

TABLE 1

**GROUNDWATER ANALYTICAL RESULTS
LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
COGCC REMEDIATION #8952
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.**

received 08/15/2016
Project 8952
Document 2526765

Monitoring Well	Date	Depth to Water (feet btoc)	Groundwater Elevation (AMSL)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW01	8/22/2014	6.22	4,732.91	17,800	2,920	745	11,500
	11/20/2014	9.79	4,729.34	32,900	751	673	10,500
	1/9/2015	7.87	4,731.26	30,000	190	1,300	20,000
	4/10/2015	8.72	4,730.41	25,000	220	640	13,000
	7/16/2015	6.16	4,732.97	22,000	1,800	690	11,000
	10/6/2015	7.02	4,732.11	33,000	150	830	13,000
	1/15/2016	7.56	4,731.57	1,600	1.8	<1.0	2,000
	4/29/2016	7.50	4,731.63	<1.0	<1.0	<1.0	<1.0
	7/15/2016	7.60	4,731.53	<1.0	<1.0	<1.0	<1.0
MW02	8/22/2014	8.83	4,733.58	0.33	<1.0	<1.0	3.5
	11/20/2014	9.51	4,732.90	<0.50	<1.0	<1.0	<1.0
	1/9/2015	10.25	4,732.16	<1.0	<1.0	<1.0	<1.0
	4/10/2015	11.26	4,731.15	<1.0	<1.0	<1.0	<1.0
	7/16/2015	8.71	4,733.70	<1.0	<1.0	<1.0	<1.0
	10/6/2015	9.30	4,733.11	<1.0	<1.0	<1.0	<1.0
	1/15/2016	10.42	4,731.99	<1.0	<1.0	<1.0	<1.0
	4/29/2016	9.80	4,732.61	<1.0	<1.0	<1.0	<1.0
	7/15/2016	10.15	4,732.26	<1.0	<1.0	<1.0	<1.0
MW03	8/22/2014	12.74	4,729.52	<1.0	<1.0	0.68	1.4
	11/20/2014	9.29	4,732.97	<0.50	<1.0	<1.0	<1.0
	1/9/2015	10.08	4,732.18	<1.0	<1.0	<1.0	<1.0
	4/10/2015	11.50	4,730.76	1.1	<1.0	<1.0	<1.0
	7/24/2015	8.04	4,734.22	<1.0	<1.0	<1.0	<1.0
	10/6/2015	8.44	4,733.82	<1.0	<1.0	<1.0	<1.0
	1/15/2016	9.46	4,732.80	<1.0	<1.0	<1.0	<1.0
	4/29/2016	8.83	4,733.43	<1.0	<1.0	<1.0	<1.0
	7/15/2016	9.29	4,732.97	<1.0	<1.0	<1.0	<1.0
MW04	8/22/2014	9.20	4,733.02	<1.0	<1.0	<1.0	<2.0
	11/20/2014	9.89	4,732.33	<0.50	<1.0	<1.0	<1.0
	1/9/2015	10.45	4,731.77	<1.0	<1.0	<1.0	<1.0
	4/10/2015	11.50	4,730.72	<1.0	<1.0	<1.0	<1.0
	7/16/2015	8.83	4,733.39	<1.0	<1.0	<1.0	<1.0
	10/6/2015	9.46	4,732.76	<1.0	<1.0	<1.0	<1.0

TABLE 1 (Continued)

