March 12, 2018

Ms. Sarah McGrath
New Mexico Environment Department
Petroleum Storage Tank Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

Re: Annual Groundwater Monitoring and MW-3 Well Surface Completion Replacement Report
Leonard's Conoco, 603 Parker Avenue, Santa Rosa, New Mexico
Facility #29084, Release ID #755, WPID #3929

Dear Ms. McGrath:

Enclosed is the report summarizing annual groundwater monitoring and well surface completion replacement conducted by Daniel B. Stephens & Associates, Inc. (DBS&A) at the above-referenced site on December 12, 2017. All activities were completed in accordance with work plan identification #3929, approved by the New Mexico Environment Department Petroleum Storage Tank Bureau on November 22, 2017.

DBS&A will be invoicing the full approved amount of $8,102.28 (including 7.50% NMGRT) for Deliverable ID 3929-1. Please do not hesitate to call me at (505) 353-9130 if you have any questions or require additional information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Michael D. McVey, P.G.
Senior Hydrogeologist

MDM/ed

Daniel B. Stephens & Associates, Inc.
6020 Academy NE, Suite 100 505-822-9400
Albuquerque, NM 87109 FAX 505-822-8877

COVER PAGE
FORM 1216
ANNUAL GROUNDWATER MONITORING AND MW-3 WELL SURFACE COMPLETION REPORT

1. **Site name:** Leonard's Conoco

2. **Responsible party:** State Lead

3. **Responsible party mailing address** (list contact person if different):

Ms. Sarah McGrath, NMED PSTB District 2

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505

4. **Facility number:** 29084 (Release ID #755)

5. **Address/legal description:**

603 Parker Avenue

Santa Rosa, New Mexico 88435

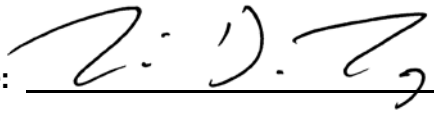
6. **Author/consulting company:** Daniel B. Stephens & Associates, Inc.

7. **Date of report:** March 12, 2018

8. **Date of confirmation of release or date USTB was notified of the release:** June 1991

STATEMENT OF FAMILIARITY

I, the undersigned, am personally familiar with the information submitted in this report and the attached documents and attest that it is true and complete.

Signature: 

Name: Michael D. McVey, P.G.

Affiliation: Daniel B. Stephens & Associates, Inc.

Title: Senior Hydrogeologist

Date March 12, 2018

I. INTRODUCTION

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this annual groundwater monitoring and well surface completion replacement report in accordance with the New Mexico Petroleum Storage Tank Regulations and work plan identification (WPID) #3929. The former Leonard's Conoco (the site) is located at 603 Parker Avenue in Santa Rosa, New Mexico (Figure 1). The site is currently occupied by the Guadalupe County Magistrate Court.

A confirmed petroleum release was documented during the removal of three 4,000-gallon underground storage tanks (USTs) and one 560-gallon waste oil UST in June 1991. Monteverde, Inc. performed a minimum site assessment (MSA) in 1995, during which four monitor wells (MW-1, MW-2, MW-3, and MW-4) were installed. Innovative Explorations (INEX) performed groundwater monitoring at the site from 1997 through 2001. In 2000, the former Leonard's Conoco building was demolished and the current building was constructed. Monitor well MW-2 was destroyed during construction, and a replacement well, MW-2A, was installed by INEX.

In June 2009, Tecumseh Professional Associates, Inc. (TPA) performed a groundwater monitoring event at the site. TPA located monitor wells MW-2A and MW-3, but could not locate monitor wells MW-1 and MW-4. Of the two wells located, only MW-3 was sampled because well MW-2A was dry (TPA, 2009).

In October 2013, Haller & Associates, Inc. (HAI) performed groundwater monitoring at the site. HAI located monitor well MW-1, but was unsuccessful in locating MW-4 with a metal detector. HAI indicated that monitor well MW-4 appeared to have been destroyed.

In March 2014, HAI plugged and abandoned monitor well MW-1 and performed groundwater monitoring at the site. Monitor wells MW-1A, MW-2A, and MW-3 were located and gauged. MW-2A was found to be dry. Samples were collected from MW-1A and MW-3. Results showed benzene (250 micrograms per liter [µg/L]) and total naphthalenes (84 µg/L) to be present at concentrations above the New Mexico Water Quality Control Commission (NMWQCC) standards in MW-1A; no contaminants of concern (COCs) were detected at concentrations above the laboratory reporting limits in the sample collected from MW-3 (HAI, 2014).

DBS&A performed semiannual groundwater monitoring at the site in 2016 and 2017 under a new state lead contract and WPID #3873. The first semiannual monitoring event was completed in July 2016, and the second semiannual groundwater monitoring event was completed in January 2017 (DBS&A, 2016, 2017a).

On September 8, 2017, DBS&A submitted a work plan for annual groundwater monitoring and MW-3 well surface completion replacement to the New Mexico Environment (NMED) Petroleum Storage Tank Bureau (PSTB) under an existing state lead contract (DBS&A, 2017b). The work plan was approved by the PSTB on November 22, 2017 under WPID #3929 (NMED, 2017).

This report documents groundwater monitoring and well surface completion replacement conducted at the site by DBS&A on December 12, 2017.

A. Scope of Work

The scope of work included groundwater monitoring consisting of (1) gauging fluid levels in all accessible site monitor wells and collecting groundwater samples from wells MW-1A, MW-2A, and

I. INTRODUCTION (Continued)

MW-3 for laboratory analysis and (2) replacement of the monitor well MW-3 surface completion. Groundwater samples were analyzed for volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, total xylenes, methyl tertiary-butyl ether (MTBE), 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), and total naphthalenes (naphthalene plus methylnaphthalenes) using U.S. Environmental Protection Agency (EPA) method 8260B (full list).

B. Monitoring Highlights

The principal accomplishments of this reporting period include the following:

- Replaced the monitor well MW-3 surface completion — December 12, 2017
- Gauged fluid levels in monitor wells MW-1A, MW-2A, and MW-3 — December 12, 2017
- Collected groundwater samples from monitor wells MW-1A, MW-2A, and MW-3 for laboratory analysis — December 12, 2017
- Resurveyed monitor wells MW-1A, MW-2A, and MW-3 — January 18, 2018
- Prepared Form 1216 annual groundwater monitoring report — March 2018

All activities were completed in accordance with the approved work plan.

II. ACTIVITIES PERFORMED DURING THIS MONITORING EVENT

A. Remediation System

A remediation system has not been installed or operated at the site.

B. System Operation

A remediation system has not been installed or operated at the site.

C. Monitoring Activities

MW-3 Surface Completion Replacement

On December 12, 2017, JR Drilling, LLC of Edgewood, New Mexico replaced the surface completion for monitor well MW-3 under DBS&A supervision. Photographs documenting replacement of the surface completion are provided in Appendix 1. JR Drilling removed the old well vault and concrete pad with a jackhammer and installed a new well vault and 2-foot by 2-foot concrete pad. The existing well casing was then cut off to fit below the top of the new vault.

Groundwater Monitoring

On December 12, 2017, DBS&A personnel measured the depth to water in wells MW-1A, MW-2A, and MW-3 using an electronic interface probe. The locations of the wells are shown on Figure 2. Nonaqueous-phase liquid (NAPL) was not detected in any of the wells. Table 1 summarizes fluid level measurements and potentiometric surface elevations from this and previous monitoring events conducted at the site. The most recent water level data were used to prepare a potentiometric surface elevation map for the site (Figure 3).

On December 12, 2017, groundwater samples were collected from monitor wells MW-1A, MW-2A, and MW-3 after purging in accordance with the work plan. DBS&A personnel followed standard operating procedures and the NMED Petroleum Storage Tank Bureau *Guidelines for Corrective Action* (NMED, 2000) during the collection of groundwater samples. The sampling protocol is outlined in Appendix 2. Dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, specific conductivity, and temperature were measured in the field during purging using a YSI 556 Multiprobe System (MPS) meter and recorded in the field notes (Appendix 3).

Groundwater samples were analyzed for the constituents specified in the scope of work. All laboratory analyses were performed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. Analytical organic chemistry data from this and previous monitoring events are summarized in Table 2. In accordance with the work plan, groundwater samples were not analyzed for inorganics during this monitoring event. The laboratory report, including chain of custody documentation, is provided in Appendix 4. Figure 4 shows the distribution of dissolved-phase contaminants for the three wells sampled during the current monitoring event.

