

GROUNDWATER MONITORING REPORT / NO FURTHER ACTION REQUEST OCTOBER 2009

STATE 6-36

On August 26, 2009, LTE conducted groundwater sampling on behalf of Noble Energy, Inc. (Noble) at the State 6-36 well site (Site). This sampling event constitutes the forth post-remediation monitoring event at this Site. Site history, remediation activities, and groundwater monitoring results have been described in preceding reports.

Groundwater level measurements were collected from the monitoring wells and are summarized in Table 1. Monitoring wells (MW01, MW02, and MW03) were installed surrounding the flowline excavation on October 29, 2008. A Site Map is presented as Figure 1.

Depth to groundwater, which ranged from 8.61 feet below top of casing (btoc) in MW03 to 9.13 feet btoc in MW02, was used to calculate well-specific purge volumes. Monitoring well MW01 was determined to be destroyed and was not sampled. 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.

Groundwater analytical results from the monitoring wells, presented in Table 1, indicate BTEX concentrations at sample locations MW02 and MW03 are in compliance with Colorado Department of Public Health and Environment – Water Quality Control Division Regulation 41 (WQCC Reg 41) and below laboratory method detection limits. The laboratory analytical report is included as an attachment.

This groundwater sampling event constitutes the fourth consecutive quarterly groundwater sampling event which has reported groundwater analytical results in compliance with WQCC Reg 41. As soil and groundwater have been remediated to achieve cleanup goals, LTE on behalf of Noble, requests that the Colorado Oil and Gas Conservation Commission grant a No Further Action condition for the Site.

TABLE

TABLE 1

**GROUNDWATER ANALYTICAL DATA
STATE 6-36 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

MONITORING		DEPTH TO	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL
WELL	DATE	WATER (feet btoc)	(ug/L)	(ug/L)	(ug/L)	XYLENES (ug/L)
MW01	11/5/2008	9.53	<1.0	<1.0	<1.0	<3.0
	2/10/2009	8.48	<1.0	<1.0	<1.0	<3.0
	5/18/2009	8.32	<1.0	<1.0	<1.0	<3.0
	8/26/2009	----- Destroyed -----				
MW02	11/5/2008	10.30	<1.0	<1.0	<1.0	<3.0
	2/10/2009	8.89	<1.0	<1.0	<1.0	<3.0
	5/18/2009	8.80	<1.0	<1.0	<1.0	<3.0
	8/26/2009	9.13	<1.0	<1.0	<1.0	<3.0
MW03	11/5/2008	8.96	<1.0	<1.0	<1.0	<3.0
	2/10/2009	8.24	<1.0	<1.0	<1.0	<3.0
	5/18/2009	8.31	<1.0	<1.0	<1.0	<3.0
	8/26/2009	8.61	<1.0	<1.0	<1.0	<3.0
CDPHE WQCC Reg 41			5.0	560	700	1,400

NOTES:

