

GROUNDWATER MONITORING REPORT / NO FURTHER ACTION REQUEST JUNE 2010

SCHMIDT 30-11G, 12G

On May 19, 2010, LT Environmental, Inc. (LTE) conducted groundwater sampling on behalf of Noble Energy, Inc. (Noble), at the Schmidt 30-11G, 12G Tank Battery (Site). This sampling event constitutes the fifth post remediation monitoring event at the 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. The three monitoring wells, installed on April 14, 2009 (MW01, MW02, and MW03), were used to conduct groundwater sampling. A Site map is presented in Figure 1.

Depth to groundwater ranged from 5.76 feet below top of casing (btoc) in MW01 to 6.19 feet btoc in MW02 and was used to calculate well-specific purge volumes. Following purging, groundwater samples were collected and preserved on ice. Samples were submitted 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 below laboratory reporting limits and in compliance with 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, respectfully requests that the Colorado Oil and Gas Conservation Commission grant a No Further Action condition for the Schmidt 30-11G, 12G.

TABLE

TABLE 1

**GROUNDWATER ANALYTICAL DATA
SCHMIDT 30-11G, 12G TANK BATTERY 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)
MW01	4/28/2009	6.87	<1.0	<1.0	1.35	<3.0
	8/24/2009	3.18	<1.0	<1.0	<1.0	<3.0
	11/20/2009	7.59	<1.0	<1.0	<1.0	<3.0
	2/16/2010	9.39	<1.0	<1.0	<1.0	<3.0
	5/19/2010	5.76	<1.0	<1.0	<1.0	<1.0
MW02	4/28/2009	6.37	5.67	<1.0	<1.0	3.36
	8/24/2009	4.81	<1.0	<1.0	<1.0	<3.0
	11/20/2009	7.94	<1.0	<1.0	<1.0	<3.0
	2/16/2010	9.88	<1.0	<1.0	<1.0	<3.0
	5/19/2010	6.19	<1.0	<1.0	<1.0	<1.0
MW03	4/28/2009	6.23	<1.0	<1.0	<1.0	<3.0
	8/24/2009	5.21	3.55	<1.0	36.5	1.295
	11/20/2009	7.61	<1.0	<1.0	<1.0	<3.0
	2/16/2010	9.17	<1.0	<1.0	<1.0	<3.0
	5/19/2010	6.01	<1.0	<1.0	<1.0	<1.0
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 reporting limit

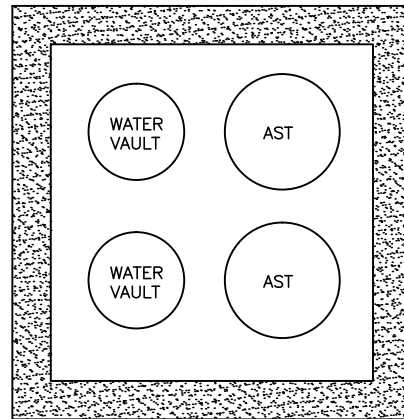
BOLD - indicates result is above the applicable standard

CDPHE WQCC Reg 41 - Colorado Department of Public Health and Environment - Water Quality Control
Commission Regulation 41 covering Basic Standards for Groundwater



FIGURE

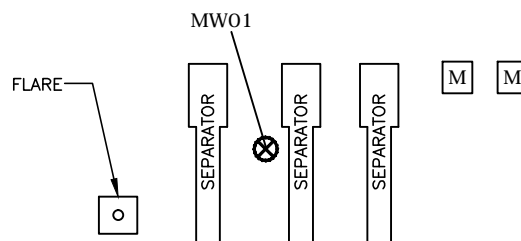
MW03



MW02



LEASE ROAD



LEGEND

MW01  MONITORING WELL LOCATION

 METER HOUSE

 BERM

 ESTIMATED GROUNDWATER FLOW DIRECTION

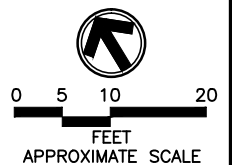


FIGURE 1
SITE MAP
SCHMIDT 30-11G, 12G
WELD COUNTY, CO
NOBLE ENERGY, INC.



