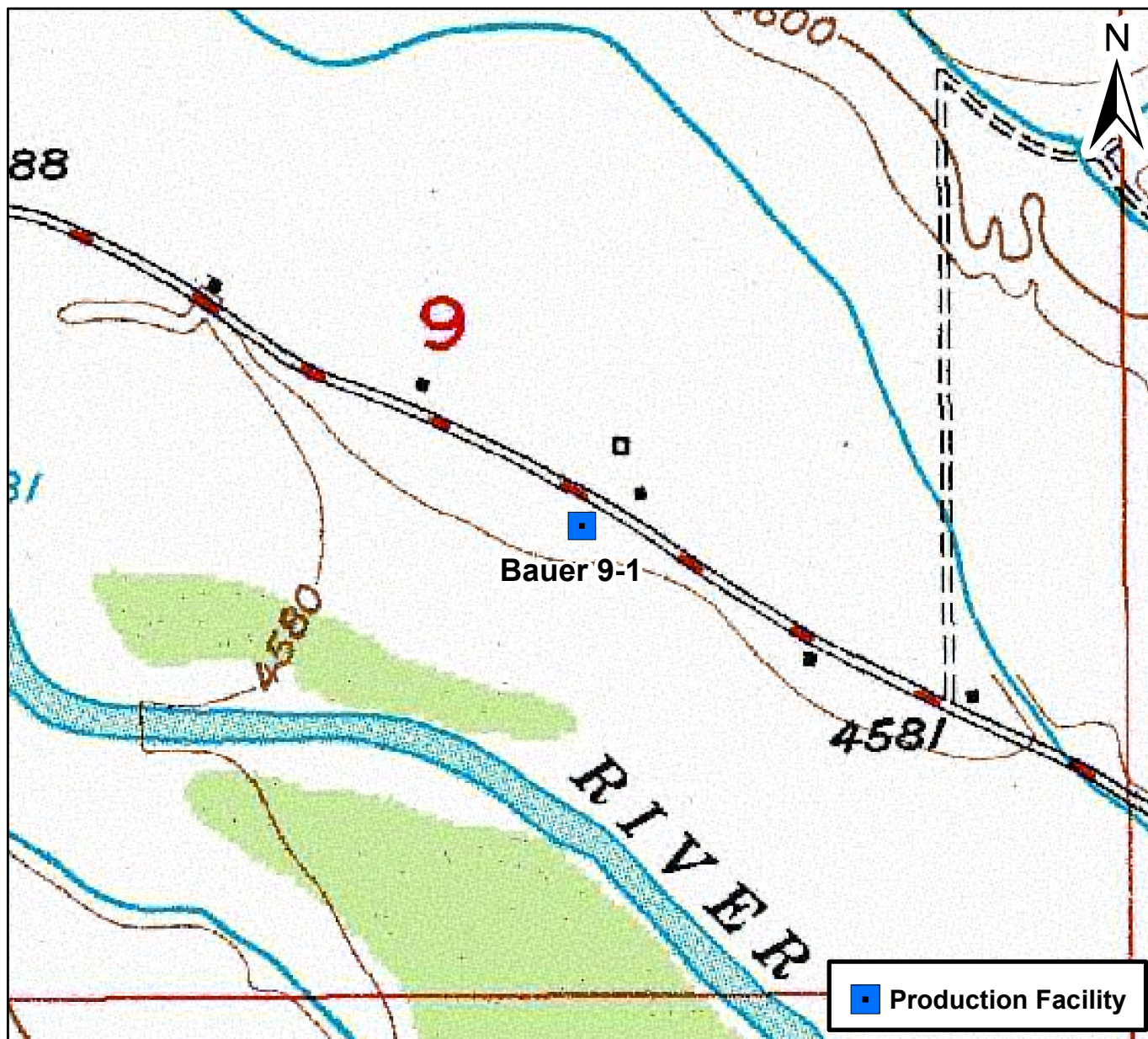
µg/l      micrograms per liter

<          denotes sample was below the applicable laboratory reporting limit

Groundwater standards referenced from COGCC Table 910-1

Highlighted results exceed the COGCC Table 910-1 standard

## Figures



0 750 1,500  
Feet



## Figure 1








Site Location Map  
Bauer 9-1  
NWSE S9 T5N R64W  
Weld County, Colorado

Drawn By: DBA  
Date: 1/23/2014

  
Tasman Geosciences





|                 |  |   |   |   |  |  |  |
|-----------------|--|---|---|---|--|--|--|
| PROJECT NO:     |  <div>6899 Pecos St., Unit C<br/>Denver, CO 80221</div> | <b>Facility Diagram</b><br>Noble Energy<br>Bauer 9-1<br>Weld County, CO | <b>LEGEND:</b>  |   |  | <br>Scale: 1" = 32' | Excavation Extent &<br>Soil Sample Locations<br><br>Figure 2 |
| DRAWN BY: BAM   |  |   |  Soil Sample Location             |  Groundwater Sample Location |  |  |  |
| DATE: 1/13/2014 |  |   |  Approximate Extent of Excavation |  Approximate area of release |  |  |  |
|                 |  |   |  Noble Flowline                   |   |  |  |  |

## Appendices

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 03, 2014

Daniel Wade  
Noble Energy  
804 Grand Avenue  
Platteville, CO 80651  
RE: Bauer 9-1, 43

Enclosed are the results of analyses for samples received by Summit Scientific on 01/02/14 17:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Ben Shrewsbury  
President / Laboratory Manager



Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/03/14 06:49

### ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------|---------------|--------|----------------|----------------|
| SS01@2'   | 1401002-01    | Soil   | 01/02/14 14:30 | 01/02/14 17:20 |
| SS02@2'   | 1401002-02    | Soil   | 01/02/14 14:35 | 01/02/14 17:20 |
| SS03@2'   | 1401002-03    | Soil   | 01/02/14 14:40 | 01/02/14 17:20 |
| SS06@2'   | 1401002-04    | Soil   | 01/02/14 14:45 | 01/02/14 17:20 |
| SS07@2'   | 1401002-05    | Soil   | 01/02/14 14:50 | 01/02/14 17:20 |
| SS08@2'   | 1401002-06    | Soil   | 01/02/14 14:55 | 01/02/14 17:20 |
| GW01      | 1401002-07    | Water  | 01/02/14 15:20 | 01/02/14 17:20 |

