

# Second Half 2019 Semi-Annual Groundwater Monitoring Summary Report

Linam Ranch Natural Gas Plant  
Lea County, New Mexico  
GW-015

Prepared for:



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**January 31, 2020**

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  - Pace Analytical Job #: L1141709

## 1. Introduction

This report summarizes groundwater monitoring and remediation activities conducted during the second half 2019 at the Linam Ranch Natural Gas Plant (Site) in Lea County, New Mexico (Figure 1). Tasman Geosciences (Tasman) performed these activities on behalf of DCP Midstream (DCP). The field activities described herein were conducted with the purpose of monitoring groundwater flow and quality conditions and assessing the presence of light non-aqueous phase liquid (LNAPL) hydrocarbons in the Site subsurface. Current Site conditions were evaluated from field data and analytical laboratory results collected on September 18, 2019. The data collected was used to develop the groundwater elevation map and analytical results figure presented herein.

## 2. Site Location and Background

The Site is located in New Mexico Oil Conservation Division (OCD) designated Unit B, Section 6, Township 19 South, Range 37 East (Figure 1). The approximate facility coordinates are 32.6965 degrees north and 103.2883 degrees west. The facility is an active natural gas processing facility and includes an office complex and storage areas in addition to the main plant.

In February 1994, hydrocarbon-impacted groundwater was detected during subsurface investigations performed at two areas within the plant. A follow-up subsurface investigation was performed in May 1994 to delineate the horizontal extent of hydrocarbon-impacted soils and groundwater. The OCD subsequently requested a work plan to completely define the extent of groundwater contamination at the plant. In October 1995, the OCD approved a quarterly sampling and monitoring program for the Site, which was reduced to semi-annual frequency in 1997 after the recommendations of a 1996 report submitted by Geoscience Consultants Ltd. (GCL).

There are currently twelve groundwater monitoring wells at the Site: MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-10D and MW-11 (Figure 2); monitoring well MW-13 was destroyed during the second half of 2012 and has been removed from the sampling program. These wells were installed between 1991 and 1995.

## 3. Groundwater Monitoring

This section describes the groundwater field and laboratory activities performed during the second half 2019 semi-annual monitoring event on September 18, 2019. Monitoring activities included Site-wide groundwater gauging, LNAPL measurements, and groundwater sampling. Figure 2 illustrates the groundwater monitoring network utilized to perform these activities at the Site.

### 3.1 Groundwater and LNAPL Elevation Monitoring

Groundwater and LNAPL levels were measured to evaluate hydraulic characteristics and provide information regarding seasonal and annual fluctuations in groundwater elevations at the Site. During the reporting period, groundwater levels were measured at all of the 12 Site monitoring wells.

Groundwater and LNAPL levels were measured on the north side of the well casing to the nearest 0.01-foot using an oil-water interface probe (IP). Groundwater level data was later converted to elevation (feet above mean sea level [AMSL]). Measured groundwater levels, calculated groundwater elevations, and LNAPL level data are presented in Table 1.

A second half 2019 groundwater elevation map, included as Figure 3, indicates that groundwater flow at the Site trends generally to the southeast. Groundwater elevations ranges, average elevation changes from previous monitoring events, and calculated hydraulic gradients at the Site are summarized in the table below.

**Summary of Measured Hydraulic Parameters**

	Second Half 2019 (9/18/2019)
Maximum Elevation (Well ID)	3,672.61' (MW-5)
Minimum Elevation (Well ID)	3,665.55' (MW-3)
Average Change from Previous Monitoring Event (ft) – All Wells	-1.05
Hydraulic Gradient (ft/ft) / (Well IDs)	0.003 (MW-5 to MW-3)

LNAPL was observed at MW-6 (2.62 ft) during the second half 2019. Historically, the thickness of LNAPL at this location has fluctuated since 2009 and was absent during the previous first half 2019 groundwater monitoring event.

### 3.2 Groundwater Quality Monitoring

After recording groundwater level measurements, groundwater samples were collected from ten of the twelve wells. MW-6 was not sampled due to the presence of LNAPL, and MW-7 was not sampled this event due to an insufficient amount of water needed for sample collection.

A minimum of three well casing volumes of groundwater was purged from each monitoring well prior to collection of groundwater samples. Groundwater samples were collected using disposable polyethylene bailers, placed in clean laboratory-supplied containers for the selected analytical methods, packed in an ice-filled cooler, and maintained at approximately four (4) degrees Celsius (°C) for transportation to the laboratory. Groundwater samples were then shipped under chain-of-custody procedures to Pace Analytical laboratory (Pace) in Mount Juliet, Tennessee for analysis.

Water quality samples were submitted for analysis of benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260B.

Table 2 summarizes BTEX concentrations in groundwater samples collected during the reporting period. Historical analytical results up to and including the September 2019 event are contained in Appendix A, and the laboratory analytical report for the second half 2019 event is included in Appendix B. Analytical results are also displayed on Figure 4.

Analytical results/observations are summarized below:

- Benzene was detected in exceedance of the New Mexico Water Quality Control Commission (NMWQCC) groundwater standard of (0.01 milligrams per liter [mg/L]) in monitoring wells MW-4 (19.3 mg/L), MW-5 (0.0980 mg/L), MW-10 (1.66 mg/L), MW-10D (0.0588 mg/L, Duplicate 0.0574 mg/L), and MW-11 (0.0207 mg/L).
- Ethylbenzene was detected in exceedance of the NMWQCC standard of 0.75 mg/L in monitoring wells MW-4 and MW-5, with concentrations of 0.829 mg/L and 1.97 mg/L, respectively.
- Groundwater samples at remaining monitoring well locations were reported below applicable NMWQCC standards or below laboratory detection limits.

### **3.3 Data Quality Assurance / Quality Control**

A trip blank and field duplicate sample (MW-10D) was collected during the September 2019 sampling event. The data was reviewed for compliance with the analytical method and the associated quality assurance/quality control (QA/QC) procedures. All samples were analyzed using the correct analytical methods and within the correct holding times. Chain of custody forms were in order and properly executed and indicate that samples were received at the proper temperature with no headspace. All data were reported using the correct method number and reporting units. QA/QC items of note for the second half 2019 include the following:

- Target analytes were not detected in the trip blank; and
- MW-10D and the associated duplicate sample exhibited benzene concentrations of 0.0588 mg/L and 0.0574 mg/L, respectively. The calculated relative percent difference (RPD) is 2.4%, which is within the target range of 20%.

The overall QA/QC assessment, based on the data review, indicate that data precision and accuracy are acceptable.

## **4. Remediation Activities**

Active LNAPL recovery using a Clean Earth Technologies Magnum Spill Buster™ automatic LNAPL recovery system (Magnum Spill Buster™) deployed at MW-6 was shut down in November 2018 based on the LNAPL being absent in the well at that time. Due to the presence of LNAPL observed at this location during the second half 2019, the Spill Buster was re-initiated on September 18, 2019 and recovery levels will be recorded following the first half 2020 sampling event. The LNAPL recovery tank for the Spill Buster currently contains 52.08 gallons of LNAPL, however no LNAPL accumulation was added to the tank during 2019.

## 5. Conclusions

Comparison of the second half semi-annual 2019 monitoring data with historical information provides the following general observations:

- Based on historical groundwater level measurements, groundwater elevations at the Site typically exhibit seasonal and annual fluctuations. Measurements collected during the second half 2019 monitoring event exhibited a decrease in elevation compared to the first half 2019. The observed decrease is likely due to seasonal groundwater fluctuations.
- Dissolved phase benzene concentrations above NMWQCC standards persist in the central portion of the Site, represented by wells MW-4, MW-5, MW-10, MW-10D, and MW-11. Generally, benzene concentrations at these locations demonstrate stable conditions.
- Spill Buster operation at MW-6 was re-initiated due to the presence of LNAPL.
- While separate and dissolved phase hydrocarbon impacts persist on-Site, BTEX concentrations in downgradient monitoring wells MW-3 and MW-9 remain below laboratory detection limits.

## 6. Recommendations

Based on evaluation of second half 2019 and historical Site observations and monitoring results, the following recommendation has been developed for future activities:

- Continue semi-annual groundwater monitoring and sampling at the monitoring locations illustrated on Figure 2.
- Continue active LNAPL recovery at monitoring well MW-6 using Spill Buster LNAPL recovery system.