GROUNDWATER ANALYTICAL RESULTS
LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water (feet btoc)	Groundwater Elevation (AMSL)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW04	1/15/2016	10.60	4,731.62	<1.0	<1.0	<1.0	<1.0
	4/29/2016	10.06	4,732.16	<1.0	<1.0	<1.0	<1.0
	7/15/2016	10.29	4,731.93	<1.0	<1.0	<1.0	<1.0
MW05	8/22/2014	9.19	4,733.25	869	<1.0	3.7	5.0
	11/20/2014	9.81	4,732.63	7.2	<1.0	<1.0	<1.0
	1/9/2015	10.35	4,732.09	2.6	<1.0	<1.0	<1.0
	4/10/2015	11.05	4,731.39	<1.0	<1.0	<1.0	<1.0
	7/16/2015	9.72	4,732.72	220	<1.0	<1.0	<1.0
	10/6/2015	8.23	4,734.21	<1.0	<1.0	<1.0	<1.0
	1/15/2016	NM	NM	Not sampled - monitoring well frozen/blocked			
	4/29/2016	10.48	4,731.96	<1.0	<1.0	<1.0	<1.0
	7/15/2016	10.13	4,732.31	<1.0	<1.0	<1.0	<1.0
MW06	9/25/2014	6.82	4,732.38	<1.0	<1.0	<1.0	<1.0
	11/20/2014	7.10	4,732.10	<0.50	<1.0	<1.0	<1.0
	1/9/2015	7.87	4,731.33	<1.0	<1.0	<1.0	<1.0
	4/10/2015	9.00	4,730.20	<1.0	<1.0	<1.0	<1.0
	7/16/2015	6.41	4,732.79	<1.0	<1.0	<1.0	<1.0
	10/6/2015	6.92	4,732.28	<1.0	<1.0	<1.0	<1.0
	1/15/2016	8.10	4,731.10	<1.0	<1.0	<1.0	<1.0
	4/29/2016	7.57	4,731.63	<1.0	<1.0	<1.0	<1.0
	7/15/2016	7.97	4,731.23	<1.0	<1.0	<1.0	<1.0
MW07	9/25/2014	7.05	4,732.48	<1.0	<1.0	<1.0	<1.0
	11/20/2014	7.41	4,732.12	<0.50	<1.0	<1.0	<1.0
	1/9/2015	8.14	4,731.39	<1.0	<1.0	<1.0	<1.0
	4/10/2015	9.31	4,730.22	<1.0	<1.0	<1.0	<1.0
	7/16/2015	6.70	4,732.83	<1.0	<1.0	<1.0	<1.0
	10/6/2015	7.20	4,732.33	<1.0	<1.0	<1.0	<1.0
	1/15/2016	8.32	4,731.21	<1.0	<1.0	<1.0	<1.0
	4/29/2016	7.80	4,731.73	<1.0	<1.0	<1.0	<1.0
	7/15/2016	8.18	4,731.35	<1.0	<1.0	<1.0	<1.0
MW08	9/25/2014	8.10	4,732.92	117	12.6	238	4,860
	11/20/2014	8.67	4,732.35	<0.50	<1.0	<1.0	298
	1/9/2015	9.50	4,731.52	87	39	60	2,200

TABLE 1 (Continued)