Survey

On January 18, 2017, the three site wells were resurveyed to a common datum by Surveying Control, Inc., a New Mexico-licensed professional land surveyor, as specified in the Guidelines, Section 2, Procedures for Constructing Monitoring Wells. The survey report is provided in Appendix 5.

II. ACTIVITIES PERFORMED DURING THIS MONITORING EVENT (Continued)

D. System Performance and Effectiveness

A remediation system has not been installed or operated at the site.

E. Containment of Release

Groundwater samples collected from monitor well MW-1A continue to contain benzene and total naphthalenes at concentrations above the NMWQCC standards. No COCs were detected above laboratory reporting limits in samples collected from monitor wells MW-2A and MW-3 during this monitoring event. The dissolved-phase plume remains undefined downgradient of MW-1A to the northwest and cross-gradient to the northeast (Figure 4).

III. SUMMARY AND CONCLUSIONS

A. Trends or Changes in Site Conditions

Since the last monitoring event in January 2017, the water level beneath the site increased an average of 0.33 foot (Table 1). Increases ranged from 0.04 foot in MW-1A to 0.74 foot in MW-3. A graph showing changes in groundwater elevations in site monitor wells over time is provided in Appendix 6. The direction of groundwater flow is to the northwest at an average gradient of approximately 0.015 foot per foot (ft/ft) (Figure 3), generally consistent with previous monitoring events dating back to at least 2013.

Graphs showing historical trends in contaminant concentrations in site wells are included in Appendix 6. Groundwater analytical organic chemistry data from this and previous monitoring events are summarized in Table 2. The following trends and/or changes regarding specific wells or analytes were noted since the last monitoring event in January 2017:

- MW-1/MW-1A: Since March 1995, the benzene concentration has fluctuated from a historical high of 440 µg/L to a low of 57 µg/L. The current concentration (430 µg/L) is once again near the historic high of 440 µg/L, recorded in March 1995, and continues to exceed the standard. Samples were analyzed for total naphthalenes starting in October 2013, and the concentration was trending downward until the current monitoring event when the concentration increased from 25 to 207.3 µg/L, and is currently at a new all-time high. The total naphthalenes concentration, like the benzene concentration, remains above the standard. MTBE was detected at concentrations above the New Mexico Environmental Improvement Board standard in March 1995 and November 1997, but has been below the standard or laboratory reporting limit since that time. EDC was detected at a concentration above the standard once in November 1997, but concentrations have also been below the standard or laboratory reporting limit since that time.

- MW-2/MW-2A: Benzene and EDC concentrations exceeded their respective standards in March 1995 and November 1997, respectively, but both COC concentrations have been below applicable standards or laboratory reporting limits since that time.

- MW-3: Benzene was detected at a concentration above the standard once during the first monitoring event in March 1995. Since that time, no COCs have been detected at concentrations above applicable standards or laboratory reporting limits.

B. Assessment of Remediation System

A remediation system has not been installed or operated at the site.

C. Recommendations

DBS&A recommends that groundwater monitoring continue at the site to track contaminant concentration trends in monitor well MW-1A, which continues to contain benzene and total naphthalene concentrations above the applicable standards. During this monitoring event, concentrations of benzene and total naphthalenes increased an order of magnitude, and the

III. SUMMARY AND CONCLUSIONS (Continued)

benzene concentration is just below the historic high of March 1995; the total naphthalenes concentration is at a new all-time high.

REFERENCES

Daniel B. Stephens & Associates, Inc. (DBS&A). 2016. *First semiannual groundwater monitoring report, Leonard's Conoco, 603 Parker Avenue, Santa Rosa, New Mexico.* Submitted to the New Mexico Environment Department Petroleum Storage Tank Bureau, Santa Fe, New Mexico. September 8, 2016.

DBS&A. 2017a. *Second semiannual groundwater monitoring report, Leonard's Conoco, 603 Parker Avenue, Santa Rosa, New Mexico.* Submitted to the New Mexico Environment Department Petroleum Storage Tank Bureau, Santa Fe, New Mexico. March 2, 2017.

DBS&A. 2017b. *Work plan for replacement of MW-3 surface completion and annual groundwater monitoring, Leonard's Conoco, 603 Parker Avenue, Santa Rosa, New Mexico*. Submitted to the New Mexico Environment Department Petroleum Storage Tank Bureau, Santa Fe, New Mexico. September 8, 2017.

Haller & Associates, Inc. (HAI). 2014. *Groundwater monitoring and monitor well abandonment report, Leonard's Conoco, Santa Rosa, New Mexico*. Submitted to the New Mexico Environment Department Petroleum Storage Tank Bureau. April 1, 2014.

New Mexico Environment Department (NMED). 2000. *Guidelines for corrective action.* Underground Storage Tank Bureau, Santa Fe, New Mexico. March 13, 2000.

NMED. 2017. Letter from Lorena Goerger to Michael McVey, Daniel B. Stephens & Associates, Inc., regarding continued Phase 1 fixed-price workplan approval for Leonard's Conoco, 603 Parker Ave., Santa Rosa, New Mexico. November 22, 2017.

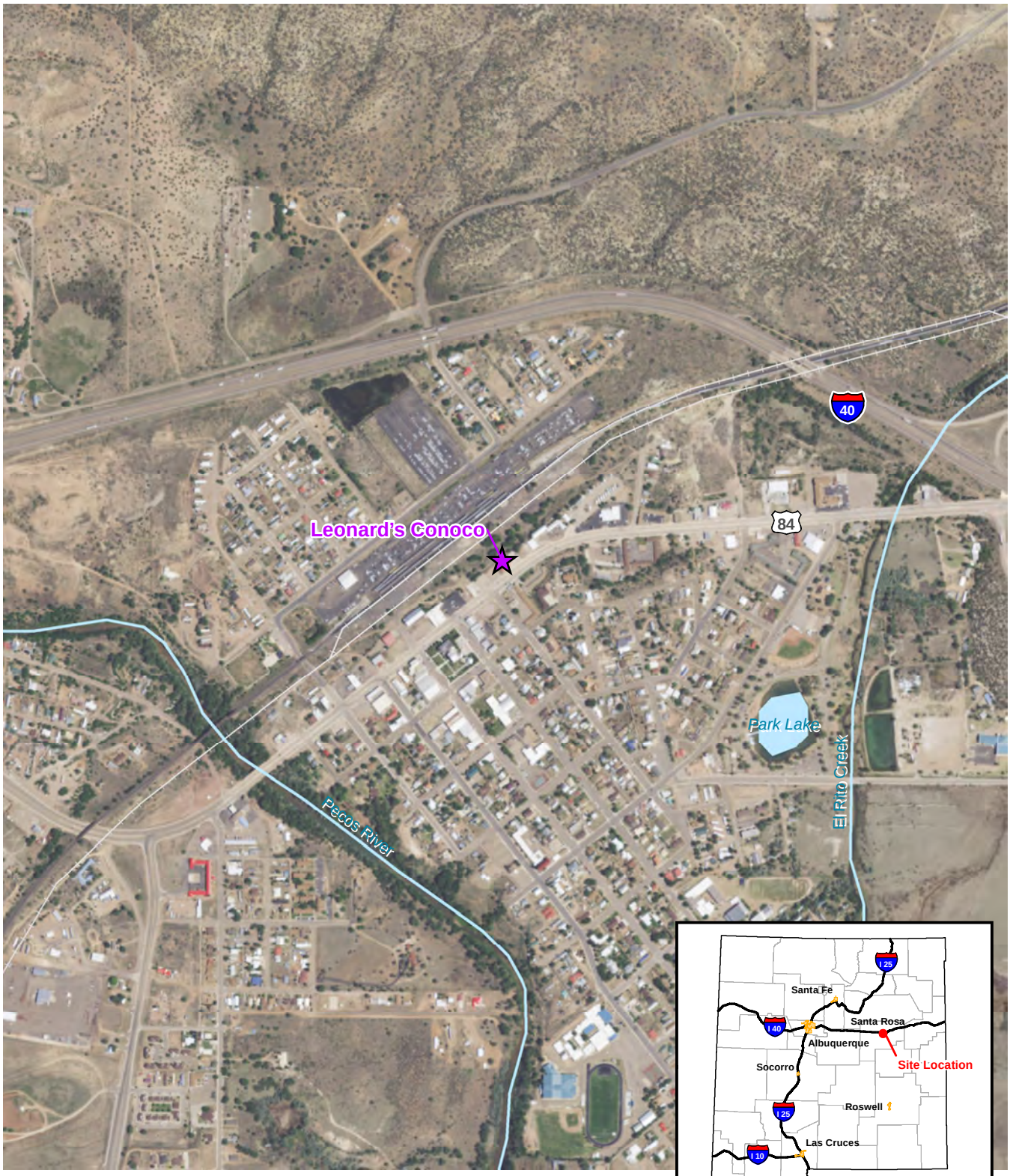
Tecumseh Professional Associates, Inc. (TPA). 2009. *Site evaluation and groundwater monitoring report 6-09, Former Leonard's Conoco, 603 Parker Avenue, Santa Rosa, New Mexico*. Submitted to the New Mexico Environment Department Petroleum Storage Tank Bureau. June 2009.