## Tables

**TABLE 1**  
**SECOND HALF 2019 SEMI-ANNUAL**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**LINAM RANCH**  
**LEA COUNTY, NEW MEXICO**

Location	Date	Depth to Groundwater (feet)	Depth to Product (feet)	Free Phase Hydrocarbon Thickness (feet)	Total Depth (feet)	TOC Elevation (feet amsl)	Groundwater Elevation (*) (feet amsl)	Change in Groundwater Elevation Since Previous Event (1) (feet)
MW-1	03/25/19	45.37			54.55	3718.29	3672.92	0.07
MW-1	09/18/19	45.86			54.55	3718.29	3672.43	-0.49
MW-2	03/25/19	45.62			50.57	3714.80	3669.18	-0.20
MW-2	09/18/19	46.43			50.57	3714.80	3668.37	-0.81
MW-3	03/25/19	49.62			55.41	3715.50	3665.88	-0.26
MW-3	09/18/19	49.95			55.41	3715.50	3665.55	-0.33
MW-4	03/25/19	46.37			54.76	3720.46	3674.09	-0.05
MW-4	09/18/19	47.61			54.76	3720.46	3672.85	-1.24
MW-5	03/25/19	46.92			56.62	3721.53	3674.61	-0.04
MW-5	09/18/19	48.92			56.62	3721.53	3672.61	-2.00
MW-6	03/25/19	47.46			54.30	3720.99	3673.53	0.08
*MW-6	09/18/19	51.09	48.47	2.62	54.30	3720.99	3671.87	-1.66
MW-7	03/25/19	59.70			62.86	3728.57	3668.87	-0.05
MW-7	09/18/19	62.24			62.86	3728.57	3666.33	-2.54
MW-8	03/25/19	45.00			58.05	3714.18	3669.18	-0.11
MW-8	09/18/19	45.88			58.05	3714.18	3668.30	-0.88
MW-9	03/25/19	52.30			59.35	3720.48	3668.18	-0.22
MW-9	09/18/19	52.78			59.35	3720.48	3667.70	-0.48
MW-10	03/25/19	52.15			66.10	3720.76	3668.61	-0.18
MW-10	09/18/19	52.77			66.10	3720.76	3667.99	-0.62
MW-10D	03/25/19	53.43			79.01	3720.85	3667.42	-0.23
MW-10D	09/18/19	54.12			79.01	3720.85	3666.73	-0.69
MW-11	03/25/19	52.83			63.27	3722.02	3669.19	-0.14
MW-11	09/18/19	53.73			63.27	3722.02	3668.29	-0.90
Average change in groundwater elevation ( 3/25/2019 to 9/18/19 )								-1.05

1- Changes in groundwater elevation calculated by subtracting the measurement collected during the previous monitoring event from the measurement collected during the most recent monitoring event.

amsl = feet above mean sea level

TOC = top of casing

Groundwater elevation = (TOC Elevation - Measured Depth to Water)

\* Groundwater elevation was corrected for product thickness using the following calculation, when applicable:

Groundwater elevation = (TOC Elevation - Measured Depth to Water) + (LNAPL Thickness in Well \* LNAPL Relative Density)

LNAPL relative density is assumed to be approximately 0.75 grams per cubic centimeter (g/cm<sup>3</sup>)

NM = Not Measured

NA = Not Applicable

**TABLE 2**  
**SECOND HALF 2019 SEMI-ANNUAL**  
**SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER**  
**LINAM RANCH**  
**LEA COUNTY, NEW MEXICO**

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-1	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-4	9/18/2019	<b>19.3</b>	<0.0010	<b>0.829</b>	0.00356	
MW-5	9/18/2019	<b>0.0980</b>	<0.0200	<b>1.97</b>	<0.0600	
MW-6	9/18/2019		LNAPL			LNAPL (2.62 feet)
MW-7	9/18/2019		NS			DRY
MW-8	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-10	9/18/2019	<b>1.66</b>	<0.200	0.284	0.202	
MW-10D	9/18/2019	<b>0.0588</b>	0.0119	0.0182	0.00272 J	Duplicate Sample Collected
MW-10D (Duplicate)	9/18/2019	<b>0.0574</b>	0.0116	0.0185	0.00264 J	
MW-11	9/18/2019	<b>0.0207</b>	0.00138	0.000459 J	0.00166 J	
Trip Blank	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	

Notes:

**Bold red** values indicate an exceedance of the NMWQCC groundwater standards for the Site.

NMWQCC = New Mexico Water Quality Control Commission

LNAPL = light non-aqueous phase liquid

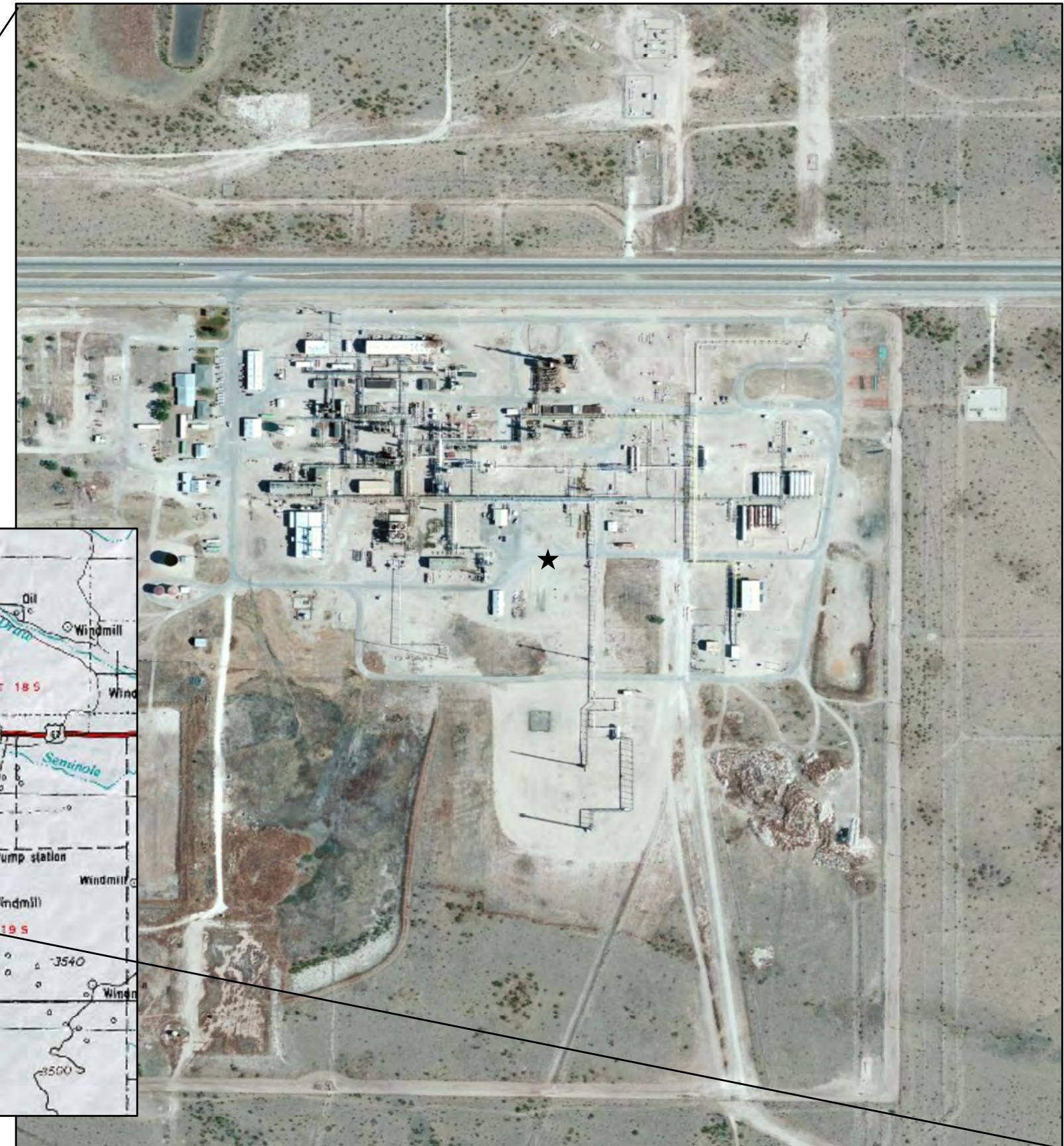
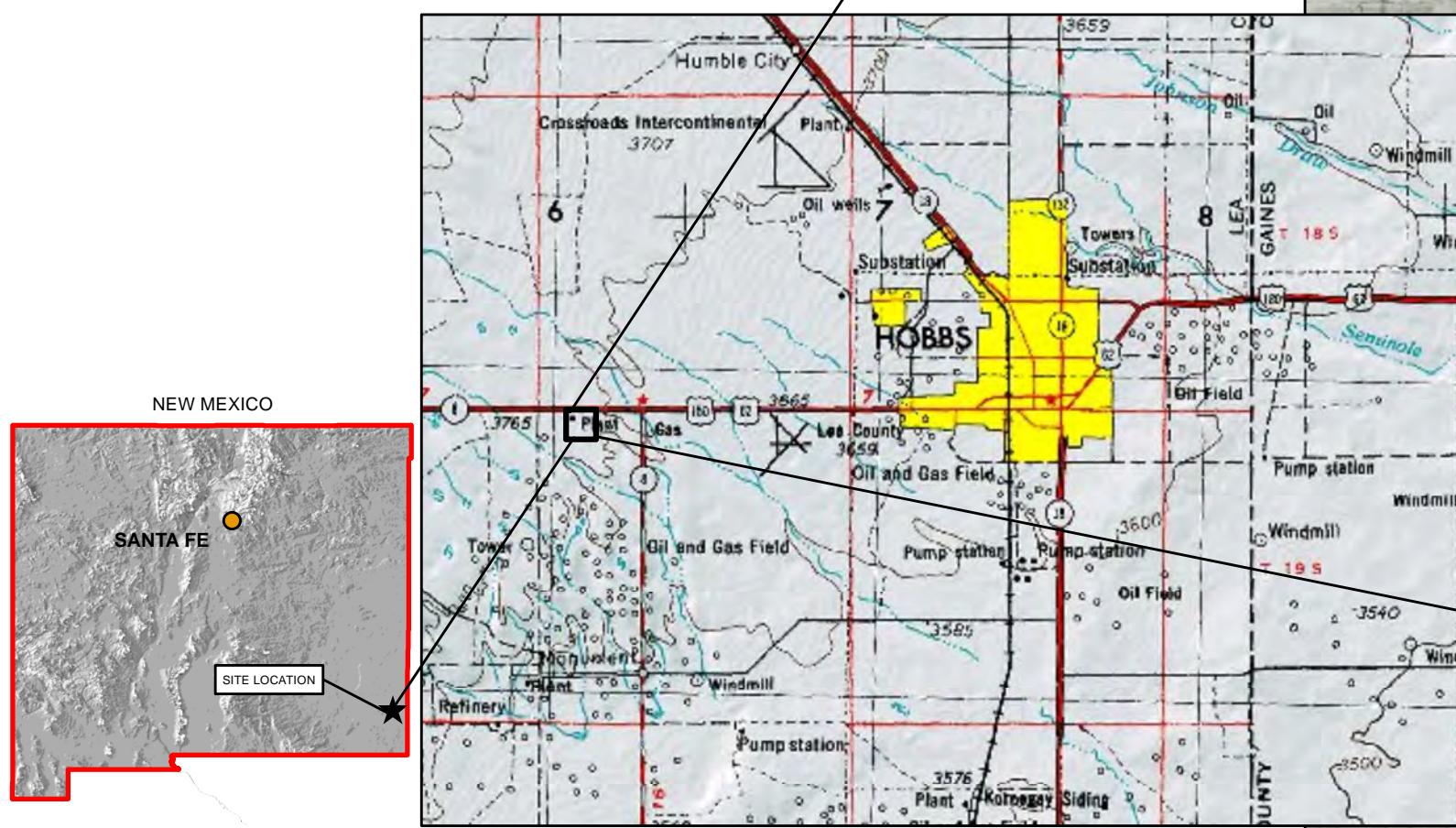
J = A qualifier indicating an estimated value of a concentration above the laboratory's Method Detection Limit (MDL) but below the Reported Detection Limit (RDL).

