



GROUNDWATER MONITORING AND MONITORING WELL INSTALLATION REPORT APRIL 2014

STATE 16-16I4 FLOW LINE COGCC REMEDIATION #8264

LT Environmental, Inc. (LTE), under the direction of Noble Energy, Inc. (Noble), installed post-remediation groundwater monitoring wells and conducted groundwater monitoring activities at the State 16-16I4 Flow Line (Site). The Site is located approximately 0.4 miles west of the intersection of County Road 44 and 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. Site history and remediation activities were described in preceding reports.

Monitoring Well Installation

LTE personnel, under the direction of Noble, were on site February 19 and April 21, 2014, to install a total of seven monitoring wells (SB06 through SB12) to delineate the potential extent of dissolved-phase petroleum hydrocarbon impact at the Site. The soil borings were advanced using a direct-push drill rig operated by Site Services Drilling, LLC of Golden, Colorado. The monitoring wells were constructed of 1-inch diameter polyvinyl chloride (PVC) casing extending from the surface stickups to depths to approximately 12 feet below ground surface (bgs). The lower 10 feet of each monitoring well consists of 0.010-inch factory-slotted PVC well screen. Silica sand was placed from the bottom of each soil boring to one foot above the screened interval to act as filter pack for the monitoring well. Bentonite chips were placed from the top of the silica sand to the ground surface and hydrated to provide a seal against surface contamination and precipitation infiltration. Monitoring well locations are depicted on Figure 2. The Well Completion Diagrams are included as Attachment 1. There was slight staining in SB12 from ground surface to two feet bgs. There was no staining, odor, or elevated photo-ionization detector (PID) readings observed in any of the remaining soil borings.

Soil Sampling

During monitoring well installation, soil samples were collected for laboratory analysis based on the sample interval that exhibited visible soil staining or where the highest PID reading was observed above the groundwater saturated zone. On February 19, 2014, three soil samples (SB06@4', SB07@4', and SB08@4') were collected, placed on ice, then submitted with a complete chain of custody form to Origins Laboratory, Inc. of Denver, Colorado (Origins), for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), naphthalene, and total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) by United States Environmental Protection Agency (EPA) Method 8260C and TPH as diesel range organics (DRO) by EPA Method 8015C. On April 21, 2014, four soil samples (SB09@4.5', SB10@4.5', SB11@4.5', and SB12@2') were collected, placed on ice, then submitted with a complete chain

of custody form to Summit Scientific in Golden, Colorado, for analysis of BTEX, naphthalene, and TPH as GRO by EPA Method 8260B and TPH as DRO by EPA Method 8015.

Groundwater Sampling

Three monitoring wells, SB06 through SB08, were sampled on March 19, 2014 to verify point-of-compliance. Following the installation of monitoring wells SB09 through SB12 on April 21, 2014, all twelve monitoring wells (SB01 through SB12) were sampled on April 24, 2014. Prior to purging, depth to groundwater was measured and recorded for calculating well-specific target purge volumes and relative groundwater elevations. Following well development and purging, groundwater samples were collected, placed on ice, then submitted with a complete chain of custody form to Origins for analysis of BTEX by EPA Method 8260C.

Hydrogeology

During the April 2014 monitoring event, depth to groundwater ranged from 5.85 feet below top of casing (btoc) in monitoring well SB02 to 6.61 feet btoc in monitoring well SB11. Groundwater was calculated to flow generally northwest with an average hydraulic gradient of 0.007 feet per foot. The Relative Groundwater Elevation Map is provided as Figure 3.

Soil Analytical Results

The Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 standards for BTEX, naphthalene, and TPH in soil are 0.17 milligrams per kilogram (mg/kg), 85 mg/kg, 100 mg/kg, 175 mg/kg, 23 mg/kg, and 500 mg/kg, respectively. Soil analytical results indicate all soil samples are in compliance with applicable COGCC Table 910-1 standards. The soil analytical results are presented on Figure 4 and summarized in Table 1. The laboratory soil analytical report is included as Attachment 2.

Groundwater Analytical Results

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. The March 2014 groundwater analytical results indicated monitoring wells SB06 and SB07 exceeded WQCC Reg 41 for benzene at concentrations of 33.6 $\mu\text{g/L}$ and 245 $\mu\text{g/L}$, respectively. Groundwater analytical results for April 2014 indicated monitoring wells SB02, SB03, SB06, SB07, and SB11 exceeded WQCC Reg 41 for benzene at concentrations of 444 $\mu\text{g/L}$, 53.7 $\mu\text{g/L}$, 180 $\mu\text{g/L}$, 228 $\mu\text{g/L}$, and 6.0 $\mu\text{g/L}$, respectively. All remaining samples were in compliance with applicable WQCC Reg 41 standards. Groundwater analytical results are presented on Figure 5 and summarized in Table 2 along with the current estimated benzene groundwater plume. The laboratory groundwater analytical reports are included as Attachment 2.

Summary and Conclusions

The excavation activities, in conjunction with the laboratory analytical results of soil samples collected from the monitoring well installations, indicated that all impacted soil has been removed. Groundwater remediation efforts will be described in future reports. 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 July 2014.

FIGURES

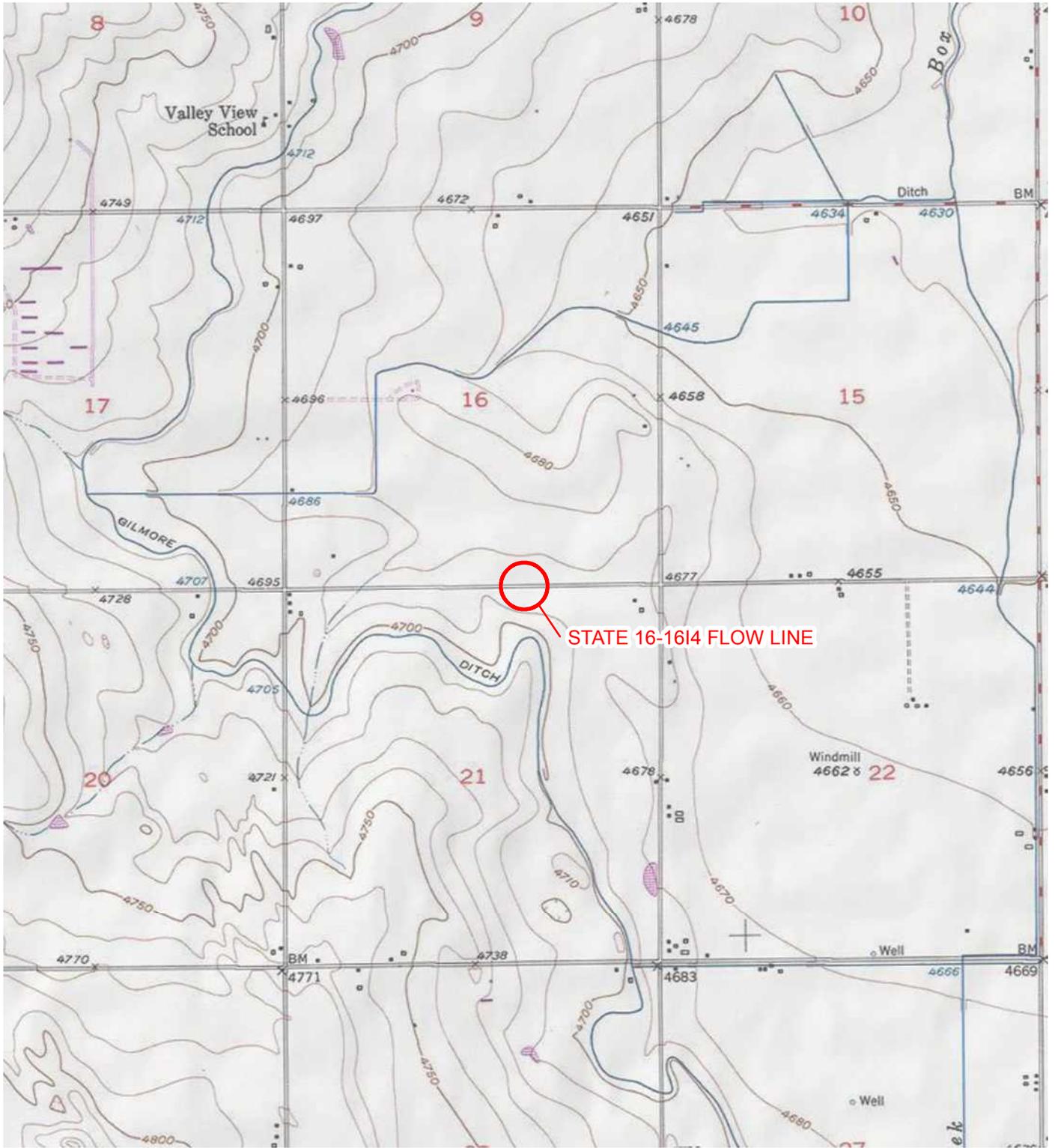


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION

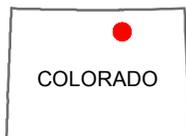
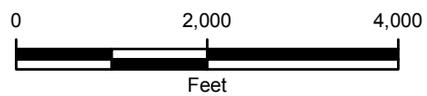


FIGURE 1
SITE LOCATION MAP
STATE 16-1614 FLOW LINE
WELD COUNTY, COLORADO



NOBLE ENERGY, INC.