Summit Scientific

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



Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43

Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

Summit Scientific

741 Corporate Circle Suite 1 • Golden, Colorado 80401  
303-277-8310 • 303-374-5933 Fax

Client: Noble / Tesmer  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Project Manager: Dan Wade  
E-Mail: \_\_\_\_\_  
Project Name: Bauer 9-43  
Project Number: \_\_\_\_\_  
Sample Name: Brk. Marguerite

Page 1 of 1

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative |      |                 |             | Matrix |                         |                 |     | Analyze For: |             |  |  | Special Instructions |
|--------------------|--------------|--------------|----------------------|--------------|------|-----------------|-------------|--------|-------------------------|-----------------|-----|--------------|-------------|--|--|----------------------|
|                    |              |              |                      | HCl          | None | Other (Specify) | Groundwater | Soil   | Air - Canister Serial # | Other (Specify) | GR0 | DT0          | Naphthalene |  |  |                      |
| 5501 @ 2'          | 12/14        | 1430         | 1                    | X            |      |                 |             | X      |                         |                 |     |              | X           |  |  |                      |
| 5502 @ 2'          | 12/14        | 1435         | 1                    | X            |      |                 |             | X      |                         |                 |     |              | X           |  |  |                      |
| 5503 @ 2'          | 12/14        | 1440         | 1                    | X            |      |                 |             | X      |                         |                 |     |              | X           |  |  |                      |
| 5504 @ 2'          | 12/14        | 1445         | 1                    | X            |      |                 |             | X      |                         |                 |     |              | X           |  |  |                      |
| 5507 @ 2'          | 12/14        | 1450         | 1                    | X            |      |                 |             | X      |                         |                 |     |              | X           |  |  |                      |
| 5509 @ 2'          | 12/14        | 1455         | 1                    | X            |      |                 |             | X      |                         |                 |     |              | X           |  |  |                      |
| 5501               | 12/14        | 1520         | 3                    | X            |      |                 |             | X      |                         |                 |     |              | X           |  |  |                      |

| Relinquished by:   | Date/Time: | Received by:        | Date/Time: | Turn Around Time (Check)   | Notes                               |
|--------------------|------------|---------------------|------------|--|-------------------------------------|
| <u>[Signature]</u> | 12/14 1715 | <u>[Signature]</u>  | 12/14 1720 | Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> |                                     |
| Relinquished by:   | Date/Time: | Received by:        | Date/Time: | Sample Integrity:  | Temperature for Receipt: <u>6°C</u> |
| Relinquished by:   | Date/Time: | Received in Lab by: | Date/Time: | Intact: <input checked="" type="checkbox"/> No <input type="checkbox"/>  |                                     |

www.Scientific.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.

[Signature]





Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/03/14 06:49

**SS01@2'**  
**1401002-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/02/14 14:30**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 1401004 | 01/02/14 | 01/02/14 | 8015M  |       |

Date Sampled: **01/02/14 14:30**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 129 %           | 30-150 |          | "     | "        | "        | "      |       |

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/02/14 14:30**

| Analyte                     | Result        | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene                 | ND            | 0.010           | mg/kg | 1        | 1401003 | 01/02/14 | 01/02/14 | EPA 8260B |       |
| <b>Benzene</b>              | <b>0.0029</b> | 0.0020          | "     | "        | "       | "        | "        | "         |       |
| Toluene                     | ND            | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND            | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND            | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND            | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/02/14 14:30**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 99.4 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 101 %           | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 102 %           | 21-167 |          | "     | "        | "        | "      |       |

Summit Scientific

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

**SS02@2'**  
**1401002-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/02/14 14:35**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 1401004 | 01/02/14 | 01/02/14 | 8015M  |       |

Date Sampled: **01/02/14 14:35**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 124 %           | 30-150 |          | "     | "        | "        | "      |       |

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/02/14 14:35**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene                 | ND     | 0.010           | mg/kg | 1        | 1401003 | 01/02/14 | 01/02/14 | EPA 8260B |       |
| Benzene                     | ND     | 0.0020          | "     | "        | "       | "        | "        | "         |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/02/14 14:35**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 97.6 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 96.6 %          | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 95.5 %          | 21-167 |          | "     | "        | "        | "      |       |

Summit Scientific

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

**SS03@2'**  
**1401002-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/02/14 14:40**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 1401004 | 01/02/14 | 01/02/14 | 8015M  |       |

Date Sampled: **01/02/14 14:40**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 125 %           | 30-150 |          | "     | "        | "        | "      |       |

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/02/14 14:40**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene                 | ND     | 0.010           | mg/kg | 1        | 1401003 | 01/02/14 | 01/02/14 | EPA 8260B |       |
| Benzene                     | ND     | 0.0020          | "     | "        | "       | "        | "        | "         |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/02/14 14:40**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 96.1 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 95.6 %          | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 98.1 %          | 21-167 |          | "     | "        | "        | "      |       |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

**SS06@2'**  
**1401002-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/02/14 14:45**

| Analyte              | Result     | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|----------------------|------------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| <b>C10-C28 (DRO)</b> | <b>370</b> | 50              | mg/kg | 1        | 1401004 | 01/02/14 | 01/02/14 | 8015M  |       |

Date Sampled: **01/02/14 14:45**

| Analyte                       | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> |        | 91.3 %          | 30-150 |          | "     | "        | "        | "      |       |

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/02/14 14:45**

| Analyte                            | Result      | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------------------|-------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Naphthalene</b>                 | <b>0.14</b> | 0.010           | mg/kg | 1        | 1401003 | 01/02/14 | 01/02/14 | EPA 8260B |       |
| Benzene                            | ND          | 0.0020          | "     | "        | "       | "        | "        | "         |       |
| Toluene                            | ND          | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                       | ND          | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)                    | ND          | 0.010           | "     | "        | "       | "        | "        | "         |       |
| <b>Gasoline Range Hydrocarbons</b> | <b>700</b>  | 5.0             | "     | 10       | "       | "        | "        | "         |       |