mg/L = milligrams per liter

NS = Not Sampled

## Figures

N



DATE:	June 2014
DESIGNED BY:	T. Johansen
DRAWN BY:	D. Arnold



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**DCP Midstream**  
**Linam Ranch Gas Plant**  
Unit B, Section 6, Township 19 South, Range 37 East  
Lea County, New Mexico

Site Location  
Map

Figure  
1



DATE:	December 2019
DESIGNED BY:	B. Humphrey
DRAWN BY:	J. Clonts

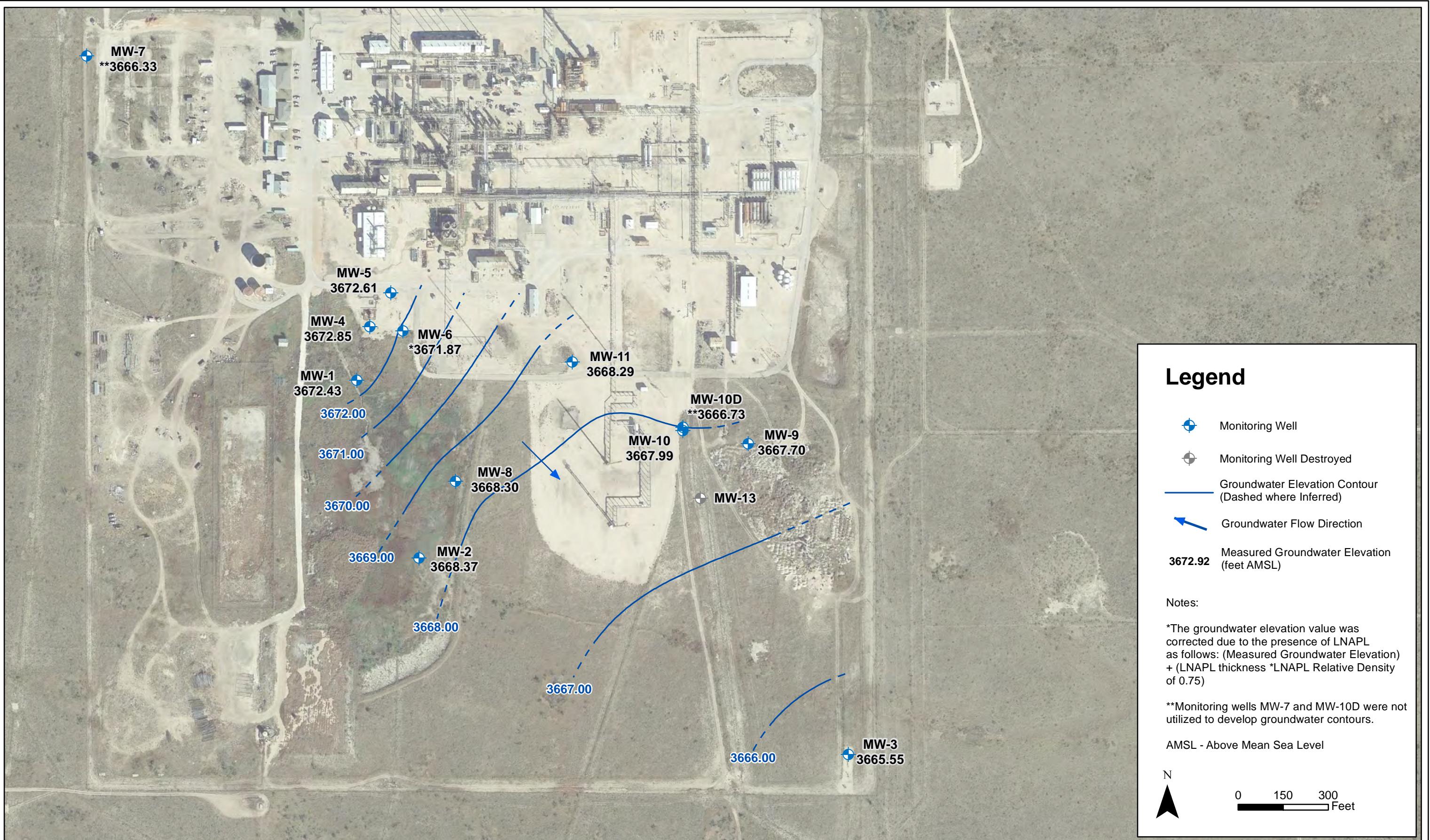


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**DCP Midstream  
Linam Gas Plant**  
Second Half 2019 Semi-Annual Groundwater Monitoring  
Summary Report

Site Map with Monitoring  
Well Locations

**Figure  
2**



DATE:	December 2019
DESIGNED BY:	B. Humphrey
DRAWN BY:	J. Clonts

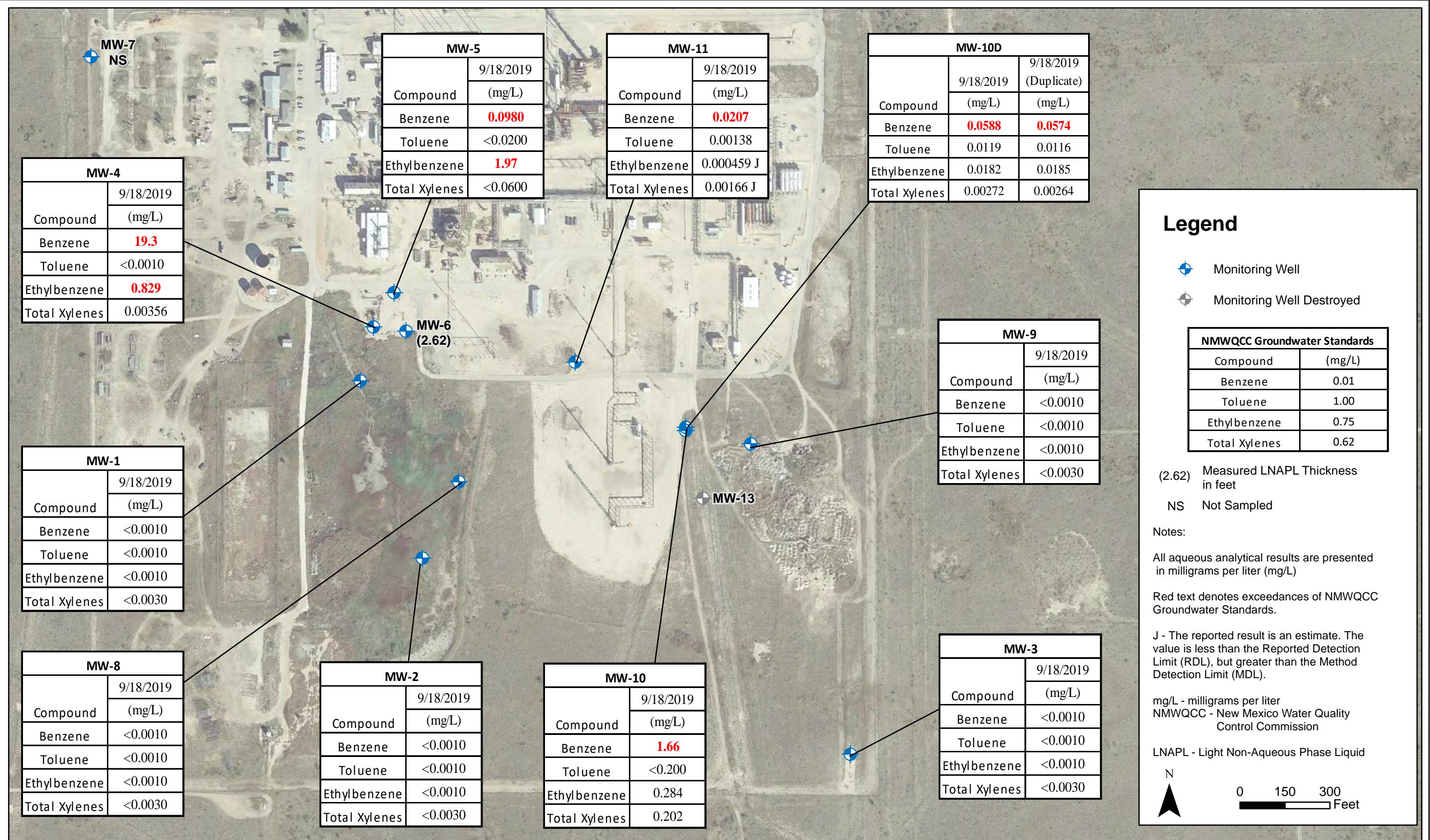


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DCP Midstream  
Linam Ranch Gas Plant  
Second Half 2019 Semi-Annual Groundwater Monitoring Summary Report

