

TABLE 1
GROUNDWATER ANALYTICAL RESULTS

STATE 16-16I4 FLOW LINE
COGCC REMEDIATION #8264
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	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
	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
	4/9/2015	5.85	4,677.78	<1.0	<1.0	<1.0	<1.0
	7/29/2015	5.30	4,678.33	<1.0	<1.0	<1.0	<1.0
	11/5/2015	5.07	4,678.56	<1.0	<1.0	<1.0	<1.0
	1/28/2016	3.35	4,680.28	<1.0	<1.0	<1.0	<1.0
	4/13/2016	5.42	4,678.21	<1.0	<1.0	<1.0	<1.0
	7/6/2016	4.34	4,679.29	<1.00	<1.00	<1.00	<1.00
	10/4/2016	4.83	4,678.80	<1.00	<1.00	<1.00	<1.00
	1/9/2017	5.30	4,678.33	<1.00	<1.00	<1.00	<1.00
	4/27/2017	5.78	4,677.85	<1.00	<1.00	<1.00	<1.00
	8/4/2017	5.18	4,678.45	<1.00	<1.00	<1.00	<1.00
	10/5/2017	4.19	4,679.44	<1.00	<1.00	<1.00	<1.00
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
	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
	4/9/2015	5.54	4,677.68	246	2.2	78.5	288
	7/29/2015	5.14	4,678.08	168	<4.0	53.1	195
	11/5/2015	--	--	No sample - monitoring well destroyed			
SB02R	4/13/2016	5.45	4,677.77	38.5	<1.0	<1.0	<1.0
	7/6/2016	4.31	4,678.91	61.2	<1.00	<1.00	<1.00
	10/4/2016	4.70	4,678.52	3.68	<1.00	<1.00	<1.00
	1/9/2017	5.10	4,678.12	1.43	<1.00	<1.00	<1.00
	4/27/2017	5.73	4,677.49	3.28	<1.00	<1.00	<1.00
	8/4/2017	5.12	4,678.10	<1.00	<1.00	<1.00	<1.00
	10/5/2017	4.11	4,679.11	<1.00	<1.00	<1.00	<1.00

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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
	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
	4/9/2015	7.50	4,675.67	<1.0	<1.0	<1.0	<1.0
	7/29/2015	5.49	4,677.68	1.3	<1.0	<1.0	<1.0
	11/5/2015	--	--	No sample - monitoring well under water			
	1/28/2016	2.90	4,680.33	<1.0	<1.0	<1.0	<1.0
	4/13/2016	5.59	4,677.64	34.3	<1.0	<1.0	<1.0
	7/6/2016	4.35	4,678.88	<1.00	<1.00	<1.00	<1.00
	10/4/2016	4.80	4,678.43	<1.00	<1.00	<1.00	<1.00
	1/9/2017	5.19	4,678.04	<1.00	<1.00	<1.00	<1.00
	4/27/2017	5.93	4,677.30	<1.00	<1.00	<1.00	<1.00
	8/4/2017	5.35	4,677.88	<1.00	<1.00	<1.00	<1.00
	10/5/2017	4.31	4,678.92	<1.00	<1.00	<1.00	<1.00
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
	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
	4/9/2015	5.64	4,677.61	<1.0	<1.0	<1.0	<1.0
	7/29/2015	5.22	4,678.03	<1.0	<1.0	<1.0	<1.0
	11/5/2015	4.90	4,678.35	<1.0	<1.0	<1.0	<1.0
	1/28/2016	3.00	4,680.25	<1.0	<1.0	<1.0	<1.0
	4/13/2016	5.32	4,677.93	<1.0	<1.0	<1.0	<1.0
	7/6/2016	4.23	4,679.02	<1.00	<1.00	<1.00	<1.00
	10/4/2016	4.65	4,678.60	<1.00	<1.00	<1.00	<1.00
	1/9/2017	5.10	4,678.15	<1.00	<1.00	<1.00	<1.00
	4/27/2017	5.68	4,677.57	<1.00	<1.00	<1.00	<1.00
	8/4/2017	5.09	4,678.16	<1.00	<1.00	<1.00	<1.00
	10/5/2017	4.12	4,679.13	<1.00	<1.00	<1.00	<1.00