Date Sampled: **01/02/14 14:45**

| Analyte                                 | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 111 %           | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 131 %           | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 269 %           | 21-167 |          | "     | "        | "        | "      | S-02  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

**SS07@2'**  
**1401002-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/02/14 14:50**

| Analyte       | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND     | 50              | mg/kg | 1        | 1401004 | 01/02/14 | 01/02/14 | 8015M  |       |

Date Sampled: **01/02/14 14:50**

| Analyte                | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 95.9 %          | 30-150 |          | "     | "        | "        | "      |       |

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/02/14 14:50**

| Analyte                     | Result | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene                 | ND     | 0.010           | mg/kg | 1        | 1401003 | 01/02/14 | 01/02/14 | EPA 8260B |       |
| Benzene                     | ND     | 0.0020          | "     | "        | "       | "        | "        | "         |       |
| Toluene                     | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                | ND     | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)             | ND     | 0.010           | "     | "        | "       | "        | "        | "         |       |
| Gasoline Range Hydrocarbons | ND     | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/02/14 14:50**

| Analyte                          | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 95.5 %          | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 93.8 %          | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 98.1 %          | 21-167 |          | "     | "        | "        | "      |       |

Summit Scientific

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/03/14 06:49

**SS08@2'**  
**1401002-06 (Soil)**

### Summit Scientific

#### Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/02/14 14:55**

| Analyte              | Result     | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|----------------------|------------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| <b>C10-C28 (DRO)</b> | <b>150</b> | 50              | mg/kg | 1        | 1401004 | 01/02/14 | 01/02/14 | 8015M  |       |

Date Sampled: **01/02/14 14:55**

| Analyte                       | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> |        | 82.1 %          | 30-150 |          | "     | "        | "        | "      |       |

#### Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/02/14 14:55**

| Analyte                            | Result    | Reporting Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------------------|-----------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene                        | ND        | 0.010           | mg/kg | 1        | 1401003 | 01/02/14 | 01/02/14 | EPA 8260B |       |
| Benzene                            | ND        | 0.0020          | "     | "        | "       | "        | "        | "         |       |
| Toluene                            | ND        | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                       | ND        | 0.0050          | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)                    | ND        | 0.010           | "     | "        | "       | "        | "        | "         |       |
| <b>Gasoline Range Hydrocarbons</b> | <b>68</b> | 0.50            | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/02/14 14:55**

| Analyte                                 | Result | Reporting Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 112 %           | 23-173 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 95.2 %          | 20-170 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 80.4 %          | 21-167 |          | "     | "        | "        | "      |       |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/03/14 06:49

**GW01**  
**1401002-07 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/02/14 15:20**

| Analyte                | Result     | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                        |            | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>         | <b>18</b>  | 1.0       |  | ug/l  | 1        | 1401002 | 01/02/14 | 01/02/14 | EPA 8260B |       |
| <b>Toluene</b>         | <b>9.9</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>    | <b>13</b>  | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b> | <b>52</b>  | 1.0       |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/02/14 15:20**

| Analyte                                 | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 99.7 %    |  | 37-154 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 276 %     |  | 45-149 |          | "     | "        | "        | "      | S-02  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 349 %     |  | 45-146 |          | "     | "        | "        | "      | S-02  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/03/14 06:49

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1401004 - EPA 3550A**

**Blank (1401004-BLK1)**

Prepared & Analyzed: 01/02/14

C10-C28 (DRO) ND 50 mg/kg

**LCS (1401004-BS1)**

Prepared & Analyzed: 01/02/14

C10-C28 (DRO) 501 50 mg/kg 495 101 73-134

**Matrix Spike (1401004-MS1)**

**Source: 1401002-05**

Prepared & Analyzed: 01/02/14

C10-C28 (DRO) 451 50 mg/kg 469 ND 96.2 50-148

**Matrix Spike Dup (1401004-MSD1)**

**Source: 1401002-05**

Prepared & Analyzed: 01/02/14

C10-C28 (DRO) 483 50 mg/kg 474 ND 102 50-148 6.89 13

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

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

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

**Batch 1401002 - EPA 5030 Water MS**

**Blank (1401002-BLK1)**

Prepared & Analyzed: 01/03/14

|                                  |      |     |      |      |  |      |        |  |  |  |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene                          | ND   | 1.0 | ug/l |      |  |      |        |  |  |  |
| Toluene                          | ND   | 1.0 | "    |      |  |      |        |  |  |  |
| Ethylbenzene                     | ND   | 1.0 | "    |      |  |      |        |  |  |  |
| Xylenes (total)                  | ND   | 1.0 | "    |      |  |      |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 13.3 |     | "    | 13.2 |  | 100  | 37-154 |  |  |  |
| Surrogate: Toluene-d8            | 12.7 |     | "    | 13.3 |  | 95.3 | 45-149 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 13.1 |     | "    | 13.3 |  | 98.3 | 45-146 |  |  |  |

**LCS (1401002-BS1)**

Prepared & Analyzed: 01/03/14

|                                  |      |     |      |      |  |      |        |  |  |  |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene                          | 29.2 | 1.0 | ug/l | 33.3 |  | 87.6 | 51-132 |  |  |  |
| Toluene                          | 30.6 | 1.0 | "    | 33.3 |  | 91.7 | 51-138 |  |  |  |
| Ethylbenzene                     | 32.9 | 1.0 | "    | 33.3 |  | 98.7 | 58-146 |  |  |  |
| m,p-Xylene                       | 64.7 | 2.0 | "    | 66.7 |  | 97.1 | 57-144 |  |  |  |
| o-Xylene                         | 31.0 | 1.0 | "    | 33.3 |  | 93.1 | 53-146 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 13.9 |     | "    | 13.2 |  | 105  | 37-154 |  |  |  |
| Surrogate: Toluene-d8            | 12.6 |     | "    | 13.3 |  | 94.2 | 45-149 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 13.0 |     | "    | 13.3 |  | 97.4 | 45-146 |  |  |  |