IMAGE COURTESY OF ESRI

LEGEND

-  MONITORING WELL
-  FLOW LINE
-  EXCAVATION EXTENT

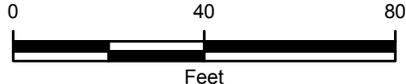


FIGURE 2
SITE MAP
STATE 16-1614 FLOW LINE
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.



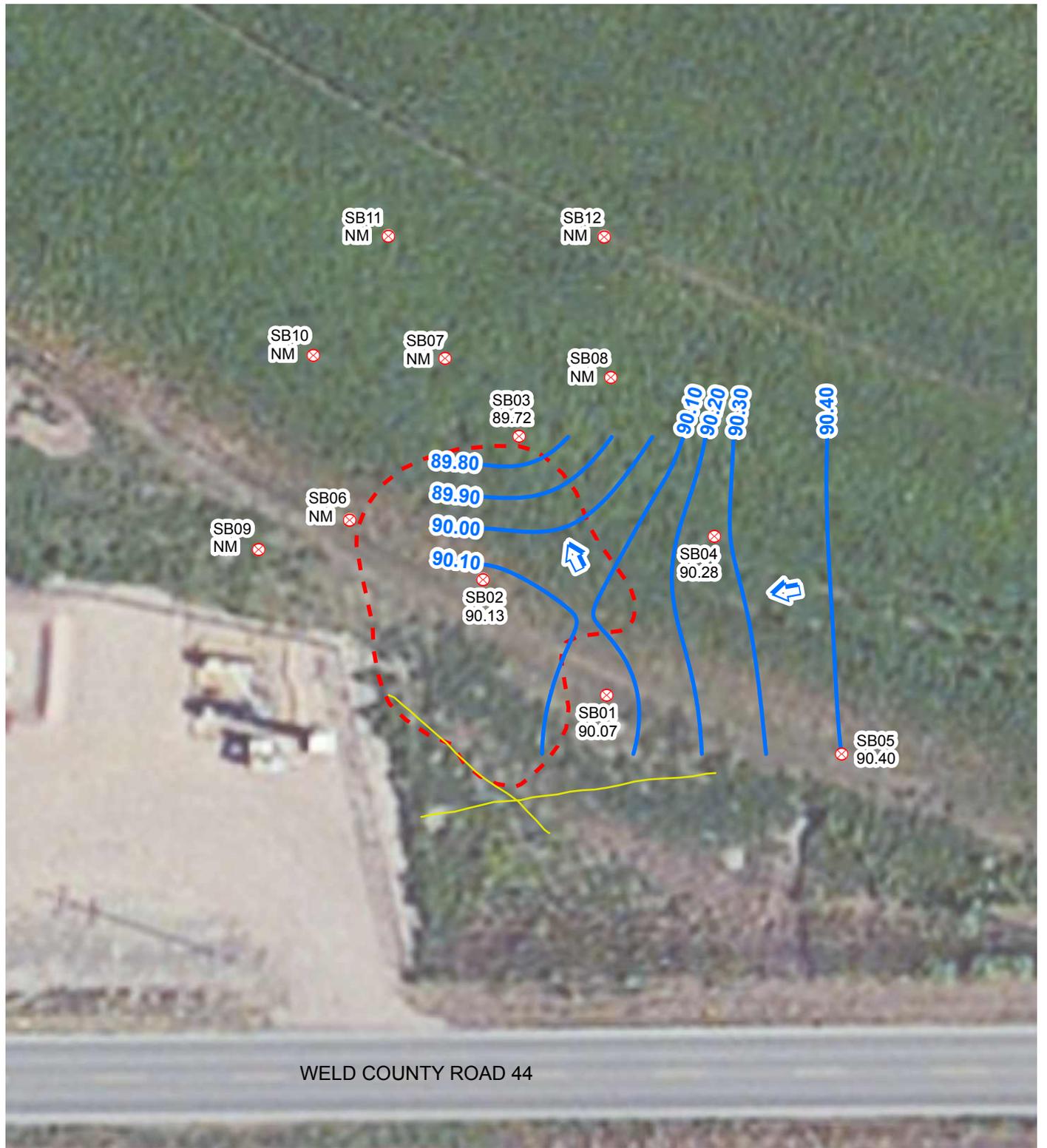


IMAGE COURTESY OF ESRI

LEGEND

-  MONITORING WELL
-  CALCULATED GROUNDWATER FLOW DIRECTION
-  FLOW LINE
-  EXCAVATION EXTENT
-  RELATIVE GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 0.10 FEET
GRADIENT = 0.007 FEET/FOOT

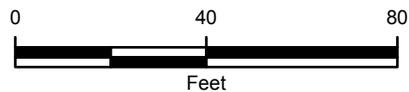
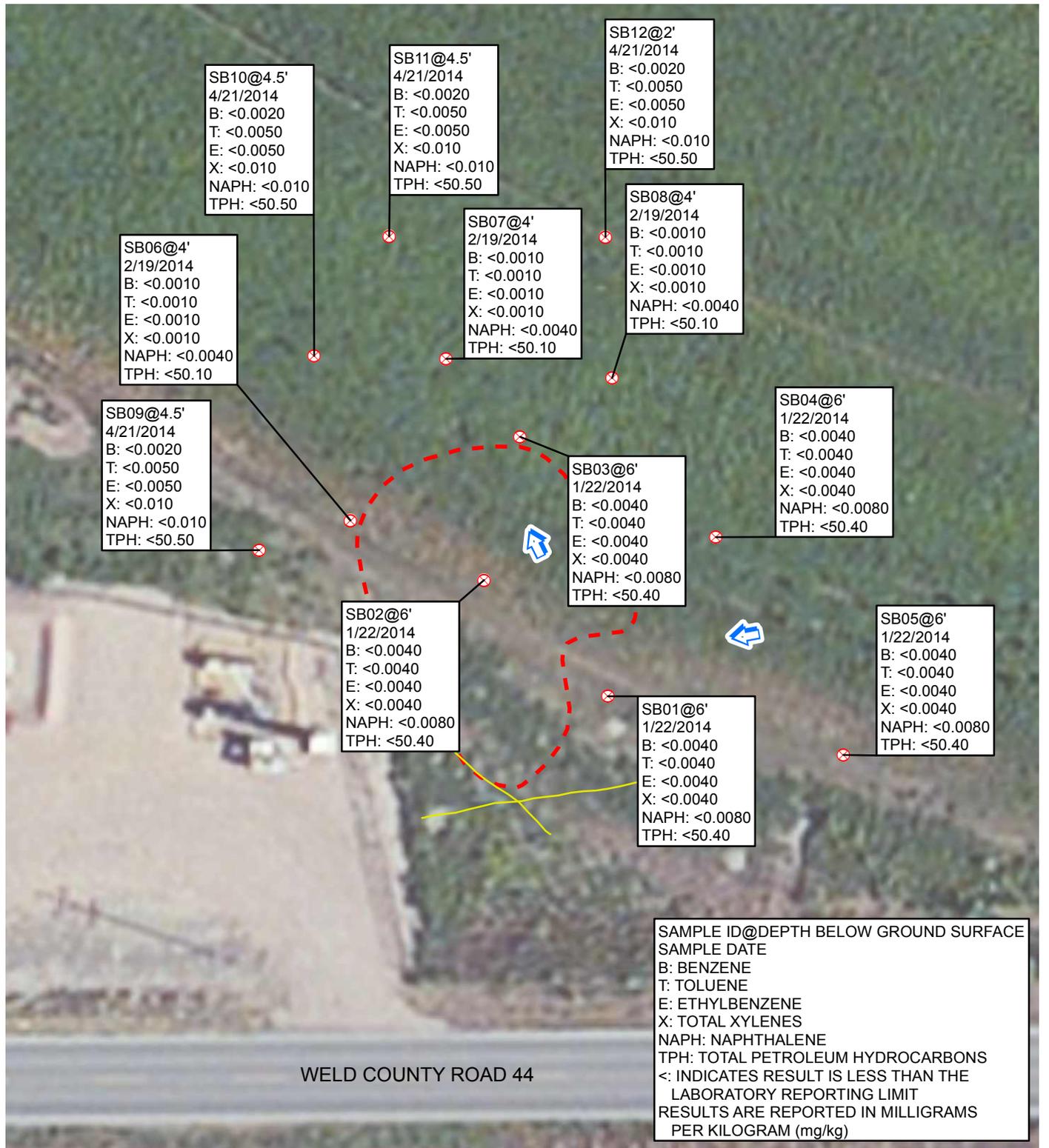


FIGURE 3
RELATIVE GROUNDWATER ELEVATION MAP
STATE 16-1614 FLOW LINE
APRIL 24, 2014
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.





