



GROUNDWATER MONITORING REPORT MAY 2009

STRONG 21-15JI

On May 13, 2009, LT Environmental, Inc. (LTE) conducted groundwater sampling on behalf of Noble Energy, Inc. (Noble) at the Strong 21-15JI Tank Battery (Site). This sampling event constitutes the second post remediation monitoring event at the 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 on January 30, 2009. A Site Map is presented on Figure 1.

Depth to groundwater, which ranged from 9.91 feet below top of casing (btoc) in MW03 to 10.33 feet btoc in MW01, 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.

Groundwater analytical results indicate BTEX concentrations at monitoring wells MW01, MW02, and MW03 were below laboratory detection limits and in compliance with the Colorado Department of Public Health and Environment Water Quality Control Commission Regulation 41 (WQCC Reg 41). Analytical results are summarized in Table 1. The laboratory analytical report is attached as an Appendix.

LTE will continue to conduct quarterly groundwater monitoring events with the goal of observing four consecutive quarters of analytical results in compliance with WQCC Reg 41. The next quarterly groundwater sampling event is scheduled for August 2009.



TABLE

TABLE 1

**GROUNDWATER ANALYTICAL DATA
STRONG 21-15JI TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

MONITORING		DEPTH TO	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
WELL	DATE	WATER (feet btoc)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW01	2/6/2009	9.84	<1.0	<1.0	<1.0	<3.0
	5/13/2009	10.33	<1.0	<1.0	<1.0	<3.0
MW02	2/6/2009	9.40	<1.0	<1.0	<1.0	<3.0
	5/13/2009	9.92	<1.0	<1.0	<1.0	<3.0
MW03	2/6/2009	9.39	<1.0	<1.0	<1.0	<3.0
	5/13/2009	9.91	<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

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

Commission Regulation 41 covering Basic Standards for Groundwater

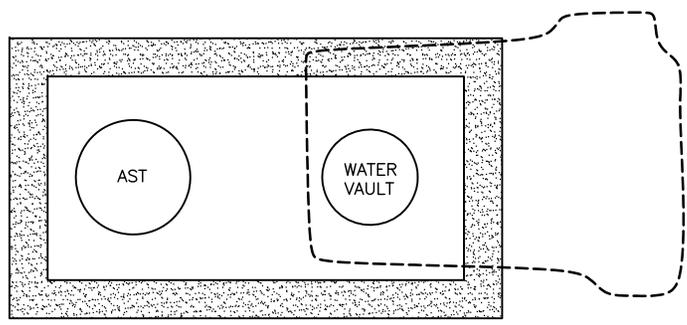
Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B



FIGURE



MW01 ⊗



MW03 ⊗
M
M

SEPARATOR

MW02 ⊗

FLARE

LEGEND

- MW01 ⊗ MONITORING WELL LOCATION
- M METER HOUSE
- BERM BERM
- EXTENT OF EXCAVATION
- ESTIMATED GROUNDWATER FLOW DIRECTION
- AST ABOVEGROUND STORAGE TANK

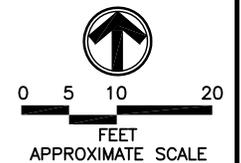


FIGURE 1
SITE MAP
STRONG 21-15 JI
WELD COUNTY, CO
NOBLE ENERGY, INC.



NEP083302

APPENDIX
ANALYTICAL REPORT



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303.433.1322 Phone 303.265.9645 Fax

May 19, 2009

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

Brian Dodek
Project Number: NEP0833.01
Project: Noble - Strong P-21-15JI, 23

Attached are the analytical results for Noble - Strong P-21-15JI, 23 received by Origins Laboratory, Inc. 5/13/2009 1:34:00PM. 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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23

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW01	X905049-01	Water	5/13/2009 11:10:00AM	05/13/2009 13:34
MW02	X905049-02	Water	5/13/2009 11:15:00AM	05/13/2009 13:34
MW03	X905049-03	Water	5/13/2009 11:20:00AM	05/13/2009 13:34

Origins Laboratory, Inc.