**Matrix Spike (1401002-MS1)**

Source: 1401004-01

Prepared & Analyzed: 01/03/14

|                                  |      |     |      |      |    |      |        |  |  |  |
|----------------------------------|------|-----|------|------|----|------|--------|--|--|--|
| Benzene                          | 30.4 | 1.0 | ug/l | 33.3 | ND | 91.1 | 34-141 |  |  |  |
| Toluene                          | 31.8 | 1.0 | "    | 33.3 | ND | 95.3 | 27-151 |  |  |  |
| Ethylbenzene                     | 33.2 | 1.0 | "    | 33.3 | ND | 99.7 | 29-160 |  |  |  |
| m,p-Xylene                       | 66.1 | 2.0 | "    | 66.7 | ND | 99.2 | 20-166 |  |  |  |
| o-Xylene                         | 31.4 | 1.0 | "    | 33.3 | ND | 94.2 | 33-159 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 14.6 |     | "    | 13.2 |    | 111  | 37-154 |  |  |  |
| Surrogate: Toluene-d8            | 13.0 |     | "    | 13.3 |    | 97.7 | 45-149 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 13.2 |     | "    | 13.3 |    | 98.6 | 45-146 |  |  |  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

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

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

**Batch 1401002 - EPA 5030 Water MS**

| Matrix Spike Dup (1401002-MSD1)  |      |     | Source: 1401004-01 |      | Prepared & Analyzed: 01/03/14 |      |        |       |    |  |
|----------------------------------|------|-----|--------------------|------|-------------------------------|------|--------|-------|----|--|
| Benzene                          | 29.7 | 1.0 | ug/l               | 33.3 | ND                            | 89.1 | 34-141 | 2.23  | 32 |  |
| Toluene                          | 31.3 | 1.0 | "                  | 33.3 | ND                            | 93.9 | 27-151 | 1.55  | 25 |  |
| Ethylbenzene                     | 33.5 | 1.0 | "                  | 33.3 | ND                            | 100  | 29-160 | 0.750 | 50 |  |
| m,p-Xylene                       | 65.4 | 2.0 | "                  | 66.7 | ND                            | 98.1 | 20-166 | 1.08  | 36 |  |
| o-Xylene                         | 31.8 | 1.0 | "                  | 33.3 | ND                            | 95.3 | 33-159 | 1.14  | 26 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 15.0 |     | "                  | 13.2 |                               | 114  | 37-154 |       |    |  |
| Surrogate: Toluene-d8            | 12.9 |     | "                  | 13.3 |                               | 96.8 | 45-149 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 13.0 |     | "                  | 13.3 |                               | 97.1 | 45-146 |       |    |  |

**Batch 1401003 - EPA 5030 Soil MS**

| Blank (1401003-BLK1)             |        |        | Prepared & Analyzed: 01/02/14 |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------------------------------|--------|--|------|--------|--|--|--|
| Naphthalene                      | ND     | 0.010  | mg/kg                         |        |  |      |        |  |  |  |
| Benzene                          | ND     | 0.0020 | "                             |        |  |      |        |  |  |  |
| Toluene                          | ND     | 0.0050 | "                             |        |  |      |        |  |  |  |
| Ethylbenzene                     | ND     | 0.0050 | "                             |        |  |      |        |  |  |  |
| Xylenes (total)                  | ND     | 0.010  | "                             |        |  |      |        |  |  |  |
| Gasoline Range Hydrocarbons      | ND     | 0.50   | "                             |        |  |      |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0381 |        | "                             | 0.0388 |  | 98.2 | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0375 |        | "                             | 0.0391 |  | 95.9 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0391 |        | "                             | 0.0391 |  | 100  | 21-167 |  |  |  |

| LCS (1401003-BS1)                |        |        | Prepared & Analyzed: 01/02/14 |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------------------------------|--------|--|------|--------|--|--|--|
| Naphthalene                      | ND     | 0.010  | mg/kg                         |        |  |      |        |  |  |  |
| Benzene                          | 0.0978 | 0.0020 | "                             | 0.0998 |  | 98.0 | 58-130 |  |  |  |
| Toluene                          | 0.117  | 0.0050 | "                             | 0.0998 |  | 117  | 61-134 |  |  |  |
| Ethylbenzene                     | 0.149  | 0.0050 | "                             | 0.0998 |  | 149  | 74-139 |  |  |  |
| m,p-Xylene                       | 0.270  | 0.010  | "                             | 0.200  |  | 135  | 73-137 |  |  |  |
| o-Xylene                         | 0.131  | 0.0050 | "                             | 0.0998 |  | 131  | 73-141 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0381 |        | "                             | 0.0396 |  | 96.3 | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0382 |        | "                             | 0.0399 |  | 95.6 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0383 |        | "                             | 0.0399 |  | 95.8 | 21-167 |  |  |  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/03/14 06:49

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

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

**Batch 1401003 - EPA 5030 Soil MS**

**Matrix Spike (1401003-MS1)**

**Source: 1401002-05**

Prepared & Analyzed: 01/02/14

|                                  |        |        |       |        |    |      |        |  |  |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|
| Naphthalene                      | ND     | 0.010  | mg/kg |        | ND |      | 10-158 |  |  |
| Benzene                          | 0.0969 | 0.0020 | "     | 0.0996 | ND | 97.3 | 30-131 |  |  |
| Toluene                          | 0.116  | 0.0050 | "     | 0.0996 | ND | 116  | 30-134 |  |  |
| Ethylbenzene                     | 0.147  | 0.0050 | "     | 0.0996 | ND | 148  | 22-153 |  |  |
| m,p-Xylene                       | 0.266  | 0.010  | "     | 0.199  | ND | 133  | 10-159 |  |  |
| o-Xylene                         | 0.130  | 0.0050 | "     | 0.0996 | ND | 130  | 31-151 |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0388 |        | "     | 0.0395 |    | 98.2 | 23-173 |  |  |
| Surrogate: Toluene-d8            | 0.0391 |        | "     | 0.0398 |    | 98.1 | 20-170 |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0382 |        | "     | 0.0398 |    | 95.8 | 21-167 |  |  |

