

GROUNDWATER MONITORING REPORT JANUARY 2010

STATE 16-14I4

On November 24, 2009, LT Environmental, Inc. (LTE) conducted groundwater sampling, on behalf of Noble Energy, Inc., at the State 16-14I4 Well Site (Site). This sampling event constitutes the fourth post remediation monitoring event at this Site. Site history, remediation activities, well installation, and performance monitoring have been described in preceding reports.

Groundwater level measurements were collected from the monitoring wells and are summarized in Table 1. Four wells were used to conduct groundwater sampling (MW-2, TB23, TB24, and TB25). Monitoring wells TB23, TB24, and TB25 were installed in February 2009 following source removal from a new release. Monitoring well MW02, a previously existing well, was the only well not destroyed during source removal activities. Figure 1 illustrates the Site layout and monitoring well locations.

Depth to groundwater, which ranged from 2.53 feet below top of casing (btoc) in TB25 to 3.70 feet btoc in TB24, was used to calculate well-specific purge volumes. Following purging, groundwater samples were collected and preserved on ice. Samples were then submitted under strict chain of custody protocol to Origins Laboratory, Inc. of Denver, Colorado for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency Method 8260B.

Analytical results from the monitoring wells, presented in Table 1, indicate BTEX concentrations are in compliance with the Colorado Department of Public Health and Environment – Water Quality Control Commission Regulation 41 for all samples. The laboratory analytical report is included in the Appendix.

LTE will continue to conduct quarterly groundwater monitoring events with the goal of observing four consecutive quarters of analytical results in compliance with applicable regulatory standards. The next quarterly groundwater sampling event is scheduled for February 2010.

TABLE

TABLE 1

GROUNDWATER ANALYTICAL DATA
STATE 16-14I4 WELL SITE
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

| MONITORING WELL | DATE | DEPTH TO WATER (feet btoc) | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYLBENZENE (ug/L) | TOTAL XYLENES (ug/L) |
|--------------------------|------------|----------------------------------|-------------------|-------------------|------------------------|----------------------------|
| MW-2 | 2/15/2007 | 7.74 | 180 | <1.0 | 1.9 | 60 |
| | 2/21/2007 | 7.67 | 210 | <4.0 | <4.0 | 53 |
| | 5/10/2007 | 5.80 | <1.0 | <2.0 | <2.0 | <6.0 |
| | 7/19/2007 | 7.53 | <1.0 | <2.0 | <2.0 | <6.0 |
| | 10/1/2007 | 5.10 | <1.0 | <2.0 | <2.0 | <4.0 |
| | 1/7/2008 | 3.15 | <1.0 | <2.0 | <2.0 | <4.0 |
| | 4/18/2008 | 5.85 | <1.0 | <2.0 | <2.0 | <2.0 |
| | 7/17/2008 | 7.68 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 2/24/2009 | 5.10 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 5/15/2009 | 6.20 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 8/26/2009 | 6.18 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 11/24/2009 | 3.28 | <1.0 | <1.0 | <1.0 | <3.0 |
| TB23 | 2/24/2009 | 4.35 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 5/15/2009 | 5.34 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 8/26/2009 | 5.51 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 11/24/2009 | 2.81 | <1.0 | <1.0 | <1.0 | <3.0 |
| TB24 | 2/24/2009 | 5.59 | 18.1 | <1.0 | <1.0 | <3.0 |
| | 5/15/2009 | 6.82 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 8/26/2009 | 6.82 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 11/24/2009 | 3.70 | 2.42 | <1.0 | <1.0 | <3.0 |
| TB25 | 2/24/2009 | 4.51 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 5/15/2009 | 5.70 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 8/26/2009 | 5.61 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 11/24/2009 | 2.53 | <1.0 | <1.0 | <1.0 | <3.0 |
| CDPHE WQCC Reg 41 | | | 5.0 | 560 | 700 | 1,400 |