GROUNDWATER ANALYTICAL RESULTS
LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water (feet btoc)	Groundwater Elevation (AMSL)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW08	4/10/2015	10.58	4,730.44	89	45	<1.0	3,300
	7/16/2015	7.33	4,733.69	<1.0	<1.0	<1.0	<1.0
	10/6/2015	8.07	4,732.66	<1.0	<1.0	<1.0	<1.0
	1/15/2016	9.63	4,731.10	<1.0	<1.0	<1.0	<1.0
	4/29/2016	9.10	4,731.63	<1.0	<1.0	<1.0	<1.0
	7/15/2016	8.88	4,731.85	<1.0	<1.0	<1.0	<1.0
MW09	9/25/2014	9.42	4,732.81	207	6,740	299	5,160
	11/20/2014	9.60	4,732.63	38.4	70.6	<1.0	782
	1/9/2015	7.90	4,731.67	34	2.7	120	5,000
	4/10/2015	11.60	4,727.97	<1.0	<1.0	<1.0	<1.0
	7/16/2015	9.32	4,730.25	14	48	<1.0	100
	10/6/2015	9.51	4,732.57	<1.0	<1.0	<1.0	<1.0
	1/15/2016	9.63	4,732.45	<1.0	<1.0	<1.0	<1.0
	4/29/2016	10.15	4,731.93	<1.0	<1.0	<1.0	9.6
	7/15/2016	10.44	4,731.64	<1.0	<1.0	<1.0	<1.0
MW10	1/9/2015	9.17	4,731.94	<1.0	<1.0	<1.0	<1.0
	4/10/2015	10.19	4,730.92	<1.0	<1.0	<1.0	<1.0
	7/16/2015	7.65	4,733.46	<1.0	<1.0	<1.0	<1.0
	10/6/2015	8.21	4,732.90	<1.0	<1.0	<1.0	<1.0
	1/15/2016	9.38	4,731.73	<1.0	<1.0	<1.0	<1.0
	4/29/2016	8.79	4,732.32	<1.0	<1.0	<1.0	<1.0
	7/15/2016	9.08	4,732.03	<1.0	<1.0	<1.0	<1.0
MW11	1/9/2015	9.05	4,732.03	<1.0	<1.0	<1.0	2.1
	4/10/2015	10.03	4,731.05	<1.0	<1.0	<1.0	<1.0
	7/16/2015	7.80	4,733.28	<1.0	<1.0	<1.0	<1.0
	10/6/2015	8.10	4,732.98	<1.0	<1.0	<1.0	<1.0
	1/15/2016	9.34	4,731.74	<1.0	<1.0	<1.0	<1.0
	4/29/2016	9.60	4,731.48	<1.0	<1.0	<1.0	<1.0
	7/15/2016	8.93	4,732.15	<1.0	<1.0	<1.0	<1.0
MW12	1/9/2015	9.15	4,731.32	<1.0	<1.0	<1.0	<1.0
	4/10/2015	10.25	4,730.22	<1.0	<1.0	<1.0	<1.0
	7/16/2015	7.35	4,733.12	<1.0	<1.0	<1.0	<1.0
	10/6/2015	7.98	4,732.49	<1.0	<1.0	<1.0	<1.0

TABLE 1 (Continued)

GROUNDWATER ANALYTICAL RESULTS
LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Monitoring Well	Date	Depth to Water (feet btoc)	Groundwater Elevation (AMSL)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW12	1/15/2016	9.29	4,731.18	<1.0	<1.0	<1.0	<1.0
	4/29/2016	8.75	4,731.72	<1.0	<1.0	<1.0	<1.0
	7/15/2016	8.83	4,731.64	<1.0	<1.0	<1.0	<1.0
MW13	1/9/2015	9.80	4,731.35	990	220	130	3,900
	4/10/2015	10.85	4,730.30	1,100	25	<1.0	2,400
	7/16/2015	8.21	4,732.94	620	1,200	150	4,600
	10/6/2015	8.56	4,732.50	290	2,600	460	6,300
	1/15/2016	9.90	4,731.16	210	240	<1.0	3,700
	4/29/2016	9.40	4,731.66	71	59	<1.0	2,200
	7/15/2016	9.54	4,731.52	17	40	<1.0	3,100
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