LEGEND

- MONITORING WELL
- CALCULATED GROUNDWATER FLOW DIRECTION
- FLOW LINE
- EXCAVATION EXTENT

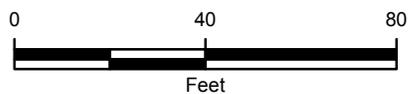
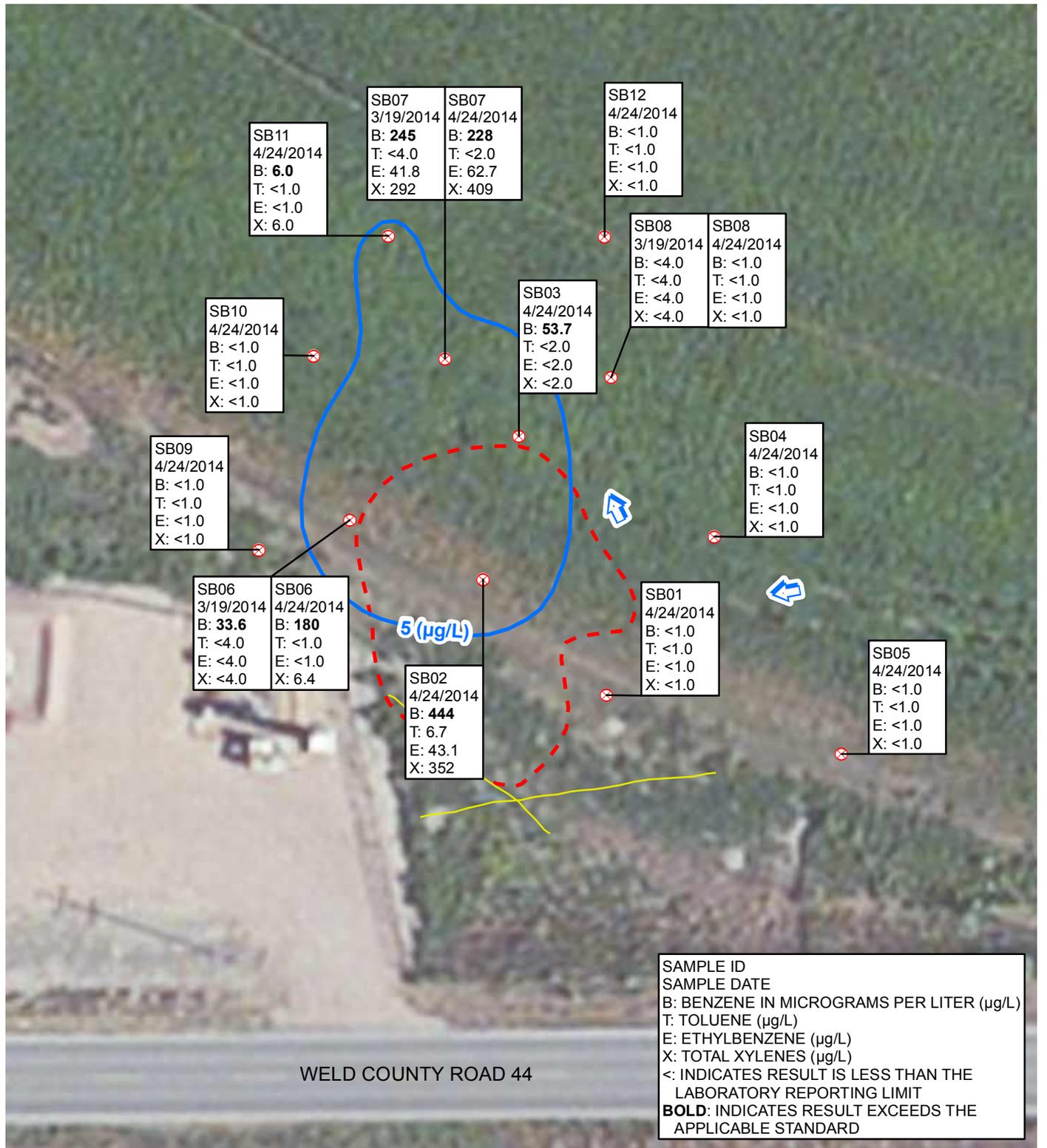


FIGURE 4
SOIL ANALYTICAL RESULTS
STATE 16-1614 FLOW LINE
WELD COUNTY, COLORADO

NOBLE ENERGY, INC.





LEGEND

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

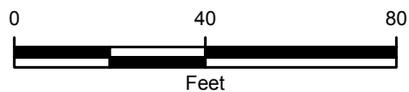


FIGURE 5
GROUNDWATER ANALYTICAL RESULTS
 STATE 16-1614 FLOW LINE
 MARCH 19, 2014 & APRIL 24, 2014
 WELD COUNTY, COLORADO
 NOBLE ENERGY, INC.



IMAGE COURTESY OF ESRI

TABLES

TABLE 1

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

Soil Sample	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)
SB01@6'	1/22/2014	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.40	<50.0	<50.40
SB02@6'	1/22/2014	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.40	<50.0	<50.40
SB03@6'	1/22/2014	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.40	<50.0	<50.40
SB04@6'	1/22/2014	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.40	<50.0	<50.40
SB05@6'	1/22/2014	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.40	<50.0	<50.40
SB06@4'	2/19/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.10	<50.0	<50.10
SB07@4'	2/19/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.10	<50.0	<50.10
SB08@4'	2/19/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.10	<50.0	<50.10
SB09@4.5'	4/21/2014	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.50	<50	<50.50
SB10@4.5'	4/21/2014	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.50	<50	<50.50
SB11@4.5'	4/21/2014	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.50	<50	<50.50
SB12@2'	4/21/2014	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.50	<50	<50.50
COGCC Table 910-1 Standard		0.17	85	100	175	23	--	--	500

NOTES:

COGCC - Colorado Oil and Gas Conservation Commission

DRO - diesel range organics analyzed by EPA Method 8015 or 8015C

GRO - gasoline range organics analyzed by EPA Method 8260B or 8260C

mg/kg - milligrams per kilogram

TPH - total petroleum hydrocarbons is the sum of GRO and DRO

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

-- - not applicable

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

TABLE 2

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

Monitoring Well	Date	Depth to Water (feet btoc)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
SB01	1/29/2014	6.05	90.25	<4.0	<4.0	<4.0	<4.0
	4/24/2014	6.23	90.07	<1.0	<1.0	<1.0	<1.0
SB02	1/29/2014	5.75	90.23	109	172	14.6	155
	4/24/2014	5.85	90.13	444	6.7	43.1	352
SB03	1/29/2014	5.45	90.45	262	<4.0	<4.0	9.4
	4/24/2014	6.18	89.72	53.7	<2.0	<2.0	<2.0
SB04	1/29/2014	6.06	90.22	<4.0	<4.0	<4.0	<4.0
	4/24/2014	6.00	90.28	<1.0	<1.0	<1.0	<1.0
SB05	1/29/2014	5.68	90.64	<4.0	<4.0	<4.0	<4.0
	4/24/2014	5.92	90.40	<1.0	<1.0	<1.0	<1.0
SB06	3/19/2014	5.19	NM	33.6	<4.0	<4.0	<4.0
	4/24/2014	6.21	NM	180	<1.0	<1.0	6.4
SB07	3/19/2014	5.20	NM	245	<4.0	41.8	<4.0
	4/24/2014	6.40	NM	228	<2.0	62.7	409
SB08	3/19/2014	5.39	NM	<4.0	<4.0	<4.0	<4.0
	4/24/2014	6.60	NM	<1.0	<1.0	<1.0	<1.0
SB09	4/24/2014	6.15	NM	<1.0	<1.0	<1.0	<1.0
SB10	4/24/2014	6.43	NM	<1.0	<1.0	<1.0	<1.0
SB11	4/24/2014	6.61	NM	6.0	<1.0	<1.0	6.0
SB12	4/24/2014	6.40	NM	<1.0	<1.0	<1.0	<1.0
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 reporting limit

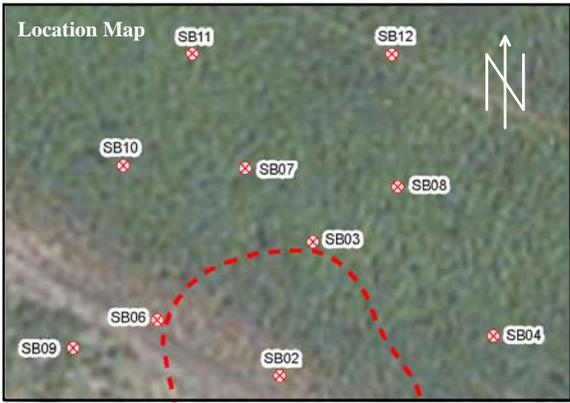
NM - not measured

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

ATTACHMENT 1
WELL COMPLETION DIAGRAMS



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LT Environmental, Inc.
 4600 W. 60th Avenue
 Arvada, Colorado 80003

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

BORING/WELL NO.: SB06
DATE: 2/19/14
LOGGED BY: Dan Hosler
DRILL MTHD: Direct Push

