



GROUNDWATER MONITORING REPORT JANUARY 2015

STATE 16-1614 FLOW LINE COGCC REMEDIATION #8264

LT Environmental, Inc. (LTE), under the direction of Noble Energy, Inc. (Noble), conducted groundwater monitoring activities at the State 16-1614 Flow Line (Site). The Site is located on the north side of County Road 44 approximately 0.35 miles west of County Road 55 in Weld County, Colorado. The legal site description is the southwest quarter of the southeast quarter of Section 16, Township 4 North, Range 64 West, 6th Principal Meridian. The Site Location Map is provided as Figure 1. The site history and remediation activities were described in preceding reports.

On January 22, 2014, five soil borings (SB01 through SB05) were advanced and completed as temporary monitoring wells. On February 19 and April 21, 2014, seven monitoring wells (SB06 through SB12) were installed to delineate the potential extent of dissolved-phase petroleum hydrocarbon impact at the Site. On September 16, 2014, monitoring well SB13 was installed to establish a point of compliance monitoring well southwest of the previously excavated area.

On January 21, 2015, under the direction of Noble, LTE personnel conducted groundwater monitoring activities in 13 monitoring wells (SB01 through SB13). Prior to purging, depth to groundwater was measured and recorded for calculating well-specific target purge volumes and groundwater elevations. Depth to groundwater ranged from 5.95 feet below top of casing (btoc) in monitoring well SB02 to 8.25 feet btoc in monitoring well SB13. Groundwater was calculated to flow north with an average hydraulic gradient of 0.012 feet per foot. Groundwater elevations are provided on Figure 2 and summarized in Table 1. Following purging, groundwater samples were collected, placed on ice, then submitted with a completed chain of custody form to Origins Laboratory, Inc. of Denver, Colorado, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency Method 8260C.

The Colorado Department of Public Health and Environment-Water Quality Control Commission has established Regulation 41-The Basic Standards for Ground Water (WQCC Reg 41) for BTEX at 5.0 micrograms per liter ($\mu\text{g/L}$), 560 $\mu\text{g/L}$, 700 $\mu\text{g/L}$, and 1,400 $\mu\text{g/L}$, respectively. Laboratory groundwater analytical results indicated monitoring well SB02 exceeded the WQCC Reg 41 standard for benzene at a concentration of 248 $\mu\text{g/L}$. All remaining analytical results were in compliance with applicable WQCC Reg 41 standards. Groundwater analytical results are presented on Figure 3 and summarized in Table 1. The laboratory groundwater analytical report is attached.

The excavation confirmation soil samples, in conjunction with the laboratory analytical results of soil samples collected from the monitoring well installations, indicated that all impacted soil has been removed. Laboratory groundwater analytical results indicated monitoring well SB02 exceeded the WQCC Reg 41 standard for benzene at a concentration of 248 $\mu\text{g/L}$. Groundwater remediation efforts will be described in future correspondence. LTE, under the direction of Noble,

will continue to conduct quarterly groundwater monitoring with the goal of obtaining four consecutive quarters with laboratory analytical results in compliance with applicable WQCC Reg 41 standards. The next quarterly groundwater monitoring event is scheduled for April 2015.