Groundwater Elevation Contour Map (September 18, 2019)

Figure 3



DATE: December 2019  
DESIGNED BY: B. Humphrey  
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### DCP Midstream Linam Ranch Gas Plant

Second Half 2019 Semi-Annual Groundwater Monitoring  
Summary Report

Analytical Results  
Map  
(September 18, 2019)

Figure  
4

## Appendix A

### Historical Analytical Results

**APPENDIX A**  
**HISTORICAL ANALYTICAL RESULTS**  
**BTEX CONCENTRATIONS IN GROUNDWATER**  
**LINAM RANCH**  
**LEA COUNTY, NEW MEXICO**

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
<b>NMWQCC Groundwater Standards (mg/L)</b>		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-1	9/24/2009	<0.002	<0.002	<0.002	<0.006	
MW-1	3/24/2010	<0.002	<0.002	<0.002	<0.006	
MW-1	9/28/2010	<0.001	<0.002	<0.002	<0.004	
MW-1	4/28/2011	0.00054 J	<0.002	<0.002	<0.002	
MW-1	9/13/2011	<0.001	<0.002	<0.002	<0.004	
MW-1	3/5/2012	<0.005	<0.005	<0.005	<0.015	
MW-1	9/4/2012	<0.005	<0.005	<0.005	<0.015	
MW-1	2/18/2013	<0.001	<0.001	<0.001	<0.003	
MW-1	9/9/2013	<b>0.012</b>	<0.001	0.0024	0.0038	
MW-1	2/25/2014	<0.001	<0.001	<0.001	<0.001	
MW-1	9/23/2014	<0.001	<0.001	<0.001	<0.003	
MW-1	2/24/2015	<0.001	<0.001	<0.001	<0.003	
MW-1	9/1/2015	<0.001	<0.001	<0.001	<0.003	
MW-1	3/24/2016	<0.001	<0.001	<0.001	<0.003	
MW-1	9/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-1	3/7/2017	<0.0010	<0.0010	<0.0010	<0.0010	
MW-1	10/3/2017	<0.0010	<0.0010	<0.0010	<0.0030	
MW-1	3/14/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-1	9/7/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-1	3/25/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-1	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	9/24/2009	<0.002	<0.002	<0.002	<0.006	
MW-2	3/24/2010	<0.002	<0.002	<0.002	<0.006	
MW-2	9/28/2010	<0.001	<0.002	<0.002	<0.004	
MW-2	4/28/2011	<0.001	<0.002	<0.002	<0.002	
MW-2	9/12/2011	<0.001	<0.002	<0.002	<0.004	
MW-2	3/5/2012	<0.005	<0.005	<0.005	<0.015	
MW-2	9/4/2012	<0.005	<0.005	<0.005	<0.015	
MW-2	2/18/2013	<0.001	<0.001	<0.001	<0.003	
MW-2	9/9/2013	<0.001	<0.001	<0.01	<0.001	
MW-2	2/25/2014	<0.001	<0.001	<0.001	<0.001	
MW-2	9/23/2014	NS	NS	NS	NS	Inaccessible
MW-2	2/24/2015	<0.001	<0.001	<0.001	<0.003	
MW-2	9/1/2015	<0.001	<0.001	<0.001	<0.003	
MW-2	3/24/2016	<0.001	<0.001	<0.001	<0.003	
MW-2	9/28/2016		NS			Well inaccessible due to flooding
MW-2	3/7/2017	<0.0010	<0.0010	<0.0010	<0.0010	
MW-2	10/3/2017	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	3/14/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	9/7/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	3/25/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	

**APPENDIX A**  
**HISTORICAL ANALYTICAL RESULTS**  
**BTEX CONCENTRATIONS IN GROUNDWATER**  
**LINAM RANCH**  
**LEA COUNTY, NEW MEXICO**

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
<b>NMWQCC Groundwater Standards (mg/L)</b>		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-3	9/24/2009	<0.002	<0.002	<0.002	<0.006	
MW-3	3/24/2010	<0.002	<0.002	<0.002	<0.006	
MW-3	9/28/2010	<0.001	<0.002	<0.002	<0.004	
MW-3	4/28/2011	<0.001	<0.002	<0.002	<0.002	
MW-3	9/12/2011	<0.001	<0.002	<0.002	<0.004	
MW-3	3/5/2012	<0.005	<0.005	<0.005	<0.015	
MW-3	9/4/2012	<0.005	<0.005	<0.005	<0.015	
MW-3	2/18/2013	<0.001	<0.001	<0.001	<0.003	
MW-3	9/9/2013	<0.001	<0.001	<0.001	<0.001	
MW-3	2/25/2014	<0.001	<0.001	<0.001	<0.001	
MW-3	9/23/2014	<0.001	<0.001	<0.001	<0.003	
MW-3	2/24/2015	<0.001	<0.001	<0.001	<0.003	
MW-3	9/1/2015	<0.001	<0.001	<0.001	<0.003	
MW-3	3/24/2016	<0.001	<0.001	<0.001	<0.003	
MW-3	9/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	3/7/2017	<0.0010	<0.0010	<0.0010	<0.0010	
MW-3	10/3/2017	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	3/14/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	9/7/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	3/26/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-4	9/24/2009		LNAPL			
MW-4	3/24/2010		LNAPL			
MW-4	9/28/2010		LNAPL			
MW-4	4/28/2011		LNAPL			LNAPL (0.23 feet)
MW-4	9/13/2011		LNAPL			LNAPL (0.28 feet)
MW-4	3/5/2012		LNAPL			LNAPL (0.34 feet)
MW-4	9/4/2012		LNAPL			LNAPL (0.43 feet)
MW-4	2/18/2013		LNAPL			LNAPL (0.47 feet)
MW-4	9/9/2013		LNAPL			LNAPL (0.06 feet)
MW-4	2/25/2014		LNAPL			LNAPL (0.02 feet)
MW-4	2/24/2015	<b>9.8</b>	<0.005	0.59	<0.015	LNAPL (0.01 feet)
MW-4	9/1/2015	<b>8.6</b>	<0.005	0.53	<0.015	
MW-4	3/24/2016	<b>6.9</b>	<0.005	0.38	<0.015	
MW-4	10/12/2016	<b>5</b>	<0.010	0.027	0.053	
MW-4	3/7/2017	<b>8.9</b>	<0.005	0.024	0.0051	
MW-4	10/3/2017	<b>16.9</b>	<0.100	0.618	<0.300	
MW-4	3/14/2018	<b>18.7</b>	<0.010	0.686	<0.030	
MW-4	9/7/2018	<b>12.3</b>	<0.200	0.74	<0.600	
MW-4	3/26/2019	<b>15.9</b>	<0.200	0.516	<0.600	
MW-4	9/18/2019	<b>19.3</b>	<0.0010	<b>0.829</b>	0.00356	

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**BTEX CONCENTRATIONS IN GROUNDWATER**  
**LINAM RANCH**  
**LEA COUNTY, NEW MEXICO**