**Matrix Spike Dup (1401003-MSD1)**

**Source: 1401002-05**

Prepared & Analyzed: 01/02/14

|                                  |        |        |       |        |    |      |        |      |    |
|----------------------------------|--------|--------|-------|--------|----|------|--------|------|----|
| Naphthalene                      | ND     | 0.010  | mg/kg |        | ND |      | 10-158 |      | 42 |
| Benzene                          | 0.0911 | 0.0020 | "     | 0.0943 | ND | 96.5 | 30-131 | 6.20 | 34 |
| Toluene                          | 0.110  | 0.0050 | "     | 0.0943 | ND | 117  | 30-134 | 4.83 | 30 |
| Ethylbenzene                     | 0.139  | 0.0050 | "     | 0.0943 | ND | 148  | 22-153 | 5.59 | 24 |
| m,p-Xylene                       | 0.253  | 0.010  | "     | 0.189  | ND | 134  | 10-159 | 4.92 | 68 |
| o-Xylene                         | 0.124  | 0.0050 | "     | 0.0943 | ND | 131  | 31-151 | 4.74 | 38 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0361 |        | "     | 0.0375 |    | 96.4 | 23-173 |      |    |
| Surrogate: Toluene-d8            | 0.0360 |        | "     | 0.0377 |    | 95.3 | 20-170 |      |    |
| Surrogate: 4-Bromofluorobenzene  | 0.0363 |        | "     | 0.0377 |    | 96.1 | 21-167 |      |    |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/03/14 06:49

### 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 be 'JMM'.

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 05, 2014

Daniel Wade  
Noble Energy  
804 Grand Avenue  
Platteville, CO 80651  
RE: Bauer 9-1, 43

Enclosed are the results of analyses for samples received by Summit Scientific on 01/03/14 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Ben Shrewsbury  
President / Laboratory Manager



Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/05/14 17:27

### ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------|---------------|--------|----------------|----------------|
| SS09@2ft  | 1401012-01    | Soil   | 01/03/14 09:15 | 01/03/14 17:00 |
| GW02      | 1401012-02    | Water  | 01/03/14 15:15 | 01/03/14 17:00 |
| GW03      | 1401012-03    | Water  | 01/03/14 15:20 | 01/03/14 17:00 |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43

Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/05/14 17:27

1401012

Summit Scientific

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

Page 1 of 1

Client: Noble / POC

**Project Manager:** Dan Wade

**E-Mail:** [info@hugoboss.com](mailto:info@hugoboss.com)

Project Name: Bauer 9-1 43

---

**Project Number:**

[illegible]

www.s2scientific.com

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/05/14 17:27

**SS09@2ft**  
**1401012-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/03/14 09:15**

| Analyte       | Result | Reporting<br>Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND     | 50                 | mg/kg | 1        | 1401007 | 01/03/14 | 01/03/14 | 8015M  |       |

Date Sampled: **01/03/14 09:15**

| Analyte                | Result | Reporting<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl |        | 96.8 %             | 30-150 |          | "     | "        | "        | "      |       |

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/03/14 09:15**

| Analyte                            | Result     | Reporting<br>Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene                        | ND         | 0.010              | mg/kg | 1        | 1401006 | 01/03/14 | 01/03/14 | EPA 8260B |       |
| Benzene                            | ND         | 0.0020             | "     | "        | "       | "        | "        | "         |       |
| Toluene                            | ND         | 0.0050             | "     | "        | "       | "        | "        | "         |       |
| Ethylbenzene                       | ND         | 0.0050             | "     | "        | "       | "        | "        | "         |       |
| Xylenes (total)                    | ND         | 0.010              | "     | "        | "       | "        | "        | "         |       |
| <b>Gasoline Range Hydrocarbons</b> | <b>3.3</b> | <b>0.50</b>        | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/03/14 09:15**

| Analyte                          | Result | Reporting<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 97.2 %             | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 96.1 %             | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 95.8 %             | 21-167 |          | "     | "        | "        | "      |       |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/05/14 17:27

**GW02**  
**1401012-02 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/03/14 15:15**

| Analyte                | Result     | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                        |            | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>         | <b>5.5</b> | 1.0       |  | ug/l  | 1        | 1401005 | 01/03/14 | 01/03/14 | EPA 8260B |       |
| <b>Toluene</b>         | <b>2.1</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>    | <b>1.9</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b> | <b>8.0</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/03/14 15:15**

| Analyte                                 | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 120 %     |  | 37-154 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 97.0 %    |  | 45-149 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 102 %     |  | 45-146 |          | "     | "        | "        | "      |       |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/05/14 17:27

**GW03**  
**1401012-03 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/03/14 15:20**

| Analyte                | Result     | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                        |            | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>         | <b>3.3</b> | 1.0       |  | ug/l  | 1        | 1401005 | 01/03/14 | 01/03/14 | EPA 8260B |       |
| Toluene                | ND         | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>    | <b>1.0</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b> | <b>4.4</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/03/14 15:20**

| Analyte                          | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|                                  |        | Limit     |  |        |          |       |          |          |        |       |
| Surrogate: 1,2-Dichloroethane-d4 |        | 114 %     |  | 37-154 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 101 %     |  | 45-149 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 73.8 %    |  | 45-146 |          | "     | "        | "        | "      |       |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/05/14 17:27

