



Review of 2020 Annual Groundwater Monitoring Report:

Content satisfactory

Contractor recommendations approved by OCD and are as follows;

1. Continue quarter MDPE events in monitor well MW-7
2. Continue on-going quarterly groundwater monitoring events
3. Continue annual sampling for PAHs. Add monitor wells MW-8 and MW-9 during the fourth quarter of 2021 to sample for PAH compounds. Additionally, add any monitor wells to be sampled for PAHs once there is no longer LNAPL detected
4. Eliminate PAH analysis from MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-9, MW-10, MW-11, MW-13, and MW-14 after 2021

Submit the Annual Monitoring Report to the OCD no later than March 31, 2022.

2020 Annual Groundwater Monitoring Report

Chevron Grayburg 6-Inch Sec. 6 (Historical)

Lea County, New Mexico

SRS Chevron Grayburg 6-Inch Historical

NMOCD Remediation

Permit Number 1RP-2637

Incident ID #: nAPP2108849308

Plains All American Pipeline, LP

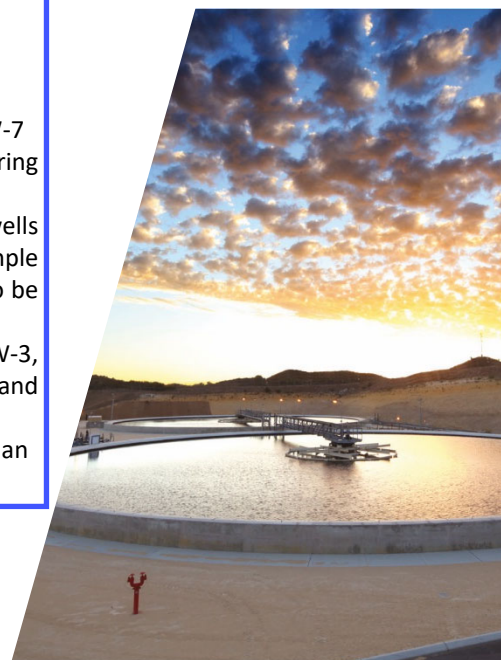




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1. Introduction

This 2020 Annual Groundwater Monitoring Report presents data collected at the Chevron Grayburg 6-Inch Sec. 6 (Historical) location (hereafter referred to as the "Site") by GHD Services, Inc. (GHD) on behalf of Plains All American Pipeline, L.P. (Plains) in compliance with the New Mexico Oil Conservation Division (NMOCD) requirements. This Site falls under NMOCD Remediation Permit number 1RP-2637. This report summarizes activities of monthly well gauging and quarterly groundwater sampling conducted in February, May, September, November 2020, and periodic corrective action as described below.

1.1 Site Location and History

The location of the Site is NW ¼-NE ¼-Section 6-Township 18 South-Range 35 East in Lea County, New Mexico. The latitude and longitude of the Site are 32.78091° N and 103.492240° W (Figure 1). The property affected by the release is owned by the State of New Mexico and administered by the New Mexico State Land Office (NMSLO). Remediation at the Site is currently the responsibility of Plains. The release of crude oil was caused by an excavator striking a tee connected to the Chevron Grayburg pipeline during line replacement. The release was immediately reported to the NMOCD District 1 office in Hobbs, New Mexico on October 8, 2010. A copy to the NMOCD Form C-141, Release Notification and Corrective Action, for this incident, is provided in Appendix A.

Beginning on October 22, 2010, project management responsibilities were conducted by Basin Environmental Technologies, LLC (Basin Environmental). GHD assumed remediation and project management responsibilities on October 1, 2016.

There are 14 groundwater monitoring wells at the Site. They are MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14, which were constructed with NMOCD approval. Wells MW-1, MW-2, MW-3, and MW-4 were installed between June 14 and June 18, 2012. Wells MW-5, MW-6, and MW-7 were installed on March 4 and March 5, 2013. Wells MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14 were installed between November 13 and November 16, 2017. All monitor wells are shown on Figure 2. Professional surveying of the monitoring wells was performed on March 8, 2013 and January 8, 2018.

2. Regulatory Framework

The NMOCD guidelines require groundwater to be analyzed for potential contaminants as defined by the New Mexico Water Quality Control Commission (NMWQCC) Standards in NMAC 20.6.2.3103 Section A. Constituents of concern (COCs) in affected groundwater at the Site are benzene, toluene, ethylbenzene, total xylenes (BTEX), and combined naphthalene and 1-methylnaphthalene and 2-methylnaphthalene. NMWQCC standards applied to the Site are shown in the Table 2.1.



Table 2.1 NMWQCC Human Health Standards

Analyte	NMWQCC Human Health Standards
Benzene	0.01 mg/L
Toluene	0.75 mg/L
Ethylbenzene	0.75 mg/L
Total Xylenes	0.62 mg/L
Combined Naphthalene and Monomethylnaphthalenes	0.03 mg/L

The Table 2.2 depicts the sampling schedule previously approved by the NMOCD.

Table 2.2 Sampling Schedule Approved by NMOCD

Location	Schedule	Location	Schedule
MW-1	Quarterly	MW-8	Quarterly
MW-2	Quarterly	MW-9	Quarterly
MW-3	Quarterly	MW-10	Quarterly
MW-4	Quarterly	MW-11	Quarterly
MW-5	Quarterly	MW-12	Quarterly
MW-6	Quarterly	MW-13	Quarterly
MW-7	Quarterly	MW-14	Quarterly

3. Groundwater Monitoring Activities

GHD conducted groundwater monitoring activities on February 24–25, May 26–27, September 17–18, and November 4, 2020. All monitor wells were sampled in accordance with the approved sampling schedule. Wells containing measurable amounts of light, non-aqueous phase liquids were not sampled.

3.1 Groundwater Monitoring Methodology

Each well cap was removed to allow fluid levels to stabilize. Static fluid levels were measured with an oil-water interface probe to the nearest hundredth of a foot. Monitor wells not containing measureable thicknesses of LNAPL were purged of three casing volumes of groundwater. Samples of groundwater were collected using new, disposable PVC bailers. Laboratory supplied sample containers were filled directly from the bailers. Field duplicate samples of groundwater were collected from one to two wells during groundwater sampling activities. Groundwater samples were placed on ice immediately after collection and chilled to a maximum temperature of 4°C. Proper chain-of-custody documentation accompanied samples collected during the February, May, September, and November 2020 groundwater sampling events to Pace Analytical in Mt. Juliet, Tennessee. Analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) were conducted according by method EPA SW846-8021B. Analyses of PAH compounds in selected wells were conducted according to method EPA 846-8270C-SIM during the fourth quarter event. Groundwater recovered during purging was disposed periodically to a licensed facility as directed by Plains.



3.2 Groundwater Monitoring Results

All fluid level measurements were recorded from the top of casing (TOC). Gauging data and thicknesses of LNAPL for 2019 and 2020 are presented in Table 1. Groundwater elevations were calculated using a factor of 0.81 for specific gravity of LNAPL and elevations of tops of casings determined by a licensed surveyor. Groundwater gradient maps using gauging data collected during quarterly events in February, May, September, and November 2020 are provided as Figures 3, 4, 5 and 6, respectively.

The groundwater flow direction was consistently west-southwest during 2020 and similar to those during previous monitoring events. The average groundwater gradient determined from the four groundwater monitoring events was approximately 0.000417 ft./ft. Groundwater elevations declined an average 0.19 feet across the site between October 16, 2019 and November 4, 2020.

LNAPL was encountered in monitor wells MW-7 and MW-12 during all four quarterly monitoring events. Thicknesses of LNAPL in MW-7 varied between 0.00 feet and 6.30 feet; however, the three incidents where the LNAPL thickness was 0.00 feet occurred shortly after mobile dual phase extraction (MDPE) events. Thicknesses of LNAPL in MW-12 were between 0.16 feet and 0.57 feet. Thicknesses of LNAPL in MW-7 showed a variable trend during 2020, while MW-12 shows increasing LNAPL thicknesses. Charts of thickness of LNAPL versus time in MW-7 and MW-12 are provided in Appendix B.

During the February 24 and 25, 2020, quarterly monitoring event, analytical results indicated MW-1 MW-8 and MW-11 exhibited benzene concentrations above the Human Health Standard, ranging from 0.0537 mg/L in MW-1 to 2.22 mg/L in MW-8. Benzene concentrations were detected in MW-2, MW-3, MW-4, MW-5, MW-9, and MW-10 at concentrations below the Human Health Standard of 0.01 mg/L. Toluene concentrations above the Human Health Standard of 0.75 mg/L were detected in MW-8. Monitor wells MW-1 and MW-11 exhibited toluene concentrations less than 0.75 mg/L. Ethylbenzene concentrations were detected in monitor wells MW-1, MW-4, MW-8, and MW-11 at concentrations below the Human Health Standard of 0.75 mg/L. Total xylenes were detected in MW-1, MW-4, MW-8, and MW-11; however, these concentrations were all below the Human Health Standard of 0.62 mg/L.

The second quarter sampling event was conducted on May 26 and 27, 2020. Analytical results for samples collected in second quarter indicated benzene concentrations above the Human Health Standard for MW-1 and MW-8, ranging from 0.0213 mg/L in MW-1 to 3.06 mg/L in MW-8. Monitor wells MW-3, MW-9, MW-10, MW-11, and MW-13 exhibited benzene concentrations below the Human Health Standard of 0.01 mg/L. Toluene concentrations above the Human Health Standard of 0.75 mg/L were detected in MW-8. Monitor well MW-1 exhibited toluene concentrations less than 0.75 mg/L. Ethylbenzene concentrations were detected in monitor wells MW-1, MW-6, MW-8, MW-9 (DUP-2), and MW-11 at concentrations below the Human Health Standard of 0.75 mg/L. Total xylenes were detected in MW-1, MW-6, MW-8, and MW-9; however, these concentrations were all below the Human Health Standard of 0.62 mg/L.