btoc - below top of casing

ug/L - micrograms per liter

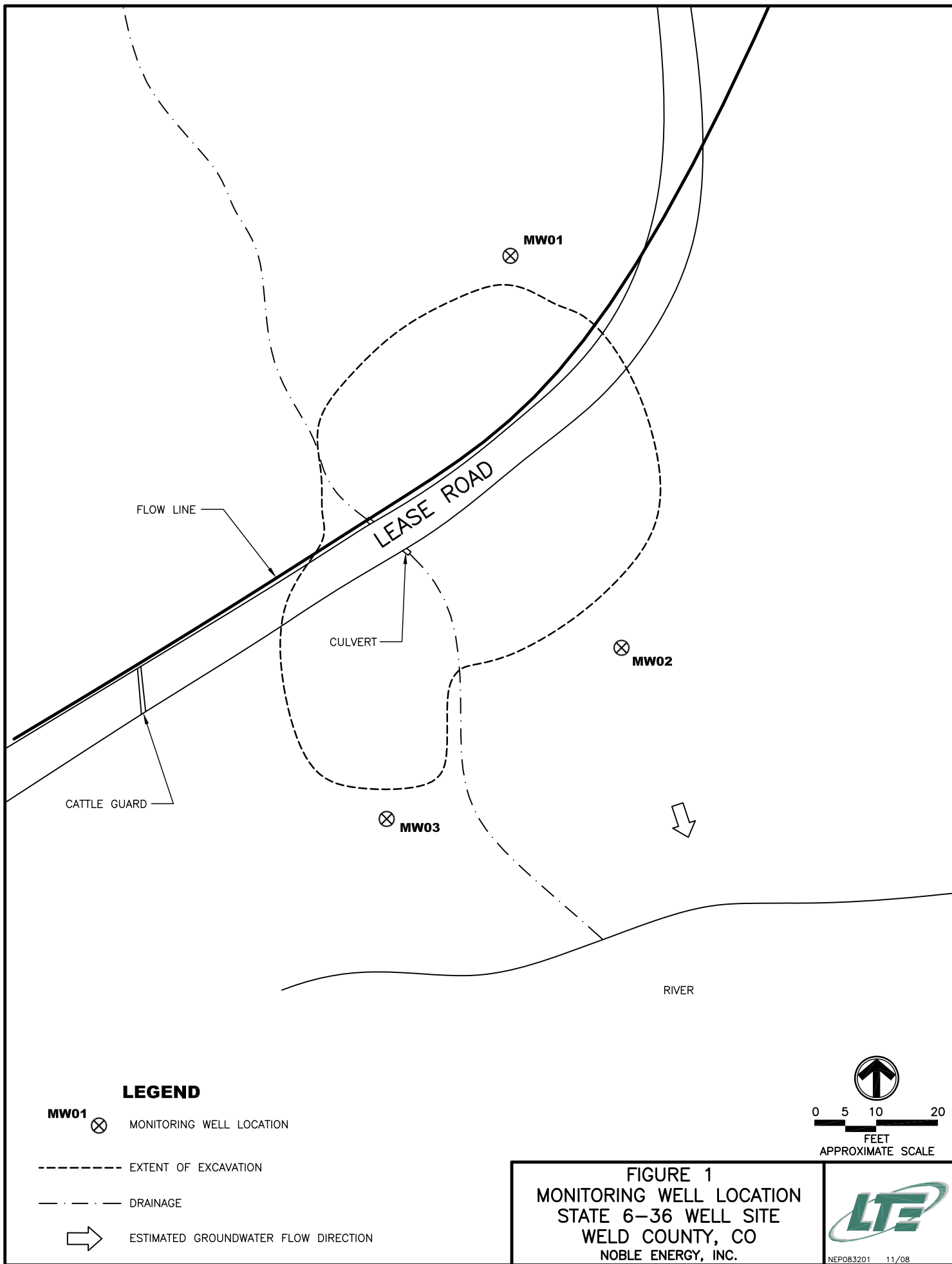
< - indicates result is less than the stated laboratory method detection limit

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

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

Commission Regulation 41 covering Basic Standards for Groundwater

FIGURE



ATTACHMENT
ANALYTICAL LABORATORY REPORT



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

September 04, 2009

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

Brian Dodek
Project Number: NEP0831
Project: Noble – State 6–36

Attached are the analytical results for Noble – State 6–36 received by Origins Laboratory, Inc. 8/26/2009 4:30:00PM. Please let us know if you have any questions, or if we can help with anything at all.

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

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Project Number: NEP0831
Project: Noble – State 6–36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW02	X908095-01	Water	8/26/2009 2:30:00PM	08/26/2009 16:30
MW03	X908095-02	Water	8/26/2009 2:40:00PM	08/26/2009 16:30

Origins Laboratory, Inc.