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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
	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
	4/9/2015	5.73	4,677.86	<1.0	<1.0	<1.0	<1.0
	7/29/2015	--	--	Removed from monitoring program			
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
	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
	4/9/2015	5.80	4,677.47	3.9	<1.0	<1.0	<1.0
	7/29/2015	5.51	4,677.76	<1.0	<1.0	<1.0	<1.0
SB06R	11/5/2015	--	--	No sample - monitoring well destroyed			
	4/13/2016	5.48	4,677.79	3.2	<1.0	<1.0	<1.0
	7/6/2016	4.38	4,678.89	<1.00	<1.00	<1.00	<1.00
	10/4/2016	4.70	4,678.57	<1.00	<1.00	<1.00	<1.00
	1/9/2017	5.15	4,678.12	<1.00	<1.00	<1.00	<1.00
	4/27/2017	5.84	4,677.43	<1.00	<1.00	<1.00	<1.00
	8/4/2017	5.27	4,678.00	<1.00	<1.00	<1.00	<1.00
SB07	10/5/2017	4.28	4,678.99	<1.00	<1.00	<1.00	<1.00
	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
	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
	4/9/2015	5.50	4,677.60	<1.0	<1.0	<1.0	<1.0
	7/29/2015	5.80	4,677.30	<1.0	<1.0	<1.0	<1.0
	11/5/2015	5.10	4,678.00	<1.0	<1.0	<1.0	<1.0
	1/28/2016	2.92	4,680.18	<1.0	<1.0	<1.0	<1.0
	4/13/2016	5.87	4,677.23	<1.0	<1.0	<1.0	<1.0
	7/6/2016	4.51	4,678.59	<1.00	<1.00	<1.00	<1.00

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SB07	10/4/2016	4.90	4,678.20	<1.00	<1.00	<1.00	<1.00
	1/9/2017	5.30	4,677.80	<1.00	<1.00	<1.00	<1.00
	4/27/2017	6.20	4,676.90	<1.00	<1.00	<1.00	<1.00
	8/4/2017	5.68	4,677.42	<1.00	<1.00	<1.00	<1.00
	10/5/2017	5.66	4,677.44	<1.00	<1.00	<1.00	<1.00
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
	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
	4/9/2015	6.14	4,677.19	<1.0	<1.0	<1.0	<1.0
	7/29/2015	5.91	4,677.42	<1.0	<1.0	<1.0	<1.0
	11/5/2015	5.30	4,678.03	<1.0	<1.0	<1.0	<1.0
	1/28/2016	3.20	4,680.13	<1.0	<1.0	<1.0	<1.0
	4/13/2016	5.97	4,677.36	<1.0	<1.0	<1.0	<1.0
	7/6/2016	4.50	4,678.83	<1.00	<1.00	<1.00	<1.00
	10/4/2016	5.02	4,678.31	<1.00	<1.00	<1.00	<1.00
	1/9/2017	5.50	4,677.83	<1.00	<1.00	<1.00	<1.00
	4/27/2017	6.29	4,677.04	<1.00	<1.00	<1.00	<1.00
	8/4/2017	5.59	4,677.74	<1.00	<1.00	<1.00	<1.00
	10/5/2017	4.58	4,678.75	<1.00	<1.00	<1.00	<1.00
SB09	4/24/2014	6.15	NM	<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
	4/9/2015	5.75	4,677.55	<1.0	<1.0	<1.0	<1.0
	7/29/2015	--	--	Removed from monitoring program			
SB10	4/24/2014	6.43	NM	<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
	4/9/2015	5.88	4,677.18	<1.0	<1.0	<1.0	<1.0
	7/29/2015	--	--	Removed from monitoring program			