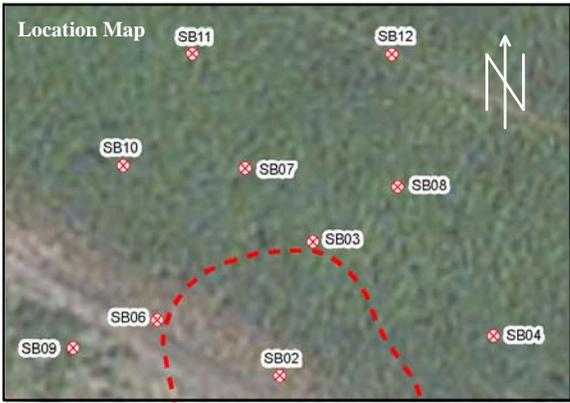
PROJECT: State 16-1614
PROJECT NO.: 008313110
DRILLED BY: Site Services
SAMPLE MTHD: Continuous

DETECTOR: MiniRae2000
GRAVEL PACK: 10-20 Silica Sand
CASING TYPE: SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC

HOLE DIA.: 2.25"
SEAL: Bent. Chips
CASING DIA.: 1"
SCREEN SLOT: 0.010"

TD: 12' **DTW:** 5'
GROUT: NA
CASING LENGTH: 2'
SCREEN LENGTH: 10'

Vapor (ppm)		Staining	Moisture Content	Sample	Sample Run	Depth (ft. bgs.)	USCS	Soil Type	Lithology Description	Well Construction
0.0	1000.0									
			Moist			0	SP	Topsoil: Topsoil - 0'-1'		
0.0						3/5		SP: Sand - 1'-5' - fine grained, medium brown, moist, poorly graded, no odor		
0.0				SB06 @ 4'		5		SP: Sand - 5'-12' - fine grained, light brown, wet, poorly graded, no odor		
0.0			Wet			2/5				
0.0						10				
0.0						2/2				
								Flush Mount		



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

BORING/WELL NO.: SB07
DATE: 2/19/14
LOGGED BY: Dan Hosler
DRILL MTHD: Direct Push

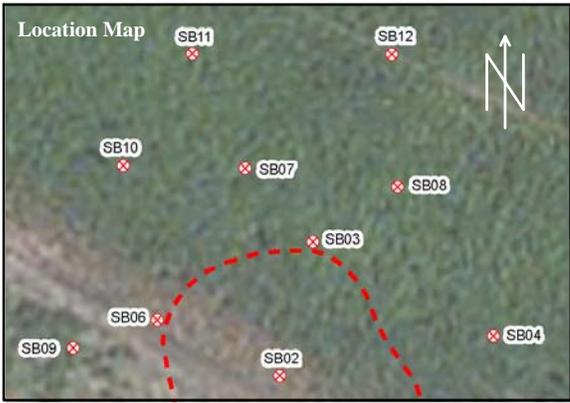
PROJECT: State 16-1614
PROJECT NO.: 008313110
DRILLED BY: Site Services
SAMPLE MTHD: Continuous

DETECTOR: MiniRae2000
GRAVEL PACK: 10-20 Silica Sand
CASING TYPE: SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC

HOLE DIA.: 2.25"
SEAL: Bent. Chips
CASING DIA.: 1"
SCREEN SLOT: 0.010"

TD: 12' **DTW:** 5'
GROUT: NA
CASING LENGTH: 2'
SCREEN LENGTH: 10'

Vapor (ppm)		Staining	Moisture Content	Sample	Sample Run	Depth (ft. bgs.)	USCS	Soil Type	Lithology Description	Well Construction
0.0	1000.0									
			Moist			0	SP	Topsoil: Topsoil - 0'-1'		
0.0						5/5		SP: Sand - 1'-5' - fine grained, medium brown, moist, poorly graded, no odor		
0.0				SB07 @ 4'		5		SP: Sand - 5'-12' - fine grained, light brown, wet, poorly graded, no odor		
0.0			Wet			5/5				
0.0						10				
0.0						2/2				
									Flush Mount	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

BORING/WELL NO.: SB08
DATE: 2/19/14
LOGGED BY: Dan Hosler
DRILL MTHD: Direct Push

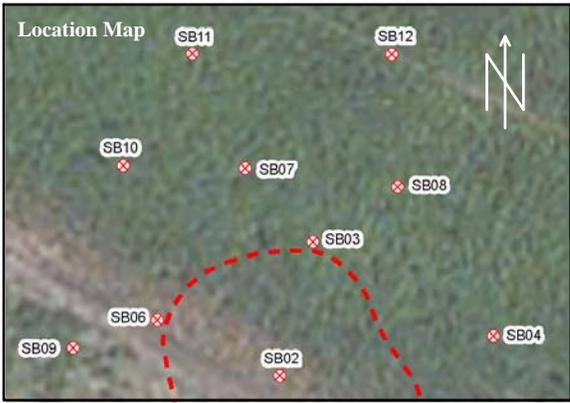
PROJECT: State 16-1614
PROJECT NO.: 008313110
DRILLED BY: Site Services
SAMPLE MTHD: Continuous

DETECTOR: MiniRae2000
GRAVEL PACK: 10-20 Silica Sand
CASING TYPE: SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC

HOLE DIA.: 2.25"
SEAL: Bent. Chips
CASING DIA.: 1"
SCREEN SLOT: 0.010"

TD: 12' **DTW:** 5'
GROUT: NA
CASING LENGTH: 2'
SCREEN LENGTH: 10'

Vapor (ppm)		Staining	Moisture Content	Sample	Sample Run	Depth (ft. bgs.)	USCS	Soil Type	Lithology Description	Well Construction
0.0	1000.0									
			Moist			0	SP	Topsoil: Topsoil - 0'-1'		
0.0						4/5		SP: Sand - 1'-5' - fine grained, little-no clay, medium brown, moist, poorly graded, no odor		
0.0			Wet	SB08 @ 4'		5		SP: Sand - 5'-12' - fine grained, light brown, some orange oxidation staining at 12', wet, poorly graded, no odor		
0.0						5/5				
0.0			Moist			10				
0.0						2/2				
									Flush Mount	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

BORING/WELL NO.: SB09
DATE: 4/21/14
LOGGED BY: Bill Baldwin
DRILL MTHD: Direct Push

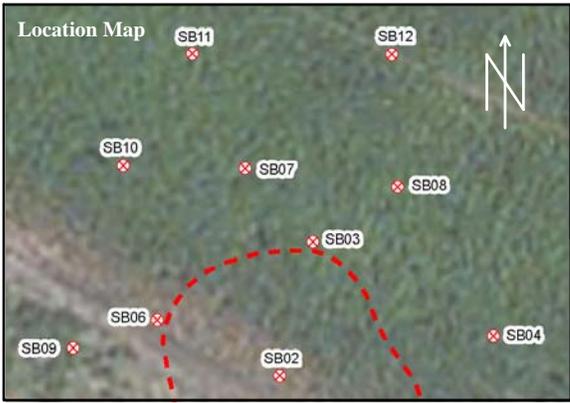
PROJECT: State 16-1614
PROJECT NO.: 008313110
DRILLED BY: Site Services
SAMPLE MTHD: Continuous

DETECTOR: MiniRae2000
GRAVEL PACK: 10-20 Silica Sand
CASING TYPE: SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC

HOLE DIA.: 2.25"
SEAL: Bent. Chips
CASING DIA.: 1"
SCREEN SLOT: 0.010"

TD: 12' **DTW:** 5'
GROUT: NA
CASING LENGTH: 2'
SCREEN LENGTH: 10'

Vapor (ppm)		Staining	Moisture Content	Sample	Sample Run	Depth (ft. bgs.)	USCS	Soil Type	Lithology Description	Well Construction
0.0	1000.0									
			Moist			0	SP	SP: Sand - 0'-3' - fine grained, red-brown, moist, no odor		
						4.5/5	ML	ML: Silt - 3'-5' - clayey, moist, dense, no odor		
			Wet	SB09 @ 4.5'		5	SP	SP: Sand - 5'-12' - fine grained, gray, wet, no odor		
						5/5				
						10				
						2/2				
									Flush Mount	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

BORING/WELL NO.: SB10
DATE: 4/21/14
LOGGED BY: Bill Baldwin
DRILL MTHD: Direct Push

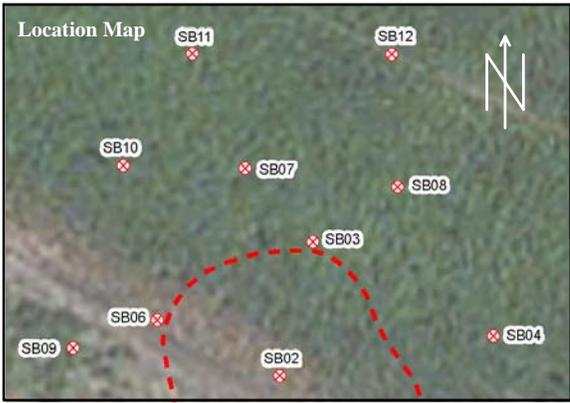
PROJECT: State 16-1614
PROJECT NO.: 008313110
DRILLED BY: Site Services
SAMPLE MTHD: Continuous