FIGURES

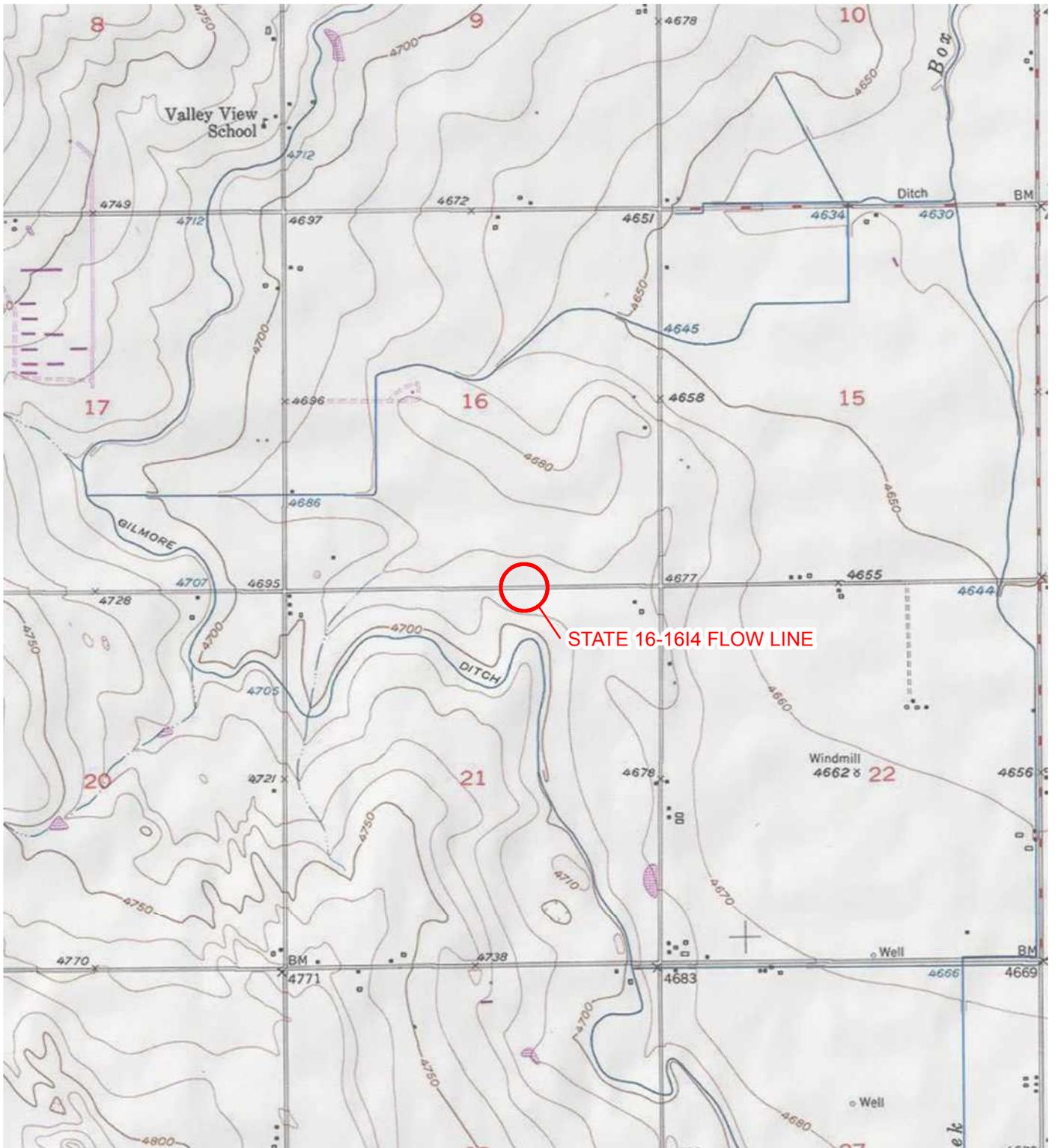


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION

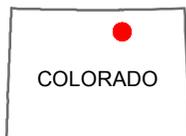
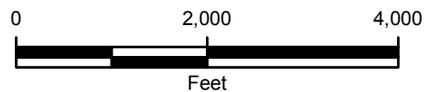
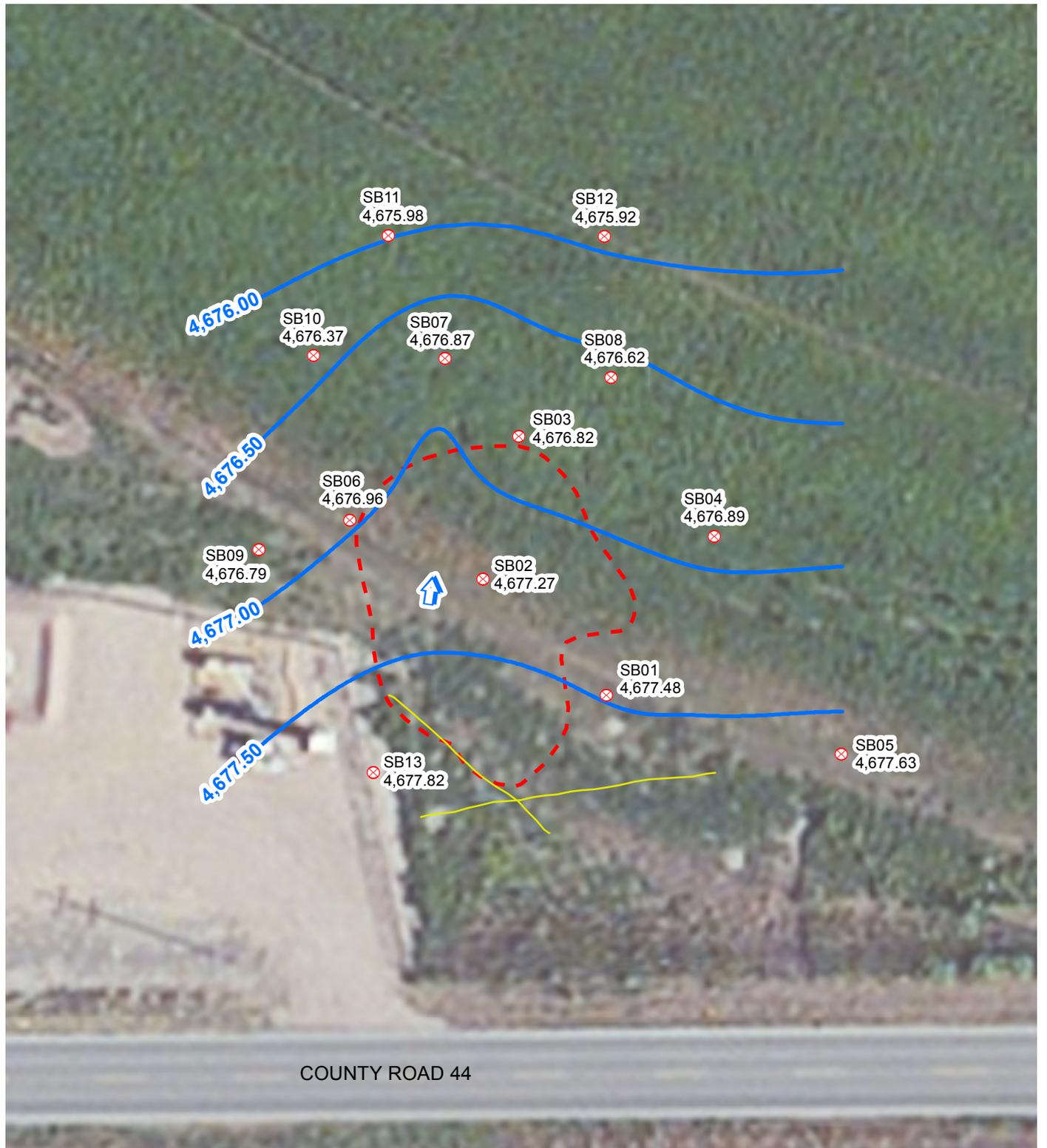


FIGURE 1
SITE LOCATION MAP
STATE 16-1614 FLOW LINE
WELD COUNTY, COLORADO



NOBLE ENERGY, INC.



LEGEND

- MONITORING WELL
- CALCULATED GROUNDWATER FLOW DIRECTION
- FLOW LINE
- EXCAVATION EXTENT
- GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 0.50 FEET
GRADIENT = 0.012 FEET/FOOT