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
<b>NMWQCC Groundwater Standards (mg/L)</b>		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-5	9/24/2009	<b>0.0272</b>	<0.002	0.227	<0.006	
MW-5	3/24/2010	<b>0.13</b>	<0.002	0.482	0.46	
MW-5	9/28/2010	0.0095	<0.004	0.188	<0.008	
MW-5	4/28/2011	<b>0.149</b>	<0.004	<b>0.776</b>	<0.004	
MW-5	9/13/2011	<b>0.13</b>	<0.010	<b>0.86</b>	<0.020	
MW-5	3/5/2012	<b>0.24</b>	<0.025	<b>2</b>	<0.075	
MW-5	9/4/2012	<b>0.17</b>	<0.005	<b>1</b>	0.038	Duplicate Sample Collected
MW-5	2/18/2013	<b>0.21</b>	<0.005	<b>1.4</b>	<0.015	Duplicate Sample Collected
MW-5	9/9/2013	<b>0.096</b>	<0.001	<b>0.89</b>	<0.001	Duplicate Sample Collected
MW-5 (Duplicate)	9/9/2013	<b>0.095</b>	<0.001	<b>0.9</b>	<0.001	
MW-5	2/25/2014	<b>0.18</b>	<0.005	<b>1.3</b>	<0.005	
MW-5	9/23/2014	<b>0.33</b>	<0.005	<b>2</b>	<0.015	
MW-5	2/24/2015	<b>0.16</b>	<0.005	<b>1.3</b>	<0.015	
MW-5	9/1/2015	<b>0.1</b>	<0.005	0.57	<0.015	
MW-5	3/24/2016	<b>0.095</b>	<0.005	<b>1.4</b>	<0.015	
MW-5	9/28/2016	<b>0.081</b>	<0.0050	<b>1.6</b>	<0.015	
MW-5	3/7/2017	<b>0.081</b>	<0.0050	<b>0.91</b>	<0.0050	
MW-5	10/3/2017	<b>0.151</b>	0.00906 J	<b>2.34</b>	<0.060	
MW-5	3/14/2018	<b>0.0609</b>	<0.010	<b>0.930</b>	<0.030	
MW-5	9/7/2018	<b>0.131</b>	<0.001	<b>2.040</b>	0.00267 J	
MW-5	3/26/2019	<b>0.08</b>	0.000443 J	<b>2.530</b>	<0.003	
MW-5	9/18/2019	<b>0.0980</b>	<0.0200	<b>1.97</b>	<0.0600	
MW-6	9/24/2009		LNAPL			
MW-6	3/24/2010		LNAPL			
MW-6	9/28/2010		LNAPL			
MW-6	4/28/2011		LNAPL		LNAPL (2.81 feet)	
MW-6	9/13/2011		LNAPL		LNAPL (3.33 feet)	
MW-6	3/5/2012		LNAPL		LNAPL (3.1 feet)	
MW-6	9/4/2012		LNAPL		LNAPL (3.98 feet)	
MW-6	2/18/2013		LNAPL		LNAPL (2.32 feet) Active Spill Buster	
MW-6	9/9/2013		LNAPL		LNAPL (0.17 feet) Active Spill Buster	
MW-6	2/25/2014		LNAPL		LNAPL (1.99 feet) Active Spill Buster	
MW-6	9/23/2014		LNAPL		LNAPL (0.09 feet)	
MW-6	2/24/2015		LNAPL		LNAPL (0.07 feet)	
MW-6	9/1/2015		LNAPL		LNAPL (0.01 feet)	
MW-6	3/24/2016		LNAPL		LNAPL (0.13 feet)	
MW-6	9/28/2016		LNAPL		LNAPL (3.74 feet)	
MW-6	3/7/2017		LNAPL		LNAPL (0.7 feet) Active Spill Buster	
MW-6	10/3/2017		LNAPL		LNAPL (0.25 feet) Active Spill Buster	
MW-6	3/14/2018		LNAPL		LNAPL (NM) Active Spill Buster	
MW-6	9/7/2018		LNAPL		LNAPL (0.32 feet) Active Spill Buster	
MW-6	3/26/2019	<b>0.543</b>	<0.001	0.188	<0.003	
MW-6	9/18/2019		LNAPL		LNAPL (2.62 feet)	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
<b>NMWQCC Groundwater Standards (mg/L)</b>		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-7	9/24/2009		NS			
MW-7	3/24/2010		NS			
MW-7	9/28/2010		NS			
MW-7	4/28/2011		NS			DRY
MW-7	9/13/2011		NS			
MW-7	3/5/2012		NS			
MW-7	9/4/2012	<0.005	<0.005	<0.005	<0.015	
MW-7	2/18/2013	<0.001	<0.001	<0.001	<0.003	
MW-7	9/9/2013	<0.001	<0.001	<0.001	<0.001	
MW-7	2/25/2014	<0.001	<0.001	<0.001	<0.001	
MW-7	9/23/2014	<0.001	<0.001	<0.001	<0.003	
MW-7	2/24/2015	<0.001	<0.001	<0.001	<0.003	
MW-7	9/1/2015	<0.001	<0.001	<0.001	<0.003	
MW-7	3/24/2016	<0.001	<0.001	<0.001	<0.003	
MW-7	10/12/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-7	3/7/2017	<0.0010	<0.0010	<0.0010	<0.0010	
MW-7	10/3/2017	<0.0010	<0.0010	<0.0010	<0.0030	
MW-7	3/14/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-7	9/7/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-7	3/25/2019	<0.0010	<0.0010	0.000421 J	<0.0030	
MW-7	9/18/2019		NS			Not enough water for sample
MW-8	9/24/2009	<0.002	<0.002	<0.002	<0.006	
MW-8	3/24/2010	<0.002	<0.002	<0.002	<0.006	
MW-8	9/28/2010	<0.001	<0.002	<0.002	<0.004	
MW-8	4/28/2011	<0.001	<0.002	<0.002	<0.002	
MW-8	9/12/2011	<0.005	<0.005	<0.005	<0.015	
MW-8	3/5/2012	<0.005	<0.005	<0.005	<0.015	
MW-8	9/4/2012	<0.005	<0.005	<0.005	<0.015	
MW-8	2/18/2013	<0.001	<0.001	<0.001	<0.003	
MW-8	9/9/2013	<0.001	<0.001	<0.001	<0.001	
MW-8	2/25/2014	<0.001	<0.001	<0.001	<0.001	
MW-8	9/23/2014		NS			Inaccessible
MW-8	2/24/2015	<0.001	<0.001	<0.001	<0.003	
MW-8	9/1/2015	<0.001	<0.001	<0.001	<0.003	
MW-8	3/24/2016	<0.001	<0.001	<0.001	<0.003	
MW-8	9/28/2016		NS			Well inaccessible due to flooding
MW-8	3/7/2017	<0.0010	<0.0010	<0.0010	<0.0010	
MW-8	10/3/2017	<0.0010	<0.0010	<0.0010	<0.0030	
MW-8	3/14/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-8	9/7/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-8	3/25/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-8	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
<b>NMWQCC Groundwater Standards (mg/L)</b>		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-9	9/24/2009	<0.002	<0.002	<0.002	<0.006	
MW-9	3/24/2010	<0.002	<0.002	<0.002	<0.006	
MW-9	9/28/2010	<0.001	<0.002	<0.002	<0.004	
MW-9	4/28/2011	<0.001	<0.002	<0.002	<0.002	
MW-9	9/12/2011	<0.001	<0.002	<0.002	<0.004	
MW-9	3/5/2012	<0.005	<0.005	<0.005	<0.015	
MW-9	9/4/2012	<0.005	<0.005	<0.005	<0.015	
MW-9	2/18/2013	<0.001	<0.001	<0.001	<0.003	
MW-9	9/9/2013	<0.001	<0.001	<0.001	<0.001	
MW-9	2/25/2014	<0.001	<0.001	<0.001	<0.001	
MW-9	9/23/2014	<0.001	<0.001	<0.001	<0.003	
MW-9	2/24/2015	<0.001	<0.001	<0.001	<0.003	
MW-9	9/1/2015	<0.001	<0.001	<0.001	<0.003	
MW-9	3/24/2016	<0.001	<0.001	<0.001	<0.003	
MW-9	9/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	3/7/2017	<0.0010	<0.0010	<0.0010	<0.0010	
MW-9	10/3/2017	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	3/14/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	9/7/2018	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	3/26/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	
MW-10	4/30/2008	<b>0.769</b>	0.0457	0.0851	0.05	
MW-10	4/29/2009	<b>0.883</b>	0.23	0.0859	0.0759	
MW-10	9/24/2009	<b>1.07</b>	0.126	0.148	0.154	
MW-10	3/24/2010	<b>1.64</b>	0.175	0.246	0.156	
MW-10	9/28/2010	<b>1.9</b>	0.0547 J	0.24	0.104 J	
MW-10	4/28/2011	<b>1.72</b>	0.228	0.195	0.126	Duplicate Sample Collected
MW-10 (Duplicate)	4/28/2011	<b>2.29</b>	0.258	0.234	0.155	
MW-10	9/12/2011	<b>1.97</b>	0.104	0.249	0.145	Duplicate Sample Collected
MW-10 (Duplicate)	9/12/2011	<b>2.08</b>	0.0964	0.25	0.153	
MW-10	3/5/2012	<b>2.2</b>	0.11	0.23	0.13	
MW-10	9/4/2012	<b>2.7</b>	0.0083	0.28	0.12	
MW-10	2/18/2013	<b>2.0</b>	0.019	0.3	0.13	
MW-10	9/9/2013	<b>1.6</b>	0.022	0.26	0.11	
MW-10	2/25/2014	<b>1.7</b>	0.0054	0.35	0.098	
MW-10	9/23/2014	<b>2.2</b>	<0.005	0.53	0.15	
MW-10	2/24/2015	<b>1.6</b>	0.012	0.29	0.086	
MW-10	9/1/2015	<b>1.6</b>	0.012	0.19	0.078	
MW-10	3/24/2016	<b>4.6</b>	0.0068	0.22	0.054	
MW-10	9/28/2016	<b>3.1</b>	0.012	0.25	0.19	
MW-10	3/7/2017	<b>3.1</b>	0.011	0.23	0.09	
MW-10	10/3/2017	<b>4.27</b>	0.0202	0.311	0.158	
MW-10	3/14/2018	<b>4.24</b>	<0.010	0.440	0.109	
MW-10	9/7/2018	<b>3.32</b>	0.0274	0.332	0.155	
MW-10	3/26/2019	<b>2.0</b>	0.0182	0.197	0.0826	
MW-10	9/18/2019	<b>1.66</b>	<0.200	0.284	0.202	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
<b>NMWQCC Groundwater Standards (mg/L)</b>		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-10D	4/30/2008	<b>0.195</b>	0.0677	0.0144	0.0221	
MW-10D	4/29/2009	<b>0.179</b>	0.0772	0.0203	0.0296	
MW-10D	9/24/2009	<b>0.103</b>	0.0496	0.0127	0.0261	
MW-10D	3/24/2010	<b>0.196</b>	0.0703	0.0129	0.0202	
MW-10D	9/28/2010	<b>0.0402</b>	0.0358	0.006	0.0077 J	
MW-10D	4/28/2011	<b>0.0512</b>	0.0373	0.0063	0.0113	
MW-10D	9/12/2011	<b>0.0278</b>	0.0131	0.0032	0.006	
MW-10D	3/5/2012	<b>0.024</b>	0.0081	<0.005	<0.015	Duplicate Sample Collected
MW-10D (Duplicate)	3/5/2012	<b>0.022</b>	0.0089	<0.005	<0.015	
MW-10D	9/4/2012	<b>0.023</b>	0.0057	<0.005	<0.015	
MW-10D	2/18/2013	<b>0.034</b>	0.014	0.0023	0.0031	
MW-10D	9/9/2013	<b>0.034</b>	0.019	<0.005	<0.005	
MW-10D	2/25/2014	<b>0.046</b>	0.021	0.005	<0.005	Duplicate Sample Collected
MW-10D (Duplicate)	2/25/2014	<b>0.043</b>	0.019	<0.005	<0.005	
MW-10D	9/23/2014	<b>0.059</b>	0.024	<0.005	<0.015	Duplicate Sample Collected
MW-10D (Duplicate)	9/23/2014	<b>0.058</b>	0.024	<0.005	<0.015	
MW-10D	2/24/2015	<b>0.062</b>	0.026	0.008	<0.015	Duplicate Sample Collected
MW-10D (Duplicate)	2/24/2015	<b>0.058</b>	0.024	0.0074	<0.015	
MW-10D	9/1/2015	<b>0.062</b>	0.025	0.006	<0.015	Duplicate Sample Collected
MW-10D (Duplicate)	9/1/2015	<b>0.065</b>	0.026	0.0075	<0.015	
MW-10D	3/24/2016	<b>0.079</b>	0.021	0.021	<0.015	Duplicate Sample Collected
MW-10D (Duplicate)	3/24/2016	<b>0.079</b>	0.019	0.013	<0.015	
MW-10D	9/28/2016	<b>0.024</b>	0.013	<0.0050	<0.015	Duplicate Sample Collected
MW-10D (Duplicate)	9/28/2016	<b>0.025</b>	0.013	<0.0050	<0.015	
MW-10D	3/7/2017	<b>0.15</b>	0.017	0.026	0.0072	Duplicate Sample Collected
MW-10D (Duplicate)	3/7/2017	<b>0.15</b>	0.016	0.025	0.0066	
MW-10D	10/3/2017	<b>0.0510</b>	0.0153	<0.010	<0.030	Duplicate Sample Collected
MW-10D (Duplicate)	10/3/2017	<b>0.0614</b>	0.020	<0.020	<0.060	
MW-10D	3/14/2018	<b>0.116</b>	0.0178	0.0194	0.00472	Duplicate Sample Collected
MW-10D (Duplicate)	3/14/2018	<b>0.104</b>	0.0169	0.0176	<0.0150	
MW-10D	9/7/2018	<b>0.0499</b>	0.0163	0.00769	0.0033	Duplicate Sample Collected
MW-10D (Duplicate)	9/7/2018	<b>0.0497</b>	0.0181	0.00899	0.00384	
MW-10D	3/26/2019	<b>0.047</b>	0.0126	0.00647	0.00238 J	Duplicate Sample Collected
MW-10D (Duplicate)	3/26/2019	<b>0.0477</b>	0.0124	0.00642	0.00227 J	
MW-10D	9/18/2019	<b>0.0588</b>	0.0119	0.0182	0.00272 J	Duplicate Sample Collected
MW-10D (Duplicate)	9/18/2019	<b>0.0574</b>	0.0116	0.0185	0.00264 J	