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1401007 - EPA 3550A**

**Blank (1401007-BLK1)**

Prepared & Analyzed: 01/03/14

C10-C28 (DRO) ND 50 mg/kg

**LCS (1401007-BS1)**

Prepared & Analyzed: 01/03/14

C10-C28 (DRO) 511 50 mg/kg 501 102 73-134

**Matrix Spike (1401007-MS1)**

**Source: 1401017-01**

Prepared & Analyzed: 01/03/14

C10-C28 (DRO) 412 50 mg/kg 501 44.8 73.4 50-148

**Matrix Spike Dup (1401007-MSD1)**

**Source: 1401017-01**

Prepared & Analyzed: 01/03/14

C10-C28 (DRO) 419 50 mg/kg 501 44.8 74.8 50-148 1.67 13

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/05/14 17:27

**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 1401005 - EPA 5030 Water MS**

**Blank (1401005-BLK1)**

Prepared & Analyzed: 01/03/14

|                                  |      |     |      |      |      |        |  |  |  |  |
|----------------------------------|------|-----|------|------|------|--------|--|--|--|--|
| Benzene                          | ND   | 1.0 | ug/l |      |      |        |  |  |  |  |
| Toluene                          | ND   | 1.0 | "    |      |      |        |  |  |  |  |
| Ethylbenzene                     | ND   | 1.0 | "    |      |      |        |  |  |  |  |
| Xylenes (total)                  | ND   | 1.0 | "    |      |      |        |  |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 13.6 |     | "    | 13.2 | 103  | 37-154 |  |  |  |  |
| Surrogate: Toluene-d8            | 12.5 |     | "    | 13.3 | 93.8 | 45-149 |  |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 13.7 |     | "    | 13.3 | 103  | 45-146 |  |  |  |  |

**LCS (1401005-BS1)**

Prepared & Analyzed: 01/04/14

|                                  |      |     |      |      |      |        |  |  |  |  |
|----------------------------------|------|-----|------|------|------|--------|--|--|--|--|
| Benzene                          | 44.6 | 1.0 | ug/l | 46.7 | 95.6 | 51-132 |  |  |  |  |
| Toluene                          | 47.2 | 1.0 | "    | 46.7 | 101  | 51-138 |  |  |  |  |
| Ethylbenzene                     | 56.8 | 1.0 | "    | 46.7 | 122  | 58-146 |  |  |  |  |
| m,p-Xylene                       | 107  | 2.0 | "    | 93.3 | 115  | 57-144 |  |  |  |  |
| o-Xylene                         | 49.5 | 1.0 | "    | 46.7 | 106  | 53-146 |  |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 12.6 |     | "    | 13.2 | 95.3 | 37-154 |  |  |  |  |
| Surrogate: Toluene-d8            | 12.9 |     | "    | 13.3 | 97.1 | 45-149 |  |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 12.1 |     | "    | 13.3 | 91.1 | 45-146 |  |  |  |  |

**Matrix Spike (1401005-MS1)**

Source: 1401010-02

Prepared & Analyzed: 01/04/14

|                                  |      |     |      |      |      |        |        |  |  |  |
|----------------------------------|------|-----|------|------|------|--------|--------|--|--|--|
| Benzene                          | 40.6 | 1.0 | ug/l | 46.7 | ND   | 87.0   | 34-141 |  |  |  |
| Toluene                          | 42.9 | 1.0 | "    | 46.7 | 1.10 | 89.6   | 27-151 |  |  |  |
| Ethylbenzene                     | 50.6 | 1.0 | "    | 46.7 | 1.07 | 106    | 29-160 |  |  |  |
| m,p-Xylene                       | 95.3 | 2.0 | "    | 93.3 | 1.97 | 100    | 20-166 |  |  |  |
| o-Xylene                         | 43.2 | 1.0 | "    | 46.7 | ND   | 92.5   | 33-159 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 12.4 |     | "    | 13.2 | 93.9 | 37-154 |        |  |  |  |
| Surrogate: Toluene-d8            | 12.8 |     | "    | 13.3 | 95.6 | 45-149 |        |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 12.4 |     | "    | 13.3 | 93.3 | 45-146 |        |  |  |  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/05/14 17:27

**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 1401005 - EPA 5030 Water MS**

| Matrix Spike Dup (1401005-MSD1)  |      |     | Source: 1401010-02 |      | Prepared & Analyzed: 01/04/14 |      |        |       |    |  |
|----------------------------------|------|-----|--------------------|------|-------------------------------|------|--------|-------|----|--|
| Benzene                          | 40.4 | 1.0 | ug/l               | 46.7 | ND                            | 86.5 | 34-141 | 0.544 | 32 |  |
| Toluene                          | 42.6 | 1.0 | "                  | 46.7 | 1.10                          | 88.9 | 27-151 | 0.796 | 25 |  |
| Ethylbenzene                     | 49.8 | 1.0 | "                  | 46.7 | 1.07                          | 104  | 29-160 | 1.59  | 50 |  |
| m,p-Xylene                       | 93.1 | 2.0 | "                  | 93.3 | 1.97                          | 97.6 | 20-166 | 2.33  | 36 |  |
| o-Xylene                         | 42.6 | 1.0 | "                  | 46.7 | ND                            | 91.4 | 33-159 | 1.21  | 26 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 12.3 |     | "                  | 13.2 |                               | 92.9 | 37-154 |       |    |  |
| Surrogate: Toluene-d8            | 12.9 |     | "                  | 13.3 |                               | 96.5 | 45-149 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 12.5 |     | "                  | 13.3 |                               | 93.5 | 45-146 |       |    |  |

**Batch 1401006 - EPA 5030 Soil MS**

| Blank (1401006-BLK1)             |        |        | Prepared & Analyzed: 01/03/14 |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------------------------------|--------|--|------|--------|--|--|--|
| Naphthalene                      | ND     | 0.010  | mg/kg                         |        |  |      |        |  |  |  |
| Benzene                          | ND     | 0.0020 | "                             |        |  |      |        |  |  |  |
| Toluene                          | ND     | 0.0050 | "                             |        |  |      |        |  |  |  |
| Ethylbenzene                     | ND     | 0.0050 | "                             |        |  |      |        |  |  |  |
| Xylenes (total)                  | ND     | 0.010  | "                             |        |  |      |        |  |  |  |
| Gasoline Range Hydrocarbons      | ND     | 0.50   | "                             |        |  |      |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0383 |        | "                             | 0.0397 |  | 96.4 | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0381 |        | "                             | 0.0400 |  | 95.2 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0400 |        | "                             | 0.0400 |  | 100  | 21-167 |  |  |  |