During the September 17 and 18, 2020, groundwater sampling event monitor wells MW-1 and MW-8 exhibited benzene concentrations above the Human Health Standard, ranging from 0.263 mg/L in MW-1 to 2.01 mg/L in MW-8. Monitor wells MW-3, MW-9, MW-10, and MW-11 exhibited benzene concentrations below the Human Health Standard of 0.01 mg/L. Monitor well MW-1, MW-3, and MW-8 exhibited toluene concentrations less than 0.75 mg/L. Ethylbenzene concentrations were detected



in monitor wells MW-1, MW-3, MW-8, and MW-11 at concentrations below the Human Health Standard of 0.75 mg/L. Total xylenes were detected in MW-1, MW-3, MW-8, and MW-11; however, these concentrations were all below the Human Health Standard of 0.62 mg/L.

The fourth quarterly sampling event was conducted on November 4, 2020. Analytical results indicated benzene concentrations above the NMWQCC Human Health Standard (0.01 mg/L) in MW-1, MW-8, and MW-11, ranging from 0.0138 mg/L in MW-11 to 2.42 mg/L in MW-8. Benzene concentrations were detected in MW-9 and MW-10 at concentrations below the Human Health Standard of 0.01 mg/L. Toluene concentrations above the Human Health Standard of 0.75 mg/L were detected in MW-8. Monitor wells MW-1 and MW-9 (DUP-1) exhibited toluene concentrations less than 0.75 mg/L. Ethylbenzene concentrations were detected in monitor wells MW-1, MW-8, MW-9, and MW-11 at concentrations below the Human Health Standard of 0.75 mg/L. Total xylenes were detected in MW-1, MW-8, and MW-11; however, these concentrations were all below the Human Health Standard of 0.62 mg/L.

Duplicate samples were analyzed from each of the four quarterly events and did not demonstrate any significant deviations when compared to the parent samples analyzed. Maps showing analytical results during the first, second, third, and fourth quarterly monitoring events are in Figures 7, 8, 9, and 10, respectively. Charts of concentrations of dissolved benzene versus time for MW-1, MW-2, MW-3, MW-6, MW-8, MW-9, MW-10, MW-11, and MW-12 are provided in Appendix C. These charts indicate that benzene concentrations in MW-2, MW-3, and MW-6 have declined to concentrations below the Human Health Standard of 0.01 mg/L and have remained stable. Benzene concentrations in MW-1, MW-9, and MW-10 are declining over time, while concentrations of benzene in MW-8 has stabilized. Monitor well MW-11 is exhibiting fluctuating concentrations of benzene.

During the November groundwater monitoring event, samples for polycyclic aromatic hydrocarbons (PAHs) were collected from MW-2, MW-5, MW-6, MW-8, and MW-9. These wells were sampled in accordance with the NMOCD's email correspondence to Plains dated December 12, 2012, regarding PAHs which provided the following directives:

"Annual sampling of wells that have BTEX concentrations above the respective NMWQCC standard; wells where LNAPL has been removed and is no longer present; and continued sampling of each well for at least two consecutive years until each of the PAHs are at a concentration of 0.001mg/L or less (for PAHs that do not have a NMWQCC standard) and at or below NMWQCC standard for PAHs that have a standard (if applicable)".

PAH constituents were non-detect in monitor wells MW-2, MW-5 and MW-6. These wells have met the NMOCD's above requirements for two consecutive years and will no longer require PAH sampling.

The historical data containing PAH analytical results are summarized in Table 3. Copies of Certified Laboratory Reports and chain-of-custody documentation are attached in Appendix D.

All fluid recovered from groundwater monitoring activities in 2020 was transferred to an on-site storage tank and periodically disposed at a licensed disposal facility according to Plains' direction.



4. Corrective Action

During the first quarter of 2020, monthly abatement of fluids by hand bailing from most monitor wells was conducted to remove LNAPL and dissolved BTEX. Totals of 4.9 gallons of LNAPL and 62.3 gallons of groundwater were removed during the LNAPL and BTEX abatement via hand bailing events. The monthly LNAPL and BTEX abatement events were cancelled in April through the rest of the year due to COVID 19. Fluids recovered by these methods were periodically disposed at a licensed disposal facility with fluids recovered during quarterly monitoring as directed by Plains.

Quarterly mobile dual phase extraction (MDPE) events were conducted by Talon-LPE (Talon) of Amarillo, Texas. Each MDPE event was 12-hours and were conducted in monitor well MW-7 on March 11, 2020, June 11, 2020, September 15, 2020, and December 28, 2020. According to Talon, total recovery of liquid hydrocarbons collected during these events was approximately 63 gallons (1.5 bbl.). Total recovery of hydrocarbon vapor was equivalent to approximately 70 gallons (1.67 bbl.). Total fluid recovery, including groundwater, was approximately 296.44 gallons (7.06 bbl.), which were disposed at a licensed facility. Hydrocarbon vapors were destroyed in a thermal oxidizer, the emissions from which were within limits established by the PI-7 Permit for the oxidizer unit.

5. Summary of Findings

Based on groundwater assessment monitoring performed at the Site in 2020, the following summary of findings is presented:

- The flow of groundwater at the Site is west-southwest. The average groundwater gradient for 2020 was approximately 0.000417 ft./ft.
- Gauging data indicated net declines of groundwater elevations in most monitor wells at the Site during 2020. The average decline was 0.19 feet.
- LNAPL was encountered in MW-7 and MW-12 during all of the 2020 quarterly groundwater events. Thicknesses of LNAPL in MW-7 showed a variable trend during 2020, while MW-12 shows increasing LNAPL thicknesses.
- Benzene concentrations above the NMWQCC Human Health Standard of 0.01 mg/L were detected in MW-1 and MW-8 during all four quarterly monitoring events of 2020 and MW-11 during the first and fourth quarters. No other monitor wells exhibited benzene concentrations exceeding the Human Health Standard. Benzene concentrations in MW-2, MW-3, and MW-6 have declined to concentrations below the Human Health Standard and have remained stable. Benzene concentrations in MW-1, MW-9, and MW-10 are declining over time, while concentrations of benzene in MW-8 has stabilized. Monitor well MW-11 is exhibiting fluctuating concentrations of benzene.
- Dissolved toluene was detected at concentrations above the Human Health Standard in monitor well MW-8 during the first, second, and fourth quarters of 2020. Ethylbenzene and total xylenes concentration were not detected above the Human Health Standards in any sample collected during 2020.
- Approximately 4.9 gallons of LNAPL were hand bailed from monitor wells during LNAPL abatement events during 2020. LNAPL abatement events were canceled in April through the rest of 2020 due to COVID-19.



- Approximately 63 gallons of LNAPL and 70 gallons of equivalent hydrocarbon vapor were removed from MW-7 during four quarterly MDPE events conducted in 2020.

6. Recommendations

Based upon the data and conclusions presented in this report, the following is recommended for 2021:

- Continue quarter MDPE events in monitor well MW-7.
- Continue on-going quarterly groundwater monitoring events with annual reporting to the NMOCD.
- Continue annual sampling for PAHs during the fourth quarterly event. Monitor wells MW-8 and MW-9 will be sampled for PAH compounds during the fourth quarter of 2021. Additionally, monitor wells MW-7 and MW-12 will be sampled for PAHs once there is no longer LNAPL detected.
- MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-9, MW-10, MW-11, MW-13, and MW-14 have established two consecutive years below Human Health Standards for PAH, therefore these wells will no longer need to be analyzed for PAH unless they are re-impacted by LNAPL.