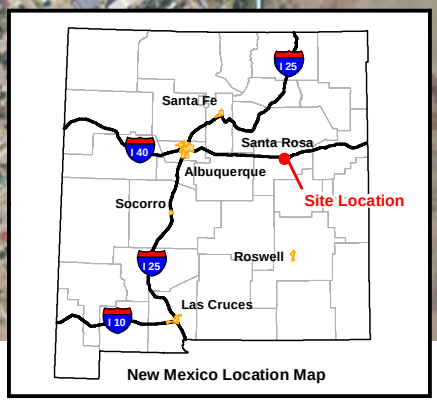
Figures

Site Name: Leonard's Conoco
PSTB Facility #: 29084
Date: March 12, 2018

LIST OF FIGURES

Figure		Included	N/A
1	Area Map	X	
2	Site Map	X	
3	Potentiometric Surface Elevations, December 12, 2017	X	
4	Distribution of Dissolved-Phase Contaminants, December 12, 2017	X	





Source: Aerial image courtesy of ESRI ArcGIS Online and data partners, including imagery from agencies supplied via the Content Sharing Program

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0 500 1000
Feet

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO
Area Map

Daniel B. Stephens & Associates, Inc.
2/15/2017
JN ES14.0052.10
Figure 1

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Source: Aerial image courtesy of Google Earth Pro., September 2014.

Explanation

- Monitor well
- Monitor well (destroyed)
- Monitor well (plugged and abandoned)
- Overhead electric pole

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO

Site Map

Daniel B. Stephens & Associates, Inc.
2/15/2017
JN ES14.0052.10

Figure 2

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Source: Aerial image courtesy of Google Earth Pro., September 2014.

Explanation

- Monitor well
- Potentiometric surface elevation contour (ft msl)

MW-1A Monitor well designation
4601.30 Potentiometric surface elevation (ft msl)

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO

Potentiometric Surface Elevations December 12, 2017

Daniel B. Stephens & Associates, Inc.
2/22/2018
JN ES14.0052.10

Figure 3

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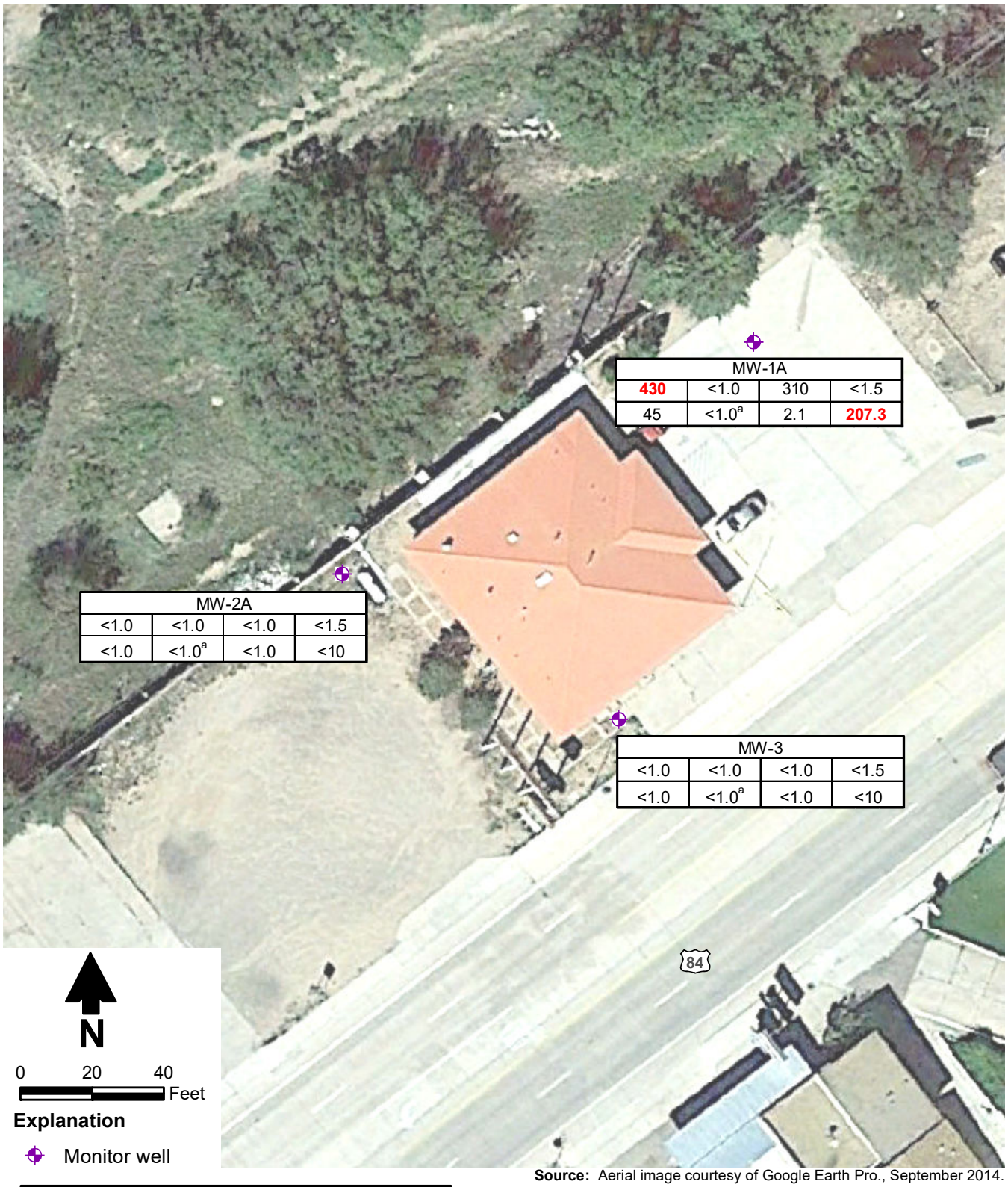

Source: Aerial image courtesy of Google Earth Pro., September 2014.

Location Designation			
Benzene	Toluene	Ethylbenzene	Total Xylenes
MTBE	EDB	EDC	Total Naphthalenes

Notes: 1. All concentrations reported in µg/L.
2. **Bold** indicates value that exceeds applicable standard.
3. [a] Laboratory reporting limit is equal to or greater than the applicable standard.