| LCS (1401006-BS1)                |        |        | Prepared & Analyzed: 01/03/14 |        |  |      |        |  |  |  |
|----------------------------------|--------|--------|-------------------------------|--------|--|------|--------|--|--|--|
| Naphthalene                      | ND     | 0.010  | mg/kg                         |        |  |      |        |  |  |  |
| Benzene                          | 0.0983 | 0.0020 | "                             | 0.100  |  | 98.3 | 58-130 |  |  |  |
| Toluene                          | 0.120  | 0.0050 | "                             | 0.100  |  | 120  | 61-134 |  |  |  |
| Ethylbenzene                     | 0.119  | 0.0050 | "                             | 0.100  |  | 119  | 74-139 |  |  |  |
| m,p-Xylene                       | 0.271  | 0.010  | "                             | 0.200  |  | 136  | 73-137 |  |  |  |
| o-Xylene                         | 0.133  | 0.0050 | "                             | 0.100  |  | 133  | 73-141 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0414 |        | "                             | 0.0397 |  | 104  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0398 |        | "                             | 0.0400 |  | 99.5 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0396 |        | "                             | 0.0400 |  | 99.0 | 21-167 |  |  |  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/05/14 17:27

**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 1401006 - EPA 5030 Soil MS**

**Matrix Spike (1401006-MS1)**

**Source: 1401017-01**

Prepared & Analyzed: 01/03/14

|                                  |        |        |       |        |    |      |        |  |  |  |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Naphthalene                      | ND     | 0.010  | mg/kg |        | ND |      | 10-158 |  |  |  |
| Benzene                          | 0.0992 | 0.0020 | "     | 0.100  | ND | 99.2 | 30-131 |  |  |  |
| Toluene                          | 0.119  | 0.0050 | "     | 0.100  | ND | 119  | 30-134 |  |  |  |
| Ethylbenzene                     | 0.148  | 0.0050 | "     | 0.100  | ND | 148  | 22-153 |  |  |  |
| m,p-Xylene                       | 0.268  | 0.010  | "     | 0.200  | ND | 134  | 10-159 |  |  |  |
| o-Xylene                         | 0.132  | 0.0050 | "     | 0.100  | ND | 132  | 31-151 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0403 |        | "     | 0.0397 |    | 101  | 23-173 |  |  |  |
| Surrogate: Toluene-d8            | 0.0391 |        | "     | 0.0400 |    | 97.7 | 20-170 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0380 |        | "     | 0.0400 |    | 95.0 | 21-167 |  |  |  |

**Matrix Spike Dup (1401006-MSD1)**

**Source: 1401017-01**

Prepared & Analyzed: 01/03/14

|                                  |        |        |       |        |    |      |        |       |    |  |
|----------------------------------|--------|--------|-------|--------|----|------|--------|-------|----|--|
| Naphthalene                      | ND     | 0.010  | mg/kg |        | ND |      | 10-158 |       | 42 |  |
| Benzene                          | 0.0980 | 0.0020 | "     | 0.100  | ND | 98.0 | 30-131 | 1.16  | 34 |  |
| Toluene                          | 0.119  | 0.0050 | "     | 0.100  | ND | 119  | 30-134 | 0.201 | 30 |  |
| Ethylbenzene                     | 0.149  | 0.0050 | "     | 0.100  | ND | 149  | 22-153 | 0.202 | 24 |  |
| m,p-Xylene                       | 0.270  | 0.010  | "     | 0.200  | ND | 135  | 10-159 | 1.03  | 68 |  |
| o-Xylene                         | 0.132  | 0.0050 | "     | 0.100  | ND | 132  | 31-151 | 0.704 | 38 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0392 |        | "     | 0.0397 |    | 98.6 | 23-173 |       |    |  |
| Surrogate: Toluene-d8            | 0.0389 |        | "     | 0.0400 |    | 97.3 | 20-170 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 0.0382 |        | "     | 0.0400 |    | 95.5 | 21-167 |       |    |  |

Summit Scientific

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/05/14 17:27

### 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 be 'JMM'.

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 07, 2014

Daniel Wade  
Noble Energy  
804 Grand Avenue  
Platteville, CO 80651  
RE: Bauer 9-1, 43

Enclosed are the results of analyses for samples received by Summit Scientific on 01/07/14 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Ben Shrewsbury  
President / Laboratory Manager





Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/07/14 21:13

### ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------|---------------|--------|----------------|----------------|
| GW04      | 1401025-01    | Water  | 01/06/14 10:00 | 01/07/14 17:15 |
| GW05      | 1401025-02    | Water  | 01/06/14 10:30 | 01/07/14 17:15 |

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

Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43

Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/07/14 21:13

1401025

Summit Scientific

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

Client: Noble / Tashan  
 Address \_\_\_\_\_  
 City/State/Zip \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax: \_\_\_\_\_  
 Sample Name: Brick Mfg unit  
 Project Manager: Dan Wade  
 E-Mail: \_\_\_\_\_  
 Project Name: Bayer 9-1-43  
 Project Number: \_\_\_\_\_

Page 1 of 1

Page 1 of 1

[illegible]

[www.s2scientific.com](http://www.s2scientific.com)

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/07/14 21:13

**GW04**  
**1401025-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/06/14 10:00**

| Analyte                | Result     | Reporting<br>Limit | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| <b>Benzene</b>         | <b>4.1</b> | 1.0                | ug/l  | 1        | 1401021 | 01/07/14 | 01/07/14 | EPA 8260B |       |
| <b>Toluene</b>         | <b>1.5</b> | 1.0                | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>    | <b>1.7</b> | 1.0                | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b> | <b>7.1</b> | 1.0                | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/06/14 10:00**

| Analyte                                 | Result | Reporting<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 96.9 %             | 37-154 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 101 %              | 45-149 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 102 %              | 45-146 |          | "     | "        | "        | "      |       |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/07/14 21:13