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Noelle E Doyle, Laboratory Manager

Brian Dodek

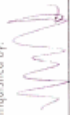

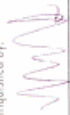

Project Number: NEP0831

Project: Noble – State 6–36



O'BRIEN
LABORATORY, INC.

Client	Address	Project Manager
LT ENV		Brian Bolick
		Project Name
		State 636
		Project Number
		NEP0832
Telephone Number		Samples Collected by
		Ph. Harrison
E-Mail Address		

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 #	
MW01	8/22/09											1
MW02	↓	1430	2	X				X		BTEX	DRD/GRO	2
MW03		1440	2	X				X				3
												4
												5
												6
												7
												8
												9
												10
Reinquisitioned by: 	Date: 8/26/09	Time: 1630	Received by: 				Date:	Time:	Temperature Upon Receipt:			
Reinquisitioned by: 	Date:	Time:	Received by: 				Date:	Time:	Turn Around Time:			
									Same Day	24-hr	<input checked="" type="checkbox"/>	
									48-hr	72-hr	<input type="checkbox"/>	
									Standard			

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Noelle E Doyle, Laboratory Manager

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MW02

X908095–01 (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	9H28001	08/28/2009	08/31/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	117 %	85.7–134	"	"	"
Surrogate: Toluene-d8	87.9 %	81.4–121	"	"	"
Surrogate: 4-Bromofluorobenzene	115 %	74.7–127	"	"	"

Origins Laboratory, Inc.

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Noelle E Doyle, Laboratory Manager

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MW03

X908095–02 (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	9H28001	08/28/2009	08/31/2009
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
o-Xylene	ND	0.00100	"	"	"	"	"
m,p-Xylene	ND	0.00200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	117 %	85.7–134	"	"	"
Surrogate: Toluene-d8	86.0 %	81.4–121	"	"	"
Surrogate: 4-Bromofluorobenzene	116 %	74.7–127	"	"	"

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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
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Batch 9H28001 – EPA 5030B

Blank (9H28001–BLK1)

Prepared: 08/28/2009 Analyzed: 08/31/2009

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	66.5		ug/L	62.5		106	85.7–134			
Surrogate: Toluene-d8	59.5		"	62.5		95.2	81.4–121			
Surrogate: 4-Bromofluorobenzene	67.4		"	62.5		108	74.7–127			

LCS (9H28001–BS1)

Prepared: 08/28/2009 Analyzed: 08/31/2009

Benzene	0.05	0.001	mg/L	0.0500		105	74.9–126			
Toluene	0.05	0.001	"	0.0500		102	73.3–128			
Surrogate: 1,2-Dichloroethane-d4	69.1		ug/L	62.5		111	85.7–134			
Surrogate: Toluene-d8	57.6		"	62.5		92.1	81.4–121			
Surrogate: 4-Bromofluorobenzene	70.3		"	62.5		112	74.7–127			

Matrix Spike (9H28001–MS1)

Source: X908102–01

Prepared: 08/28/2009 Analyzed: 08/31/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	102	78.1–132			
Toluene	0.05	0.001	"	0.0500	ND	95.2	71.7–124			
Surrogate: 1,2-Dichloroethane-d4	68.7		ug/L	62.5		110	85.7–134			
Surrogate: Toluene-d8	57.0		"	62.5		91.2	81.4–121			
Surrogate: 4-Bromofluorobenzene	69.9		"	62.5		112	74.7–127			

Matrix Spike Dup (9H28001–MSD1)

Source: X908102–01

Prepared: 08/28/2009 Analyzed: 08/31/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	102	78.1–132	0.764	24.8	
Toluene	0.05	0.001	"	0.0500	ND	95.2	71.7–124	0.00	25	
Surrogate: 1,2-Dichloroethane-d4	69.4		ug/L	62.5		111	85.7–134			
Surrogate: Toluene-d8	56.7		"	62.5		90.8	81.4–121			
Surrogate: 4-Bromofluorobenzene	70.1		"	62.5		112	74.7–127			

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Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference

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