APPENDIX
ANALYTICAL REPORT



5/23/2010

LT Environmental, Inc.

Matthew Harrison

4600 West 60th Avenue

Arvada

CO

80003

Project Name- Noble - Schmidt 30-11G, 12G

Project Number- NEP0902

Attached are your analytical results for Noble - Schmidt 30-11G, 12G received by Origins Laboratory, Inc. May 19, 2010 4:10 pm. This project is associated with Origins project number X005119-01 .

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: NEP0902
Project: Noble - Schmidt 30-11G, 12G

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
MW01	X005119-01	Water	5/19/2010 2:35:00PM	05/19/2010 16:10
MW02	X005119-02	Water	5/19/2010 2:45:00PM	05/19/2010 16:10
MW03	X005119-03	Water	5/19/2010 3:00:00PM	05/19/2010 16:10

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: NEP0902
Project: Noble - Schmidt 30-11G, 12G

www.originslaboratory.com

X005119

page 1 of 1

ORIGINS
LABORATORY, INC

Client: LTE
Address:
Telephone Number:
Email Address:

Project Manager: M. Harrison
Project Name: Schmidt 30-11G, 12G
Project Number: NEP0902
Samples Collected By: D. Burns

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #				
MW01	5/19/10	1435	2	X	X									1
MW02	↓	1445	2	X	X									2
MW03	↓	1500	2	X	X									3
														4
														5
														6
														7
														8
														9
														10

Relinquished By: [Signature] Date: 5/19/10 Time: 11:10
Relinquished By: [Signature] Date: 5/19/10 Time: 11:10

Turnaround Time: Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☒ Standard

Data Result Manual

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

[Signature]

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Noelle E Doyle, Laboratory Manager

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

Matthew Harrison
Project Number: NEP0902
Project: Noble - Schmidt 30-11G, 12G

MW01

5/19/2010 2:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X005119-01 (Water)

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	OE21001	05/21/2010	05/21/2010
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
Xylenes, total	ND	0.00100	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	112 %	73.5-130	"	"	"
Surrogate: Toluene-d8	85.8 %	79.3-113	"	"	"
Surrogate: 4-Bromofluorobenzene	91.3 %	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: NEP0902
Project: Noble - Schmidt 30-11G, 12G

MW02

5/19/2010 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X005119-02 (Water)

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	OE21001	05/21/2010	05/21/2010
Toluene	ND	0.00100	"	"	"	"	"
Ethylbenzene	ND	0.00100	"	"	"	"	"
Xylenes, total	ND	0.00100	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	112 %	73.5-130	"	"	"
Surrogate: Toluene-d8	87.3 %	79.3-113	"	"	"
Surrogate: 4-Bromofluorobenzene	91.0 %	81.5-117	"	"	"

Origins Laboratory, Inc.



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

Matthew Harrison
Project Number: NEP0902
Project: Noble - Schmidt 30-11G, 12G

MW03

5/19/2010 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X005119-03 (Water)

BTEX by EPA 8260B

Benzene	ND	0.00100	mg/L	1	OE21001	05/21/2010	05/21/2010	
Toluene	ND	0.00100	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	
Xylenes, total	ND	0.00100	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	113 %	73.5-130			"	"	"	
Surrogate: Toluene-d8	86.8 %	79.3-113			"	"	"	
Surrogate: 4-Bromofluorobenzene	92.4 %	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: NEP0902
Project: Noble - Schmidt 30-11G, 12G

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 OE21001 - EPA 5030B

Blank (OE21001-BLK1)

Prepared: 05/21/2010 Analyzed: 05/21/2010

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	69.2	ug/L	62.5	111	73.5-130
Surrogate: Toluene-d8	54.4	"	62.5	87.0	79.3-113
Surrogate: 4-Bromofluorobenzene	56.7	"	62.5	90.7	81.5-117

Blank (OE21001-BLK2)

Prepared: 05/21/2010 Analyzed: 05/21/2010

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	71.6	ug/L	62.5	114	73.5-130
Surrogate: Toluene-d8	55.6	"	62.5	89.0	79.3-113
Surrogate: 4-Bromofluorobenzene	59.3	"	62.5	94.9	81.5-117