NOTES:

btoc - below top of casing

Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B

ug/L - micrograms per liter

< indicates result is less than the stated laboratory method detection limit

BOLD - indicates result is above the applicable standard

CDPHE WQCC Reg 41 - Colorado Department of Public Health and Environment - Water Quality Control

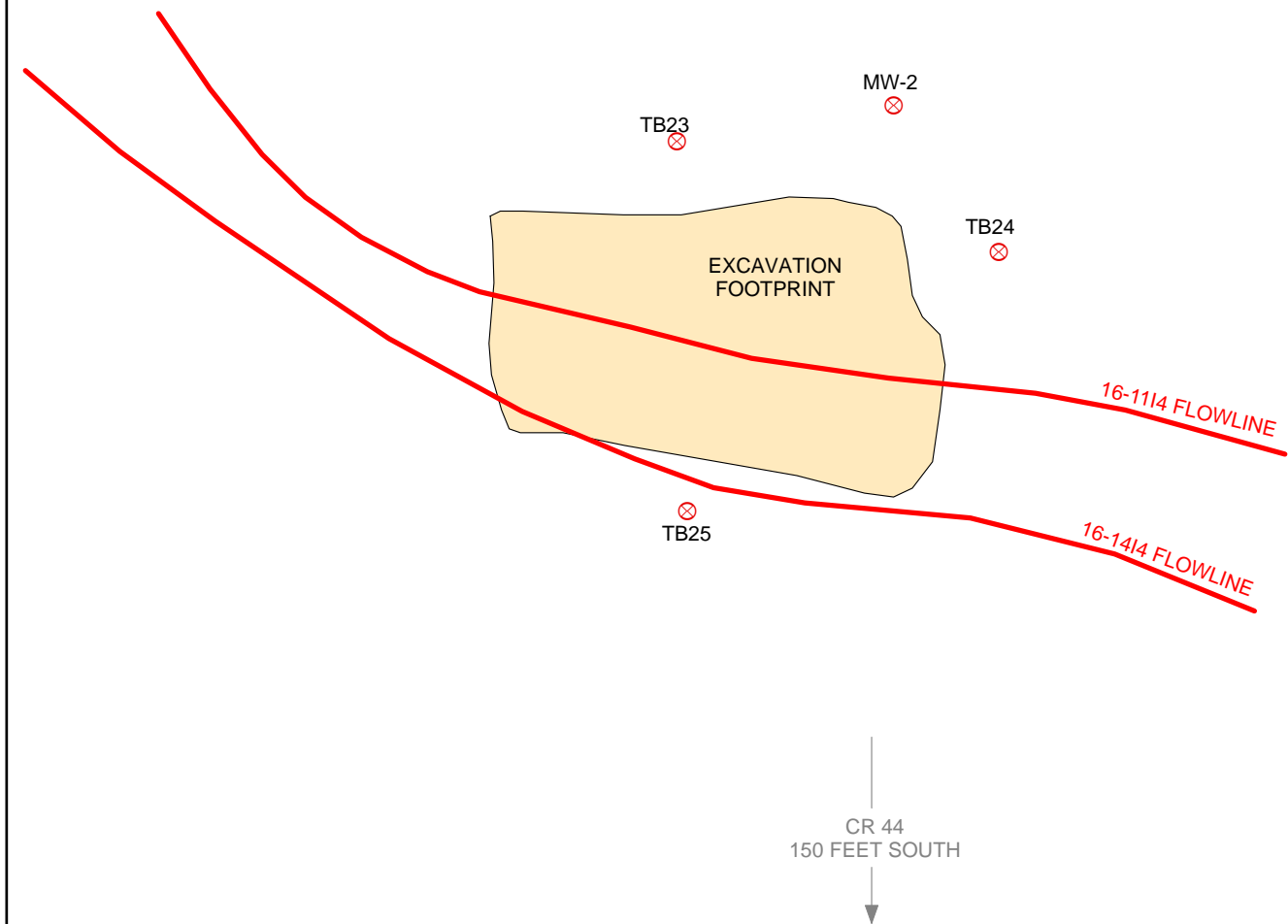
Commission Regulation 41 covering Basic Standards for Groundwater