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO

Distribution of Dissolved-Phase Contaminants
December 12, 2017

Daniel B. Stephens & Associates, Inc.
2/22/2018 JN ES14.0052.10

Figure 4

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Tables

Site Name: Leonard's Conoco
PSTB Facility #: 29084
Date: March 12, 2018

LIST OF TABLES

Table 1. Summary of Fluid Level Measurements
Leonard's Conoco, Santa Rosa, New Mexico

Well Name	Top of Casing Elevation [a] (ft msl)	Date Measured	Depth to Water (ft btoc)	Depth to NAPL (ft btoc)	Groundwater Elevation (ft msl)
MW-1	4595.44	03/29/95	14.40	—	4581.04
		09/23/01	14.04	—	4581.40
		06/11/09	Well not found		
		10/30/13	Dry at 9.40		
		03/24/14	Plugged and abandoned		
MW-1A	4616.02	10/30/13	13.96	—	4602.06
		03/24/14	15.30	—	4600.72
		07/29/16	15.50	—	4600.52
		01/26/17	14.76	—	4601.26
	4615.84 [e]	12/12/17	14.54	—	4601.30
MW-2	4595.68	03/29/95	14.76	—	4580.92
		03/20/00	Plugged and abandoned		
MW-2A	4613.39	09/23/01	—	—	4580.85
		06/11/09	Dry at 13.97 [b]		
		10/30/13	12.54	—	4600.85
		03/24/14	Dry at 13.70 [b]		
		07/29/16	14.32	—	4599.07
		01/26/17	13.12	—	4600.27
	4613.53 [e]	12/12/17	13.05	—	4600.48
MW-3	4615.02	03/29/95	10.10	—	4604.92
		09/23/01	12.49	—	4602.53
		06/11/09	13.90	—	4601.12
		10/30/13	12.50	—	4602.52
		03/24/14	14.04	—	4600.98
		07/29/16	14.64	—	4600.38 [c,d]
		01/26/17	14.03	—	4600.99 [c,d]
	4615.00 [e]	12/12/17	13.27	—	4601.73
MW-4	4590.18	03/29/95	10.86	—	4579.32
		09/23/01	9.57	—	4580.61
		06/11/09	Well not found		
		10/30/13	Well not found		

Note: Data prior to July 2016 reported by Haller & Associates, Inc., April 1, 2014.

[a] MW-1A, MW-2A, and MW-3 were surveyed by Dennis Engineering on November 7, 2013.

[b] Roots in well casing were not penetrated beyond reported depth.

[c] Top of casing elevation questionable; concrete pad, vault, and well casing lifted up approx. 1 foot above grade.

[d] Groundwater elevation questionable due to unknown change in top of casing elevation.

[e] Top of casing elevations resurveyed on January 18, 2018 by Surveying Control, Inc.

ft msl = Feet above mean sea level NAPL = Nonaqueous-phase liquid

ft btoc = Feet below top of casing — = Not detected

Table 2. Summary of Groundwater Analytical Organic Chemistry Data
Leonard's Conoco, Santa Rosa, New Mexico

Monitor Well	Date Sampled	Concentration (µg/L) [a]							
		Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDB	EDC	Total Naphthalenes
NMWQCC Standard		*10*	*750*	*750*	*620*	*100* [b]	*0.1*	*10*	*30*
MW-1	03/31/95	**440**	26	400	81	**320**	—	—	—
	11/07/97	**180**	2.7	36	6.5	**150**	ND	**13**	—
	10/18/98	**83**	2.7	71	12	43	ND	2.2	—
	03/20/99	**57**	ND	90	4.1	10	ND	ND	—
	12/31/00	Well not sampled							
	10/25/13	Well dry at 9.40 feet - not sampled							
	03/24/14	Plugged and abandoned							
MW-1A	10/25/13	**79**	<5.0	210	<7.5	<5.0	<5.0 [c]	<5.0	**79**
	03/24/14	**250**	<5.0	250	<7.5	18	<5.0 [c]	<5.0	**84**
	07/29/16	**100**	<1.0	38	<1.5	21	<1.0 [c]	<1.0	**37.1**
	01/26/17	**93**	<1.0	58	<1.5	15	<1.0 [c]	<1.0	25
	12/12/17	**430**	<1.0	310	<1.5	45	<1.0 [c]	2.1	**207.3**
MW-2	03/31/95	**420**	6.4	540	86	4.5	—	—	—
	11/07/97	3.3	ND	1.6	2.3	1.2	ND	**15**	—
	10/18/98	6.3	ND	0.7	2.5	ND	ND	—	—
	03/20/00	Plugged and abandoned							
MW-2A	12/31/00	ND	ND	ND	ND	ND	ND	ND	—
	09/23/01	ND	ND	ND	ND	ND	ND	ND	—
	06/11/09	Well dry at 13.97 feet - not sampled							
	10/25/13	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<4.0
	03/24/14	Well dry at 13.70 feet - not sampled							
	07/29/16	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<10
	01/26/17	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<10
	12/12/17	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<10
MW-3	03/31/95	**39**	8.2	6.3	15	ND	—	—	—

Table 2. Summary of Groundwater Analytical Organic Chemistry Data
Leonard's Conoco, Santa Rosa, New Mexico

Monitor Well	Date Sampled	Concentration (µg/L) [a]							
		Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDB	EDC	Total Naphthalenes
NMWQCC Standard		*10*	*750*	*750*	*620*	*100* [b]	*0.1*	*10*	*30*
MW-3 (cont.)	11/07/97	ND	ND	ND	ND	ND	ND	3.2	—
	10/18/98	ND	ND	ND	ND	ND	ND	0.8	—
	03/20/99	ND	ND	ND	ND	ND	ND	0.6	—
	12/31/00	ND	ND	ND	ND	ND	ND	ND	—
	09/23/01	ND	ND	ND	ND	ND	ND	ND	—
	06/11/09	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<10
	10/25/13	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<4.0
	03/24/14	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<4.0
	07/29/16	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<10
	01/26/17	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<10
	12/12/17	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0 [c]	<1.0	<10
MW-4	03/29/95	<0.5	3.0	<0.5	2.9	<2.5	—	—	—
	11/07/97	ND	ND	ND	ND	ND	ND	ND	—
	10/18/98	ND	ND	ND	ND	ND	ND	0.9	—
	03/20/99	ND	ND	ND	ND	ND	ND	0.3	—
	12/31/00	ND	ND	ND	ND	ND	ND	ND	—
	09/23/01	ND	ND	ND	ND	ND	ND	ND	—
	06/11/09	Well not found							
	10/25/13	Well not found							

Bold indicates value that exceeds the New Mexico Water Quality Control Commission (NMWQCC) standard.

Note: Data prior to July 2016 reported by Haller & Associates, Inc., April 1, 2014.

[a] Analyzed by U.S. EPA method 8260B, unless otherwise noted.

[b] MTBE standard is set by the New Mexico Environmental Improvement Board.

[c] Laboratory reporting limit is equal to or greater than the applicable standard.

µg/L = Micrograms per liter
MTBE = Methyl tertiary-butyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
— = Not analyzed
ND = Non-detect

Appendices

Site Name: Leonard's Conoco
PSTB Facility #: 29084
Date: March 12, 2018

LIST OF APPENDICES

Appendix		Included	N/A
1	Photographs	X	
2	Sampling Protocol	X	
3	Field Notes	X	
4	Laboratory Report	X	
5	Survey Report	X	
6	Graphs Showing Changes in Groundwater Elevations and Contaminant Concentrations in Site Wells over Time	X	

Appendix 1

Photographs

1. Monitor well MW-3 prior to replacement of surface completion.

2. Monitor well MW-3 prior to replacement of surface completion (view to the southwest).

3. Breaking up concrete pad and removing well vault (view to the southeast).

4. Constructing new concrete pad for MW-3.

5. MW-3 surface completion prior to cutting off well casing.

6. Final MW-3 surface completion.

Appendix 2

Sampling Protocol

Appendix 2. Sampling Protocol

2.1. Fluid Level and Parameter Measurements

Prior to collection of groundwater samples, a Solinst interface probe or equivalent device will be used to determine depths to water. The interface probe will be decontaminated before each measurement using a solution of deionized water and Liquinox (or equivalent) soap. Water level data will be used to construct a site potentiometric surface map. A YSI Professional water quality meter or equivalent device will be used to measure specific conductivity, pH, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Field parameters will be measured at intervals of no less than once per casing volume during purging of a well for sampling.

2.2. Groundwater Monitor Well Sampling

DBS&A will attempt to sample wells from the least contaminated to the most contaminated well using data from the previous sampling event. After collecting fluid levels and prior to sampling, each well will be purged. To ensure a fresh flow of groundwater into the well bore, a minimum of three casing volumes will be removed from each well. If a well is purged dry, it will be sampled when the well has recharged. Wells will be purged and sampled using new dedicated, disposable, polyethylene bailers. To minimize volatilization and ensure sample integrity, dedicated, disposable, polyethylene bottom-emptying devices will be used to transfer groundwater samples from the bailers to the appropriate sample containers.

Disposition of purge and decontamination water will follow Section 1.7 of the Guidelines. Water will be disposed on the ground within the site boundaries, preferably on an impervious surface and near the well of origin. Purge water must not contain NAPL, must not endanger public health or safety, and must not enter a surface water body or tributary, including an arroyo. Any purged fluids containing NAPL will be containerized for future disposal at a licensed facility.