IMAGE COURTESY OF ESRI

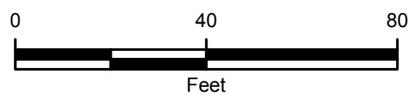
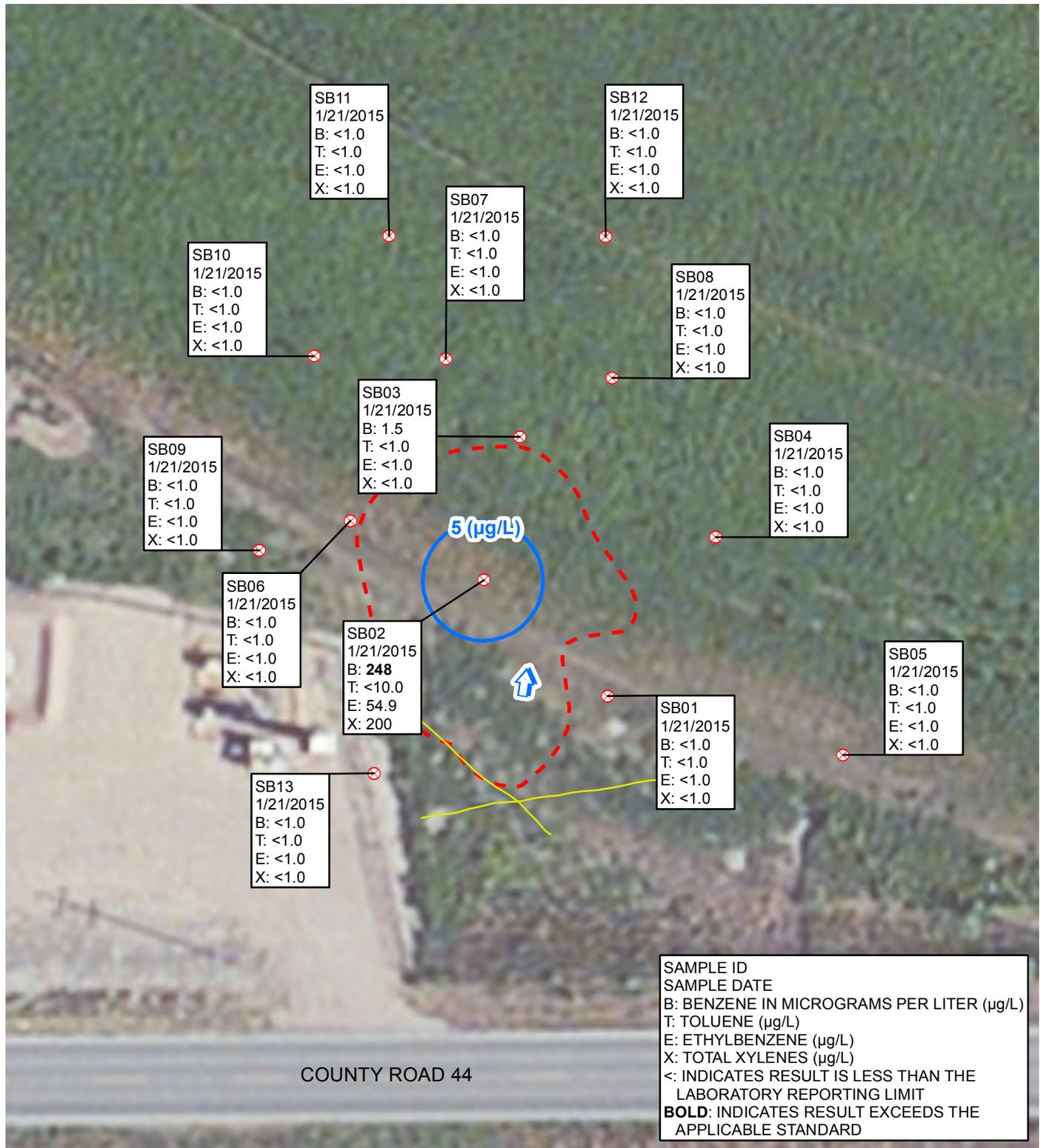


FIGURE 2
GROUNDWATER ELEVATION MAP
STATE 16-1614 FLOW LINE
JANUARY 21, 2015
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.





LEGEND

- MONITORING WELL
- CALCULATED GROUNDWATER FLOW DIRECTION
- FLOW LINE
- BENZENE ISOCONCENTRATION CONTOUR
- EXCAVATION EXTENT

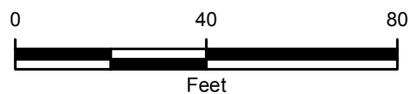


FIGURE 3
GROUNDWATER ANALYTICAL RESULTS
STATE 16-1614 FLOW LINE
JANUARY 21, 2015
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.