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

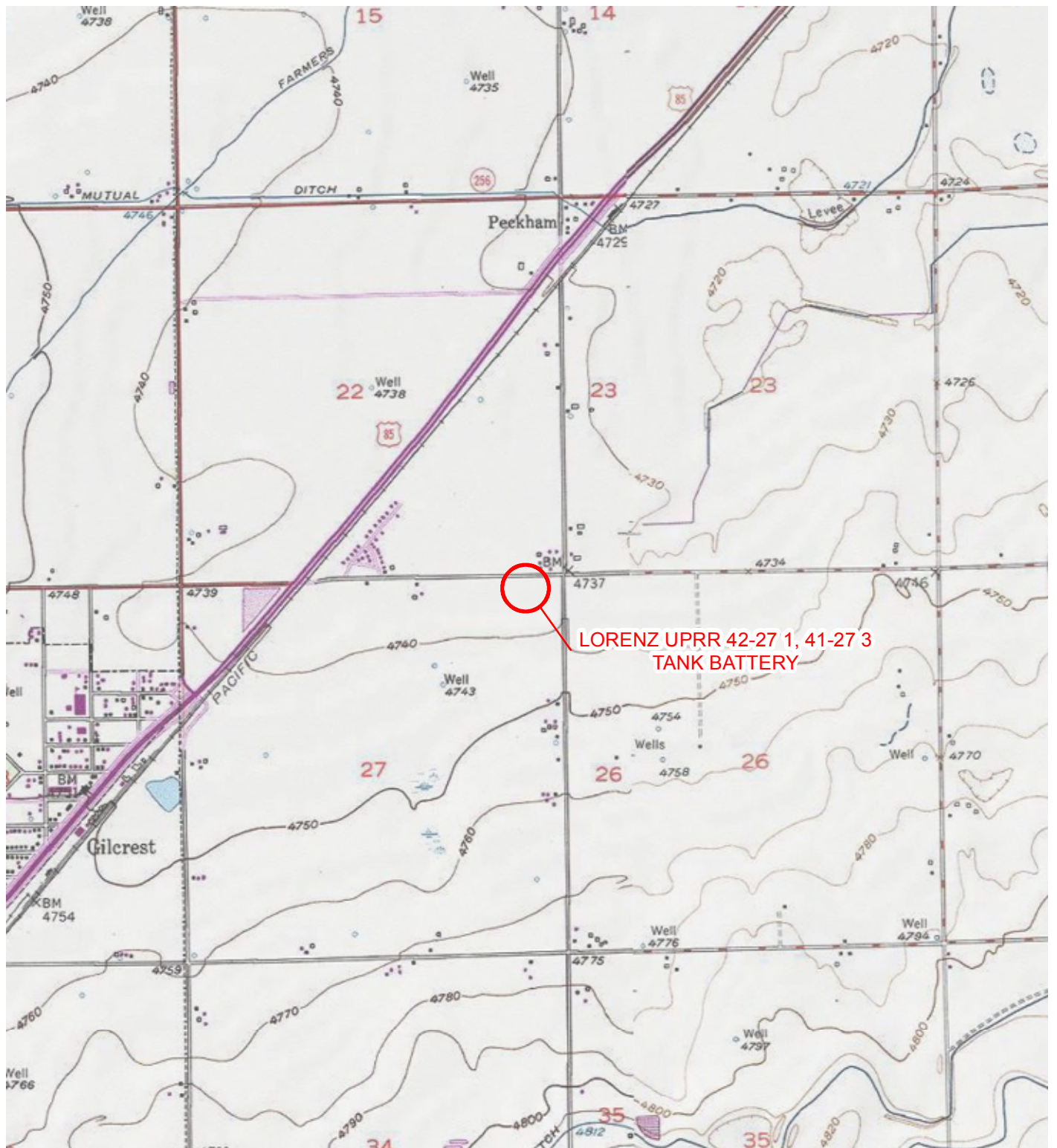


IMAGE COURTESY OF ESRI/USGS

LEGEND

○ SITE LOCATION

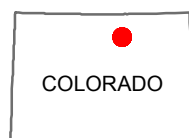
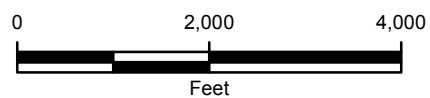
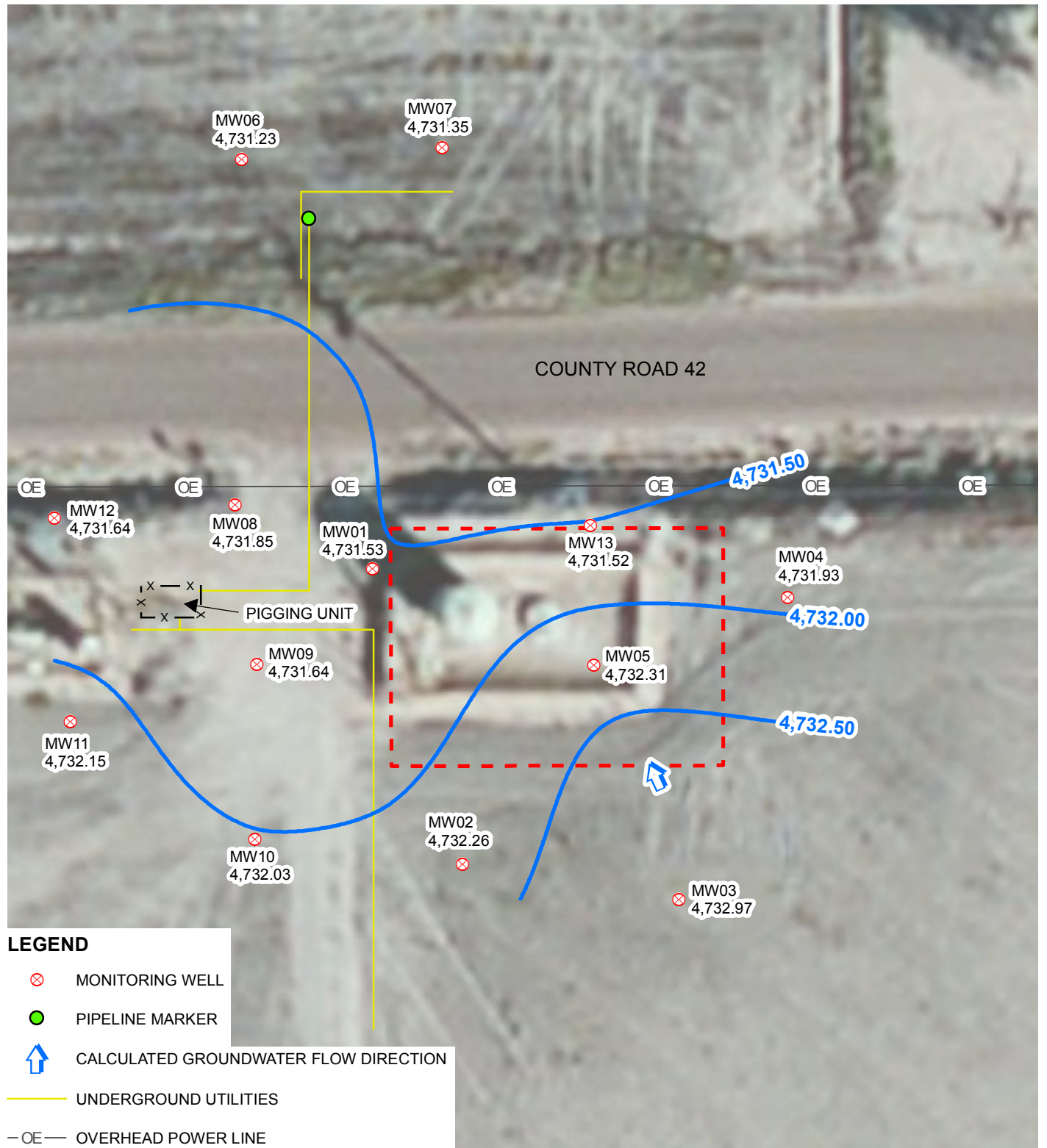


FIGURE 1
SITE LOCATION MAP
LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
NENE SEC 27-T4N-R66W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.





LEGEND

- ⊗ MONITORING WELL
- PIPELINE MARKER
- ↑ CALCULATED GROUNDWATER FLOW DIRECTION
- UNDERGROUND UTILITIES
- OE — OVERHEAD POWER LINE
- - - EXCAVATION EXTENT
- x — x FENCE
- GROUNDWATER ELEVATION CONTOUR