Samples analyzed for volatile organic analytes (VOAs) will be collected in 40-milliliter (mL) glass vials containing mercuric chloride preservative and capped with Teflon septa caps. VOA

containers will be filled in a manner that prevents headspace in the vials. Samples analyzed for dissolved iron, lead, and manganese will be field-filtered with 0.45-micron disposable filters, collected in 250-mL plastic containers, and preserved with nitric acid to a pH of less than 2. Samples analyzed for nitrate and sulfate will be collected in 500-mL plastic containers containing no preservative.

Immediately after collection, the sample containers will be placed on ice in an insulated cooler for delivery to the laboratory for analyses. Groundwater samples will be accompanied by full chain-of-custody documentation at all times.

Appendix 3

Field Notes

1/26/17 PNB

1055 PNB onsite
Purpose: GWM
Weather: clear cold
1100 ~~Ba~~ Calibrate YSI
1110 Begin gauging wells

Well ID	DTP	DTW	TD	comments
MW-1A	—	14.76	18.69	
MW-2A	—	13.12	14.55	
MW-3	—	14.03	~~14.64~~ 28.62	

1310 PNB offsite
All samples preserved on ice

PNB 1/26/17

12/12/17 PNB

1045 PNB onsite
1050 JR Drilling onsite
Safety meeting
1055 Begin setting up to repair MW-3
photos taken before work begins
* Note: Someone has placed dirt around the exposed well.
1120 Calibrate YSI
pH 7.0 / 7.00
4.0 / 4.00
10.0 / 10.09
SpCond 1413 / 1413
ORP 220 / 219.9
DO 652.6 mmHg
85.8% / 8.82 mg/L
1305 Well Repair Completed
Begin gauging wells

Well ID	DTP	DTW	TD	Comment
MW-1A	—	14.54	18.69	
MW-2A	—	13.05	14.55	
MW-3	—	13.27	28.62	

1410 PNB offsite / All samples preserved on ice.
PNB

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Leonard's Conoco Sampler: P. Barlow

Project #: ES14.0052.10.2.1 Sample Date: 12/12/17

Project Manager: M. McVey Sample Time: 1320

Well #: MW-2A

Well Diameter: 2 (inches) Height of Water Column: 1.5 (feet)

Depth to NAPL: — (feet btoc) Casing Volume: 0.24 (gal)

Depth to Water: 13.05 (feet btoc) Purge Volume: 0.72 (gal)

Total Depth of Well: 14.55 (feet) Purge Method: bailer

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	6.83	19.48	2395	192.5	4.31	---
1	6.86	19.24	2398	170.1	2.45	---
2	6.83	19.12	2397	146.7	1.90	---
3	DRY					---

Sample Description: 3 VOAs

Physical Observations: cloudy

Analytical Method(s): 8260B

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Leonards Conoco Sampler: P. Barlow

Project #: ES14.0052.10.2 Sample Date: 12/12/17

Project Manager: M. McVey Sample Time: 1340

Well #: MW-1A

Well Diameter: 2 (inches) Height of Water Column: 4.15 (feet)

Depth to NAPL: — (feet btoc) Casing Volume: 0.66 (gal)

Depth to Water: 14.54 (feet btoc) Purge Volume: 1.99 (gal)

Total Depth of Well: 18.69 (feet) Purge Method: bailer

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	6.72	20.19	2637	-106.3	0.73	---
1	6.69	20.39	2669	-191.6	0.76	---
2	6.69	20.39	2672	-211.2	0.84	---
3	6.71	19.81	2663	-221.9	0.77	---

Sample Description: 3 VOAs

Physical Observations: cloudy, H2S odor

Analytical Method(s): 8260B

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Leonard's Conoco Sampler: P. Barlow

Project #: ES14.0052.10.2 Sample Date: 12/12/17

Project Manager: M. McVey Sample Time: 1400

Well #: MW-3

Well Diameter: 2 (inches) Height of Water Column: 15.35 (feet)

Depth to NAPL: — (feet btoc) Casing Volume: 2.45 (gal)

Depth to Water: 13.27 (feet btoc) Purge Volume: 7.35 (gal)

Total Depth of Well: 28.62 (feet) Purge Method: bailer

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	6.90	21.10	2940	-184.0	0.86	---
1	6.88	20.97	2855	-141.0	1.56	---
2	6.87	20.95	2925	-119.1	0.90	---
3	6.86	20.91	2976	-30.5	1.23	---

Sample Description: 3 VOAs

Physical Observations: cloudy

Analytical Method(s): 8260B

Appendix 4

Laboratory Report

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 27, 2017

Mike McVey

Daniel B. Stephens & Assoc.
6020 Academy NE Suite 100
Albuquerque, NM 87109
TEL: (505) 822-9400
FAX (505) 822-8877