TABLES

TABLE 1

**GROUNDWATER ANALYTICAL RESULTS
STATE 16-1614 FLOW LINE
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

Monitoring Well	Date	Depth to Water (feet btoc)	Groundwater Elevation * (feet AMSL)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
SB01	1/29/2014	6.05	4,677.58	<4.0	<4.0	<4.0	<4.0
	4/24/2014	6.23	4,677.40	<1.0	<1.0	<1.0	<1.0
	7/21/2014	5.75	4,677.88	<1.0	<1.0	<1.0	<1.0
	10/16/2014	6.10	4,677.53	<1.0	<1.0	<1.0	<1.0
	1/21/2015	6.15	4,677.48	<1.0	<1.0	<1.0	<1.0
SB02	1/29/2014	5.75	4,677.47	109	172	14.6	155
	4/24/2014	5.85	4,677.37	444	6.7	43.1	352
	7/21/2014	5.80	4,677.42	500	<4.0	76.0	230
	10/16/2014	6.00	4,677.22	580	13.9	89.2	265
	1/21/2015	5.95	4,677.27	248	<10.0	54.9	200
SB03	1/29/2014	5.45	4,677.72	262	<4.0	<4.0	9.4
	4/24/2014	6.18	4,676.99	53.7	<2.0	<2.0	<2.0
	7/21/2014	6.00	4,677.17	194	<1.0	5.7	<1.0
	10/16/2014	6.25	4,676.92	35.3	<1.0	<1.0	<1.0
	1/21/2015	6.35	4,676.82	1.5	<1.0	<1.0	<1.0
SB04	1/29/2014	6.06	4,677.19	<4.0	<4.0	<4.0	<4.0
	4/24/2014	6.00	4,677.25	<1.0	<1.0	<1.0	<1.0
	7/28/2014	5.91	4,677.34	<1.0	<1.0	<1.0	<1.0
	10/16/2014	6.33	4,676.92	<1.0	<1.0	<1.0	<1.0
	1/21/2015	6.36	4,676.89	<1.0	<1.0	<1.0	<1.0
SB05	1/29/2014	5.68	4,677.91	<4.0	<4.0	<4.0	<4.0
	4/24/2014	5.92	4,677.67	<1.0	<1.0	<1.0	<1.0
	7/28/2014	5.66	4,677.93	<1.0	<1.0	<1.0	<1.0
	10/16/2014	5.96	4,677.63	<1.0	<1.0	<1.0	<1.0
	1/21/2015	5.96	4,677.63	<1.0	<1.0	<1.0	<1.0
SB06	3/19/2014	5.19	4,678.08	33.6	<4.0	<4.0	<4.0
	4/24/2014	6.21	4,677.06	180	<1.0	<1.0	6.4
	7/21/2014	5.92	4,677.35	159	<1.0	6.8	<1.0
	10/16/2014	6.30	4,676.97	<1.0	<1.0	<1.0	<1.0
	1/21/2015	6.31	4,676.96	<1.0	<1.0	<1.0	<1.0
SB07	3/19/2014	5.20	4,677.90	245	<4.0	41.8	<4.0
	4/24/2014	6.40	4,676.70	228	<2.0	62.7	409
	7/28/2014	6.00	4,677.10	1.5	<1.0	36.6	<1.0
	10/16/2014	6.48	4,676.62	1.4	<1.0	<1.0	<1.0
	1/21/2015	6.23	4,676.87	<1.0	<1.0	<1.0	<1.0

TABLE 1 (Continued)

GROUNDWATER ANALYTICAL RESULTS
STATE 16-1614 FLOW LINE
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water (feet btoc)	Groundwater Elevation * (feet AMSL)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
SB08	3/19/2014	5.39	4,677.94	<4.0	<4.0	<4.0	<4.0
	4/24/2014	6.60	4,676.73	<1.0	<1.0	<1.0	<1.0
	7/28/2014	6.21	4,677.12	<1.0	<1.0	<1.0	<1.0
	10/16/2014	6.68	4,676.65	12.3	<1.0	<1.0	<1.0
	1/21/2015	6.71	4,676.62	<1.0	<1.0	<1.0	<1.0
SB09	4/24/2014	6.15	4,677.15	<1.0	<1.0	<1.0	<1.0
	7/21/2014	5.85	4,677.45	<1.0	<1.0	<1.0	<1.0
	10/16/2014	6.48	4,676.82	<1.0	<1.0	<1.0	<1.0
	1/21/2015	6.51	4,676.79	<1.0	<1.0	<1.0	<1.0
SB10	4/24/2014	6.43	4,676.63	<1.0	<1.0	<1.0	<1.0
	7/21/2014	5.94	4,677.12	<1.0	<1.0	<1.0	<1.0
	10/16/2014	6.60	4,676.46	<1.0	<1.0	<1.0	<1.0
	1/21/2015	6.69	4,676.37	<1.0	<1.0	<1.0	<1.0
SB11	4/24/2014	6.61	4,676.27	6.0	<1.0	<1.0	6.0
	7/21/2014	5.96	4,676.92	<1.0	<1.0	<1.0	47.2
	10/16/2014	6.85	4,676.03	<1.0	<1.0	<1.0	7.0
	1/21/2015	6.90	4,675.98	<1.0	<1.0	<1.0	<1.0
SB12	4/24/2014	6.40	4,682.72	<1.0	<1.0	<1.0	<1.0
	7/21/2014	6.02	4,676.32	<1.0	<1.0	<1.0	<1.0
	10/16/2014	6.80	4,676.70	<1.0	<1.0	<1.0	<1.0
	1/21/2015	6.82	4,675.92	<1.0	<1.0	<1.0	<1.0
SB13	10/16/2014	8.18	4,681.09	<1.0	<1.0	<1.0	<1.0
	1/21/2015	8.25	4,681.02	<1.0	<1.0	<1.0	<1.0
CDPHE WQCC Reg 41				5.0	560	700	1,400