DETECTOR: MiniRae2000
GRAVEL PACK: 10-20 Silica Sand
CASING TYPE: SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC

HOLE DIA.: 2.25"
SEAL: Bent. Chips
CASING DIA.: 1"
SCREEN SLOT: 0.010"

TD: 12' **DTW:** 5'
GROUT: NA
CASING LENGTH: 2'
SCREEN LENGTH: 10'

Vapor (ppm)		Staining	Moisture Content	Sample	Sample Run	Depth (ft. bgs.)	USCS	Soil Type	Lithology Description	Well Construction
0.0	1000.0									
			Moist			0	SP	SP: Sand - 0'-3' - fine grained, red-brown, moist, no odor		
						5/5	ML	ML: Silt - 3'-5' - clayey, red-brown, moist, dense, no odor		
			Wet	SB10 @ 4.5'		5	SP	SP: Sand - 5'-12' - fine grained, gray, wet, no odor		
						5/5				
						10				
						2/2				
									Flush Mount	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

BORING/WELL NO.: SB11
DATE: 4/21/14
LOGGED BY: Bill Baldwin
DRILL MTHD: Direct Push

PROJECT: State 16-1614
PROJECT NO.: 008313110
DRILLED BY: Site Services
SAMPLE MTHD: Continuous

DETECTOR: MiniRae2000

HOLE DIA.: 2.25"

TD: 12' **DTW:** 5'

GRAVEL PACK: 10-20 Silica Sand

SEAL: Bent. Chips

GROUT: NA

CASING TYPE: SCH. 40 PVC

CASING DIA.: 1"

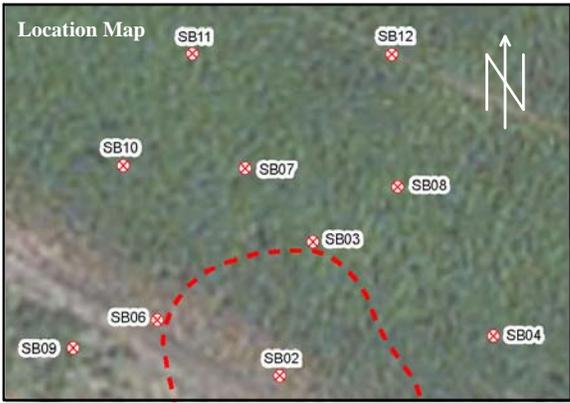
CASING LENGTH: 2'

SCREEN TYPE: SCH. 40 PVC

SCREEN SLOT: 0.010"

SCREEN LENGTH: 10'

Vapor (ppm)		Staining	Moisture Content	Sample	Sample Run	Depth (ft. bgs.)	USCS	Soil Type	Lithology Description	Well Construction
0.0	1000.0									
			Moist			0	SP	SP: Sand - 0'-4' - fine grained, red-brown, moist, no odor		
						4.5/5	CH	CH: Clay - 4'-4.5' - minor silt, red-brown, moist, dense, no odor		
			Wet	SB11 @ 4.5'		5	SP	SP: Sand - 4.5'-12' - fine grained, coarsening with depth, red-brown, wet at 5', no odor		
						5/5				
						10				
						2/2				
									Flush Mount	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

BORING/WELL NO.: SB12
DATE: 4/21/14
LOGGED BY: Bill Baldwin
DRILL MTHD: Direct Push

PROJECT: State 16-1614
PROJECT NO.: 008313110
DRILLED BY: Site Services
SAMPLE MTHD: Continuous

DETECTOR: MiniRae2000
GRAVEL PACK: 10-20 Silica Sand
CASING TYPE: SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC

HOLE DIA.: 2.25"
SEAL: Bent. Chips
CASING DIA.: 1"
SCREEN SLOT: 0.010"

TD: 12' **DTW:** 5'
GROUT: NA
CASING LENGTH: 2'
SCREEN LENGTH: 10'

Vapor (ppm)		Staining	Moisture Content	Sample	Sample Run	Depth (ft. bgs.)	USCS	Soil Type	Lithology Description	Well Construction
0.0	1000.0									
0.0	1000.0	Moist		SB12 @ 2'		0	SP	SP: Sand - 0'-2' - medium grained, red-brown, slight stain, moist, no odor		
0.0					3.5/5	CH	CH: Clay - 2'-5' - red-brown, moist, dense, no odor			
0.0		Wet			5	SP	SP: Sand - 5'-12' - fine-medium grained, gray, wet, no odor			
0.0					5/5					
0.0					10					
0.0					2/2					
								Flush Mount		

ATTACHMENT 2
LABORATORY ANALYTICAL REPORTS



February 26, 2014

LT Environmental, Inc.

Dan Hosler

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. February 21, 2014. This project is associated with Origins project number X402202-01.

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

Dan Hosler
Project Number: 008313110
Project: Noble - State 16-1614

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB06 @ 4'	X402202-01	Soil	February 19, 2014 14:00	02/21/2014 17:00
SB07 @ 4'	X402202-02	Soil	February 19, 2014 13:32	02/21/2014 17:00
SB08 @ 4'	X402202-03	Soil	February 19, 2014 13:00	02/21/2014 17:00

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 Doyle Mathis, President

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

Dan Hosler
 Project Number: 008313110
 Project: Noble - State 16-1614

www.originslaboratory.com

page 1 of 1



X102202

Client: LTE
 Address:
 Telephone Number:
 Email Address: dhosler@lenv.com

Project Manager: Dan Hosler
 Project Name: State 16-1614
 Project Number: 008313110
 Samples Collected By: DHosler

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #			Other
S13-11-16 @ 4'	2/19/14	1400	1					X				1	
S13-11-07 @ 4'	↓	1330	1					X				2	
S13-11-08 @ 4'	↓	1300	1					X				3	
												4	
												5	
												6	
												7	
												8	
												9	
												10	
Relinquished By: <u>[Signature]</u>	Date: <u>2/21/14</u>	Time: <u>1700</u>	Received By: <u>[Signature]</u>	Date: <u>2/21/14</u>	Time: <u>7:00</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard							
Relinquished By: <u>[Signature]</u>	Date: <u>2/21/14</u>	Time: <u>1700</u>	Received By: <u>[Signature]</u>	Date: <u>2/21/14</u>	Time: <u>7:00</u>								

Date Results Needed

Origins Laboratory, Inc.

Noelle Doyle Mathis, President

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

Dan Hosler
 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: X402202

Client: LTE

Client Project ID: State 16-1614

Checklist Completed by: Jeff Smith

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

Date/time completed: 2/21/14 17:24

Airbill #: NA

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

Cooler Number/Temperature: _____ / 4.2 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: 1002

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⁾ ?	<u>2/24/14</u> <u>2/23</u>	X		No Sample Times provided
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	Soil
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			X	Soil
Additional Comments (if any):	<u>Added Sample Times and depths to COC based off information on sample containers.</u>			

2/21/14 JS

⁽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)

2/25/14 ZM
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

Noelle Doyle Mathis, President

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

Dan Hosler
 Project Number: 008313110
 Project: Noble - State 16-1614

SB06 @ 4'
 2/19/2014 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X402202-01 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	4B24008	02/24/2014	02/25/2014	
<i>Surrogate: o-Terphenyl</i>	74.9 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.10	mg/kg	1	4B24010	02/24/2014	02/24/2014	
Benzene	ND	0.0010	"	"	"	"	"	
Toluene	ND	0.0010	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	
Xylenes, total	ND	0.0010	"	"	"	"	"	
Naphthalene	ND	0.0040	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	105 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	110 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	104 %	70-130			"	"	"	

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 Doyle Mathis, President

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

Dan Hosler
 Project Number: 008313110
 Project: Noble - State 16-1614

SB07 @ 4'
 2/19/2014 1:32:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X402202-02 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	4B24008	02/24/2014	02/25/2014	
<i>Surrogate: o-Terphenyl</i>	79.5 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.10	mg/kg	1	4B24010	02/24/2014	02/24/2014	
Benzene	ND	0.0010	"	"	"	"	"	
Toluene	ND	0.0010	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	
Xylenes, total	ND	0.0010	"	"	"	"	"	
Naphthalene	ND	0.0040	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.7 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	106 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	102 %	70-130			"	"	"	

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 Doyle Mathis, President

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

Dan Hosler
 Project Number: 008313110
 Project: Noble - State 16-1614

SB08 @ 4'
 2/19/2014 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X402202-03 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	4B24008	02/24/2014	02/25/2014	
<i>Surrogate: o-Terphenyl</i>	78.0 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.10	mg/kg	1	4B24010	02/24/2014	02/24/2014	
Benzene	ND	0.0010	"	"	"	"	"	
Toluene	ND	0.0010	"	"	"	"	"	
Ethylbenzene	ND	0.0010	"	"	"	"	"	
Xylenes, total	ND	0.0010	"	"	"	"	"	
Naphthalene	ND	0.0040	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	106 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	103 %	70-130			"	"	"	