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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)
SB11	4/24/2014	6.61	NM	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
	4/9/2015	6.02	4,676.86	<1.0	<1.0	<1.0	<1.0
	7/29/2015	--	--	Removed from monitoring program			
SB12	4/24/2014	6.40	NM	<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
	4/9/2015	5.89	4,675.90	<1.0	<1.0	<1.0	<1.0
	7/29/2015	--	--	Removed from monitoring program			
SB13	10/16/2014	8.18	4,677.89	<1.0	<1.0	<1.0	<1.0
	1/21/2015	8.25	4,677.82	<1.0	<1.0	<1.0	<1.0
	4/9/2015	8.31	4,677.76	<1.0	<1.0	<1.0	<1.0
	7/29/2015	--	--	Removed from monitoring program			
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

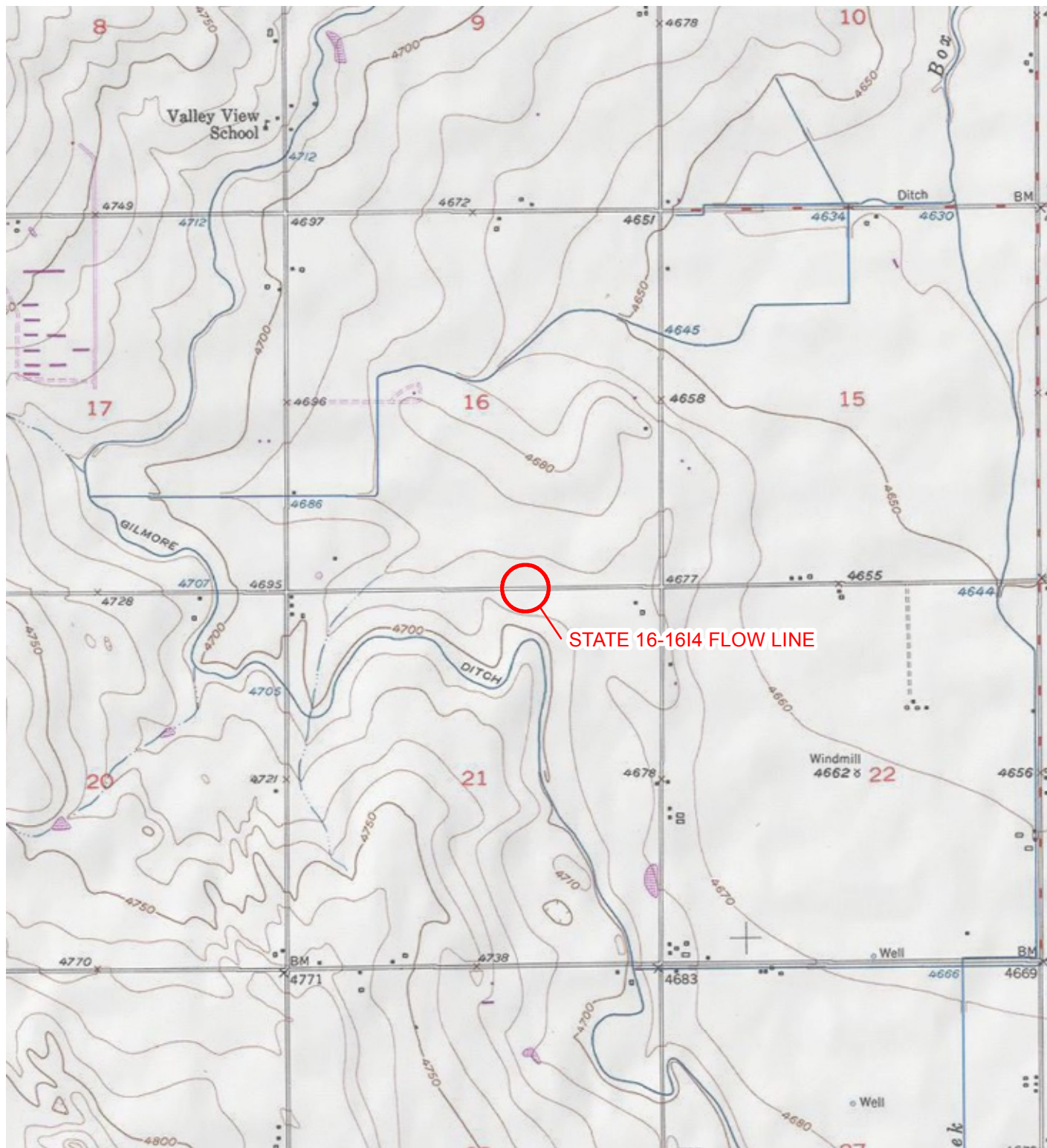


IMAGE COURTESY OF ESRI/USGS

LEGEND

○ SITE LOCATION

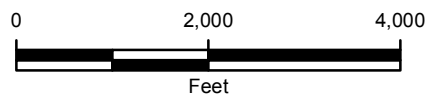


FIGURE 1
SITE LOCATION MAP
STATE 16-1614 FLOW LINE
SWSE SEC 16-T4N-R64W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.





LEGEND

- ⊗ MONITORING WELL
- ⊗ MONITORING WELL REMOVED FROM MONITORING PROGRAM
- ↑ CALCULATED GROUNDWATER FLOW DIRECTION
- FLOW LINE
- - - EXCAVATION EXTENT
- RELATIVE GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 0.50 FEET
GRADIENT = 0.027 FEET/FOOT
GROUNDWATER ELEVATIONS WERE
MEASURED ON OCTOBER 5, 2017

IMAGE COURTESY OF ESRI

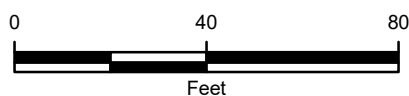
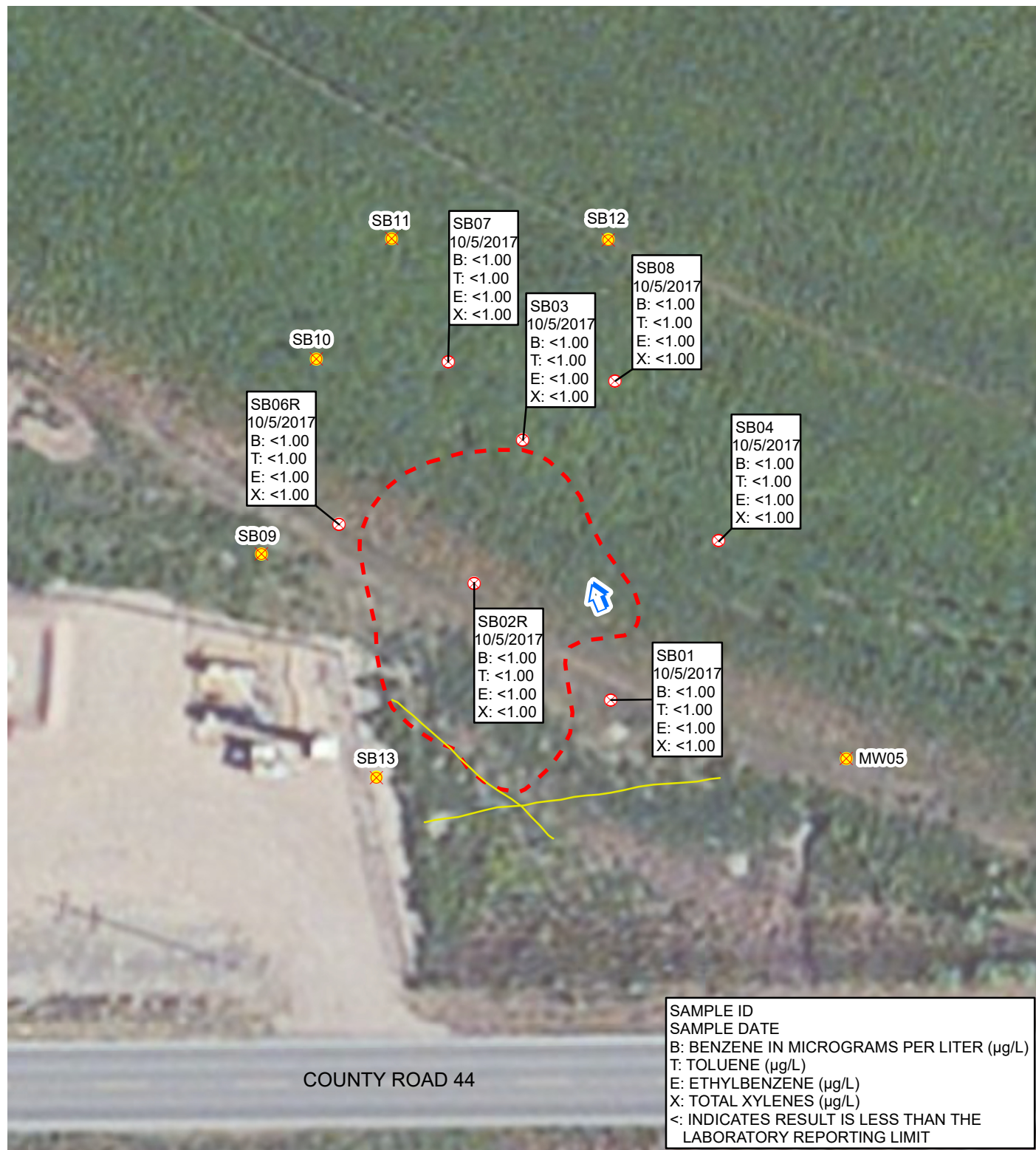