All of which is Respectfully Submitted,

GHD

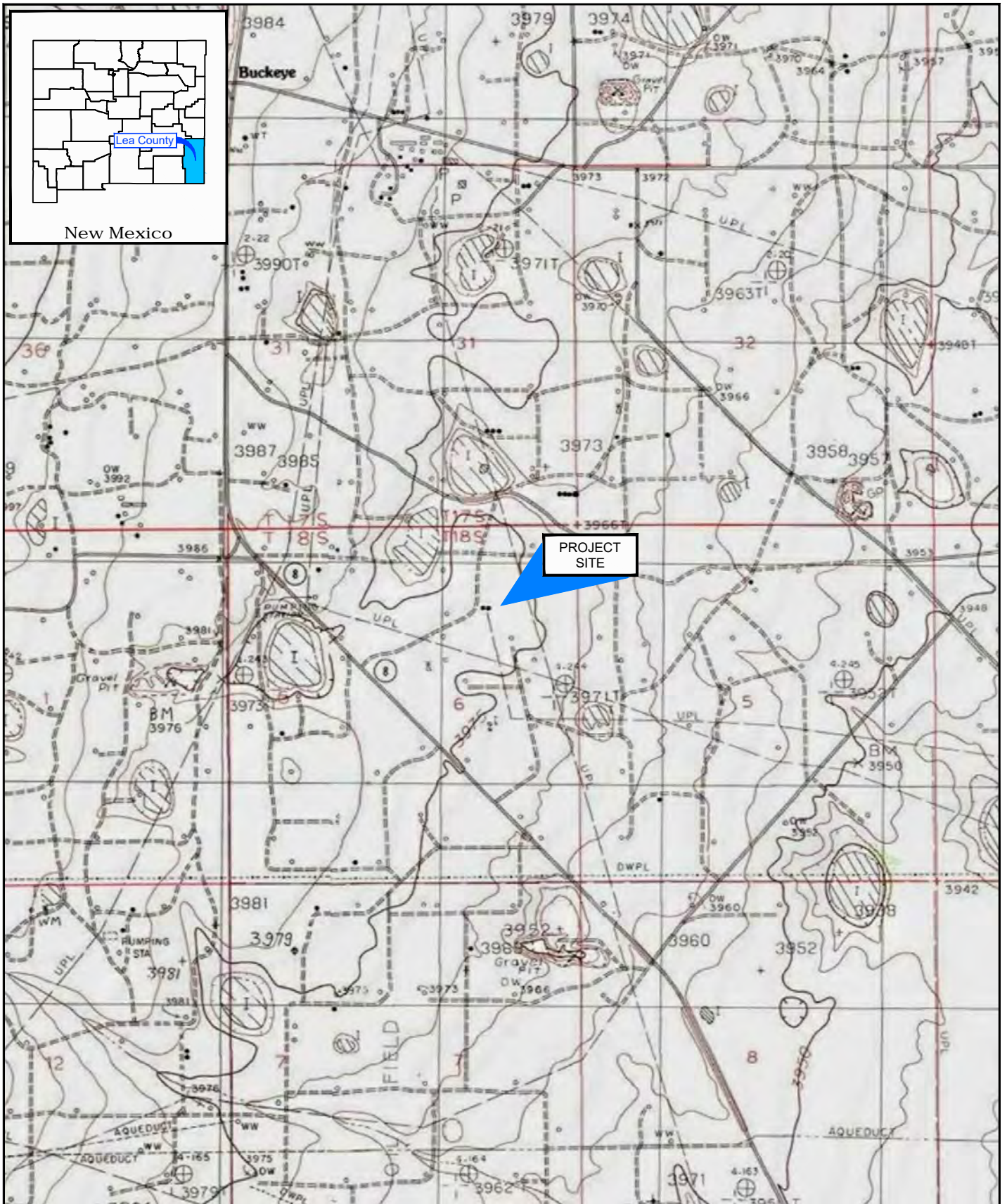
A handwritten signature in black ink that reads "Rebecca Haskell".

Becky Haskell
Senior Project Manager

A handwritten signature in blue ink that reads "Thomas Larson".

Tom Larson
Midland Operations Manager

Figures



Source: USGS 7.5 Minute Quad "Lovington SW and Buckeye, New Mexico"

Lat/Long: 32.78091° North, 103.492240° West

0 1000 2000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

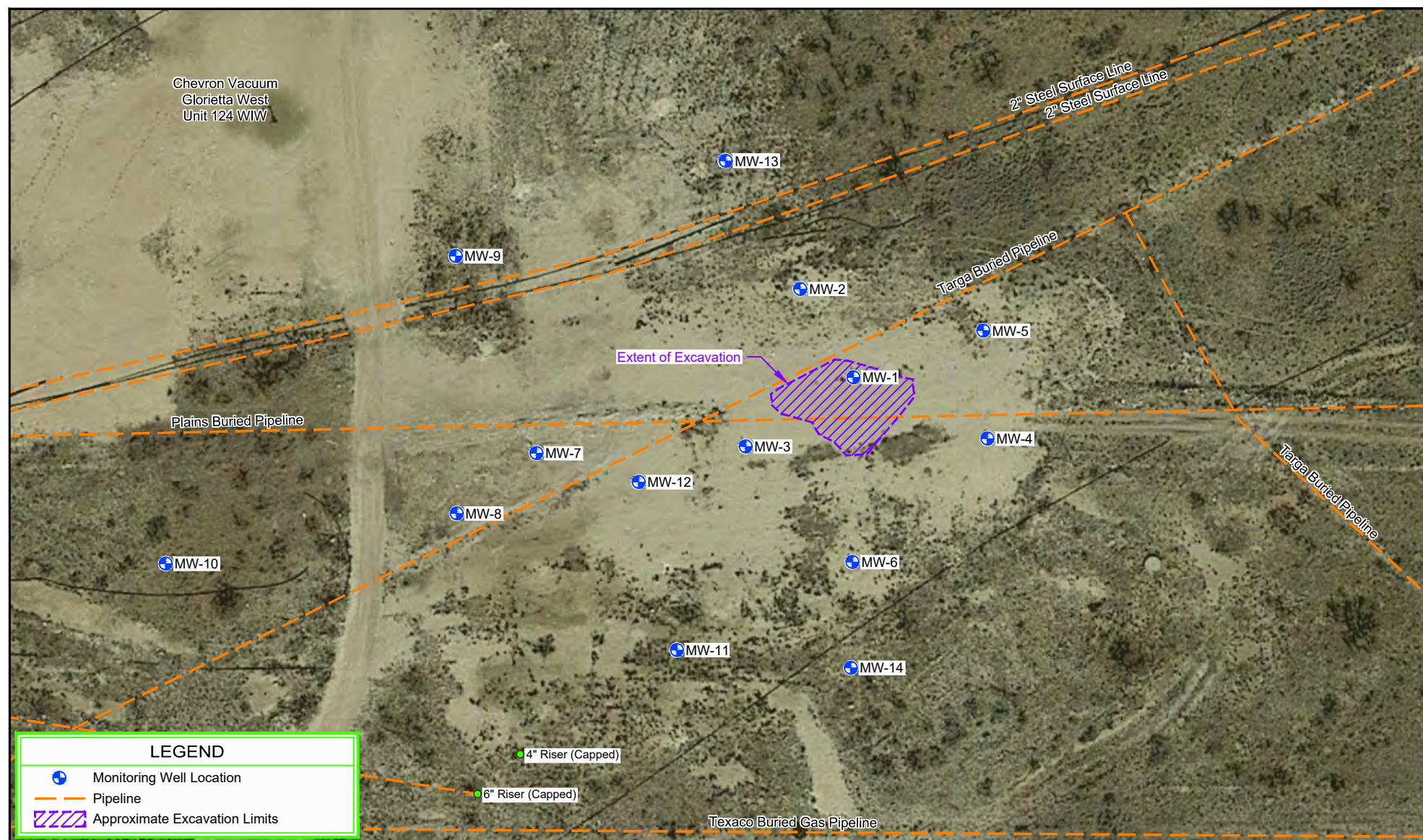


PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL

11209906
Jan 8, 2021

SITE LOCATION MAP

FIGURE 1



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

0 30 60ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)



PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL

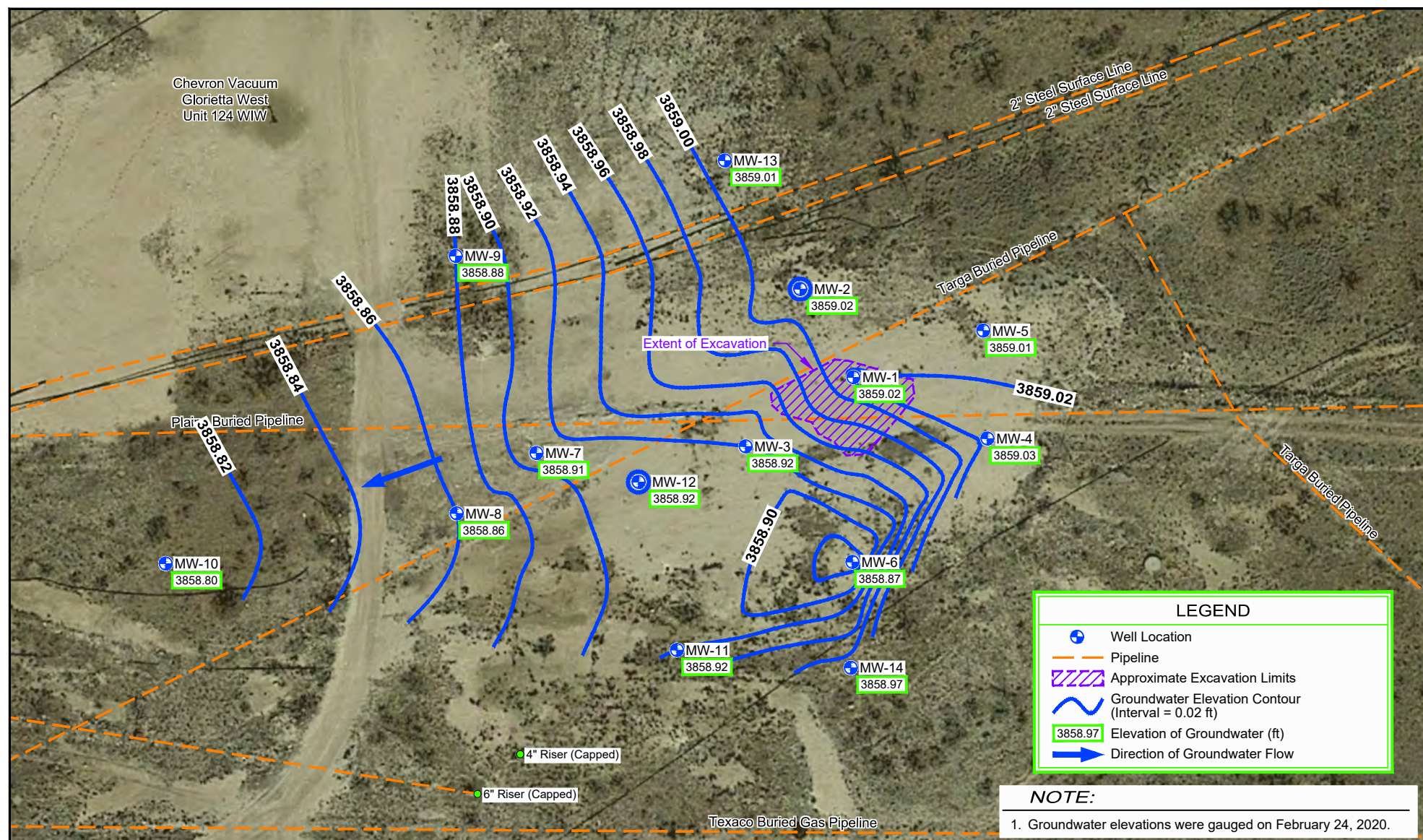
SITE DETAILS MAP

11209906

Jan 8, 2021

FIGURE 2

CAD File: \\ghdnet\ghd\US\Midland\Projects\56211209906\Digital_Design\ACAD 2017\Figures\11209906(2020 GWR)\11209906(2020 GWR)\11209906(2020 GWR)\GN-DL001.dwg