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 Doyle Mathis, President

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

Dan Hosler
 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 4B24010 - EPA 5030 (soil)

Blank (4B24010-BLK1)

Prepared: 02/24/2014 Analyzed: 02/24/2014

Gasoline Range Hydrocarbons	ND	0.1	mg/kg							
Benzene	ND	0.001	"							
Toluene	ND	0.001	"							
Ethylbenzene	ND	0.001	"							
Xylenes, total	ND	0.001	"							
Naphthalene	ND	0.004	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>65</i>		<i>ug/kg</i>	<i>62.5</i>		<i>105</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>65</i>		<i>"</i>	<i>62.5</i>		<i>105</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>66</i>		<i>"</i>	<i>62.5</i>		<i>105</i>	<i>70-130</i>			

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 Doyle Mathis, President

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

Dan Hosler
 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 4B24010 - EPA 5030 (soil)

LCS (4B24010-BS1)

Prepared: 02/24/2014 Analyzed: 02/24/2014

Benzene	0.1	0.001	mg/kg	0.100		99.7	70-130			
Toluene	0.1	0.001	"	0.100		95.6	70-130			
Ethylbenzene	0.08	0.001	"	0.100		84.5	70-130			
m,p-Xylene	0.2	0.002	"	0.200		83.5	70-130			
o-Xylene	0.09	0.001	"	0.100		85.6	70-130			
Naphthalene	0.09	0.004	"	0.100		87.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		100	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		103	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

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

Dan Hosler
 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 4B24010 - EPA 5030 (soil)

Matrix Spike (4B24010-MS1)	Source: X402202-01			Prepared: 02/24/2014 Analyzed: 02/24/2014						
Benzene	0.1	0.001	mg/kg	0.100	ND	106	70-130			
Toluene	0.1	0.001	"	0.100	ND	101	70-130			
Ethylbenzene	0.09	0.001	"	0.100	ND	87.3	70-130			
m,p-Xylene	0.2	0.002	"	0.200	ND	84.8	70-130			
o-Xylene	0.09	0.001	"	0.100	ND	86.0	70-130			
Naphthalene	0.09	0.004	"	0.100	ND	87.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		96.1	70-130			
Surrogate: Toluene-d8	67		"	62.5		107	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

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

Dan Hosler
 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 4B24010 - EPA 5030 (soil)

Matrix Spike Dup (4B24010-MSD1)	Source: X402202-01			Prepared: 02/24/2014 Analyzed: 02/24/2014						
Benzene	0.1	0.001	mg/kg	0.100	ND	100	70-130	5.30	20	
Toluene	0.09	0.001	"	0.100	ND	94.1	70-130	7.25	20	
Ethylbenzene	0.08	0.001	"	0.100	ND	84.0	70-130	3.85	20	
m,p-Xylene	0.2	0.002	"	0.200	ND	82.2	70-130	3.11	20	
o-Xylene	0.08	0.001	"	0.100	ND	84.1	70-130	2.26	20	
Naphthalene	0.09	0.004	"	0.100	ND	87.5	70-130	0.458	20	
Surrogate: 1,2-Dichloroethane-d4	61		ug/kg	62.5		98.3	70-130			
Surrogate: Toluene-d8	65		"	62.5		105	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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 Doyle Mathis, President

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

Dan Hosler
 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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Extractable Petroleum Hydrocarbons by 8015M - 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 4B24008 - EPA 3580

Blank (4B24008-BLK1)

Prepared: 02/24/2014 Analyzed: 02/24/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	41		g	50.0		81.4	59-131			

Blank (4B24008-BLK2)

Prepared: 02/24/2014 Analyzed: 02/24/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	37		g	50.0		74.2	59-131			

LCS (4B24008-BS1)

Prepared: 02/24/2014 Analyzed: 02/24/2014

Diesel (C10-C28)	986	50.0	mg/kg	1000		98.6	64-121			
Surrogate: o-Terphenyl	42		g	50.0		84.6	59-131			

LCS (4B24008-BS2)

Prepared: 02/24/2014 Analyzed: 02/24/2014

Diesel (C10-C28)	866	50.0	mg/kg	1000		86.6	64-121			
Surrogate: o-Terphenyl	38		g	50.0		75.1	59-131			

Matrix Spike (4B24008-MS1)

Source: X402202-02

Prepared: 02/24/2014 Analyzed: 02/24/2014

Diesel (C10-C28)	836	50.0	mg/kg	1000	ND	83.6	53-125			
Surrogate: o-Terphenyl	37		g	50.0		73.7	59-131			

Matrix Spike (4B24008-MS2)

Source: X402202-03

Prepared: 02/24/2014 Analyzed: 02/24/2014

Diesel (C10-C28)	861	50.0	mg/kg	1000	ND	86.1	53-125			
Surrogate: o-Terphenyl	40		g	50.0		79.6	59-131			

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 Doyle Mathis, President

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

Dan Hosler
 Project Number: 008313110
 Project: Noble - State 16-1614

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
 Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 4B24008 - EPA 3580

Matrix Spike Dup (4B24008-MSD1)		Source: X402202-02			Prepared: 02/24/2014 Analyzed: 02/24/2014					
Diesel (C10-C28)	872	50.0	mg/kg	1000	ND	87.2	53-125	4.19	20	
Surrogate: o-Terphenyl	37		g	50.0		74.0	59-131			
Matrix Spike Dup (4B24008-MSD2)		Source: X402202-03			Prepared: 02/24/2014 Analyzed: 02/24/2014					
Diesel (C10-C28)	818	50.0	mg/kg	1000	ND	81.8	53-125	5.11	20	
Surrogate: o-Terphenyl	37		g	50.0		73.3	59-131			

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 Doyle Mathis, President

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

Dan Hosler
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

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 Doyle Mathis, President

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 25, 2014

Dan Hosler
LT Environmental, Inc.
4600 West 60th Avenue
Arvada, CO 80003
RE: NEP - State 16-1614

Enclosed are the results of analyses for samples received by Summit Scientific on 04/21/14 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'BS', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury
President / Laboratory Manager



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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB09@4.5'	1404142-01	Soil	04/21/14 09:00	04/21/14 17:00
SB10@4.5'	1404142-02	Soil	04/21/14 09:45	04/21/14 17:00
SB11@4.5'	1404142-03	Soil	04/21/14 10:15	04/21/14 17:00
SB12@2'	1404142-04	Soil	04/21/14 10:45	04/21/14 17:00

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

SB09@4.5'
1404142-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/21/14 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1404151	04/23/14	04/25/14	8015M	

Date Sampled: **04/21/14 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		90.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/21/14 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1404152	04/22/14	04/24/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/21/14 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

SB10@4.5'
1404142-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/21/14 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1404151	04/23/14	04/25/14	8015M	

Date Sampled: **04/21/14 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		90.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/21/14 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1404152	04/22/14	04/24/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/21/14 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

SB11 @ 4.5'
1404142-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/21/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1404151	04/23/14	04/25/14	8015M	

Date Sampled: **04/21/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		109 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/21/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1404152	04/22/14	04/24/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/21/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

SB12@2'
1404142-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/21/14 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1404151	04/23/14	04/25/14	8015M	

Date Sampled: **04/21/14 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		112 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/21/14 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1404152	04/22/14	04/24/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/21/14 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
 Project Manager: Dan Hosler

Reported:
 04/25/14 17:37

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1404151 - EPA 3550A

Blank (1404151-BLK1)				Prepared & Analyzed: 04/23/14						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (1404151-BS1)				Prepared & Analyzed: 04/23/14						
C10-C28 (DRO)	486	50	mg/kg	455	107	73-134				
Matrix Spike (1404151-MS1)				Source: 1404139-01 Prepared & Analyzed: 04/23/14						
C10-C28 (DRO)	501	50	mg/kg	474	51.6	94.7	50-148			
Matrix Spike Dup (1404151-MSD1)				Source: 1404139-01 Prepared & Analyzed: 04/23/14						
C10-C28 (DRO)	475	50	mg/kg	471	51.6	89.8	50-148	5.41	13	

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1404152 - EPA 5030 Soil MS

Blank (1404152-BLK1)

Prepared: 04/22/14 Analyzed: 04/23/14

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0465</i>		<i>"</i>	<i>0.0392</i>		<i>119</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0407</i>		<i>"</i>	<i>0.0394</i>		<i>103</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0435</i>		<i>"</i>	<i>0.0394</i>		<i>110</i>	<i>21-167</i>			

LCS (1404152-BS1)

Prepared: 04/22/14 Analyzed: 04/24/14

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0987	0.0020	"	0.0976		101	58-130			
Toluene	0.102	0.0050	"	0.0978		105	61-134			
Ethylbenzene	0.118	0.0050	"	0.0971		122	74-139			
m,p-Xylene	0.241	0.010	"	0.196		123	73-137			
o-Xylene	0.121	0.0050	"	0.0967		125	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0437</i>		<i>"</i>	<i>0.0388</i>		<i>113</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0382</i>		<i>"</i>	<i>0.0391</i>		<i>97.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0383</i>		<i>"</i>	<i>0.0391</i>		<i>97.9</i>	<i>21-167</i>			