LCS (OE21001-BS1)

Prepared: 05/21/2010 Analyzed: 05/21/2010

Benzene	0.05	0.001	mg/L	0.0500	95.1	77.3-128
Toluene	0.04	0.001	"	0.0500	84.3	81.7-118

Surrogate: 1,2-Dichloroethane-d4	68.6	ug/L	62.5	110	73.5-130
Surrogate: Toluene-d8	52.9	"	62.5	84.7	79.3-113
Surrogate: 4-Bromofluorobenzene	55.4	"	62.5	88.6	81.5-117

LCS (OE21001-BS2)

Prepared: 05/21/2010 Analyzed: 05/21/2010

Benzene	0.05	0.001	mg/L	0.0500	97.1	77.3-128
Toluene	0.04	0.001	"	0.0500	88.2	81.7-118

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Project: Noble - Schmidt 30-11G, 12G

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 OE21001 - EPA 5030B										
LCS (OE21001-BS2)					Prepared: 05/21/2010 Analyzed: 05/21/2010					
Surrogate: 1,2-Dichloroethane-d4	72.5		ug/L	62.5		116	73.5-130			
Surrogate: Toluene-d8	53.4		"	62.5		85.5	79.3-113			
Surrogate: 4-Bromofluorobenzene	55.6		"	62.5		88.9	81.5-117			
Matrix Spike (OE21001-MS1)					Source: X005118-01		Prepared: 05/21/2010 Analyzed: 05/21/2010			
Benzene	0.05	0.001	mg/L	0.0500	ND	98.4	74.5-132			
Toluene	0.04	0.001	"	0.0500	ND	88.8	74.2-116			
Surrogate: 1,2-Dichloroethane-d4	70.2		ug/L	62.5		112	73.5-130			
Surrogate: Toluene-d8	54.0		"	62.5		86.5	79.3-113			
Surrogate: 4-Bromofluorobenzene	56.3		"	62.5		90.0	81.5-117			
Matrix Spike (OE21001-MS2)					Source: X005118-02		Prepared: 05/21/2010 Analyzed: 05/21/2010			
Benzene	0.05	0.001	mg/L	0.0500	ND	102	74.5-132			
Toluene	0.04	0.001	"	0.0500	ND	87.3	74.2-116			
Surrogate: 1,2-Dichloroethane-d4	73.0		ug/L	62.5		117	73.5-130			
Surrogate: Toluene-d8	54.6		"	62.5		87.3	79.3-113			
Surrogate: 4-Bromofluorobenzene	57.0		"	62.5		91.1	81.5-117			
Matrix Spike Dup (OE21001-MSD1)					Source: X005118-01		Prepared: 05/21/2010 Analyzed: 05/21/2010			
Benzene	0.05	0.001	mg/L	0.0500	ND	100	74.5-132	1.69	13.1	
Toluene	0.04	0.001	"	0.0500	ND	88.0	74.2-116	0.837	21.2	
Surrogate: 1,2-Dichloroethane-d4	73.9		ug/L	62.5		118	73.5-130			
Surrogate: Toluene-d8	53.9		"	62.5		86.2	79.3-113			
Surrogate: 4-Bromofluorobenzene	57.1		"	62.5		91.3	81.5-117			
Matrix Spike Dup (OE21001-MSD2)					Source: X005118-02		Prepared: 05/21/2010 Analyzed: 05/21/2010			
Benzene	0.05	0.001	mg/L	0.0500	ND	101	74.5-132	0.887	13.1	
Toluene	0.04	0.001	"	0.0500	ND	86.7	74.2-116	0.666	21.2	
Surrogate: 1,2-Dichloroethane-d4	73.9		ug/L	62.5		118	73.5-130			
Surrogate: Toluene-d8	53.6		"	62.5		85.7	79.3-113			
Surrogate: 4-Bromofluorobenzene	56.2		"	62.5		89.9	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: NEP0902
Project: Noble - Schmidt 30-11G, 12G

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 OE21001 - EPA 5030B

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: NEP0902
Project: Noble - Schmidt 30-11G, 12G

Notes and Definitions

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

Origins Laboratory, Inc.



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Noelle E Doyle, Laboratory Manager