FIGURE 2
GROUNDWATER ELEVATION MAP
STATE 16-1614 FLOW LINE
SWSE SEC 16-T4N-R64W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.







October 12, 2017

LT Environmental, Inc.

Jeremy Pike

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. October 05, 2017. This project is associated with Origins project number Y710088-01.

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

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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01	Y710088-01	Water	October 5, 2017 13:00	10/05/2017 15:30
SB02R	Y710088-02	Water	October 5, 2017 14:30	10/05/2017 15:30
SB03	Y710088-03	Water	October 5, 2017 13:45	10/05/2017 15:30
SB04	Y710088-04	Water	October 5, 2017 13:15	10/05/2017 15:30
SB06R	Y710088-05	Water	October 5, 2017 14:15	10/05/2017 15:30
SB07	Y710088-06	Water	October 5, 2017 14:00	10/05/2017 15:30
SB08	Y710088-07	Water	October 5, 2017 13:30	10/05/2017 15:30


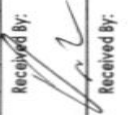

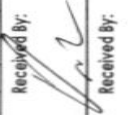
Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

ORIGINS LABORATORY, INC.		Y710088		www.originslaboratory.com	
Client: LT Environmental, Inc.		Project Manager: Jeremy Pike		page 1 of 1	
Address: 4600 West 60th Ave. Arvada, CO		State 16-1614			
Telephone Number: 303-433-9788		Project Number: 008313110			
Email Address: Noble Remediation Team		Samples Collected By: Jeff Bender			

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative						Matrix				Analysis		Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other					
SB01	10/5/17	1320	3	X					X				BTEX	Lab filter all	1	
SB02R		1430	3	X											2	
SB03		1345	3	X											3	
SB04		1315	3	X											4	
SB06R		1415	3	X											5	
SB07		1400	3	X											6	
SB08		1330	3	X											7	
															8	
															9	
															10	
Relinquished By: 	Date: 10/5/17	Time: 1330		Received By: 				Date: 10/5/17				Time: 1530	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input checked="" type="checkbox"/> 48 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>			
Relinquished By: 	Date: 10/5/17	Time: 1330		Received By: 				Date: 10/5/17				Time: 1530	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input checked="" type="checkbox"/> 48 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>			

Origins Laboratory, Inc.

Jeff Pellipini

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

Jeremy Pike
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: 1710082

Client: LTE

Client Project ID: Noble - State 16-1614

Checklist Completed by: Don Lu

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

Date/time completed: 10-5-17 1549

Airbill #: N/A

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

Cooler Number/Temperature: 1 5.9 °C 1 °C 1 °C (Describe)

Thermometer ID: 7003

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"/>	<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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<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⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<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⁾ ? (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"/>	
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.

Reviewed by: JAP (Project Manager)

Date/Time Reviewed: 10/16/17

Origins Laboratory, Inc.