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Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
<b>NMWQCC Groundwater Standards (mg/L)</b>		<b>0.01</b>	<b>1.00</b>	<b>0.75</b>	<b>0.62</b>	
MW-11	4/29/2009	<0.00046	<0.00048	<0.00045	<0.0014	
MW-11	9/24/2009	<0.002	<0.002	<0.002	<0.006	
MW-11	3/24/2010	<0.002	<0.002	<0.002	<0.006	
MW-11	9/28/2010	0.0036	<0.002	<0.002	0.004	
MW-11	4/28/2011	<0.001	<0.002	<0.002	<0.002	
MW-11	9/12/2011	<0.001	<0.002	<0.002	<0.004	
MW-11	3/5/2012	<0.005	<0.005	<0.005	<0.015	
MW-11	9/4/2012	<0.005	<0.005	<0.005	<0.015	
MW-11	2/18/2013	<0.001	<0.001	<0.001	<0.003	
MW-11	9/9/2013	<0.001	<0.001	<0.001	0.0033	
MW-11	2/25/2014	<0.001	<0.001	<0.001	<0.001	
MW-11	9/23/2014	<0.001	<0.001	<0.001	<0.003	
MW-11	2/24/2015	0.0019	<0.001	<0.001	<0.003	
MW-11	9/1/2015	<b>0.019</b>	<0.001	<0.001	0.0031	
MW-11	3/24/2016	<0.001	<0.001	<0.001	<0.003	
MW-11	9/28/2016	0.0036	<0.0010	<0.0010	<0.0030	
MW-11	3/7/2017	0.0081	<0.0010	<0.0010	0.0017	
MW-11	10/3/2017	0.000951 J	<0.0010	<0.0010	<0.0030	
MW-11	3/14/2018	0.00385	<0.0010	<0.0010	<0.0030	
MW-11	9/7/2018	0.000467 J	<0.0010	<0.0010	<0.0030	
MW-11	3/26/2019	<b>0.0135</b>	0.00082 J	<0.0010	<0.0030	
MW-11	9/18/2019	<b>0.0207</b>	0.00138	0.000459 J	0.00166 J	
MW-13	4/29/2009	<0.00046	<0.00048	<0.00045	<0.0014	
MW-13	9/24/2009	<0.002	<0.002	<0.002	<0.006	
MW-13	3/24/2010	<0.002	<0.002	<0.002	<0.006	
MW-13	9/28/2010	<0.001	<0.002	<0.002	<0.004	
MW-13	4/28/2011	<0.001	<0.002	<0.002	<0.002	
MW-13	9/12/2011	<0.001	<0.002	<0.002	<0.004	
MW-13	3/5/2012	<0.005	<0.005	<0.005	<0.015	
MW-13		Well Destroyed				
Trip Blank	2/25/2014	<0.001	<0.001	<0.001	<0.001	
Trip Blank	9/23/2014	<0.001	<0.001	<0.001	<0.003	
Trip Blank	2/24/2015	<0.001	<0.001	<0.001	<0.003	
Trip Blank	9/1/2015	<0.001	<0.001	<0.001	<0.003	
Trip Blank	3/24/2016	<0.001	<0.001	<0.001	<0.003	
Trip Blank	9/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	3/7/2017	<0.0010	<0.0010	<0.0010	<0.0010	
Trip Blank	10/3/2017	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	3/14/2018	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	9/7/2018	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	3/26/2019	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	9/18/2019	<0.0010	<0.0010	<0.0010	<0.0030	

Notes:

**Bold red** values indicate an exceedance of the NMWQCC groundwater standards for the Site.

NMWQCC = New Mexico Water Quality Control Commission

LNAPL = Light Non-Aqueous Phase Liquid

J = A qualifier indicating an estimated value of a concentration above the laboratory's Method Detection Limit (MDL) but below the Reported Detection Limit (RDL).

NS = Not Sampled

NM = Not Measured

mg/L = milligrams per liter

## **Appendix B**

### **Laboratory Analytical Report**

- Pace Job #: L1141709

# ANALYTICAL REPORT

September 30, 2019

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

## DCP Midstream - Tasman

Sample Delivery Group: L1141709

Samples Received: 09/20/2019

Project Number:

Description: Linam Ranch

Report To: Brian Humphrey  
6899 Pecos St., Unit C  
Denver, CO 80221

Entire Report Reviewed By:



Olivia Studebaker  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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ONE LAB. NATIONWIDE.



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## SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



				Collected by Nick Kopiasz	Collected date/time 09/18/19 11:54	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352380	1	09/26/19 12:19	09/26/19 12:19	JHH	Mt. Juliet, TN
MW-2 L1141709-02 GW				Collected by Nick Kopiasz	Collected date/time 09/18/19 10:57	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352380	1	09/26/19 12:39	09/26/19 12:39	JHH	Mt. Juliet, TN
MW-3 L1141709-03 GW				Collected by Nick Kopiasz	Collected date/time 09/18/19 12:58	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352380	1	09/26/19 13:00	09/26/19 13:00	JHH	Mt. Juliet, TN
MW-4 L1141709-04 GW				Collected by Nick Kopiasz	Collected date/time 09/18/19 14:00	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352380	1	09/26/19 13:21	09/26/19 13:21	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1353057	100	09/26/19 23:40	09/26/19 23:40	BMB	Mt. Juliet, TN
MW-5 L1141709-05 GW				Collected by Nick Kopiasz	Collected date/time 09/18/19 15:20	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	20	09/26/19 09:09	09/26/19 09:09	JCP	Mt. Juliet, TN
MW-8 L1141709-06 GW				Collected by Nick Kopiasz	Collected date/time 09/18/19 11:31	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	1	09/26/19 10:29	09/26/19 10:29	JCP	Mt. Juliet, TN
MW-9 L1141709-07 GW				Collected by Nick Kopiasz	Collected date/time 09/18/19 13:20	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	1	09/26/19 10:49	09/26/19 10:49	JCP	Mt. Juliet, TN
MW-10 L1141709-08 GW				Collected by Nick Kopiasz	Collected date/time 09/18/19 14:46	Received date/time 09/20/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	20	09/26/19 11:09	09/26/19 11:09	JCP	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

## SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-10D L1141709-09 GW			Collected by Nick Kopiasz	Collected date/time 09/18/19 14:30	Received date/time 09/20/19 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	1	09/26/19 11:30	09/26/19 11:30	JCP	Mt. Juliet, TN
MW-11 L1141709-10 GW			Collected by Nick Kopiasz	Collected date/time 09/18/19 15:30	Received date/time 09/20/19 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	1	09/26/19 11:50	09/26/19 11:50	JCP	Mt. Juliet, TN
DUPLICATE L1141709-11 GW			Collected by Nick Kopiasz	Collected date/time 09/18/19 00:00	Received date/time 09/20/19 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	1	09/26/19 12:10	09/26/19 12:10	JCP	Mt. Juliet, TN
TRIP BLANK L1141709-12 GW			Collected by Nick Kopiasz	Collected date/time 09/19/19 08:30	Received date/time 09/20/19 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1352384	1	09/26/19 08:28	09/26/19 08:28	JCP	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Olivia Studebaker  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> GI
- <sup>8</sup> AI
- <sup>9</sup> SC



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	U		0.000331	0.00100	1	09/26/2019 12:19	<a href="#">WG1352380</a>	<sup>1</sup> Cp
Toluene	U		0.000412	0.00100	1	09/26/2019 12:19	<a href="#">WG1352380</a>	<sup>2</sup> Tc
Ethylbenzene	U		0.000384	0.00100	1	09/26/2019 12:19	<a href="#">WG1352380</a>	<sup>3</sup> Ss
Total Xylenes	U		0.00106	0.00300	1	09/26/2019 12:19	<a href="#">WG1352380</a>	
(S) Toluene-d8	104			80.0-120		09/26/2019 12:19	<a href="#">WG1352380</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	105			77.0-126		09/26/2019 12:19	<a href="#">WG1352380</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	90.9			70.0-130		09/26/2019 12:19	<a href="#">WG1352380</a>	<sup>6</sup> Qc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	U		0.000331	0.00100	1	09/26/2019 12:39	<a href="#">WG1352380</a>	<sup>1</sup> Cp
Toluene	U		0.000412	0.00100	1	09/26/2019 12:39	<a href="#">WG1352380</a>	<sup>2</sup> Tc
Ethylbenzene	U		0.000384	0.00100	1	09/26/2019 12:39	<a href="#">WG1352380</a>	<sup>3</sup> Ss
Total Xylenes	U		0.00106	0.00300	1	09/26/2019 12:39	<a href="#">WG1352380</a>	
(S) Toluene-d8	106			80.0-120		09/26/2019 12:39	<a href="#">WG1352380</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	103			77.0-126		09/26/2019 12:39	<a href="#">WG1352380</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	89.1			70.0-130		09/26/2019 12:39	<a href="#">WG1352380</a>	<sup>6</sup> Qc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	U		0.000331	0.00100	1	09/26/2019 13:00	<a href="#">WG1352380</a>	<sup>1</sup> Cp
Toluene	U		0.000412	0.00100	1	09/26/2019 13:00	<a href="#">WG1352380</a>	<sup>2</sup> Tc
Ethylbenzene	U		0.000384	0.00100	1	09/26/2019 13:00	<a href="#">WG1352380</a>	<sup>3</sup> Ss
Total Xylenes	U		0.00106	0.00300	1	09/26/2019 13:00	<a href="#">WG1352380</a>	
(S) Toluene-d8	106			80.0-120		09/26/2019 13:00	<a href="#">WG1352380</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	103			77.0-126		09/26/2019 13:00	<a href="#">WG1352380</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	89.9			70.0-130		09/26/2019 13:00	<a href="#">WG1352380</a>	<sup>6</sup> Qc
								<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	19.3		0.0331	0.100	100	09/26/2019 23:40	<a href="#">WG1353057</a>	<sup>1</sup> Cp
Toluene	U		0.000412	0.00100	1	09/26/2019 13:21	<a href="#">WG1352380</a>	<sup>2</sup> Tc
Ethylbenzene	0.829		0.0384	0.100	100	09/26/2019 23:40	<a href="#">WG1353057</a>	<sup>3</sup> Ss
Total Xylenes	0.00356		0.00106	0.00300	1	09/26/2019 13:21	<a href="#">WG1352380</a>	
(S) Toluene-d8	117			80.0-120		09/26/2019 13:21	<a href="#">WG1352380</a>	<sup>4</sup> Cn
(S) Toluene-d8	105			80.0-120		09/26/2019 23:40	<a href="#">WG1353057</a>	<sup>5</sup> Sr
(S) 4-Bromofluorobenzene	109			77.0-126		09/26/2019 13:21	<a href="#">WG1352380</a>	<sup>6</sup> Qc
(S) 4-Bromofluorobenzene	102			77.0-126		09/26/2019 23:40	<a href="#">WG1353057</a>	<sup>7</sup> Gl
(S) 1,2-Dichloroethane-d4	83.2			70.0-130		09/26/2019 13:21	<a href="#">WG1352380</a>	<sup>8</sup> Al
(S) 1,2-Dichloroethane-d4	91.8			70.0-130		09/26/2019 23:40	<a href="#">WG1353057</a>	<sup>9</sup> Sc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	0.0980		0.00662	0.0200	20	09/26/2019 09:09	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	U		0.00824	0.0200	20	09/26/2019 09:09	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	1.97		0.00768	0.0200	20	09/26/2019 09:09	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	U		0.0212	0.0600	20	09/26/2019 09:09	<a href="#">WG1352384</a>	
(S) Toluene-d8	92.0			80.0-120		09/26/2019 09:09	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	111			77.0-126		09/26/2019 09:09	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	94.0			70.0-130		09/26/2019 09:09	<a href="#">WG1352384</a>	<sup>6</sup> Qc
								<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	U		0.000331	0.00100	1	09/26/2019 10:29	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	U		0.000412	0.00100	1	09/26/2019 10:29	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	U		0.000384	0.00100	1	09/26/2019 10:29	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	U		0.00106	0.00300	1	09/26/2019 10:29	<a href="#">WG1352384</a>	
(S) Toluene-d8	98.7			80.0-120		09/26/2019 10:29	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	106			77.0-126		09/26/2019 10:29	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	79.0			70.0-130		09/26/2019 10:29	<a href="#">WG1352384</a>	<sup>6</sup> Qc
								<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc

MW-9

Collected date/time: 09/18/19 13:20

## SAMPLE RESULTS - 07

L1141709

ONE LAB. NATIONWIDE.



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	U		0.000331	0.00100	1	09/26/2019 10:49	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	U		0.000412	0.00100	1	09/26/2019 10:49	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	U		0.000384	0.00100	1	09/26/2019 10:49	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	U		0.00106	0.00300	1	09/26/2019 10:49	<a href="#">WG1352384</a>	
(S) Toluene-d8	96.5			80.0-120		09/26/2019 10:49	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	106			77.0-126		09/26/2019 10:49	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	80.2			70.0-130		09/26/2019 10:49	<a href="#">WG1352384</a>	<sup>6</sup> Qc
								<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	1.66		0.00662	0.0200	20	09/26/2019 11:09	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	U		0.00824	0.0200	20	09/26/2019 11:09	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	0.284		0.00768	0.0200	20	09/26/2019 11:09	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	0.202		0.0212	0.0600	20	09/26/2019 11:09	<a href="#">WG1352384</a>	
(S) Toluene-d8	94.9			80.0-120		09/26/2019 11:09	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	98.5			77.0-126		09/26/2019 11:09	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	88.5			70.0-130		09/26/2019 11:09	<a href="#">WG1352384</a>	<sup>6</sup> Qc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	0.0588		0.000331	0.00100	1	09/26/2019 11:30	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	0.0119		0.000412	0.00100	1	09/26/2019 11:30	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	0.0182		0.000384	0.00100	1	09/26/2019 11:30	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	0.00272	<u>J</u>	0.00106	0.00300	1	09/26/2019 11:30	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) Toluene-d8	96.9			80.0-120		09/26/2019 11:30	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 4-Bromofluorobenzene	109			77.0-126		09/26/2019 11:30	<a href="#">WG1352384</a>	<sup>6</sup> Qc
(S) 1,2-Dichloroethane-d4	85.2			70.0-130		09/26/2019 11:30	<a href="#">WG1352384</a>	<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	0.0207		0.000331	0.00100	1	09/26/2019 11:50	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	0.00138		0.000412	0.00100	1	09/26/2019 11:50	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	0.000459	J	0.000384	0.00100	1	09/26/2019 11:50	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	0.00166	J	0.00106	0.00300	1	09/26/2019 11:50	<a href="#">WG1352384</a>	
(S) Toluene-d8	97.4			80.0-120		09/26/2019 11:50	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	108			77.0-126		09/26/2019 11:50	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	76.2			70.0-130		09/26/2019 11:50	<a href="#">WG1352384</a>	<sup>6</sup> Qc
								<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc



Collected date/time: 09/18/19 00:00

L1141709

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	0.0574		0.000331	0.00100	1	09/26/2019 12:10	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	0.0116		0.000412	0.00100	1	09/26/2019 12:10	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	0.0185		0.000384	0.00100	1	09/26/2019 12:10	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	0.00264	<u>J</u>	0.00106	0.00300	1	09/26/2019 12:10	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) Toluene-d8	95.8			80.0-120		09/26/2019 12:10	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 4-Bromofluorobenzene	109			77.0-126		09/26/2019 12:10	<a href="#">WG1352384</a>	<sup>6</sup> Qc
(S) 1,2-Dichloroethane-d4	81.5			70.0-130		09/26/2019 12:10	<a href="#">WG1352384</a>	<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch	
Benzene	U		0.000331	0.00100	1	09/26/2019 08:28	<a href="#">WG1352384</a>	<sup>1</sup> Cp
Toluene	U		0.000412	0.00100	1	09/26/2019 08:28	<a href="#">WG1352384</a>	<sup>2</sup> Tc
Ethylbenzene	U		0.000384	0.00100	1	09/26/2019 08:28	<a href="#">WG1352384</a>	<sup>3</sup> Ss
Total Xylenes	U		0.00106	0.00300	1	09/26/2019 08:28	<a href="#">WG1352384</a>	
(S) Toluene-d8	98.1			80.0-120		09/26/2019 08:28	<a href="#">WG1352384</a>	<sup>4</sup> Cn
(S) 4-Bromofluorobenzene	103			77.0-126		09/26/2019 08:28	<a href="#">WG1352384</a>	<sup>5</sup> Sr
(S) 1,2-Dichloroethane-d4	82.7			70.0-130		09/26/2019 08:28	<a href="#">WG1352384</a>	<sup>6</sup> Qc
								<sup>7</sup> Gl
								<sup>8</sup> Al
								<sup>9</sup> Sc

