

GROUNDWATER MONITORING REPORT JULY 2010

STRONG 1, P-21-2, 7, 8, 9, 10J, 16, 1JI, 2JI, 7JI TANK BATTERY

On July 1, 2010, LT Environmental, Inc. (LTE) was onsite to conduct groundwater sampling on behalf of Noble Energy, Inc. (Noble) at the Strong 1, P-21-2, 7, 8, 9, 10J, 16, 1JI, 2JI, 7JI Tank Battery (Site). Site history, remediation activities, and groundwater monitoring results have been described in preceding reports.

Monitoring wells (MW01, MW02, MW03 and MW04) were installed surrounding the tank battery excavation on October 3, 2007, and were destroyed during a recent tank battery upgrade. A Monitoring Well Location Map is presented on Figure 1.

Groundwater analytical results, 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 (WQCC Reg 41). The laboratory analytical report is included in the Appendix.

This groundwater sampling event constitutes the fourth consecutive quarter in which all Site data is in compliance with WQCC Reg 41. LTE, on behalf of Noble, respectively requests that the Colorado Oil and Gas Conservation Commission grant a No Further Action condition for the Strong 1, P-21-2, 7, 8, 9, 10J, 16, 1JI, 2JI, 7JI Tank Battery.

TABLE

TABLE 1						
GROUNDWATER RESULTS						
STRONG 1, P-21-2, 7, 8, 9, 10J, 16, 1JI, 2JI, 7JI TANK BATTERY						
WELD COUNTY, COLORADO						
NOBLE ENERGY, INC.						
MONITORING WELL	DATE	DEPTH TO WATER (feet btoc)	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYLBENZENE (µg/L)	XYLENES (µg/L)
MW01	1/18/2008	8.19	<1.0	<1.0	<1.0	<2.0
	4/17/2008	9.37	<1.0	<1.0	<1.0	<2.0
	7/18/2008	8.11	<1.0	<1.0	<1.0	<3.0
	10/31/2008	7.06	<1.0	<1.0	<1.0	<3.0
	1/6/2009	8.28	<1.0	<1.0	<1.0	<3.0
	4/9/2009	9.65	<1.0	<1.0	<1.0	<3.0
	7/15/2009	8.53	<1.0	<1.0	<1.0	<3.0
	11/19/2009	7.26	<1.0	<1.0	<1.0	<3.0
	1/26/2010	8.00	<1.0	<1.0	<1.0	<3.0
	4/9/2010	8.64	<1.0	<1.0	<1.0	<1.0
	7/1/2010	NA		WELL DESTROYED		
MW02	1/18/2008	8.50	<1.0	<1.0	<1.0	<2.0
	4/17/2008	9.61	<1.0	<1.0	<1.0	<2.0
	7/18/2008	8.29	<1.0	<1.0	<1.0	<3.0
	10/31/2008	7.40	<1.0	<1.0	<1.0	<3.0
	1/6/2009	8.53	<1.0	<1.0	<1.0	<3.0
	4/9/2009	9.91	<1.0	<1.0	<1.0	<3.0
	7/15/2009	8.70	<1.0	<1.0	<1.0	<3.0
	11/19/2009	7.49	<1.0	<1.0	<1.0	<3.0
	1/26/2010	8.16	<1.0	<1.0	<1.0	<3.0
	4/9/2010	8.83	<1.0	<1.0	<1.0	<1.0
	7/1/2010	NA		WELL DESTROYED		
MW03	1/18/2008	8.95	<1.0	<1.0	29.3	65.52
	4/17/2008	10.12	<1.0	5.55	<1.0	37.8
	7/18/2008	8.70	181	<1.0	5.54	13.8
	10/31/2008	7.98	5.44	1.29	9.24	35.91
	1/6/2009	9.02	2.59	<1.0	6.71	21.36
	4/9/2009	10.42	<1.0	<1.0	<1.0	<3.0
	7/15/2009	9.13	<1.0	<1.0	5.25	13.2
	11/19/2009	7.94	<1.0	<1.0	3.73	18.02
	1/26/2010	8.62	<1.0	<1.0	2.72	10.1
	4/9/2010	9.29	<1.0	<1.0	3.69	15.0
	7/1/2010	NA		WELL DESTROYED		
MW04	1/18/2008	9.90	<1.0	<1.0	<1.0	<2.0
	4/17/2008	11.13	34.5	5.81	<1.0	18.87
	7/18/2008	9.50	6.94	<1.0	<1.0	<3.0
	10/31/2008	9.04	<1.0	<1.0	<1.0	2.10
	1/6/2009	9.86	<1.0	<1.0	<1.0	<3.0
	4/9/2009	11.41	55.7	<1.0	<1.0	<3.0
	7/15/2009	9.89	13.9	<1.0	<1.0	1.62
	11/19/2009	9.09	<1.0	<1.0	<1.0	1.16
	1/26/2010	9.52	<1.0	<1.0	<1.0	<3.0
	4/9/2010	10.25	<1.0	<1.0	<1.0	<1.0
	7/1/2010	NA		WELL DESTROYED		
CDPHE WQCC Reg 41			5.0	560	700	1,400