Jen Pellegrini

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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

SB01

10/5/2017 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710088-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J1006	10/10/2017	10/10/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	106 %	84-121	"	"	"
Surrogate: Toluene-d8	99.5 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	97.5 %	84-114	"	"	"

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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

SB02R
10/5/2017 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710088-02 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J1006	10/10/2017	10/10/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121	"	"	"
Surrogate: Toluene-d8	98.3 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	98.3 %	84-114	"	"	"

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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

SB03

10/5/2017 1:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710088-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J1006	10/10/2017	10/10/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121	"	"	"
Surrogate: Toluene-d8	98.4 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	97.0 %	84-114	"	"	"

Origins Laboratory, Inc.



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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

SB04

10/5/2017 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710088-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J1006	10/10/2017	10/10/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	106 %	84-121	"	"	"
Surrogate: Toluene-d8	99.1 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	97.9 %	84-114	"	"	"

Origins Laboratory, Inc.



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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

SB06R
10/5/2017 2:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710088-05 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J1006	10/10/2017	10/10/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121	"	"	"
Surrogate: Toluene-d8	99.2 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	84-114	"	"	"

Origins Laboratory, Inc.



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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

SB07

10/5/2017 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710088-06 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J1006	10/10/2017	10/10/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4
Surrogate: Toluene-d8
Surrogate: 4-Bromofluorobenzene

104 %
99.3 %
100 %

84-121
85-115
84-114

"
"
"

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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

SB08

10/5/2017 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710088-07 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J1006	10/10/2017	10/10/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121	"	"	"
Surrogate: Toluene-d8	99.2 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	99.5 %	84-114	"	"	"

Origins Laboratory, Inc.



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

Jeremy Pike
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 B7J1006 - EPA 5030B (Water)

Blank (B7J1006-BLK1)

Prepared: 10/10/2017 Analyzed: 10/10/2017

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5	104		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.0		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	100		84-114			

Origins Laboratory, Inc.



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

Jeremy Pike
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 B7J1006 - EPA 5030B (Water)

LCS (B7J1006-BS1)

Prepared: 10/10/2017 Analyzed: 10/10/2017

Benzene	55.4	1.00	ug/L	50.0	111	73.3-129
Toluene	52.7	1.00	"	50.0	105	76.2-123
Ethylbenzene	50.8	1.00	"	50.0	102	73.6-130
m,p-Xylene	99.0	2.00	"	100	99.0	76.1-126
o-Xylene	49.7	1.00	"	50.0	99.3	76.6-124
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5	92.3	84-121
Surrogate: Toluene-d8	62		"	62.5	99.9	85-115
Surrogate: 4-Bromofluorobenzene	62		"	62.5	98.8	84-114

Origins Laboratory, Inc.



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

Jeremy Pike
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 B7J1006 - EPA 5030B (Water)

Matrix Spike (B7J1006-MS1)		Source: Y710080-09			Prepared: 10/10/2017 Analyzed: 10/10/2017					
Benzene	58.8	1.00	ug/L	50.0	ND	118	74-130			
Toluene	56.0	1.00	"	50.0	ND	112	73-131			
Ethylbenzene	56.5	1.00	"	50.0	0.070	113	76-132			
m,p-Xylene	107	2.00	"	100	ND	107	69-139			
o-Xylene	54.1	1.00	"	50.0	ND	108	74-131			
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.5	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike
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 B7J1006 - EPA 5030B (Water)

Matrix Spike Dup (B7J1006-MSD1)		Source: Y710080-09			Prepared: 10/10/2017 Analyzed: 10/10/2017					
Benzene	58.8	1.00	ug/L	50.0	ND	118	74-130	0.102	20	
Toluene	56.6	1.00	"	50.0	ND	113	73-131	1.03	20	
Ethylbenzene	53.6	1.00	"	50.0	0.070	107	76-132	5.23	20	
m,p-Xylene	105	2.00	"	100	ND	105	69-139	2.62	20	
o-Xylene	51.8	1.00	"	50.0	ND	104	74-131	4.46	20	
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.9	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike
Project Number: 008313110
Project: Noble - State 16-1614

Notes and Definitions

U Sample is Non-Detect.

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