NOTES:

AMSL - above mean sea level

btoc - below top of casing

µg/L - micrograms per liter

< - indicates result is less than the stated laboratory reporting limit

NM - not measured

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260C

BOLD indicates result exceeds the applicable standard

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

Regulation 41-The Basic Standards for Ground Water

* - groundwater elevations prior to the July 2014 monitoring event were relative to a 100-foot benchmark

ATTACHMENT
LABORATORY ANALYTICAL REPORT



January 26, 2015

LT Environmental, Inc.

Charles Greeson

4600 West 60th Avenue

Arvada CO 80003

Project Name - Noble - State 16-1614

Project Number - 008313110

Attached are your analytical results for Noble - State 16-1614 received by Origins Laboratory, Inc. January 21, 2015. This project is associated with Origins project number X501215-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

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



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

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

Charles Greeson
Project Number: 008313110
Project: Noble - State 16-1614

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01	X501215-01	Water	January 21, 2015 12:00	01/21/2015 13:40
SB02	X501215-02	Water	January 21, 2015 13:00	01/21/2015 13:40
SB03	X501215-03	Water	January 21, 2015 12:55	01/21/2015 13:40
SB04	X501215-04	Water	January 21, 2015 12:05	01/21/2015 13:40
SB05	X501215-05	Water	January 21, 2015 12:10	01/21/2015 13:40
SB06	X501215-06	Water	January 21, 2015 12:15	01/21/2015 13:40
SB07	X501215-07	Water	January 21, 2015 12:20	01/21/2015 13:40
SB08	X501215-08	Water	January 21, 2015 12:50	01/21/2015 13:40
SB09	X501215-09	Water	January 21, 2015 12:25	01/21/2015 13:40
SB10	X501215-10	Water	January 21, 2015 12:30	01/21/2015 13:40

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.

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

Charles Greeson
Project Number: 008313110
Project: Noble - State 16-1614

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB11	X501215-11	Water	January 21, 2015 12:35	01/21/2015 13:40
SB12	X501215-12	Water	January 21, 2015 12:40	01/21/2015 13:40
SB13	X501215-13	Water	January 21, 2015 12:45	01/21/2015 13:40

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.

Jen Pellegrini For Noelle Doyle Mathis, President

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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

www.originslaboratory.com

page 1 of 2



XSOI2S

Client: LTE
 Project Manager: Charles Greeson
 Project Name: State 16-1614
 Project Number: 008313110
 Samples Collected By: Jason Evangelista
 Telephone Number: _____
 Email Address: Cgreeson@Lternv.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other	BTEX		Other
SB01	12/11/15	1200	3	X				X						Lab Filter
SB02		1300												
SB03		1255												
SB04		1205												
SB05		1216												
SB06		1215												
SB07		1220												
SB08		1250												
SB09		1225												
SB10		1230												
Relinquished By:				Time:	Date:	Received By:	Received By:	Received By:	Received By:	Date:	Date:	Time:	Time:	Turnaround Time:
				13:40	12/11/15					12/21/15	13:46			Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>

Temp Received: 5.5 Date Results Needed

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.

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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: X501215

Client: LTE

Client Project ID: State 16-1614

Checklist Completed by: Jeff Smith

Shipped Via: H/D
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 1/21/15

Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1 / 5.5 °C / _____ °C / _____ °C (Describe) _____ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? if yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		X		
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the Case narrative.

[Signature]
 Reviewed by (Project Manager) 01-22-15/1605
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature: Jen Pellegrini]

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.

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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB01

1/21/2015 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	107 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	95.4 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	88.6-111			"	"	"	

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.

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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB02

1/21/2015 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-02 (Water)

BTEX by EPA 8260C

Benzene	248	10.0	ug/L	10	5A23007	01/23/2015	01/23/2015	
Toluene	ND	10.0	"	"	"	"	"	
Ethylbenzene	54.9	10.0	"	"	"	"	"	
Xylenes, total	200	10.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	101 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.1 %	88.6-111			"	"	"	

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.