RE: Leonards Conoco OrderNo.: 1712A03

Dear Mike McVey:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MW-2A
Project: Leonards Conoco **Collection Date:** 12/12/2017 1:20:00 PM
Lab ID: 1712A03-001 **Matrix:** AQUEOUS **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Toluene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Ethylbenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Naphthalene	ND	2.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
2-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Acetone	ND	10		µg/L	1	12/21/2017 2:12:26 AM	B47910
Bromobenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Bromoform	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Bromomethane	ND	3.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
2-Butanone	ND	10		µg/L	1	12/21/2017 2:12:26 AM	B47910
Carbon disulfide	ND	10		µg/L	1	12/21/2017 2:12:26 AM	B47910
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Chlorobenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Chloroethane	ND	2.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Chloroform	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Chloromethane	ND	3.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Dibromochloromethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Dibromomethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2017 2:12:26 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: MW-2A
Project: Leonards Conoco
Collection Date: 12/12/2017 1:20:00 PM
Lab ID: 1712A03-001 **Matrix:** AQUEOUS **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
2-Hexanone	ND	10		µg/L	1	12/21/2017 2:12:26 AM	B47910
Isopropylbenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2017 2:12:26 AM	B47910
Methylene Chloride	ND	3.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
n-Propylbenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
sec-Butylbenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Styrene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Vinyl chloride	ND	1.0		µg/L	1	12/21/2017 2:12:26 AM	B47910
Xylenes, Total	ND	1.5		µg/L	1	12/21/2017 2:12:26 AM	B47910
Surr: 1,2-Dichloroethane-d4	92.7	70-130		%Rec	1	12/21/2017 2:12:26 AM	B47910
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/21/2017 2:12:26 AM	B47910
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	12/21/2017 2:12:26 AM	B47910
Surr: Toluene-d8	97.8	70-130		%Rec	1	12/21/2017 2:12:26 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MW-1A
Project: Leonards Conoco **Collection Date:** 12/12/2017 1:40:00 PM
Lab ID: 1712A03-002 **Matrix:** AQUEOUS **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	430	10		µg/L	10	12/21/2017 11:43:12 AM	W48003
Toluene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Ethylbenzene	310	10		µg/L	10	12/21/2017 11:43:12 AM	W48003
Methyl tert-butyl ether (MTBE)	45	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2-Dichloroethane (EDC)	2.1	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Naphthalene	170	20		µg/L	10	12/21/2017 11:43:12 AM	W48003
1-Methylnaphthalene	33	4.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
2-Methylnaphthalene	4.3	4.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Acetone	ND	10		µg/L	1	12/21/2017 3:39:29 AM	B47910
Bromobenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Bromoform	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Bromomethane	ND	3.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
2-Butanone	ND	10		µg/L	1	12/21/2017 3:39:29 AM	B47910
Carbon disulfide	ND	10		µg/L	1	12/21/2017 3:39:29 AM	B47910
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Chlorobenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Chloroethane	ND	2.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Chloroform	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Chloromethane	ND	3.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Dibromochloromethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Dibromomethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2017 3:39:29 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MW-1A
Project: Leonards Conoco **Collection Date:** 12/12/2017 1:40:00 PM
Lab ID: 1712A03-002 **Matrix:** AQUEOUS **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
2-Hexanone	ND	10		µg/L	1	12/21/2017 3:39:29 AM	B47910
Isopropylbenzene	21	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2017 3:39:29 AM	B47910
Methylene Chloride	ND	3.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
n-Propylbenzene	31	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
sec-Butylbenzene	3.5	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Styrene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Vinyl chloride	ND	1.0		µg/L	1	12/21/2017 3:39:29 AM	B47910
Xylenes, Total	ND	1.5		µg/L	1	12/21/2017 3:39:29 AM	B47910
Surr: 1,2-Dichloroethane-d4	98.5	70-130		%Rec	1	12/21/2017 3:39:29 AM	B47910
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/21/2017 3:39:29 AM	B47910
Surr: Dibromofluoromethane	96.5	70-130		%Rec	1	12/21/2017 3:39:29 AM	B47910
Surr: Toluene-d8	96.0	70-130		%Rec	1	12/21/2017 3:39:29 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MW-3
Project: Leonards Conoco **Collection Date:** 12/12/2017 2:00:00 PM
Lab ID: 1712A03-003 **Matrix:** AQUEOUS **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Toluene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Ethylbenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Naphthalene	ND	2.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
2-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Acetone	ND	10		µg/L	1	12/21/2017 4:08:26 AM	B47910
Bromobenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Bromoform	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Bromomethane	ND	3.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
2-Butanone	ND	10		µg/L	1	12/21/2017 4:08:26 AM	B47910
Carbon disulfide	ND	10		µg/L	1	12/21/2017 4:08:26 AM	B47910
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Chlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Chloroethane	ND	2.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Chloroform	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Chloromethane	ND	3.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Dibromochloromethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Dibromomethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2017 4:08:26 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MW-3
Project: Leonards Conoco **Collection Date:** 12/12/2017 2:00:00 PM
Lab ID: 1712A03-003 **Matrix:** AQUEOUS **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
2-Hexanone	ND	10		µg/L	1	12/21/2017 4:08:26 AM	B47910
Isopropylbenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2017 4:08:26 AM	B47910
Methylene Chloride	ND	3.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
n-Propylbenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
sec-Butylbenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Styrene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Vinyl chloride	ND	1.0		µg/L	1	12/21/2017 4:08:26 AM	B47910
Xylenes, Total	ND	1.5		µg/L	1	12/21/2017 4:08:26 AM	B47910
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%Rec	1	12/21/2017 4:08:26 AM	B47910
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/21/2017 4:08:26 AM	B47910
Surr: Dibromofluoromethane	96.1	70-130		%Rec	1	12/21/2017 4:08:26 AM	B47910
Surr: Toluene-d8	96.7	70-130		%Rec	1	12/21/2017 4:08:26 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** Trip Blank
Project: Leonards Conoco **Collection Date:**
Lab ID: 1712A03-004 **Matrix:** TRIP BLANK **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Toluene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Ethylbenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Naphthalene	ND	2.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
2-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Acetone	ND	10		µg/L	1	12/21/2017 4:37:23 AM	B47910
Bromobenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Bromoform	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Bromomethane	ND	3.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
2-Butanone	ND	10		µg/L	1	12/21/2017 4:37:23 AM	B47910
Carbon disulfide	ND	10		µg/L	1	12/21/2017 4:37:23 AM	B47910
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Chlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Chloroethane	ND	2.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Chloroform	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Chloromethane	ND	3.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Dibromochloromethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Dibromomethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2017 4:37:23 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** Trip Blank
Project: Leonards Conoco **Collection Date:**
Lab ID: 1712A03-004 **Matrix:** TRIP BLANK **Received Date:** 12/15/2017 12:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
2-Hexanone	ND	10		µg/L	1	12/21/2017 4:37:23 AM	B47910
Isopropylbenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2017 4:37:23 AM	B47910
Methylene Chloride	ND	3.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
n-Propylbenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
sec-Butylbenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Styrene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Vinyl chloride	ND	1.0		µg/L	1	12/21/2017 4:37:23 AM	B47910
Xylenes, Total	ND	1.5		µg/L	1	12/21/2017 4:37:23 AM	B47910
Surr: 1,2-Dichloroethane-d4	89.1	70-130		%Rec	1	12/21/2017 4:37:23 AM	B47910
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	12/21/2017 4:37:23 AM	B47910
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	12/21/2017 4:37:23 AM	B47910
Surr: Toluene-d8	95.7	70-130		%Rec	1	12/21/2017 4:37:23 AM	B47910

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712A03**

27-Dec-17

Client: Daniel B. Stephens & Assoc.

Project: Leonards Conoco

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B47910**	RunNo: **47910**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535425** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712A03**

27-Dec-17

Client: Daniel B. Stephens & Assoc.

Project: Leonards Conoco

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B47910**	RunNo: **47910**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535425** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B47910**	RunNo: **47910**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535426** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	99.2	70	130			
Chlorobenzene	20	1.0	20.00	0	98.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712A03**

27-Dec-17

Client: Daniel B. Stephens & Assoc.

Project: Leonards Conoco

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B47910**	RunNo: **47910**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535426** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID **1712a03-001a ms2**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-2A**	Batch ID: **B47910**	RunNo: **47910**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1535432** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	98.4	70	130			
Chlorobenzene	19	1.0	20.00	0	94.9	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	95.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.0	70	130			
Surr: Toluene-d8	9.4		10.00		94.2	70	130			

Sample ID **1712a03-001a msd2**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-2A**	Batch ID: **B47910**	RunNo: **47910**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1535433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130	0.105	20	
Toluene	19	1.0	20.00	0	94.8	70	130	3.75	20	
Chlorobenzene	19	1.0	20.00	0	93.7	70	130	1.31	20	
1,1-Dichloroethene	20	1.0	20.00	0	102	70	130	0.790	20	
Trichloroethene (TCE)	19	1.0	20.00	0	97.4	70	130	2.04	20	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		100	70	130	0	0	
Surr: Toluene-d8	9.2		10.00		92.4	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712A03**

27-Dec-17

Client: Daniel B. Stephens & Assoc.

Project: Leonards Conoco

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W48003**	RunNo: **48003**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537940** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Naphthalene	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.9	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.4	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W48003**	RunNo: **48003**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537941** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.6	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.5	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: DBS | Work Order Number: 1712A03 | RcptNo: 1

Received By: Anne Thorne 12/15/2017 12:00:00 PM

Completed By: Michelle Garcia 12/18/2017 10:43:35 AM

Reviewed By: ENM 12/18/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Not Present			

Chain-of-Custody Record

Client: DBSA

Mailing Address: 6020 Academy Rd NE Ste 100 ABQ 87109

Phone #: 822-9400

email or Fax#: mmcvey@dbstephens

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Leonard's Canoco

Project #: ES14.0052.10.2

Project Manager: M. McVey

Sampler: P. Barlow

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712A03	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
12/12/17	1320	GW	MW-2A	3 VOAs	HgCl2	001										X		
12/12/17	1340	GW	MW-1A	3 VOAs		002										X		
12/12/17	1400	GW	MW-3	3 VOAs		003										X		
—	—		Trip Blank	2 VOAs		004										X		

12/12/17

Date	Time	Relinquished by	Received by	Date	Time
12/15/17	1200			12/15/17	1200
Date	Time	Relinquished by	Received by	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Appendix 5

Survey Report

SURVEYING CONTROL, INC.

131 Madison St., N.E.
Albuquerque, NM 87108
(505) 266-0935
surcon@aol.com

January 25, 2018

Attn: Michael D. McVey, P.G.
Daniel B. Stephens & Associates, Inc.
6020 Academy Road N.E., Ste. 100
Albuquerque, NM 87109

Re: Coordinates & Elevations for Monitor Wells on Leonard's Conoco UST Site at Santa Rosa, New Mexico

Dear Mike:

The following are the coordinates and elevations for the monitor wells on the above referenced site. The coordinates are New Mexico State Plane Coordinates – East Zone, NAD 83 (NSRS 2011), and have been adjusted to the NGS Control Point "Rosaair". The coordinates below are to the top of the cap inside the outer cover. The elevations are NAVD 88, and have been adjusted to the USC&GS 2nd order benchmark "Santa Rosa" (Published Elevation used for "Santa Rosa" = 4625.63') The coordinates and elevations are expressed in U.S. Survey Feet.

Well	Northing	Easting	Top PVC Elev.
MW-1A	1434993.06	435933.75	4615.84
MW-2A	1434926.66	435823.76	4613.53
MW-3	1434884.02	435902.44	4615.00

NOTE: The elevations shown above for the top of the PVC were taken on the North edge of the PVC on a black Magic Marker datum point.