FIGURE

| | | |
|-------|-------|-------|
| | CR 46 | |
| | | |
| CR44 | | |
| CR 53 | | CR 55 |

AREA OF INTEREST



LEGEND




-  MONITORING WELL
-  FLOWLINE
-  EXCAVATION FOOTPRINT

FIGURE 1
MONITORING WELL LOCATION MAP
STATE 16-1414
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.



APPENDIX
ANALYTICAL LABORATORY REPORT



4640 Pecos Street | Unit C | Denver, Colorado 80211
303.433.1322 Phone 303.265.9645 Fax

December 01, 2009

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP 0701
Project: Noble – State 16-1114

Attached are the analytical results for Noble – State 16-1114 received by Origins Laboratory, Inc. 11/24/2009 5:07:00PM. Please let us know if you have any questions, or if we can help with anything at all.

A handwritten signature in black ink, appearing to read "Noelle E Doyle".

Noelle E Doyle
Laboratory Manager

The analytical results in the following report were analyzed under the guidelines of EPA Methods specified in SW-846. The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. This laboratory report is intended solely for the above addressee and it is only to be used and or reproduced in its entirety.

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Dodek
Project Number: NEP 0701
Project: Noble – State 16–1114

CROSS REFERENCE REPORT

| Sample ID | Laboratory ID | Matrix | Sampled | Date Received |
|-----------|---------------|--------|-----------------------|------------------|
| MW02 | X911099-01 | Water | 11/24/2009 1:00:00PM | 11/24/2009 17:07 |
| TB23 | X911099-02 | Water | 11/24/2009 12:20:00PM | 11/24/2009 17:07 |
| TB24 | X911099-03 | Water | 11/24/2009 12:10:00PM | 11/24/2009 17:07 |
| TB25 | X911099-04 | Water | 11/24/2009 11:55:00AM | 11/24/2009 17:07 |

Origins Laboratory, Inc.

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Brian Dodek
Project Number: NEP 0701
Project: Noble – State 16–1114

66011X

page 1 of 1



originslaboratory.com

Client: LT Environmental
Address: 4600 W. 60th Ave.
Arvada, CO 80003
Telephone Number: 303-433-9788
E-Mail Address: b.dodek@ltenv.com

Project Manager: Brian Dodek
Project Name: State GW Sampling
Project Number: NEP0701
Samples Collected by: Devin Gartin

| Sample ID - Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | Analysis | Sample Instructions |
|-------------------------------|----------------|--------------|--------------------------|----------------|-------------|---------------------------|---------|-------------|------|------------------------|----------|---------------------|
| | | | | Unpreserved | HCl | HNO ₃ | Other - | Groundwater | Soil | Air - Summa Canister # | | |
| MW02 | 11/24/09 | 1300 | 3 | X | X | | | X | | | BTEX | 1 |
| TB03 | | 1230 | 1 | X | X | | | X | | | | 2 |
| TB04 | | 1210 | 1 | X | X | | | X | | | | 3 |
| TB05 | | 1155 | 1 | X | X | | | X | | | | 4 |
| | | | | | | | | | | | | 5 |
| | | | | | | | | | | | | 6 |
| | | | | | | | | | | | | 7 |
| | | | | | | | | | | | | 8 |
| | | | | | | | | | | | | 9 |
| | | | | | | | | | | | | 10 |
| Relinquished by: Devin Gartin | Date: 11/24/09 | Time: 1707 | Received by: [Signature] | Date: | Time: | Temperature Upon Receipt: | | | | | | |
| Relinquished by: [Signature] | Date: | Time: | Received by: [Signature] | Date: 11/24/09 | Time: 17:07 | Turn Around Time: 24-hr | | | | | | |

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Noelle E Doyle

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Project: Noble – State 16–1114

MW02

X911099–01 (Water)

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

Origins Laboratory, Inc.