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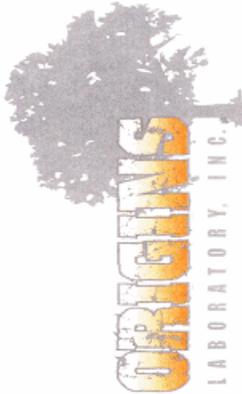
Noelle E Doyle, Laboratory Manager



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Brian Dodek
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 Project: Noble - Strong P-21-15JL,
 23

X905049
 page 1 of 1



originslaboratory.com

Client: LTE
 Address: _____
 Telephone Number: ON FILE
 E-Mail Address: _____
 Project Manager: BDD
 Project Name: STRONG 21-15JL
 Project Number: NEP0833
 Samples Collected by: LTE

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 #			Other	
MW01	5/13/09	1110	3		XX									
MW02	5/13/09	1115	1		XX									
MW03	5/13/09	1120	1		XX									
Relinquished by: <u>SED</u>	Date: 5/13/09	Time: 1334	Received by: <u>[Signature]</u>	Date: 5/13/09	Time: 1334	Received by: <u>[Signature]</u>	Date: 5/13/09	Time: 1334	Standard	Turn Around Time: 24-hr	48-hr	72-hr	Standard	Temperature Upon Receipt:

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MW01
X905049-01 (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	9E15003	05/15/2009	05/18/2009	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	
o-Xylene	ND	0.00100	"	"	"	"	"	
m,p-Xylene	ND	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	103 %	70.3-128			"	"	"	
Surrogate: Toluene-d8	104 %	78.8-125			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.9 %	75.5-131			"	"	"	

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MW02
X905049-02 (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	9E15003	05/15/2009	05/18/2009	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	
o-Xylene	ND	0.00100	"	"	"	"	"	
m,p-Xylene	ND	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	70.3-128			"	"	"	
Surrogate: Toluene-d8	103 %	78.8-125			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.8 %	75.5-131			"	"	"	

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MW03
X905049-03 (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	9E15003	05/15/2009	05/19/2009	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	
o-Xylene	ND	0.00100	"	"	"	"	"	
m,p-Xylene	ND	0.00200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	70.3-128			"	"	"	
Surrogate: Toluene-d8	103 %	78.8-125			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.2 %	75.5-131			"	"	"	

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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 9E15003 – EPA 5030B

Blank (9E15003-BLK1)

Prepared: 05/15/2009 Analyzed: 05/18/2009

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	63.8		ug/L	62.5		102	70.3-128			
<i>Surrogate: Toluene-d8</i>	62.4		"	62.5		99.8	78.8-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	65.0		"	62.5		104	75.5-131			

LCS (9E15003-BS1)

Prepared: 05/15/2009 Analyzed: 05/18/2009

Benzene	0.06	0.001	mg/L	0.0500		110	64.2-124			
Toluene	0.05	0.001	"	0.0500		108	63.9-119			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	64.6		ug/L	62.5		103	70.3-128			
<i>Surrogate: Toluene-d8</i>	64.2		"	62.5		103	78.8-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	60.4		"	62.5		96.7	75.5-131			

Matrix Spike (9E15003-MS1)

Source: X905049-02

Prepared: 05/15/2009 Analyzed: 05/18/2009

Benzene	0.06	0.001	mg/L	0.0500	ND	112	64.2-124			
Toluene	0.05	0.001	"	0.0500	ND	110	63.9-119			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	64.2		ug/L	62.5		103	70.3-128			
<i>Surrogate: Toluene-d8</i>	64.1		"	62.5		103	78.8-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	61.4		"	62.5		98.3	75.5-131			

Matrix Spike Dup (9E15003-MSD1)

Source: X905049-02

Prepared: 05/15/2009 Analyzed: 05/18/2009

Benzene	0.05	0.001	mg/L	0.0500	ND	106	64.2-124	5.47	25	
Toluene	0.05	0.001	"	0.0500	ND	98.8	63.9-119	10.6	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	60.1		ug/L	62.5		96.2	70.3-128			
<i>Surrogate: Toluene-d8</i>	63.6		"	62.5		102	78.8-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	59.5		"	62.5		95.1	75.5-131			

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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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