NOTES:

btoc - below top of casing

µg/L - micrograms per liter

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

Bold indicates concentration exceeds the CGWQS Standard

Benzene, toluene, ethylbenzene, and xylenes were 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

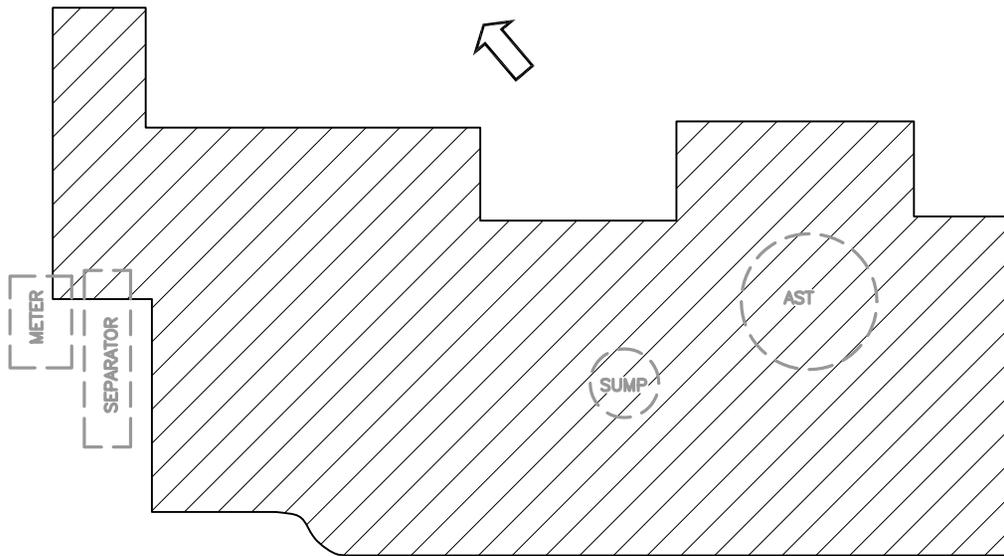


FIGURE

MW04

MW03

MW02



MW01

LEGEND

MW01  MONITORING WELL LOCATION

 EXCAVATION AREA

 ESTIMATED GROUNDWATER FLOW DIRECTION

SOURCE:
LTE SKETCH

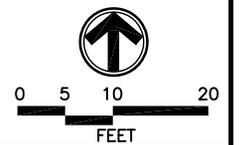


FIGURE 1
 MONITORING WELL LOCATION MAP
 STRONG 1, P21-2, 7, 8, 9, 10J, 16, 1JI, 2JI, 7JI
 TANK BATTERY
 WELD COUNTY, COLORADO
 NOBLE ENERGY, INC.



NEP072203

APPENDIX
ANALYTICAL REPORT

4/14/2010

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

Project Name- Noble - Strong
1,P-21-2,7,8,9,10J,16,1Jl, 2Jl, 7Jl

Project Number- NEP0722

Attached are your analytical results for Noble - Strong 1,P-21-2,7,8,9,10J,16,1Jl, 2Jl, 7Jl received by Origins Laboratory, Inc. April 9, 2010 2:30 pm. This project is associated with Origins project number X004069-01 .

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.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



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

Matthew Harrison
Project Number: NEP0722
Project: Noble - Strong
1P-21-278910116111 211 711

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW01	X004069-01	Water	4/9/2010 10:10:00AM	04/09/2010 14:30
MW02	X004069-02	Water	4/9/2010 10:20:00AM	04/09/2010 14:30
MW03	X004069-03	Water	4/9/2010 10:30:00AM	04/09/2010 14:30
MW04	X004069-04	Water	4/9/2010 10:40:00AM	04/09/2010 14:30

Origins Laboratory, Inc.



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.

Noelle E Doyle, Laboratory Manager

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

Matthew Harrison
Project Number: NEP0722
Project: Noble - Strong
1P-21-2.7.8.9.10.11.16.1JL. 2JL. 7JL

MW01

4/9/2010 10:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X004069-01 (Water)

BTEX by EPA 8260B

Benzene	ND	1.00	ug/L	1	OD11001	04/11/2010	04/12/2010	
Toluene	ND	1.00	"	"	"	"	"	
Ethylbenzene	ND	1.00	"	"	"	"	"	
Xylenes, total	ND	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	73.5-130			"	"	"	
Surrogate: Toluene-d8	94.6 %	79.3-113			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.5 %	81.5-117			"	"	"	

Origins Laboratory, Inc.