[L1141709-01,02,03,04](#)

## Method Blank (MB)

(MB) R3455024-3 09/26/19 06:07

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	105		80.0-120	
(S) 4-Bromofluorobenzene	104		77.0-126	
(S) 1,2-Dichloroethane-d4	89.1		70.0-130	

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3455024-1 09/26/19 05:05 • (LCSD) R3455024-2 09/26/19 05:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD	RPD Limits
Benzene	0.0250	0.0241	0.0249	96.4	99.6	70.0-123			3.22	20
Ethylbenzene	0.0250	0.0249	0.0261	99.5	105	79.0-123			4.96	20
Toluene	0.0250	0.0240	0.0251	96.2	101	79.0-120			4.46	20
Xylenes, Total	0.0750	0.0762	0.0798	102	106	79.0-123			4.62	20
(S) Toluene-d8			102	102	102	80.0-120				
(S) 4-Bromofluorobenzene			99.7	101	101	77.0-126				
(S) 1,2-Dichloroethane-d4			96.2	95.3	95.3	70.0-130				



L1141709-05,06,07,08,09,10,11,12

## Method Blank (MB)

(MB) R3455031-1 09/26/19 08:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	101			80.0-120
(S) 4-Bromofluorobenzene	104			77.0-126
(S) 1,2-Dichloroethane-d4	79.8			70.0-130

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

## Laboratory Control Sample (LCS)

(LCS) R3455031-2 09/26/19 09:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0250	0.0253	101	70.0-123	
Ethylbenzene	0.0250	0.0265	106	79.0-123	
Toluene	0.0250	0.0252	101	79.0-120	
Xylenes, Total	0.0750	0.0813	108	79.0-123	
(S) Toluene-d8		98.2		80.0-120	
(S) 4-Bromofluorobenzene		103		77.0-126	
(S) 1,2-Dichloroethane-d4		79.4		70.0-130	



## Method Blank (MB)

(MB) R3455225-2 09/26/19 20:25

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
(S) Toluene-d8	103			80.0-120
(S) 4-Bromofluorobenzene	101			77.0-126
(S) 1,2-Dichloroethane-d4	92.6			70.0-130

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr

## Laboratory Control Sample (LCS)

(LCS) R3455225-1 09/26/19 19:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Benzene	0.0250	0.0259	104	70.0-123	
Ethylbenzene	0.0250	0.0267	107	79.0-123	
(S) Toluene-d8			104	80.0-120	
(S) 4-Bromofluorobenzene			104	77.0-126	
(S) 1,2-Dichloroethane-d4		93.8		70.0-130	

<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc



## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

**Results Disclaimer -** Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.	<sup>1</sup> Cp
RDL	Reported Detection Limit.	<sup>2</sup> Tc
Rec.	Recovery.	<sup>3</sup> Ss
RPD	Relative Percent Difference.	<sup>4</sup> Cn
SDG	Sample Delivery Group.	<sup>5</sup> Sr
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.	<sup>6</sup> Qc
U	Not detected at the Reporting Limit (or MDL where applicable).	<sup>7</sup> Gl
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.	<sup>8</sup> Al
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.	<sup>9</sup> Sc
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.	
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.	
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.	
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.	
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.	
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.	
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.	
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.	
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.	

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

- \* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
- \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia <sup>1</sup>	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky <sup>1,6</sup>	90010
Kentucky <sup>2</sup>	16
Louisiana	AI30792
Louisiana <sup>1</sup>	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico <sup>1</sup>	n/a
New York	11742
North Carolina	Env375
North Carolina <sup>1</sup>	DW21704
North Carolina <sup>3</sup>	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LA000356
South Carolina	84004
South Dakota	n/a
Tennessee <sup>1,4</sup>	2006
Texas	T104704245-18-15
Texas <sup>5</sup>	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

## Third Party Federal Accreditations

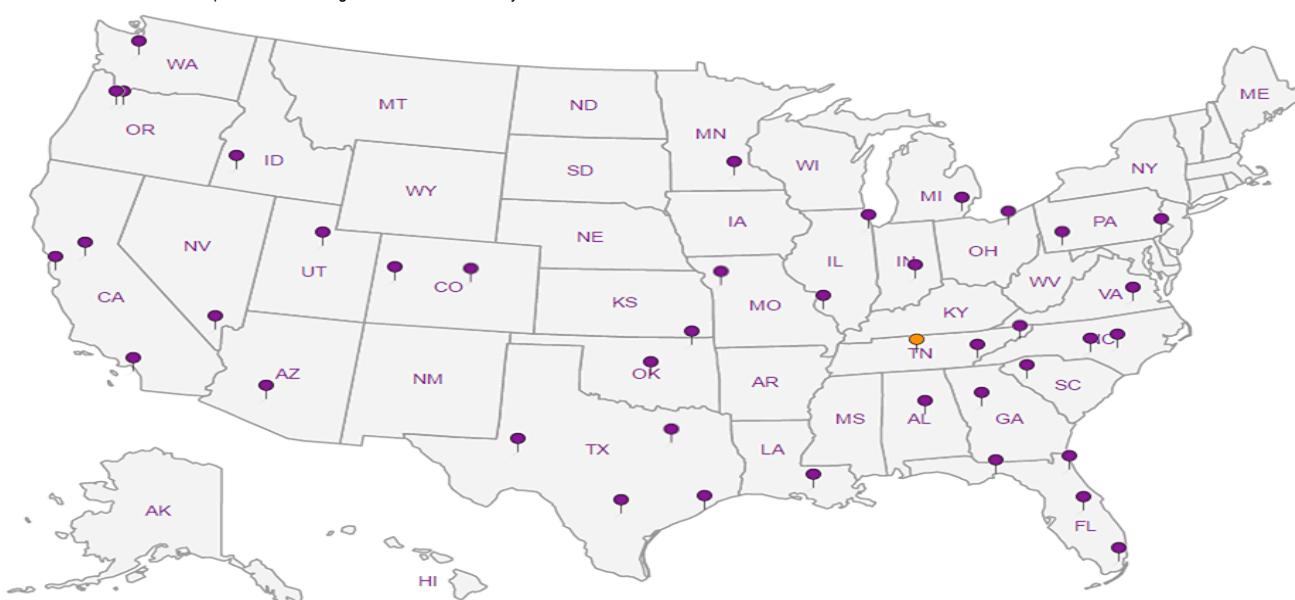
A2LA – ISO 17025	1461.01
A2LA – ISO 17025 <sup>5</sup>	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



- |                 |
|-----------------|
| <sup>1</sup> Cp |
| <sup>2</sup> Tc |
| <sup>3</sup> Ss |
| <sup>4</sup> Cn |
| <sup>5</sup> Sr |
| <sup>6</sup> Qc |
| <sup>7</sup> GI |
| <sup>8</sup> Al |
| <sup>9</sup> Sc |



DCP Midstream - Tasman			Billing Information: Steve Weathers 370 17th St, Ste 2500 Denver, CO 80202			Pres Chk	Analysis / Container / Preservative			Chain of Custody	Page <u>2</u> of <u>2</u>
6899 Pecos St., Unit C Denver, CO 80221			Email To: bhumphrey@tasman-geo.com, jcarrington@tasman-geo.com, nkopiasz@tasman-								
Report to: Brian Humphrey											
Project Description: Linam Ranch		City/State Collected:		Please Circle: PT MT CT ET							
Phone: 303-487-1228 Fax:		Client Project #		Lab Project # <b>DCPTASMAN-LINAM</b>							
Collected by (print): <i>Nick Kopiasz</i>		Site/Facility ID #		P.O. # <b>0000411349</b>							
Collected by (signature): <i>[Signature]</i>		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #							
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed		No. of Cntrs					
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time						
MW-10D		GW		9/18/19	1430	3 X					-09
MW-11		GW		9/18/19	1530	3 X					-10
Duplicate		GW		9/18/19	-	3 X					-11
TRIP BLANK		GW		9/19/19	0830	1					-12
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____	Remarks: _____						pH _____ Temp _____ Flow _____ Other _____	Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> N <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <u>If Applicable</u> VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen < 0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N			
Released by: (Signature)	Date: 9/19/19	Time: 0830	Received by: (Signature)	Trip Blank Received: <input checked="" type="checkbox"/> No HCl/Methanol TBR	Samples returned via: UPS FedEx Courier _____			Tracking #	If preservation required by Lab: Date/Time		
Released by: (Signature)	Date: _____	Time: _____	Received by: (Signature)	Temp: <i>45°C</i> Bottles Received: <i>33</i>							
Released by: (Signature)	Date: _____	Time: _____	Received for lab by: (Signature)	Date: 9/20/19 Time: 08:48				Hold: _____	Condition: <i>NCF OK</i>		