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

0 30 60ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)



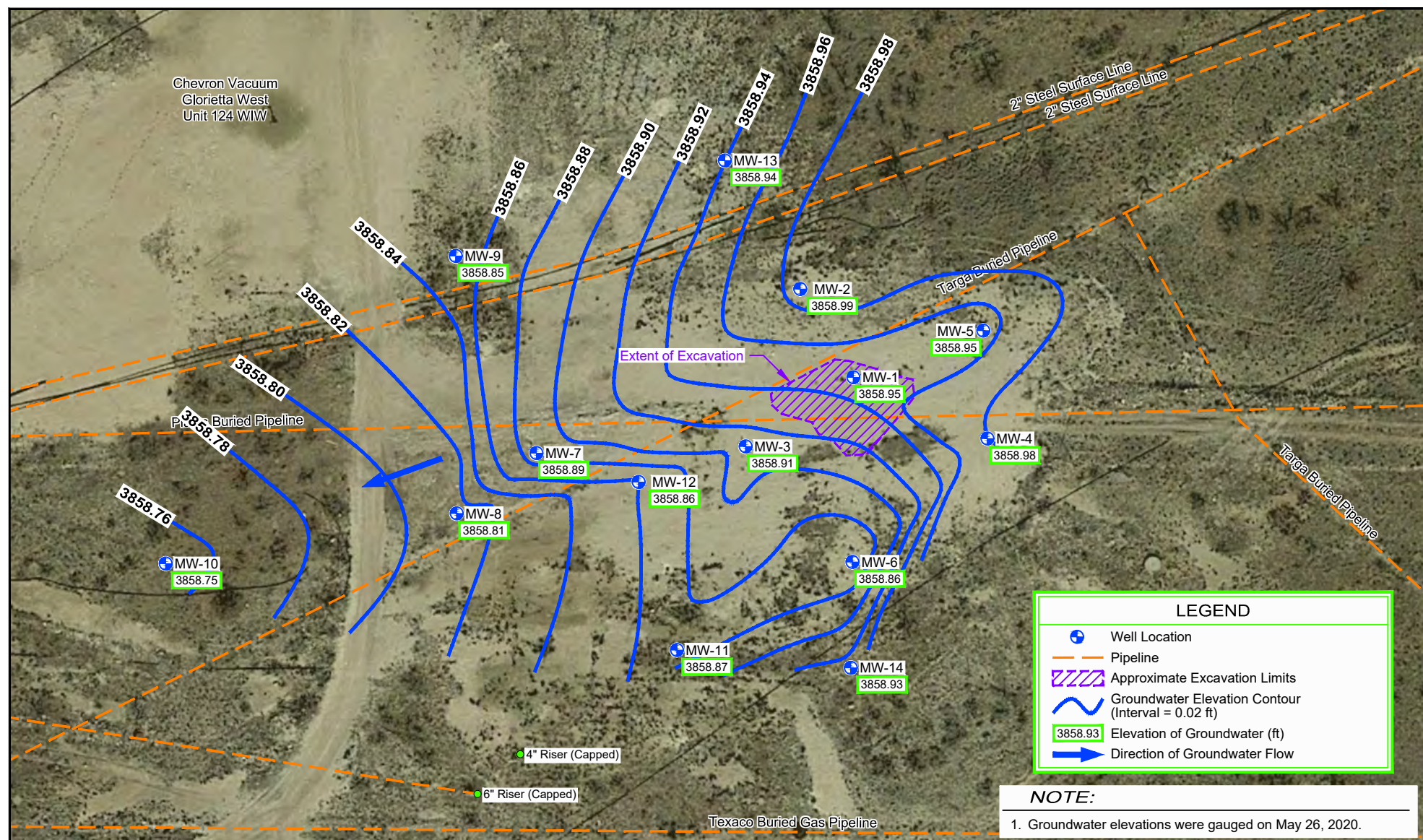
PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL

GROUNDWATER GRADIENT MAP - FEBRUARY 24, 2020

11209906

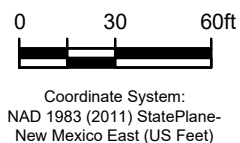
Jan 8, 2021

FIGURE 3



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

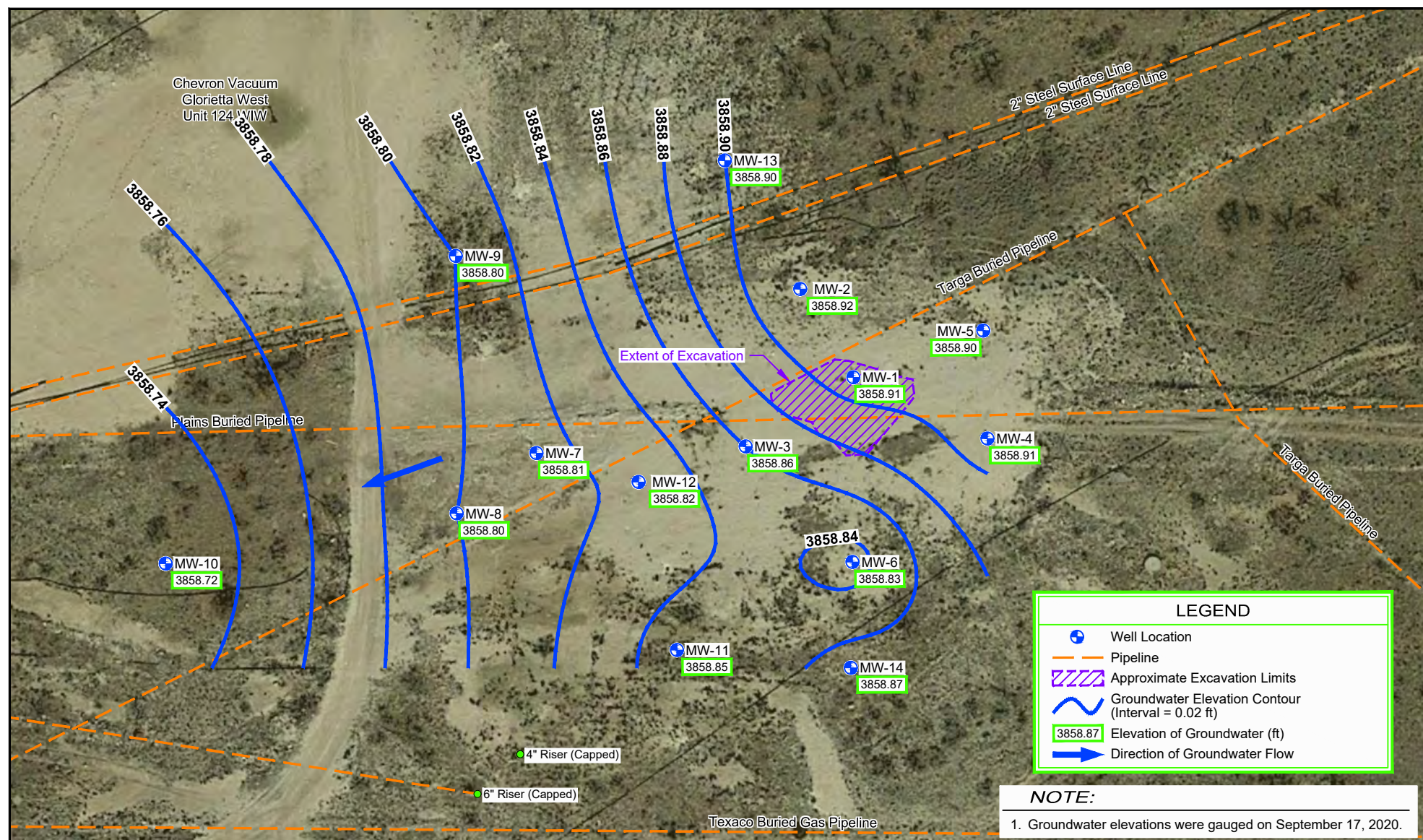


PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL

GROUNDWATER GRADIENT MAP - MAY 26, 2020

11209906
Jan 22, 2021

FIGURE 4



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

0 30 60ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)