CONTOUR INTERVAL = 0.50 FEET

GRADIENT = 0.018 FEET/FOOT

GROUNDWATER ELEVATIONS WERE MEASURED ON
JULY 15, 2016

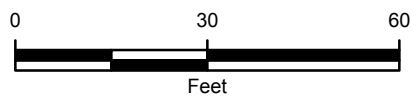
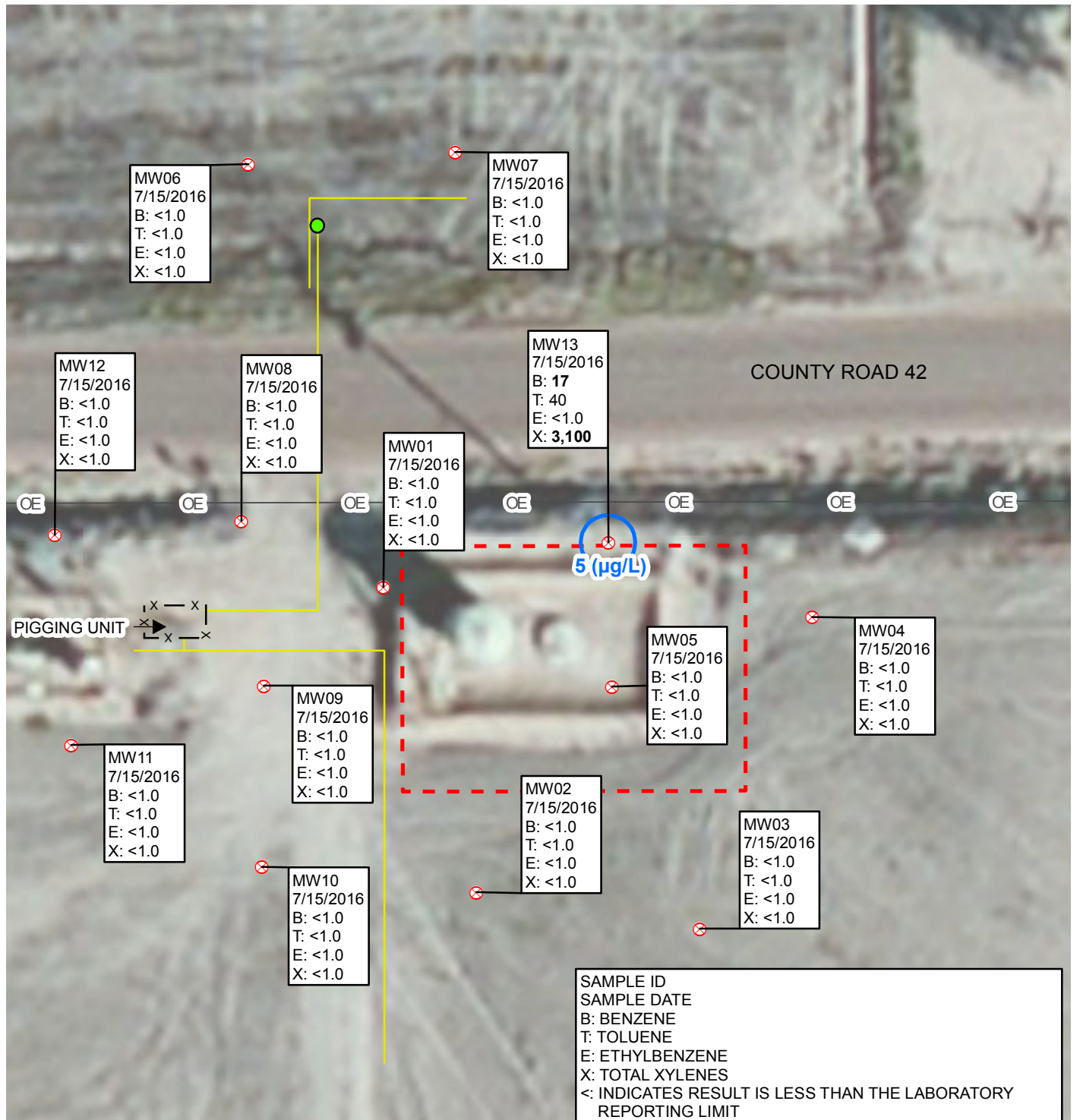


IMAGE COURTESY OF ESRI



FIGURE 2
GROUNDWATER ELEVATION MAP
LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
NENE SEC 27-T4N-R66W
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.