Please do not hesitate to call if you have any questions or if you need any additional information.

Sincerely,

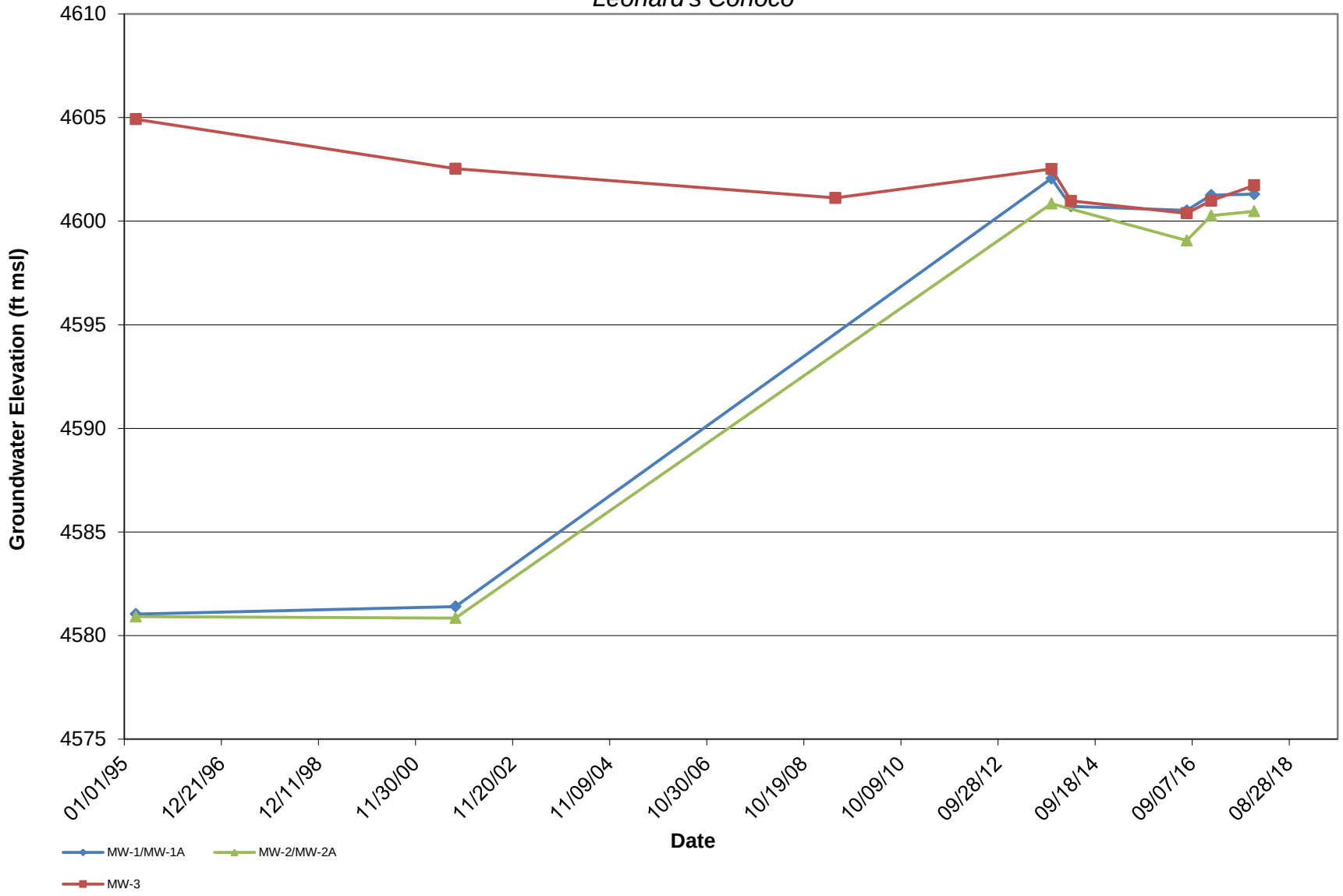
Stephen J. Toler, PS

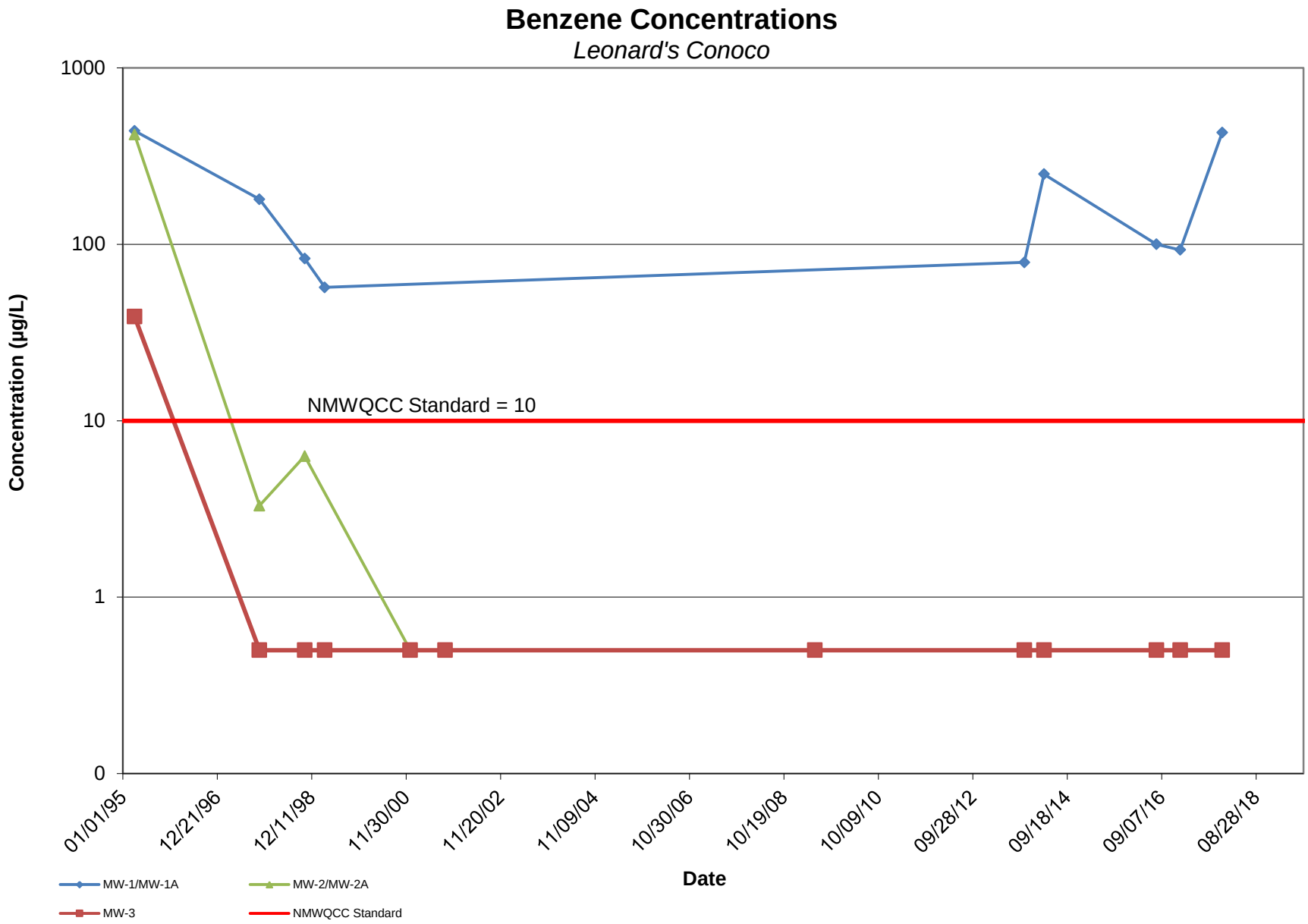
Appendix 6

Graphs Showing Changes in Groundwater Elevations and Contaminant Concentrations in Site Wells over Time