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Noelle E Doyle, Laboratory Manager

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

Matthew Harrison
Project Number: NEP0722
Project: Noble - Strong
1P-21-2.7.8.9.10.11.16.17. 2JL 7JL

MW02

4/9/2010 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X004069-02 (Water)

BTEX by EPA 8260B

Benzene	ND	1.00	ug/L	1	OD11001	04/11/2010	04/12/2010	
Toluene	ND	1.00	"	"	"	"	"	
Ethylbenzene	ND	1.00	"	"	"	"	"	
Xylenes, total	ND	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	99.3 %	73.5-130			"	"	"	
Surrogate: Toluene-d8	91.3 %	79.3-113			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.7 %	81.5-117			"	"	"	

Origins Laboratory, Inc.



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LT Environmental, Inc.
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Arvada CO 80003

Matthew Harrison
Project Number: NEP0722
Project: Noble - Strong
1P-21-2.7.8.9.10.11.16.17. 2JL 7JL

MW03

4/9/2010 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X004069-03 (Water)

BTEX by EPA 8260B

Benzene	ND	1.00	ug/L	1	OD11001	04/11/2010	04/12/2010	
Toluene	ND	1.00	"	"	"	"	"	
Ethylbenzene	3.69	1.00	"	"	"	"	"	
Xylenes, total	15.0	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	73.5-130			"	"	"	
Surrogate: Toluene-d8	89.2 %	79.3-113			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.6 %	81.5-117			"	"	"	

Origins Laboratory, Inc.



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Noelle E Doyle, Laboratory Manager

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

Matthew Harrison
Project Number: NEP0722
Project: Noble - Strong
1P-21-2.7.8.9.10.11.16.17. 2JL 7JL

MW04

4/9/2010 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X004069-04 (Water)

BTEX by EPA 8260B

Benzene	ND	1.00	ug/L	1	OD11001	04/11/2010	04/12/2010	
Toluene	ND	1.00	"	"	"	"	"	
Ethylbenzene	ND	1.00	"	"	"	"	"	
Xylenes, total	ND	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	100 %	73.5-130			"	"	"	
Surrogate: Toluene-d8	92.6 %	79.3-113			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.9 %	81.5-117			"	"	"	

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 4600 West 60th Avenue
 Arvada CO 80003

Matthew Harrison
 Project Number: NEP0722
 Project: Noble - Strong
 1P-21-2789101161JL 2JL 7JL

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 OD11001 - EPA 5030B

Blank (OD11001-BLK1)

Prepared: 04/11/2010 Analyzed: 04/11/2010

Benzene	ND	1.00	ug/L							
Toluene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
o-Xylene	ND	1.00	"							
m,p-Xylene	ND	2.00	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	66.6		"	62.5		106	73.5-130			
<i>Surrogate: Toluene-d8</i>	55.4		"	62.5		88.6	79.3-113			
<i>Surrogate: 4-Bromofluorobenzene</i>	58.6		"	62.5		93.8	81.5-117			

LCS (OD11001-BS1)

Prepared: 04/11/2010 Analyzed: 04/12/2010

Benzene	48.1	1.00	ug/L	50.0		96.2	77.3-128			
Toluene	45.3	1.00	"	50.0		90.6	81.7-118			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	64.2		"	62.5		103	73.5-130			
<i>Surrogate: Toluene-d8</i>	57.6		"	62.5		92.1	79.3-113			
<i>Surrogate: 4-Bromofluorobenzene</i>	58.8		"	62.5		94.1	81.5-117			

Matrix Spike (OD11001-MS1)

Source: X004076-01

Prepared: 04/11/2010 Analyzed: 04/12/2010

Benzene	49.9	1.00	ug/L	50.0	ND	99.8	74.5-132			
Toluene	47.8	1.00	"	50.0	0.87	93.9	74.2-116			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	64.8		"	62.5		104	73.5-130			
<i>Surrogate: Toluene-d8</i>	56.6		"	62.5		90.5	79.3-113			
<i>Surrogate: 4-Bromofluorobenzene</i>	58.4		"	62.5		93.4	81.5-117			

Matrix Spike Dup (OD11001-MSD1)

Source: X004076-01

Prepared: 04/11/2010 Analyzed: 04/12/2010

Benzene	48.6	1.00	ug/L	50.0	ND	97.1	74.5-132	2.72	13.1	
Toluene	46.1	1.00	"	50.0	0.87	90.4	74.2-116	3.66	21.2	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	64.5		"	62.5		103	73.5-130			
<i>Surrogate: Toluene-d8</i>	57.4		"	62.5		91.8	79.3-113			
<i>Surrogate: 4-Bromofluorobenzene</i>	60.4		"	62.5		96.6	81.5-117			

Origins Laboratory, Inc.



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Noelle E Doyle, Laboratory Manager

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4600 West 60th Avenue
Arvada CO 80003

Matthew Harrison
Project Number: NEP0722
Project: Noble - Strong
1P-21-2.7.8.9.10.11.16.17. 2JL. 7JL

Notes and Definitions

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

Origins Laboratory, Inc.



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