LEGEND

⊗ MONITORING WELL

● PIPELINE MARKER

— BENZENE ISOCONCENTRATION CONTOUR

— UNDERGROUND UTILITIES

— OE — OVERHEAD POWER LINE

— EXCAVATION EXTENT

— FENCE

SAMPLE ID
 SAMPLE DATE
 B: BENZENE
 T: TOLUENE
 E: ETHYLBENZENE
 X: TOTAL XYLENES
 <: INDICATES RESULT IS LESS THAN THE LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE APPLICABLE STANDARD
 RESULTS ARE REPORTED IN MICROGRAMS PER LITER (µg/L)

IMAGE COURTESY OF ESRI

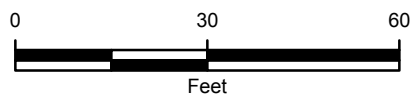


FIGURE 3
 GROUNDWATER ANALYTICAL RESULTS
 LORENZ UPRR 42-27 1, 41-27 3 TANK BATTERY
 NENE SEC 27-T4N-R66W
 WELD COUNTY, COLORADO
 NOBLE ENERGY, INC.



Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 20, 2016

Charles Greeson

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: NEP - Lorenz UPRR 42 27-1, 41-27-3

Enclosed are the results of analyses for samples received by Summit Scientific on 07/15/16 15:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	1607101-01	Water	07/15/16 12:16	07/15/16 15:44
MW02	1607101-02	Water	07/15/16 11:00	07/15/16 15:44
MW03	1607101-03	Water	07/15/16 11:12	07/15/16 15:44
MW04	1607101-04	Water	07/15/16 11:26	07/15/16 15:44
MW05	1607101-05	Water	07/15/16 11:51	07/15/16 15:44
MW06	1607101-06	Water	07/15/16 12:54	07/15/16 15:44
MW07	1607101-07	Water	07/15/16 13:11	07/15/16 15:44
MW08	1607101-08	Water	07/15/16 12:34	07/15/16 15:44
MW09	1607101-09	Water	07/15/16 12:01	07/15/16 15:44
MW10	1607101-10	Water	07/15/16 10:40	07/15/16 15:44
MW11	1607101-11	Water	07/15/16 10:30	07/15/16 15:44
MW12	1607101-12	Water	07/15/16 12:24	07/15/16 15:44
MW13	1607101-13	Water	07/15/16 11:35	07/15/16 15:44

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 - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

Summit Scientific

1607101.1

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-374-5933 Fax

Client: LT Environmental, Inc.

Address: 4600 West 60th Ave

City/State/Zip: Arvada, CO 80003

Phone: 303-433-9788 Fax: 303-433-1432

Sampler Name: GLENN THOMPSON

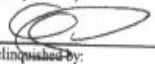
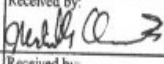
Project Manager: Charles Greeson

E-Mail: Noble Remediation Team

Project Name: Lorenz UPRR 42-27 1, 41-27 3

Project Number: 008314023

Page 1 of 2

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:				Special Instructions
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX				
MW01	7/15/16	1216	3			X		X				X				Decant all samples
MW02	7/15/16	1100	3			X		X				X				
MW03	7/15/16	1112	3			X		X				X				
MW04	7/15/16	1126	3			X		X				X				
MW05	7/15/16	1151	3			X		X				X				
MW06	7/15/16	1254	3			X		X				X				
MW07	7/15/16	1311	3			X		X				X				
MW08	7/15/16	1234	3			X		X				X				
MW09	7/15/16	1201	3			X		X				X				
MW10	7/15/16	1040	3			X		X				X				
Relinquished by: 		Date/Time: 7/15/16 1544	Received by: 		Date/Time: 7/15/16 1544	Turn Around Time (Check)		Notes:								
Relinquished by:		Date/Time:	Received by:		Date/Time:	Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>		Invoice Jacob								
Relinquished by:		Date/Time:	Received by:		Date/Time:	24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>										
Relinquished by:		Date/Time:	Received by:		Date/Time:	48 Hours <input type="checkbox"/>										
Relinquished by:		Date/Time:	Received in Lab by:		Date/Time:	Sample Integrity:		on 162								
Relinquished by:		Date/Time:	Received in Lab by:		Date/Time:	Temperature Upon Receipt: 14.6										
Relinquished by:		Date/Time:	Received in Lab by:		Date/Time:	Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										

www.s2scientific.com

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 - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