BTEX by EPA 8260B

| | | | | | | | |
|--------------|----|---------|------|---|---------|------------|------------|
| Benzene | ND | 0.00100 | mg/L | 1 | 9K30002 | 11/30/2009 | 12/01/2009 |
| Toluene | ND | 0.00100 | " | " | " | " | " |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " |
| o-Xylene | ND | 0.00100 | " | " | " | " | " |
| m,p-Xylene | ND | 0.00200 | " | " | " | " | " |

| | | | | | |
|----------------------------------|--------|----------|---|---|---|
| Surrogate: 1,2-Dichloroethane-d4 | 110 % | 76.8–127 | " | " | " |
| Surrogate: Toluene-d8 | 96.5 % | 71.4–123 | " | " | " |
| Surrogate: 4-Bromofluorobenzene | 92.8 % | 87.6–133 | " | " | " |

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Project Number: NEP 0701
Project: Noble – State 16–1114

TB23

X911099-02 (Water)

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

Origins Laboratory, Inc.

BTEX by EPA 8260B

| | | | | | | | |
|--------------|----|---------|------|---|---------|------------|------------|
| Benzene | ND | 0.00100 | mg/L | 1 | 9K30002 | 11/30/2009 | 12/01/2009 |
| Toluene | ND | 0.00100 | " | " | " | " | " |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " |
| o-Xylene | ND | 0.00100 | " | " | " | " | " |
| m,p-Xylene | ND | 0.00200 | " | " | " | " | " |

| | | | | | |
|----------------------------------|--------|----------|---|---|---|
| Surrogate: 1,2-Dichloroethane-d4 | 108 % | 76.8-127 | " | " | " |
| Surrogate: Toluene-d8 | 98.9 % | 71.4-123 | " | " | " |
| Surrogate: 4-Bromofluorobenzene | 87.9 % | 87.6-133 | " | " | " |

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Project: Noble – State 16–1114

TB24
X911099–03 (Water)

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

Origins Laboratory, Inc.

BTEX by EPA 8260B

| | | | | | | | |
|--------------|---------|---------|------|---|---------|------------|------------|
| Benzene | 0.00242 | 0.00100 | mg/L | 1 | 9K30002 | 11/30/2009 | 12/01/2009 |
| Toluene | ND | 0.00100 | " | " | " | " | " |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " |
| o-Xylene | ND | 0.00100 | " | " | " | " | " |
| m,p-Xylene | ND | 0.00200 | " | " | " | " | " |

| | | | | | |
|----------------------------------|--------|----------|---|---|--------|
| Surrogate: 1,2-Dichloroethane-d4 | 105 % | 76.8–127 | " | " | " |
| Surrogate: Toluene-d8 | 101 % | 71.4–123 | " | " | " |
| Surrogate: 4-Bromofluorobenzene | 85.6 % | 87.6–133 | " | " | " S-GC |

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TB25

X911099–04 (Water)

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

Origins Laboratory, Inc.

BTEX by EPA 8260B

| | | | | | | | |
|--------------|----|---------|------|---|---------|------------|------------|
| Benzene | ND | 0.00100 | mg/L | 1 | 9K30002 | 11/30/2009 | 12/01/2009 |
| Toluene | ND | 0.00100 | " | " | " | " | " |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " |
| o-Xylene | ND | 0.00100 | " | " | " | " | " |
| m,p-Xylene | ND | 0.00200 | " | " | " | " | " |

| | | | | | |
|----------------------------------|--------|----------|---|---|---|
| Surrogate: 1,2-Dichloroethane-d4 | 104 % | 76.8–127 | " | " | " |
| Surrogate: Toluene-d8 | 95.7 % | 71.4–123 | " | " | " |
| Surrogate: 4-Bromofluorobenzene | 89.1 % | 87.6–133 | " | " | " |

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Project: Noble – State 16–1114

Volatile Organic Compounds by EPA Method 8260B – Quality Control
Origins Laboratory, Inc.