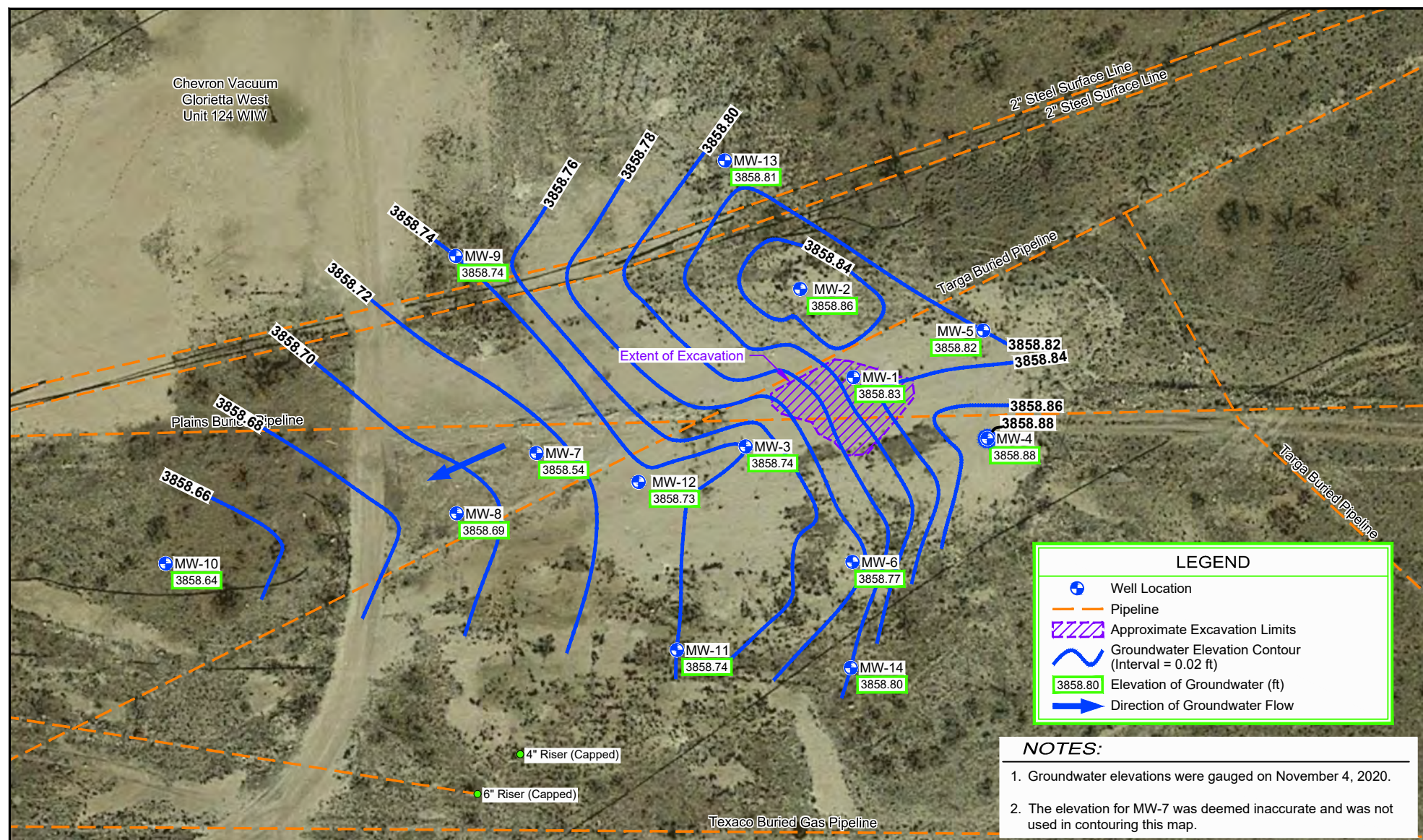
PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL

GROUNDWATER GRADIENT MAP - SEPTEMBER 17, 2020

11209906

Jan 8, 2021

FIGURE 5



Source: Image © 2016 Google - Imagery Date: February 1, 2017

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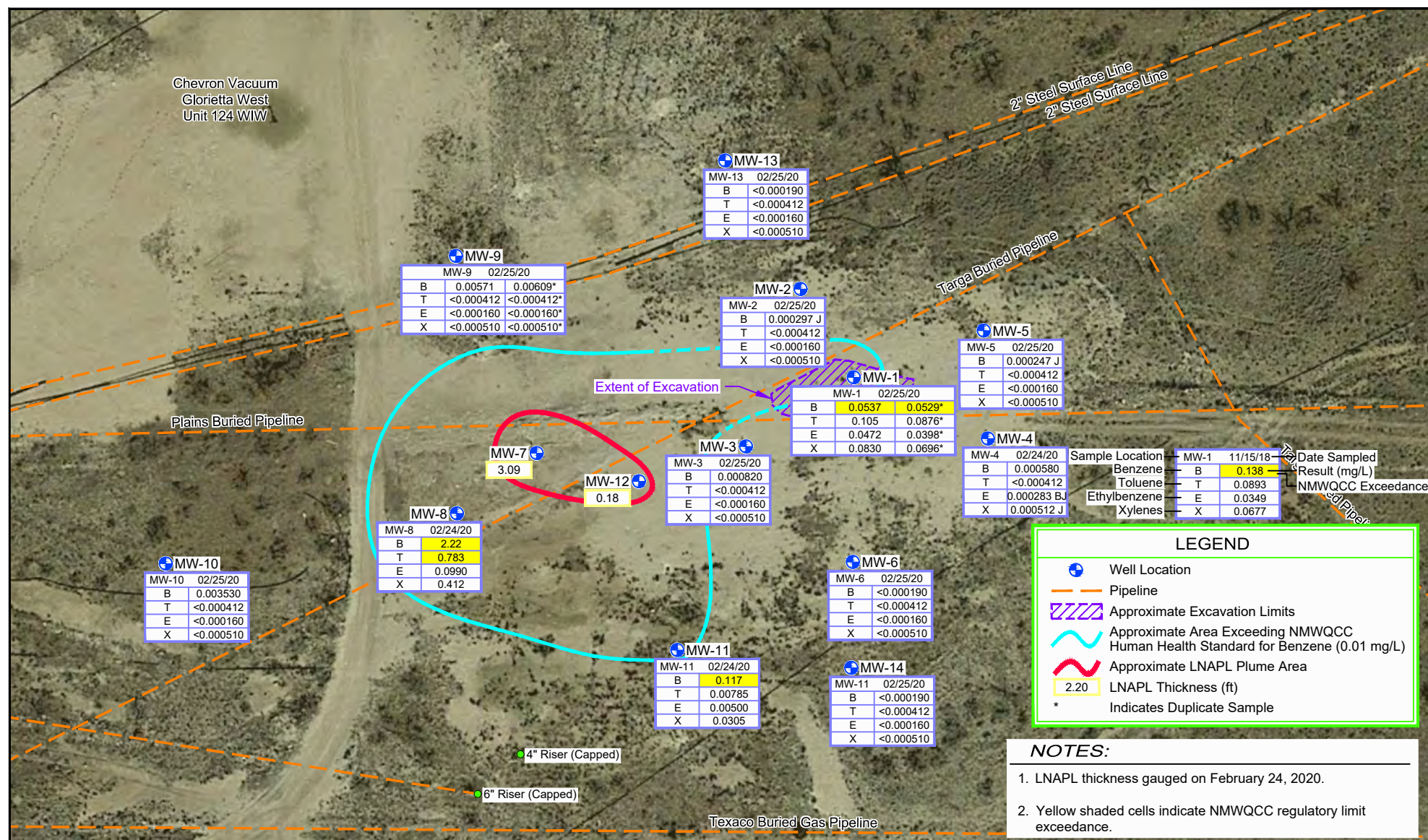


PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL

GROUNDWATER GRADIENT MAP - NOVEMBER 4, 2020

11209906
Jan 22, 2021

FIGURE 6



0 30 60ft

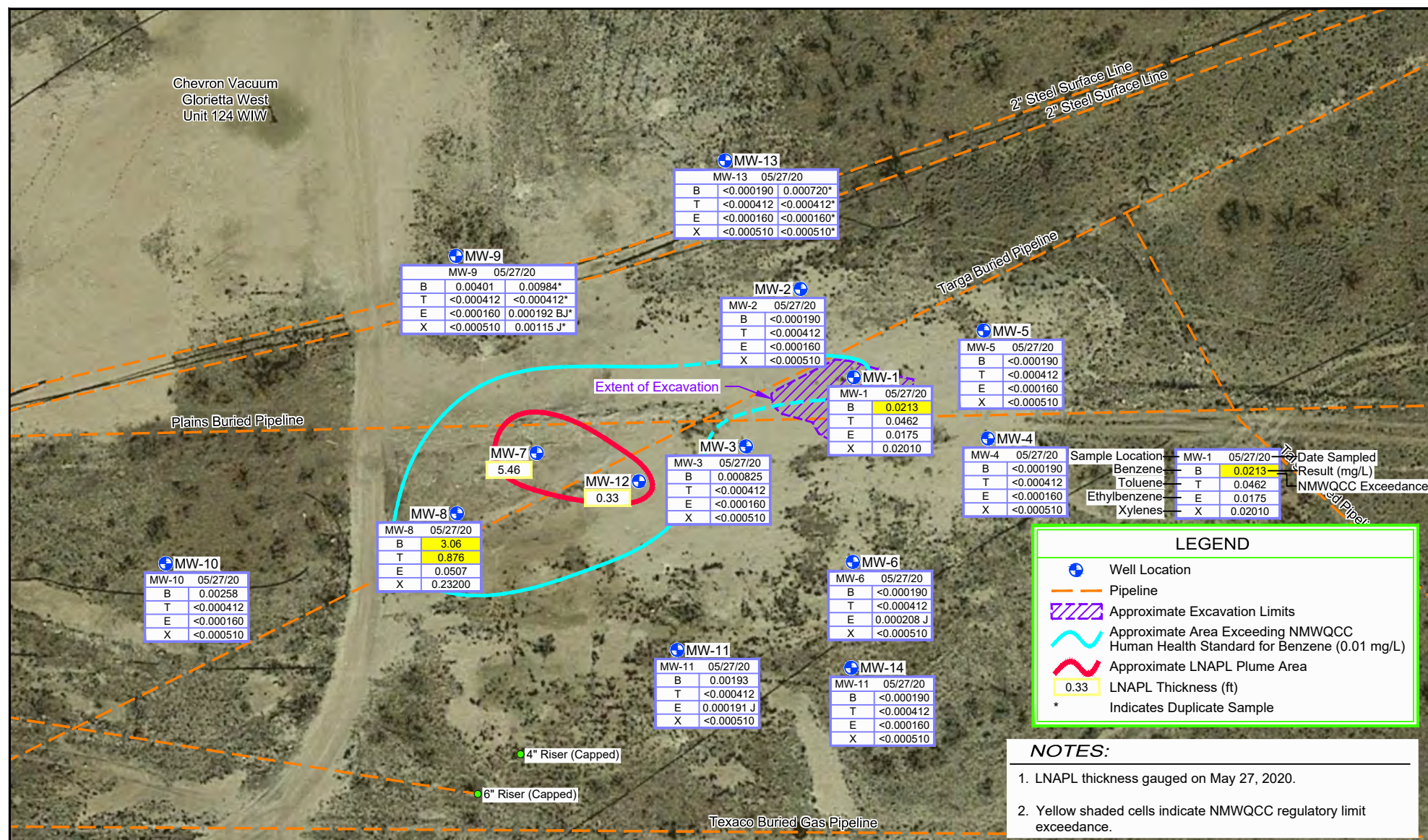
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New Mexico East (US Feet)



PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL
LNAPL THICKNESS AND GROUNDWATER BTEX
CONCENTRATION MAP - FEBRUARY 2020

11209906
Feb 3, 2021

FIGURE 7



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

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Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

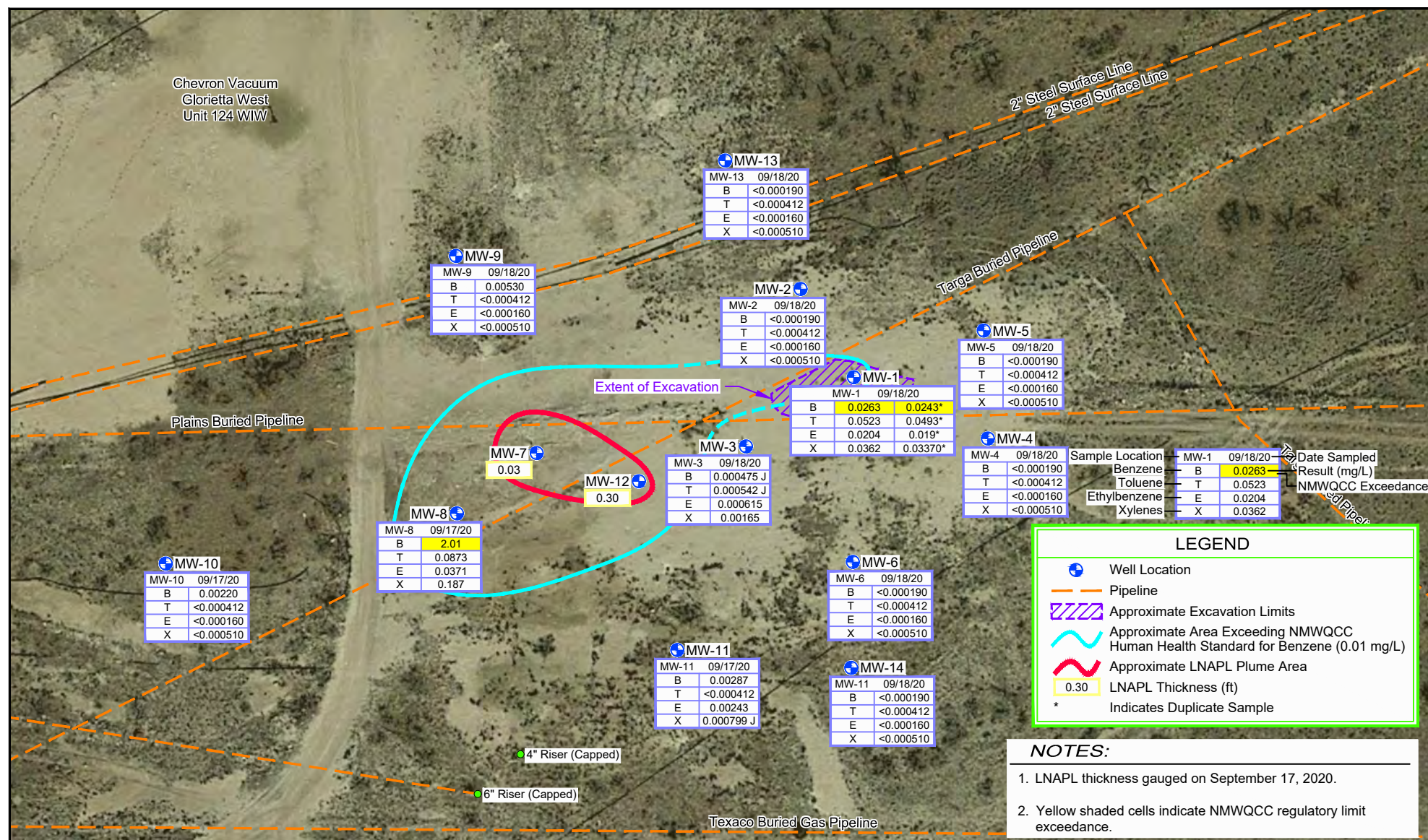


PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL
LNAPL THICKNESS AND GROUNDWATER BTEX
CONCENTRATION MAP - MAY 2020

11209906

Jan 8, 2021

FIGURE 8



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

0 30 60ft

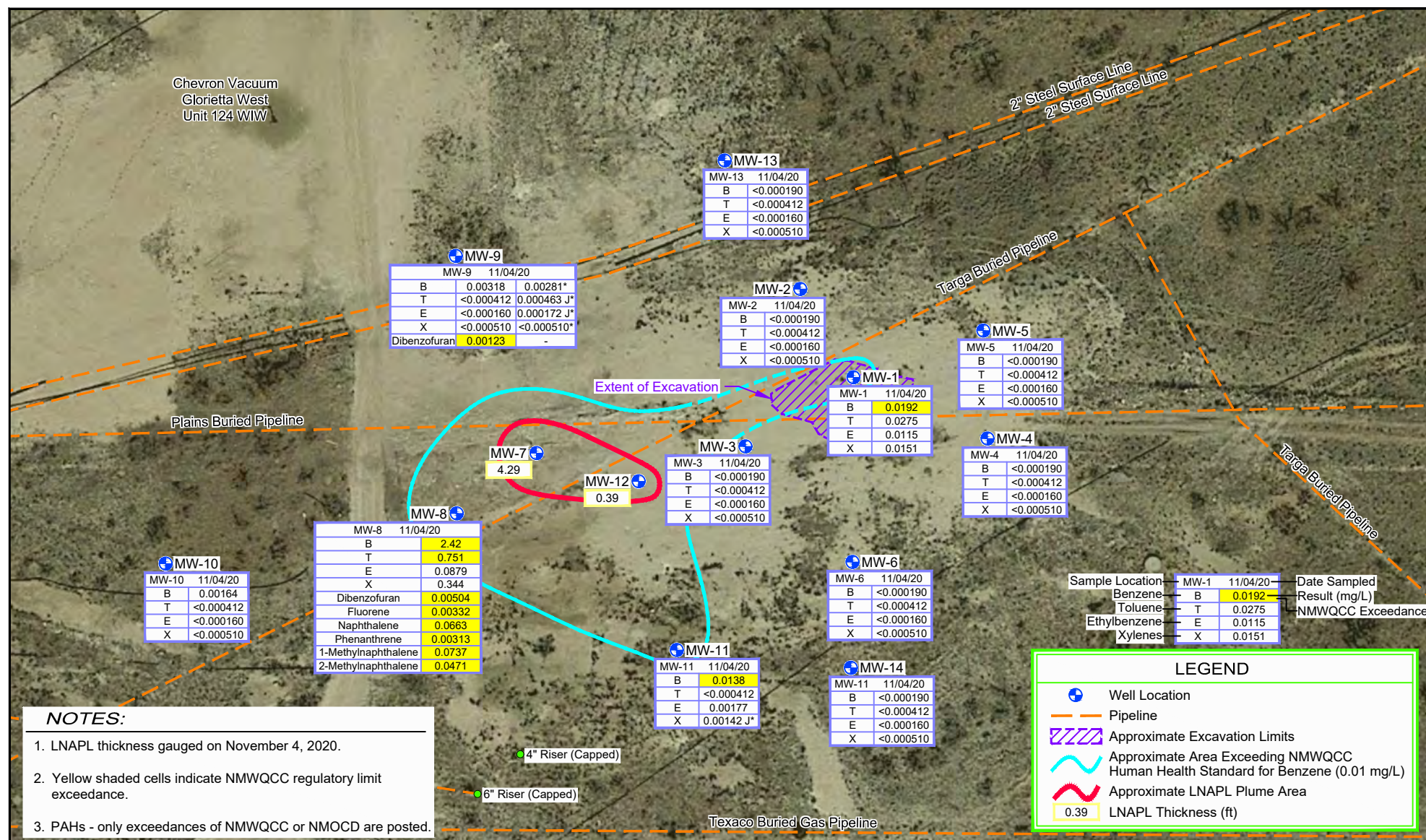
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New Mexico East (US Feet)



PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL
LNAPL THICKNESS AND GROUNDWATER BTEX
CONCENTRATION MAP - SEPTEMBER 2020

11209906
Feb 3, 2021

FIGURE 9



Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

0 30 60ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)



PLAINS PIPELINE, L.P.
LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL
LNAPL THICKNESS AND GROUNDWATER BTEX
CONCENTRATION MAP - NOVEMBER 2020