Sample Receipt Checklist

S2 Work Order: 1607101

Client: LT

Client Project ID: Lorenz UPRR 42-27

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

Airbill #: _____

Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Cooler ID	<u>1</u>				
Temp (°C)	<u>14.6</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			<u>on ice</u>
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form 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 w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				<u>HCL</u>
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<u>NA</u>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<u>NA</u>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Paul Shrestha
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

7-15-16
Date/Time



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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW01
1607101-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/15/16 12:16

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 07/15/16 12:16

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW02
1607101-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/15/16 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 07/15/16 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW03
1607101-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/15/16 11:12

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 07/15/16 11:12

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.7 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3
Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW04
1607101-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/15/16 11:26

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 07/15/16 11:26

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3
Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW05
1607101-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/15/16 11:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **07/15/16 11:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW06
1607101-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/15/16 12:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 07/15/16 12:54

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3
Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW07
1607101-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/15/16 13:11

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 07/15/16 13:11

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.7 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW08
1607101-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/15/16 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/18/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **07/15/16 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW09
1607101-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/15/16 12:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/19/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **07/15/16 12:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.7 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW10
1607101-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/15/16 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/19/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **07/15/16 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW11
1607101-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/15/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/19/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **07/15/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.6 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW12
1607101-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/15/16 12:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1607161	07/18/16	07/19/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **07/15/16 12:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

MW13
1607101-13 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/15/16 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	17	1.0	ug/l	1	1607161	07/18/16	07/19/16	EPA 8260B	
Toluene	40	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	3100	10	"	10	"	"	07/19/16	"	

Date Sampled: 07/15/16 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	37-154		"	"	07/19/16	"	
Surrogate: Toluene-d8		104 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.9 %	45-146		"	"	"	"	

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3
Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1607161 - EPA 5030 Water MS

Blank (1607161-BLK1)

Prepared & Analyzed: 07/18/16

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.3		106	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.9	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	45-146			

LCS (1607161-BS1)

Prepared & Analyzed: 07/18/16

Benzene	36.6	1.0	ug/l	33.3		110	51-132			
Toluene	34.4	1.0	"	33.3		103	51-138			
Ethylbenzene	34.2	1.0	"	33.1		104	58-146			
m,p-Xylene	62.7	2.0	"	66.5		94.2	57-144			
o-Xylene	29.9	1.0	"	32.7		91.4	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		104	37-154			
Surrogate: Toluene-d8	15.6		"	13.3		117	45-149			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	45-146			

Matrix Spike (1607161-MS1)

Source: 1607101-01

Prepared & Analyzed: 07/18/16

Benzene	40.8	1.0	ug/l	33.3	ND	122	34-141			
Toluene	39.2	1.0	"	33.3	ND	117	27-151			
Ethylbenzene	42.4	1.0	"	33.1	ND	128	29-160			
m,p-Xylene	76.4	2.0	"	66.5	ND	115	20-166			
o-Xylene	36.4	1.0	"	32.7	ND	112	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.3		110	37-154			
Surrogate: Toluene-d8	14.4		"	13.3		108	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.0	45-146			

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

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

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

Batch 1607161 - EPA 5030 Water MS

Matrix Spike Dup (1607161-MSD1)	Source: 1607101-01			Prepared & Analyzed: 07/18/16						
Benzene	44.7	1.0	ug/l	33.3	ND	134	34-141	9.11	32	
Toluene	42.4	1.0	"	33.3	ND	127	27-151	7.90	25	
Ethylbenzene	49.2	1.0	"	33.1	ND	149	29-160	14.7	50	
m,p-Xylene	86.6	2.0	"	66.5	ND	130	20-166	12.5	36	
o-Xylene	41.6	1.0	"	32.7	ND	127	33-159	13.3	26	
Surrogate: 1,2-Dichloroethane-d4	15.6		"	13.3		117	37-154			
Surrogate: Toluene-d8	13.7		"	13.3		103	45-149			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.7	45-146			

Summit Scientific

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

Project: NEP - Lorenz UPRR 42 27-1, 41-27-3

Project Number: 0083-14023
Project Manager: Charles Greeson

Reported:
07/20/16 09:05

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

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A handwritten signature in black ink, appearing to be 'MSM'.