**GW05**  
**1401025-02 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/06/14 10:30**

| Analyte                | Result     | Reporting |  | Units | Dilution | Batch   | Prepared | Analyzed | Method    | Notes |
|------------------------|------------|-----------|--|-------|----------|---------|----------|----------|-----------|-------|
|                        |            | Limit     |  |       |          |         |          |          |           |       |
| <b>Benzene</b>         | <b>2.7</b> | 1.0       |  | ug/l  | 1        | 1401021 | 01/07/14 | 01/07/14 | EPA 8260B |       |
| <b>Toluene</b>         | <b>1.1</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Ethylbenzene</b>    | <b>1.1</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |
| <b>Xylenes (total)</b> | <b>4.3</b> | 1.0       |  | "     | "        | "       | "        | "        | "         |       |

Date Sampled: **01/06/14 10:30**

| Analyte                                 | Result | Reporting |  | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------|--|--------|----------|-------|----------|----------|--------|-------|
|   |        | Limit     |  |        |          |       |          |          |        |       |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> |        | 104 %     |  | 37-154 |          | "     | "        | "        | "      |       |
| <i>Surrogate: Toluene-d8</i>            |        | 103 %     |  | 45-149 |          | "     | "        | "        | "      |       |
| <i>Surrogate: 4-Bromofluorobenzene</i>  |        | 102 %     |  | 45-146 |          | "     | "        | "        | "      |       |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/07/14 21:13

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 1401021 - EPA 5030 Water MS

##### Blank (1401021-BLK1)

Prepared & Analyzed: 01/07/14

|                                  |      |     |      |      |      |        |  |  |  |  |
|----------------------------------|------|-----|------|------|------|--------|--|--|--|--|
| Benzene                          | ND   | 1.0 | ug/l |      |      |        |  |  |  |  |
| Toluene                          | ND   | 1.0 | "    |      |      |        |  |  |  |  |
| Ethylbenzene                     | ND   | 1.0 | "    |      |      |        |  |  |  |  |
| Xylenes (total)                  | ND   | 1.0 | "    |      |      |        |  |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 16.4 |     | "    | 13.2 | 124  | 37-154 |  |  |  |  |
| Surrogate: Toluene-d8            | 13.1 |     | "    | 13.3 | 98.4 | 45-149 |  |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 13.7 |     | "    | 13.3 | 103  | 45-146 |  |  |  |  |

##### LCS (1401021-BS1)

Prepared & Analyzed: 01/07/14

|                                  |      |     |      |      |      |        |  |  |  |  |
|----------------------------------|------|-----|------|------|------|--------|--|--|--|--|
| Benzene                          | 30.6 | 1.0 | ug/l | 33.3 | 91.7 | 51-132 |  |  |  |  |
| Toluene                          | 31.5 | 1.0 | "    | 33.3 | 94.6 | 51-138 |  |  |  |  |
| Ethylbenzene                     | 34.6 | 1.0 | "    | 33.3 | 104  | 58-146 |  |  |  |  |
| m,p-Xylene                       | 65.3 | 2.0 | "    | 66.7 | 97.9 | 57-144 |  |  |  |  |
| o-Xylene                         | 31.9 | 1.0 | "    | 33.3 | 95.8 | 53-146 |  |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 16.5 |     | "    | 13.2 | 125  | 37-154 |  |  |  |  |
| Surrogate: Toluene-d8            | 13.4 |     | "    | 13.3 | 101  | 45-149 |  |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 13.4 |     | "    | 13.3 | 100  | 45-146 |  |  |  |  |

##### Matrix Spike (1401021-MS1)

Source: 1401025-01

Prepared & Analyzed: 01/07/14

|                                  |      |     |      |      |      |        |        |  |  |  |
|----------------------------------|------|-----|------|------|------|--------|--------|--|--|--|
| Benzene                          | 44.7 | 1.0 | ug/l | 33.3 | 4.08 | 122    | 34-141 |  |  |  |
| Toluene                          | 38.5 | 1.0 | "    | 33.3 | 1.54 | 111    | 27-151 |  |  |  |
| Ethylbenzene                     | 41.3 | 1.0 | "    | 33.3 | 1.66 | 119    | 29-160 |  |  |  |
| m,p-Xylene                       | 82.2 | 2.0 | "    | 66.7 | 7.09 | 113    | 20-166 |  |  |  |
| o-Xylene                         | 38.3 | 1.0 | "    | 33.3 | ND   | 115    | 33-159 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 13.8 |     | "    | 13.2 | 105  | 37-154 |        |  |  |  |
| Surrogate: Toluene-d8            | 13.6 |     | "    | 13.3 | 102  | 45-149 |        |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 13.5 |     | "    | 13.3 | 101  | 45-146 |        |  |  |  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

Reported:  
01/07/14 21:13

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

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

**Batch 1401021 - EPA 5030 Water MS**

| Matrix Spike Dup (1401021-MSD1)  | Source: 1401025-01 |     |      | Prepared & Analyzed: 01/07/14 |      |     |        |       |    |  |
|----------------------------------|--------------------|-----|------|-------------------------------|------|-----|--------|-------|----|--|
| Benzene                          | 43.4               | 1.0 | ug/l | 33.3                          | 4.08 | 118 | 34-141 | 2.93  | 32 |  |
| Toluene                          | 37.4               | 1.0 | "    | 33.3                          | 1.54 | 108 | 27-151 | 2.79  | 25 |  |
| Ethylbenzene                     | 41.5               | 1.0 | "    | 33.3                          | 1.66 | 119 | 29-160 | 0.362 | 50 |  |
| m,p-Xylene                       | 82.0               | 2.0 | "    | 66.7                          | 7.09 | 112 | 20-166 | 0.244 | 36 |  |
| o-Xylene                         | 38.1               | 1.0 | "    | 33.3                          | ND   | 114 | 33-159 | 0.498 | 26 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 13.3               |     | "    | 13.2                          |      | 100 | 37-154 |       |    |  |
| Surrogate: Toluene-d8            | 13.5               |     | "    | 13.3                          |      | 101 | 45-149 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 13.6               |     | "    | 13.3                          |      | 102 | 45-146 |       |    |  |

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Noble Energy  
804 Grand Avenue  
Platteville CO, 80651

Project: Bauer 9-1, 43  
Project Number: [none]  
Project Manager: Daniel Wade

**Reported:**  
01/07/14 21:13

### Notes and Definitions

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

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