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

Charles Greeson
Project Number: 008313110
Project: Noble - State 16-1614

SB03

1/21/2015 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-03 (Water)

BTEX by EPA 8260C

Benzene	1.5	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	107 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.8 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.4 %	88.6-111			"	"	"	

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.

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

Charles Greeson
Project Number: 008313110
Project: Noble - State 16-1614

SB04

1/21/2015 12:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	96.2 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.6 %	88.6-111			"	"	"	

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.

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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB05

1/21/2015 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-05 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	101 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	96.5 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.4 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB06

1/21/2015 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-06 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	103 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.9 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
Project Number: 008313110
Project: Noble - State 16-1614

SB07

1/21/2015 12:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-07 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.6 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB08

1/21/2015 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-08 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	108 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	95.8 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.0 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
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Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB09

1/21/2015 12:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-09 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	96.5 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB10

1/21/2015 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-10 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	107 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	94.4 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.1 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB11

1/21/2015 12:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-11 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	103 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	98.8 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB12

1/21/2015 12:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-12 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	109 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.0 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.6 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

SB13

1/21/2015 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X501215-13 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5A23007	01/23/2015	01/23/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	110 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	98.3 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.6 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

Volatile Organic Compounds by GC/MS SW846 8260C - 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 5A23007 - EPA 5030B (Water)

Blank (5A23007-BLK1)

Prepared: 01/23/2015 Analyzed: 01/23/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5	109		87.3-113			
Surrogate: Toluene-d8	61		"	62.5	97.5		90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.7		88.6-111			

Origins Laboratory, Inc.



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

Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

Volatile Organic Compounds by GC/MS SW846 8260C - 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 5A23007 - EPA 5030B (Water)

LCS (5A23007-BS1)

Prepared: 01/23/2015 Analyzed: 01/23/2015

Benzene	48.0	1.0	ug/L	50.0		96.0	75-126			
Toluene	43.8	1.0	"	50.0		87.6	78.7-126			
Ethylbenzene	43.7	1.0	"	50.0		87.4	80-130			
m,p-Xylene	84.4	2.0	"	100		84.4	77.2-133			
o-Xylene	44.0	1.0	"	50.0		87.9	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	87.3-113			
Surrogate: Toluene-d8	59		"	62.5		95.1	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.1	88.6-111			

Origins Laboratory, Inc.



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LT Environmental, Inc.
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Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

Volatile Organic Compounds by GC/MS SW846 8260C - 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 5A23007 - EPA 5030B (Water)

Matrix Spike (5A23007-MS1)	Source: X501215-01			Prepared: 01/23/2015 Analyzed: 01/23/2015						
Benzene	50.0	1.0	ug/L	50.0	0.1	99.8	74-130			
Toluene	48.0	1.0	"	50.0	0.09	95.7	73-131			
Ethylbenzene	48.9	1.0	"	50.0	ND	97.8	76-132			
m,p-Xylene	94.4	2.0	"	100	ND	94.4	69-139			
o-Xylene	47.9	1.0	"	50.0	ND	95.8	74-131			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		98.5	90.9-108			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	88.6-111			

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LT Environmental, Inc.
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Charles Greeson
 Project Number: 008313110
 Project: Noble - State 16-1614

Volatile Organic Compounds by GC/MS SW846 8260C - 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 5A23007 - EPA 5030B (Water)

Matrix Spike Dup (5A23007-MSD1)	Source: X501215-01			Prepared: 01/23/2015 Analyzed: 01/23/2015						
Benzene	49.3	1.0	ug/L	50.0	0.1	98.4	74-130	1.47	20	
Toluene	48.5	1.0	"	50.0	0.09	96.9	73-131	1.16	20	
Ethylbenzene	48.6	1.0	"	50.0	ND	97.2	76-132	0.615	20	
m,p-Xylene	97.2	2.0	"	100	ND	97.2	69-139	2.92	20	
o-Xylene	47.2	1.0	"	50.0	ND	94.4	74-131	1.45	20	
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	87.3-113			
Surrogate: Toluene-d8	60		"	62.5		96.4	90.9-108			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	88.6-111			

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

Charles Greeson
Project Number: 008313110
Project: Noble - State 16-1614

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President