11209906
Jan 12, 2021

FIGURE 10

Tables

Table 1

**Summary of Fluid Level Measurements 2019 and 2020
Plains Pipeline, LP
Chevron Grayburg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-1	3982.09	2/8/19	122.77	-	0.00	3859.32				
MW-1	3982.09	2/25/19	122.67	-	0.00	3859.42	128.84			3
MW-1	3982.09	5/29/19	122.86	-	0.00	3859.23				2
MW-1	3982.09	6/13/19	122.81	-	0.00	3859.28				3
MW-1	3982.09	7/29/19	122.95	-	0.00	3859.14				2
MW-1	3982.09	10/16/19	122.99	-	0.00	3859.10				
MW-1	3982.09	11/4/19	-	-	-	-				3
MW-1	3982.09	12/9/19	-	-	-	-				3
MW-1	3982.09	1/10/20	-	-	-	-				3
MW-1	3982.09	2/19/20	-	-	-	-				3
MW-1	3982.09	2/24/20	123.07			3859.02	135.59			2.8
MW-1	3982.09	3/13/20	-	-	-	-				3
MW-1	3982.09	4/29/20	123.24	-	0.00	3858.85				
MW-1	3982.09	5/26/20	123.14	-	0.00	3858.95				6
MW-1	3982.09	6/16/20	123.13	-	0.00	3858.96				
MW-1	3982.09	7/30/20	123.14	-	0.00	3858.95				
MW-1	3982.09	8/26/20	123.05	-	0.00	3859.04				
MW-1	3982.09	9/17/20	123.18	-	0.00	3858.91	128.90			3.75
MW-1	3982.09	10/21/20	123.20	-	0.00	3858.89				
MW-1	3982.09	11/4/20	123.26	-	0.00	3858.83				5
MW-1	3982.09	12/9/20	123.22	-	0.00	3858.87				
MW-2	3981.21	2/8/19	121.87	-	0.00	3859.34				
MW-2	3981.21	2/25/19	121.77	-	0.00	3859.44	127.22			4
MW-2	3981.21	5/29/19	121.96	-	0.00	3859.25				2
MW-2	3981.21	7/11/19	-	-	-	-				3
MW-2	3981.21	7/29/19	122.04	-	0.00	3859.17				2
MW-2	3981.21	10/16/19	122.06	-	0.00	3859.15				
MW-2	3981.21	2/24/20	122.19	-	0.00	3859.02	127.41			1.5
MW-2	3981.21	4/29/20	122.35	-	0.00	3858.86				
MW-2	3981.21	5/26/20	122.22	-	0.00	3858.99				2.5
MW-2	3981.21	6/16/20	123.50	-	0.00	3857.71				
MW-2	3981.21	7/30/20	122.23	-	0.00	3858.98				

Table 1

**Summary of Fluid Level Measurements 2019 and 2020
Plains Pipeline, LP
Chevron Grayburg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-2	3981.21	8/26/20	123.52	-	0.00	3857.69				
MW-2	3981.21	9/17/20	122.29	-	0.00	3858.92	127.38			3.25
MW-2	3981.21	10/21/20	122.27	-	0.00	3858.94				
MW-2	3981.21	11/4/20	122.35	-	0.00	3858.86				2
MW-2	3981.21	12/9/20	122.29	-	0.00	3858.92				
MW-3	3982.31	1/11/19	-	-	-	-				3
MW-3	3982.31	2/8/19	123.04	-	0.00	3859.27				
MW-3	3982.31	2/25/19	122.95	-	0.00	3859.36	131.54			4
MW-3	3982.31	5/29/19	123.10	-	0.00	3859.21				3
MW-3	3982.31	6/13/19	123.12	-	0.00	3859.19				3
MW-3	3982.31	7/11/19	-	-	-	-				3
MW-3	3982.31	7/29/19	123.21	-	0.00	3859.10				3
MW-3	3982.31	9/13/19	-	-	-	-				3
MW-3	3982.31	10/16/19	123.27	-	0.00	3859.04				
MW-3	3982.31	11/4/19	-	-	-	-				3
MW-3	3982.31	12/9/19	-	-	-	-				3
MW-3	3982.31	1/10/20	-	-	-	-				3
MW-3	3982.31	2/19/20	-	-	-	-				3
MW-3	3982.31	2/24/20	123.39	-	0.00	3858.92	131.76			3.5
MW-3	3982.31	3/13/20	-	-	-	-				3
MW-3	3982.31	4/29/20	123.51	-	0.00	3858.80				
MW-3	3982.31	5/26/20	123.40	-	0.00	3858.91				4
MW-3	3982.31	6/16/20	123.40	-	0.00	3858.91				
MW-3	3982.31	7/30/20	123.40	-	0.00	3858.91				
MW-3	3982.31	8/26/20	123.42	-	0.00	3858.89				
MW-3	3982.31	9/15/20	123.44	-	0.00	3858.87				
MW-3	3982.31	9/15/20	123.47	-	0.00	3858.84				
MW-3	3982.31	9/17/20	123.45	-	0.00	3858.86	131.45			5.1
MW-3	3982.31	10/21/20	123.46	-	0.00	3858.85				
MW-3	3982.31	11/4/20	123.57	-	0.00	3858.74				4

Table 1

**Summary of Fluid Level Measurements 2019 and 2020
Plains Pipeline, LP
Chevron Grayburg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-3	3982.31	12/9/20	123.50	-	0.00	3858.81				
MW-4	3982.48	2/25/19	123.04	-	0.00	3859.44	135.41			10
MW-4	3982.48	5/29/19	123.24	-	0.00	3859.24				18
MW-4	3982.48	7/29/19	123.30	-	0.00	3859.18				14
MW-4	3982.48	10/16/19	123.36	-	0.00	3859.12				
MW-4	3982.48	2/24/20	123.45	-	0.00	3859.03	135.59			27
MW-4	3982.48	4/29/20	123.70	-	0.00	3858.78				
MW-4	3982.48	5/26/20	123.50	-	0.00	3858.98				24
MW-4	3982.48	6/16/20	122.23	-	0.00	3860.25				
MW-4	3982.48	7/30/20	123.53	-	0.00	3858.95				
MW-4	3982.48	8/26/20	122.24	-	0.00	3860.24				
MW-4	3982.48	9/17/20	123.57	-	0.00	3858.91	135.65			20
MW-4	3982.48	10/21/20	123.57	-	0.00	3858.91				
MW-4	3982.48	11/4/20	123.60	-	0.00	3858.88				21
MW-4	3982.48	12/9/20	123.60	-	0.00	3858.88				
MW-5	3981.45	2/25/19	122.03	-	0.00	3859.42	136.37			7
MW-5	3981.45	5/29/19	122.21	-	0.00	3859.24				6
MW-5	3981.45	7/29/19	122.29	-	0.00	3859.16				7
MW-5	3981.45	10/16/19	122.35	-	0.00	3859.10				
MW-5	3981.45	2/24/20	122.44	-	0.00	3859.01	136.32			1.5
MW-5	3981.45	4/29/20	122.61	-	0.00	3858.84				
MW-5	3981.45	5/26/20	122.50	-	0.00	3858.95				7
MW-5	3981.45	6/16/20	122.47	-	0.00	3858.98				
MW-5	3981.45	7/30/20	122.48	-	0.00	3858.97				
MW-5	3981.45	8/26/20	122.50	-	0.00	3858.95				
MW-5	3981.45	9/17/20	122.55	-	0.00	3858.90	136.29			8.5
MW-5	3981.45	10/21/20	122.55	-	0.00	3858.90				
MW-5	3981.45	11/4/20	122.63	-	0.00	3858.82				7
MW-5	3981.45	12/9/20	122.58	-	0.00	3858.87				
MW-6	3982.27	2/8/19	123.07	-	0.00	3859.20				

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Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-6	3982.27	2/25/19	122.95	-	0.00	3859.32	140.19			7
MW-6	3982.27	5/29/19	123.11	-	0.00	3859.16				7
MW-6	3982.27	7/29/19	123.21	-	0.00	3859.06				7
MW-6	3982.27	10/16/19	123.26	-	0.00	3859.01				
MW-6	3982.27	11/4/19	-	-	-	-				3
MW-6	3982.27	12/9/19	-	-	-	-				3
MW-6	3982.27	1/10/20	-	-	-	-				3
MW-6	3982.27	2/19/20	-	-	-	-				3
MW-6	3982.27	2/24/20	123.40	-	0.00	3858.87	139.87			5
MW-6	3982.27	3/13/20	-	-	-	-				3
MW-6	3982.27	4/29/20	123.51	-	0.00	3858.76				
MW-6	3982.27	5/26/20	123.41	-	0.00	3858.86				8
MW-6	3982.27	6/16/20	123.41	-	0.00	3858.86				
MW-6	3982.27	7/30/20	123.41	-	0.00	3858.86				
MW-6	3982.27	8/26/20	123.44	-	0.00	3858.83				
MW-6	3982.27	9/17/20	123.44	-	0.00	3858.83	139.72			10
MW-6	3982.27	10/21/20	123.46	-	0.00	3858.81				
MW-6	3982.27	11/4/20	123.50	-	0.00	3858.77				8
MW-6	3982.27	12/9/20	123.50	-	0.00	3858.77				
MW-7	3981.71	1/11/19	126.55	121.68	4.87	3859.10			2.3	0
MW-7	3981.71	2/8/19	126.26	121.75	4.51	3859.10			1	
MW-7	3981.71	2/25/19	126.31	121.65	4.66	3859.17				
MW-7	3981.71	3/8/19	127.15	121.65	5.50	3859.02			4	
MW-7	3981.71	5/21/19	128.14	121.65	6.49	3858.83			2.5	
MW-7	3981.71	5/29/19	126.52	121.93	4.59	3858.91				0
MW-7	3981.71	6/13/19	127.41	121.75	5.66	3858.88			2	0.25
MW-7	3981.71	7/11/19	127.59	121.78	5.81	3858.83			1.5	0.5
MW-7	3981.71	7/29/19	127.18	121.88	5.30	3858.82			2	0
MW-7	3981.71	8/9/19	126.36	122.09	4.27	3859.62			2	0
MW-7	3981.71	9/13/19	127.73	121.86	5.87	3859.17			2	1
MW-7	3981.71	10/16/19	127.76	121.85	5.91	3858.74				
MW-7	3981.71	11/4/19	128.30	121.90	6.40	3858.59			4	0