Groundwater Elevations

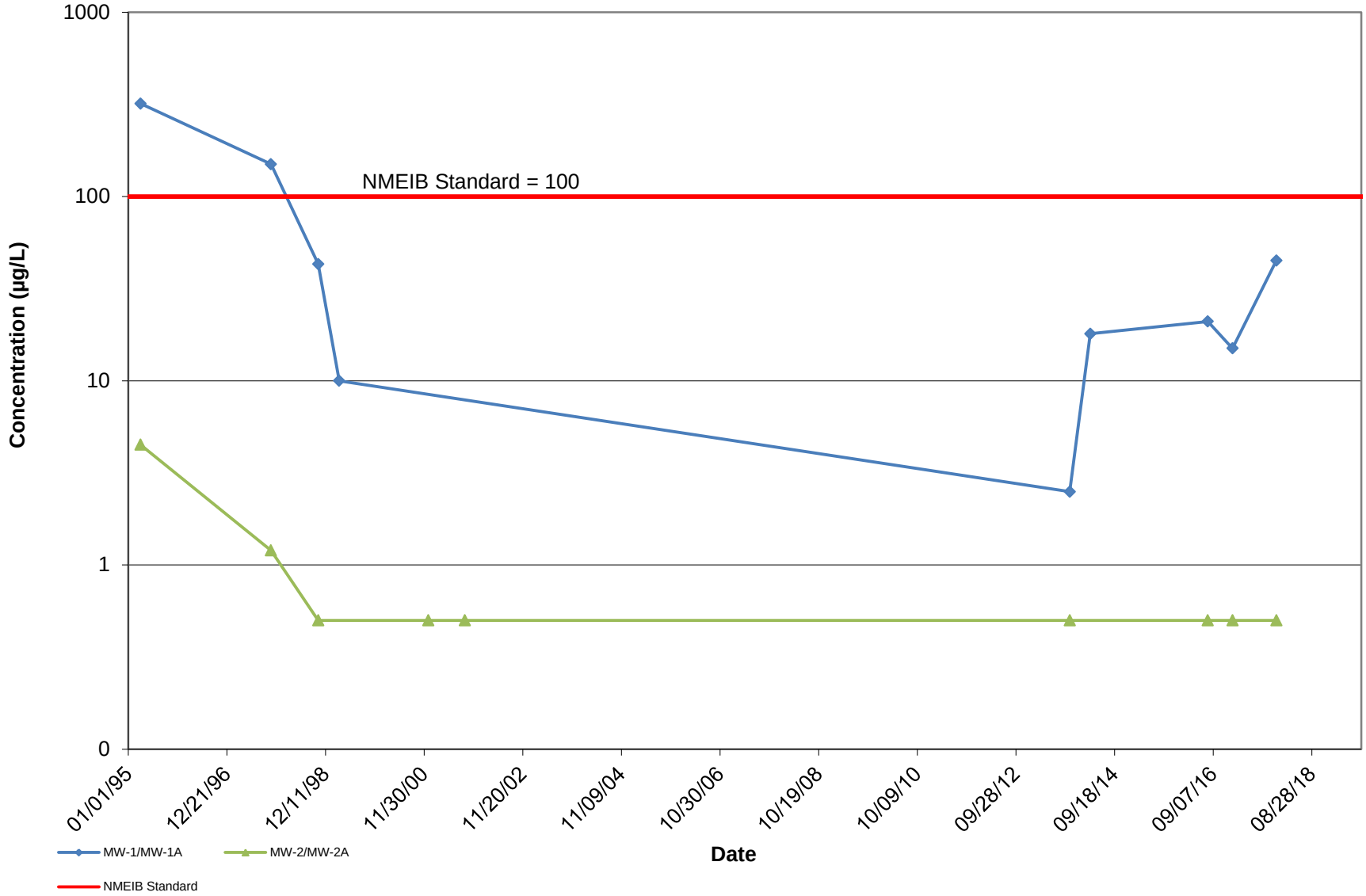
Leonard's Conoco

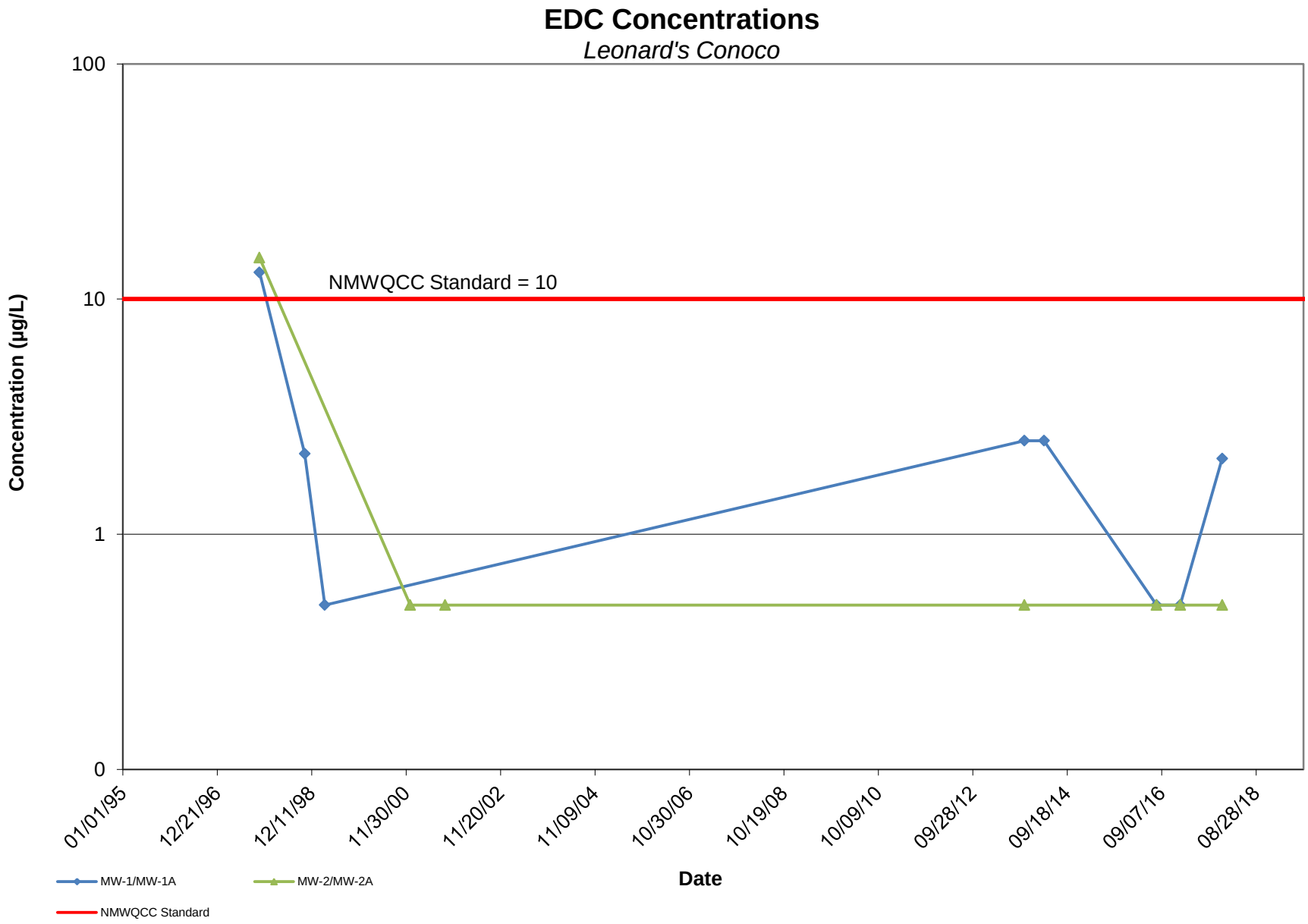



Benzene Concentrations
Leonard's Conoco
1000
100
10
1
0
Concentration (µg/L)
NMWQCC Standard = 10
01/01/95
12/21/96
12/11/98
11/30/00
11/20/02
11/09/04
10/30/06
10/19/08
10/09/10
09/28/12
09/18/14
09/07/16
08/28/18
Date
MW-1/MW-1A
MW-2/MW-2A
MW-3
NMWQCC Standard

MTBE Concentrations

Leonard's Conoco




EDC Concentrations
Leonard's Conoco
100
10
1
0
NMWQCC Standard = 10
Concentration (µg/L)
01/01/95
12/21/96
12/11/98
11/30/00
11/20/02
11/09/04
10/30/06
10/19/08
10/09/10
09/28/12
09/18/14
09/07/16
08/28/18
Date
MW-1/MW-1A
MW-2/MW-2A
NMWQCC Standard

Total Naphthalene Concentrations

Leonard's Conoco