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

Batch 9K30002 – EPA 5030B

Blank (9K30002–BLK1)

Prepared: 11/30/2009 Analyzed: 12/01/2009

| | | | |
|--------------|----|-------|------|
| Benzene | ND | 0.001 | mg/L |
| Toluene | ND | 0.001 | " |
| Ethylbenzene | ND | 0.001 | " |
| o-Xylene | ND | 0.001 | " |
| m,p-Xylene | ND | 0.002 | " |

| | | | | | |
|----------------------------------|------|------|------|------|----------|
| Surrogate: 1,2-Dichloroethane-d4 | 70.4 | ug/L | 62.5 | 113 | 76.8–127 |
| Surrogate: Toluene-d8 | 62.3 | " | 62.5 | 99.6 | 71.4–123 |
| Surrogate: 4-Bromofluorobenzene | 59.9 | " | 62.5 | 95.8 | 87.6–133 |

LCS (9K30002–BS1)

Prepared: 11/30/2009 Analyzed: 12/01/2009

| | | | | | | |
|----------------------------------|------|-------|------|--------|------|----------|
| Benzene | 0.05 | 0.001 | mg/L | 0.0500 | 90.7 | 79.3–122 |
| Toluene | 0.04 | 0.001 | " | 0.0500 | 89.1 | 73.4–130 |
| Surrogate: 1,2-Dichloroethane-d4 | 68.6 | | ug/L | 62.5 | 110 | 76.8–127 |
| Surrogate: Toluene-d8 | 61.9 | | " | 62.5 | 99.1 | 71.4–123 |
| Surrogate: 4-Bromofluorobenzene | 59.5 | | " | 62.5 | 95.2 | 87.6–133 |

Matrix Spike (9K30002–MS1)

Source: X911099–01

Prepared: 11/30/2009 Analyzed: 12/01/2009

| | | | | | | | |
|----------------------------------|------|-------|------|--------|----|------|----------|
| Benzene | 0.05 | 0.001 | mg/L | 0.0500 | ND | 91.4 | 80.2–129 |
| Toluene | 0.05 | 0.001 | " | 0.0500 | ND | 90.3 | 74.8–126 |
| Surrogate: 1,2-Dichloroethane-d4 | 68.9 | | ug/L | 62.5 | | 110 | 76.8–127 |
| Surrogate: Toluene-d8 | 60.5 | | " | 62.5 | | 96.9 | 71.4–123 |
| Surrogate: 4-Bromofluorobenzene | 61.6 | | " | 62.5 | | 98.5 | 87.6–133 |

Matrix Spike Dup (9K30002–MSD1)

Source: X911099–01

Prepared: 11/30/2009 Analyzed: 12/01/2009

| | | | | | | | | | |
|----------------------------------|------|-------|------|--------|----|------|----------|------|------|
| Benzene | 0.05 | 0.001 | mg/L | 0.0500 | ND | 96.3 | 80.2–129 | 5.22 | 18.7 |
| Toluene | 0.05 | 0.001 | " | 0.0500 | ND | 96.4 | 74.8–126 | 6.49 | 21.9 |
| Surrogate: 1,2-Dichloroethane-d4 | 68.6 | | ug/L | 62.5 | | 110 | 76.8–127 | | |
| Surrogate: Toluene-d8 | 60.1 | | " | 62.5 | | 96.2 | 71.4–123 | | |
| Surrogate: 4-Bromofluorobenzene | 59.1 | | " | 62.5 | | 94.6 | 87.6–133 | | |

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Notes and Definitions

| | |
|------|---|
| S-GC | Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate. |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |

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