LCS (1404152-BS2)

Prepared: 04/22/14 Analyzed: 04/24/14

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.110	0.0020	"	0.0989		111	58-130			
Toluene	0.112	0.0050	"	0.0992		113	61-134			
Ethylbenzene	0.119	0.0050	"	0.0984		121	74-139			
m,p-Xylene	0.237	0.010	"	0.198		120	73-137			
o-Xylene	0.120	0.0050	"	0.0980		123	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0493</i>		<i>"</i>	<i>0.0394</i>		<i>125</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0433</i>		<i>"</i>	<i>0.0397</i>		<i>109</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0396</i>		<i>"</i>	<i>0.0397</i>		<i>99.9</i>	<i>21-167</i>			

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1404152 - EPA 5030 Soil MS

Matrix Spike (1404152-MS1)

Source: 1404139-01

Prepared: 04/22/14

Analyzed: 04/24/14

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.102	0.0020	"	0.0951	ND	107	30-131			
Toluene	0.0979	0.0050	"	0.0954	ND	103	30-134			
Ethylbenzene	0.101	0.0050	"	0.0947	ND	107	22-153			
m,p-Xylene	0.194	0.010	"	0.191	ND	101	10-159			
o-Xylene	0.0978	0.0050	"	0.0943	ND	104	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0370		"	0.0379		97.6	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0382		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0361		"	0.0382		94.6	21-167			

Matrix Spike (1404152-MS2)

Source: 1404139-02

Prepared: 04/22/14

Analyzed: 04/24/14

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0962	0.0020	"	0.0985	ND	97.6	30-131			
Toluene	0.0893	0.0050	"	0.0988	ND	90.4	30-134			
Ethylbenzene	0.0885	0.0050	"	0.0980	ND	90.3	22-153			
m,p-Xylene	0.168	0.010	"	0.198	ND	85.0	10-159			
o-Xylene	0.0871	0.0050	"	0.0976	ND	89.2	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0383		"	0.0392		97.6	23-173			
Surrogate: Toluene-d8	0.0408		"	0.0395		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0395		95.8	21-167			

Matrix Spike Dup (1404152-MSD1)

Source: 1404139-01

Prepared: 04/22/14

Analyzed: 04/24/14

Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0938	0.0020	"	0.0959	ND	97.9	30-131	7.85	34	
Toluene	0.0906	0.0050	"	0.0962	ND	94.2	30-134	7.80	30	
Ethylbenzene	0.0928	0.0050	"	0.0954	ND	97.3	22-153	8.66	24	
m,p-Xylene	0.177	0.010	"	0.192	ND	91.9	10-159	9.11	68	
o-Xylene	0.0899	0.0050	"	0.0950	ND	94.6	31-151	8.36	38	
Surrogate: 1,2-Dichloroethane-d4	0.0359		"	0.0382		94.0	23-173			
Surrogate: Toluene-d8	0.0397		"	0.0385		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0385		94.7	21-167			

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1404152 - EPA 5030 Soil MS

Matrix Spike Dup (1404152-MSD2)	Source: 1404139-02			Prepared: 04/22/14	Analyzed: 04/24/14					
Naphthalene	ND	0.010	mg/kg	ND	ND	10-158				42
Benzene	0.0876	0.0020	"	0.0946	ND	92.6	30-131	9.28		34
Toluene	0.0824	0.0050	"	0.0949	ND	86.8	30-134	8.06		30
Ethylbenzene	0.0812	0.0050	"	0.0941	ND	86.2	22-153	8.62		24
m,p-Xylene	0.155	0.010	"	0.190	ND	81.6	10-159	8.15		68
o-Xylene	0.0790	0.0050	"	0.0937	ND	84.2	31-151	9.84		38
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0365</i>		<i>"</i>	<i>0.0377</i>		<i>97.0</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0389</i>		<i>"</i>	<i>0.0380</i>		<i>102</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0360</i>		<i>"</i>	<i>0.0380</i>		<i>94.9</i>	<i>21-167</i>			

Summit Scientific

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

Project: NEP - State 16-1614

Project Number: 0083-13110
Project Manager: Dan Hosler

Reported:
04/25/14 17:37

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

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.



March 24, 2014

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. March 19, 2014. This project is associated with Origins project number X403190-01.

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
SB06	X403190-01	Water	March 19, 2014 9:38	03/19/2014 17:00
SB07	X403190-02	Water	March 19, 2014 9:55	03/19/2014 17:00
SB08	X403190-03	Water	March 19, 2014 9:12	03/19/2014 17:00

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 Doyle Mathis, President

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: X403190 Client: LTE
 Client Project ID: State 16-1614
 Checklist Completed by: Jesse Smith Shipped Via: Pick up
 Date/time completed: 3/20/14 8:48 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: NA
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 119 °C / _____ °C / _____ °C (Describe)
 Thermometer ID: 7002

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to < 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)?	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
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)		<input checked="" type="checkbox"/>		Samples will be analyzed with in 7 Days of collection

⁽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)

03-19-14 6:19
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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

SB06

3/19/2014 9:38:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X403190-01 (Water)

BTEX by EPA 8260C

Benzene	33.6	4.0	ug/L	4	4C20009	03/20/2014	03/21/2014	
Toluene	ND	4.0	"	"	"	"	"	
Ethylbenzene	ND	4.0	"	"	"	"	"	
Xylenes, total	ND	4.0	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	105 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	97.0 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	101 %	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

SB07

3/19/2014 9:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X403190-02 (Water)

BTEX by EPA 8260C

Benzene	245	4.0	ug/L	4	4C20009	03/20/2014	03/21/2014	
Toluene	ND	4.0	"	"	"	"	"	
Ethylbenzene	41.8	4.0	"	"	"	"	"	
Xylenes, total	292	4.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	107 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	99.9 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	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

SB08

3/19/2014 9:12:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X403190-03 (Water)

BTEX by EPA 8260C

Benzene	ND	4.0	ug/L	4	4C20009	03/20/2014	03/21/2014	
Toluene	ND	4.0	"	"	"	"	"	
Ethylbenzene	ND	4.0	"	"	"	"	"	
Xylenes, total	ND	4.0	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	106 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	99.1 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	101 %	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

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 4C20009 - EPA 5030B (Water)

Blank (4C20009-BLK1)

Prepared: 03/20/2014 Analyzed: 03/21/2014

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>64</i>		<i>"</i>	<i>62.5</i>	<i>102</i>		<i>87.3-113</i>			
<i>Surrogate: Toluene-d8</i>	<i>62</i>		<i>"</i>	<i>62.5</i>	<i>100</i>		<i>90.9-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>64</i>		<i>"</i>	<i>62.5</i>	<i>102</i>		<i>88.6-111</i>			

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 Doyle Mathis, President

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 4C20009 - EPA 5030B (Water)

LCS (4C20009-BS1)

Prepared: 03/20/2014 Analyzed: 03/21/2014

Benzene	57.8	1.0	ug/L	50.0		116	75-126			
Toluene	55.8	1.0	"	50.0		112	78.7-126			
Ethylbenzene	57.3	1.0	"	50.0		115	81-130			
m,p-Xylene	116	2.0	"	100		116	77.2-133			
o-Xylene	55.8	1.0	"	50.0		112	77.9-126			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>63</i>		<i>"</i>	<i>62.5</i>		<i>100</i>	<i>87.3-113</i>			
<i>Surrogate: Toluene-d8</i>	<i>62</i>		<i>"</i>	<i>62.5</i>		<i>99.3</i>	<i>90.9-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>63</i>		<i>"</i>	<i>62.5</i>		<i>101</i>	<i>88.6-111</i>			

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 Doyle Mathis, President

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 4C20009 - EPA 5030B (Water)

Matrix Spike (4C20009-MS1)	Source: X403185-05			Prepared: 03/20/2014 Analyzed: 03/21/2014						
Benzene	63.2	1.0	ug/L	50.0	7.2	112	74-130			
Toluene	56.1	1.0	"	50.0	ND	112	73-131			
Ethylbenzene	57.4	1.0	"	50.0	ND	115	76-132			
m,p-Xylene	116	2.0	"	100	ND	116	69-139			
o-Xylene	57.4	1.0	"	50.0	ND	115	74-131			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>62</i>		<i>"</i>	<i>62.5</i>		<i>98.7</i>	<i>87.3-113</i>			
<i>Surrogate: Toluene-d8</i>	<i>62</i>		<i>"</i>	<i>62.5</i>		<i>98.8</i>	<i>90.9-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>61</i>		<i>"</i>	<i>62.5</i>		<i>98.1</i>	<i>88.6-111</i>			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

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 4C20009 - EPA 5030B (Water)

Matrix Spike Dup (4C20009-MSD1)	Source: X403185-05			Prepared: 03/20/2014 Analyzed: 03/21/2014						
Benzene	62.8	1.0	ug/L	50.0	7.2	111	74-130	0.588	20	
Toluene	56.5	1.0	"	50.0	ND	113	73-131	0.640	20	
Ethylbenzene	57.0	1.0	"	50.0	ND	114	76-132	0.769	20	
m,p-Xylene	117	2.0	"	100	ND	117	69-139	0.464	20	
o-Xylene	57.1	1.0	"	50.0	ND	114	74-131	0.402	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>61</i>		<i>"</i>	<i>62.5</i>		<i>98.0</i>	<i>87.3-113</i>			
<i>Surrogate: Toluene-d8</i>	<i>63</i>		<i>"</i>	<i>62.5</i>		<i>101</i>	<i>90.9-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>63</i>		<i>"</i>	<i>62.5</i>		<i>100</i>	<i>88.6-111</i>			

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

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.



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 Doyle Mathis, President

April 29, 2014

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. April 24, 2014. This project is associated with Origins project number X404251-01.

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



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	X404251-01	Water	April 24, 2014 11:00	04/24/2014 17:10
SB02	X404251-02	Water	April 24, 2014 11:05	04/24/2014 17:10
SB03	X404251-03	Water	April 24, 2014 11:10	04/24/2014 17:10
SB04	X404251-04	Water	April 24, 2014 11:15	04/24/2014 17:10
SB05	X404251-05	Water	April 24, 2014 11:20	04/24/2014 17:10
SB06	X404251-06	Water	April 24, 2014 11:25	04/24/2014 17:10
SB07	X404251-07	Water	April 24, 2014 11:30	04/24/2014 17:10
SB08	X404251-08	Water	April 24, 2014 11:35	04/24/2014 17:10
SB09	X404251-09	Water	April 24, 2014 11:45	04/24/2014 17:10
SB10	X404251-10	Water	April 24, 2014 12:00	04/24/2014 17:10
SB11	X404251-11	Water	April 24, 2014 12:15	04/24/2014 17:10
SB12	X404251-12	Water	April 24, 2014 12:30	04/24/2014 17:10

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 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

X40425/

page 1 of 2

ORIGINS
 LABORATORY, INC

Client: LTE Project Manager/Send Report To: Charles Greeson
 Address: _____ Email Address: Cgreeson@ltenv.com
 Telephone Number: _____ Project Name/Number: State 1614, 008313110
 Samples Collected By: Jayson George Lister

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions	Turnaround Time: 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"/>	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #				Other
SB01	6/24/11	1100	3	X				X				BTEX	Lab filter	
SB02		1105												
SB03		1110												
SB04		1115												
SB05		1120												
SB06		1125												
SB07		1130												
SB08		1135												
SB09		1145												
SB10		1200												
Relinquished By:		Date: 4/24/11	Time: 110	Received By:		Date: 4/24/11	Time: 110							
Relinquished By:		Date: 4/24/11	Time: 110	Received By:		Date: 4/24/11	Time: 110							

None. 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: X404251

Client: LTE

Client Project ID: State 16-1614

Checklist Completed by: Jeff Smith

Shipped Via: Pick Up
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 4/25/14 8:36

Airbill #: NA

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

Cooler Number/Temperature: 129 °C / °C / °C (Describe)

Thermometer ID: T002

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾² ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾² (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)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Samples will be analyzed within 7 Days of Collection
Additional Comments (if any):				

⁽¹⁾²If 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.

Reviewed by: [Signature] (Project Manager)

Date/Time Reviewed: 4/29/14 9:33

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

SB01

4/24/2014 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
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	101 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.6 %	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

SB02

4/24/2014 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-02 (Water)

BTEX by EPA 8260C

Benzene	444	10.0	ug/L	10	4D25002	04/25/2014	04/28/2014	
Toluene	6.7	1.0	"	1	"	"	04/25/2014	
Ethylbenzene	43.1	1.0	"	"	"	"	"	
Xylenes, total	352	1.0	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	110 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	103 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	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

SB03

4/24/2014 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-03 (Water)

BTEX by EPA 8260C

Benzene	53.7	2.0	ug/L	2	4D25002	04/25/2014	04/25/2014	
Toluene	ND	2.0	"	"	"	"	"	
Ethylbenzene	ND	2.0	"	"	"	"	"	
Xylenes, total	ND	2.0	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	102 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	99.1 %	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

SB04

4/24/2014 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	103 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	108 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	103 %	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

SB05

4/24/2014 11:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-05 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	98.7 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	105 %	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

SB06

4/24/2014 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-06 (Water)

BTEX by EPA 8260C

Benzene	180	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	6.4	1.0	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	102 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	101 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	98.8 %	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

SB07

4/24/2014 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-07 (Water)

BTEX by EPA 8260C

Benzene	228	2.0	ug/L	2	4D25002	04/25/2014	04/25/2014	
Toluene	ND	2.0	"	"	"	"	"	
Ethylbenzene	62.7	2.0	"	"	"	"	"	
Xylenes, total	409	2.0	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	101 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	99.0 %	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

4/24/2014 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-08 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	98.0 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	102 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	92.4 %	88.6-111			"	"	"	

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LT Environmental, Inc.
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 Arvada CO 80003

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

SB09

4/24/2014 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-09 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.3 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	102 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	95.3 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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

SB10

4/24/2014 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-10 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.7 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	101 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	99.6 %	88.6-111			"	"	"	

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

SB11

4/24/2014 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-11 (Water)

BTEX by EPA 8260C

Benzene	6.0	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	6.0	1.0	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	87.3-113			"	"	"	
<i>Surrogate: Toluene-d8</i>	102 %	90.9-108			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	100 %	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

SB12

4/24/2014 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 X404251-12 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	4D25002	04/25/2014	04/25/2014	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	99.9 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.3 %	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 4D25002 - EPA 5030B (Water)

Blank (4D25002-BLK1)

Prepared: 04/25/2014 Analyzed: 04/25/2014

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>64</i>		<i>"</i>	<i>62.5</i>	<i>103</i>		<i>87.3-113</i>			
<i>Surrogate: Toluene-d8</i>	<i>64</i>		<i>"</i>	<i>62.5</i>	<i>103</i>		<i>90.9-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>61</i>		<i>"</i>	<i>62.5</i>	<i>98.1</i>		<i>88.6-111</i>			

Origins Laboratory, 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 4D25002 - EPA 5030B (Water)

LCS (4D25002-BS1)

Prepared: 04/25/2014 Analyzed: 04/25/2014

Benzene	45.2	1.0	ug/L	50.0	90.4	75-126				
Toluene	43.2	1.0	"	50.0	86.3	78.7-126				
Ethylbenzene	40.7	1.0	"	50.0	81.4	81-130				
m,p-Xylene	84.1	2.0	"	100	84.1	77.2-133				
o-Xylene	44.2	1.0	"	50.0	88.5	77.9-126				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>61</i>		<i>"</i>	<i>62.5</i>	<i>97.6</i>	<i>87.3-113</i>				
<i>Surrogate: Toluene-d8</i>	<i>64</i>		<i>"</i>	<i>62.5</i>	<i>102</i>	<i>90.9-108</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>62</i>		<i>"</i>	<i>62.5</i>	<i>99.9</i>	<i>88.6-111</i>				

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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 4D25002 - EPA 5030B (Water)

Matrix Spike (4D25002-MS1)	Source: X404251-12			Prepared: 04/25/2014 Analyzed: 04/25/2014						
Benzene	58.8	1.0	ug/L	50.0	ND	118	74-130			
Toluene	55.8	1.0	"	50.0	ND	112	73-131			
Ethylbenzene	53.5	1.0	"	50.0	ND	107	76-132			
m,p-Xylene	107	2.0	"	100	ND	107	69-139			
o-Xylene	52.4	1.0	"	50.0	ND	105	74-131			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>60</i>		<i>"</i>	<i>62.5</i>		<i>96.6</i>	<i>87.3-113</i>			
<i>Surrogate: Toluene-d8</i>	<i>63</i>		<i>"</i>	<i>62.5</i>		<i>101</i>	<i>90.9-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>59</i>		<i>"</i>	<i>62.5</i>		<i>94.4</i>	<i>88.6-111</i>			

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 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 4D25002 - EPA 5030B (Water)

Matrix Spike Dup (4D25002-MSD1)	Source: X404251-12			Prepared: 04/25/2014 Analyzed: 04/25/2014						
Benzene	56.5	1.0	ug/L	50.0	ND	113	74-130	3.95	20	
Toluene	55.1	1.0	"	50.0	ND	110	73-131	1.34	20	
Ethylbenzene	51.9	1.0	"	50.0	ND	104	76-132	3.09	20	
m,p-Xylene	105	2.0	"	100	ND	105	69-139	2.13	20	
o-Xylene	52.7	1.0	"	50.0	ND	105	74-131	0.533	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>60</i>		<i>"</i>	<i>62.5</i>		<i>95.9</i>	<i>87.3-113</i>			
<i>Surrogate: Toluene-d8</i>	<i>64</i>		<i>"</i>	<i>62.5</i>		<i>102</i>	<i>90.9-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>60</i>		<i>"</i>	<i>62.5</i>		<i>96.4</i>	<i>88.6-111</i>			

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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.

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