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Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-7	3981.71	12/9/19	123.44	122.80	0.64	3858.82			0.1	1.9
MW-7	3981.71	1/10/20	127.08	122.18	4.90	3858.86			3	0
MW-7	3981.71	2/19/20	127.79	121.99	5.80	3858.93			1.2	0
MW-7	3981.71	2/24/20	125.47	122.38	3.09	3858.91				
MW-7	3981.71	3/13/20	122.86	122.86	0.00	3858.85				3
MW-7	3981.71	4/29/20	127.80	122.15	5.65	3858.79			1.5	0.5
MW-7	3981.71	5/26/20	127.53	122.07	5.46	3858.89				
MW-7	3981.71	6/11/20	128.02	122.01	6.01	3858.88				
MW-7	3981.71	6/12/20	122.85	-	0.00	3858.86				
MW-7	3981.71	6/16/20	123.11	122.81	0.30	3858.86				
MW-7	3981.71	7/30/20	127.77	122.00	5.77	3858.92			1.4	
MW-7	3981.71	8/26/20	127.84	122.01	5.83	3858.59				
MW-7	3981.71	9/15/20	127.09	122.06	5.03	3858.69				
MW-7	3981.71	9/15/20	122.78	-	0.00	3858.93				
MW-7	3981.71	9/17/20	122.92	122.89	0.03	3858.81				
MW-7	3981.71	10/21/20	127.30	122.17	5.13	3858.57				
MW-7	3981.71	11/4/20	126.64	122.35	4.29	3858.54				
MW-7	3981.71	12/9/20	128.37	122.07	6.30	3858.44				
MW-8	3981.20	1/11/19	-	-	-	-				3
MW-8	3981.20	2/8/19	122.02	-	0.00	3859.18				1
MW-8	3981.20	2/25/19	121.94	-	0.00	3859.26	136.78			26
MW-8	3981.20	3/8/19	122.00	-	0.00	3859.20				3
MW-8	3981.20	5/29/19	122.10	-	0.00	3859.10				24
MW-8	3981.20	6/13/19	122.12	-	0.00	3859.08				4
MW-8	3981.20	6/13/19	-	-	-	-				3
MW-8	3981.20	7/29/19	122.20	-	0.00	3859.00				18
MW-8	3981.20	9/13/19		-						3
MW-8	3981.20	10/16/19	122.24	-	0.00	3858.96				
MW-8	3981.20	11/4/19	-	-	-	-				3

Table 1

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Plains Pipeline, LP
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Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-8	3981.20	12/9/19	-	-	-	-				3
MW-8	3981.20	1/10/20	-	-	-	-				3
MW-8	3981.20	2/19/20	-	-	-	-				3
MW-8	3981.20	2/24/20	122.34	-	0.00	3858.86	136.44			23
MW-8	3981.20	3/13/20	-	-	-	-				3
MW-8	3981.20	4/29/20	122.49	-	0.00	3858.71				
MW-8	3981.20	5/26/20	122.39	-	0.00	3858.81				28
MW-8	3981.20	6/16/20	122.40	-	0.00	3858.80				
MW-8	3981.20	7/30/20	122.39	-	0.00	3858.81				
MW-8	3981.20	8/26/20	122.42	-	0.00	3858.78				
MW-8	3981.20	9/15/20	122.42	-	0.00	3858.78				
MW-8	3981.20	9/15/20	122.47	-	0.00	3858.73				
MW-8	3981.20	9/17/20	122.40	-	0.00	3858.80	136.40			23
MW-8	3981.20	10/21/20	122.45	-	0.00	3858.75				
MW-8	3981.20	11/4/20	122.51	-	0.00	3858.69				6.5
MW-8	3981.20	12/9/20	122.51	-	0.00	3858.69				
MW-9	3980.44	2/25/19	121.14	-	0.00	3859.30	140.61			8
MW-9	3980.44	5/29/19	121.34	-	0.00	3859.10				7
MW-9	3980.44	6/13/19	121.30	-	0.00	3859.14				3
MW-9	3980.44	6/13/19	-	-	-	-				3
MW-9	3980.44	7/29/19	121.39	-	0.00	3859.05				7
MW-9	3980.44	10/16/19	121.46	-	0.00	3858.98				
MW-9	3980.44	11/4/19	-	-	-	-				3
MW-9	3980.44	12/9/19	-	-	-	-				3
MW-9	3980.44	1/10/20	-	-	-	-				3
MW-9	3980.44	2/19/20	-	-	-	-				3
MW-9	3980.44	2/24/20	121.56	-	0.00	3858.88	140.78			6
MW-9	3980.44	3/13/20	-	-	-	-				3
MW-9	3980.44	4/29/20	121.69	-	0.00	3858.75				
MW-9	3980.44	5/26/20	121.59	-	0.00	3858.85				10

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Plains Pipeline, LP
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Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-9	3980.44	6/16/20	121.57	-	0.00	3858.87				
MW-9	3980.44	7/30/20	121.55	-	0.00	3858.89				
MW-9	3980.44	8/26/20	121.60	-	0.00	3858.84				
MW-9	3980.44	9/17/20	121.64	-	0.00	3858.80	140.51			12
MW-9	3980.44	10/21/20	121.63	-	0.00	3858.81				
MW-9	3980.44	11/4/20	121.70	-	0.00	3858.74				9
MW-9	3980.44	12/9/20	121.66	-	0.00	3858.78				
MW-10	3980.06	2/25/19	120.87	-	0.00	3859.19	141.96			6
MW-10	3980.06	5/29/19	121.03	-	0.00	3859.03				9
MW-10	3980.06	6/13/19	121.03	-	0.00	3859.03				3
MW-10	3980.06	7/11/19	-	-	-	-				3
MW-10	3980.06	7/29/19	121.11	-	0.00	3858.95				7
MW-10	3980.06	10/16/19	121.16	-	0.00	3858.90				
MW-10	3980.06	11/4/19	-	-	-	-				3
MW-10	3980.06	12/9/19	-	-	-	-				3
MW-10	3980.06	1/10/20	-	-	-	-				3
MW-10	3980.06	2/19/20	-	-	-	-				3
MW-10	3980.06	2/24/20	121.26	-	0.00	3858.80	141.52			5
MW-10	3980.06	3/13/20	-	-	-	-				3
MW-10	3980.06	4/29/20	121.41	-	0.00	3858.65				
MW-10	3980.06	5/26/20	121.31	-	0.00	3858.75				5
MW-10	3980.06	6/16/20	121.29	-	0.00	3858.77				
MW-10	3980.06	7/30/20	121.28	-	0.00	3858.78				
MW-10	3980.06	8/26/20	121.32	-	0.00	3858.74				
MW-10	3980.06	9/17/20	121.34	-	0.00	3858.72	141.48			13
MW-10	3980.06	10/21/20	121.37	-	0.00	3858.69				
MW-10	3980.06	11/4/20	121.42	-	0.00	3858.64				10
MW-10	3980.06	12/9/20	121.42	-	0.00	3858.64				
MW-11	3981.92	1/11/19	-	-	-	-				3
MW-11	3981.92	2/8/19	122.68	-	0.00	3859.24				
MW-11	3981.92	2/25/19	122.61	-	0.00	3859.31	141.86			35

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Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-11	3981.92	5/29/19	122.74	-	0.00	3859.18				30
MW-11	3981.92	6/13/19	122.76	-	0.00	3859.16				4.25
MW-11	3981.92	7/11/19	-	-	-	-				3
MW-11	3981.92	7/29/19	122.84	-	0.00	3859.08				27
MW-11	3981.92	9/13/19	-	-	-	-				3
MW-11	3981.92	10/16/19	122.89	-	0.00	3859.03				
MW-11	3981.92	2/24/20	123.00	-	0.00	3858.92	142.94			38.8
MW-11	3981.92	4/29/20	123.16	-	0.00	3858.76				
MW-11	3981.92	5/26/20	123.05	-	0.00	3858.87				38
MW-11	3981.92	6/16/20	123.05	-	0.00	3858.87				
MW-11	3981.92	7/30/20	123.05	-	0.00	3858.87				
MW-11	3981.92	8/26/20	123.08	-	0.00	3858.84				
MW-11	3981.92	9/17/20	123.07	-	0.00	3858.85	141.79			30.5
MW-11	3981.92	10/21/20	123.11	-	0.00	3858.81				
MW-11	3981.92	11/4/20	123.18	-	0.00	3858.74				31.5
MW-11	3981.92	12/9/20	123.19	-	0.00	3858.73				
MW-12	3982.15	1/11/19	-	-	-	-				3
MW-12	3982.15	2/8/19	122.94	-	0.00	3859.21				
MW-12	3982.15	2/25/19	122.86	-	0.00	3859.29	142.17			30
MW-12	3982.15	3/8/19	122.88	-	0.00	3859.27				3
MW-12	3982.15	5/29/19	123.00	-	0.00	3859.15				32
MW-12	3982.15	6/13/19	123.00	-	0.00	3859.15				3.5
MW-12	3982.15	7/11/19	-	-	-	-				2.9
MW-12	3982.15	7/29/19	123.10	123.06	0.04	3859.08				0
MW-12	3982.15	9/13/19	-	-	-	-			0.1	3
MW-12	3982.15	10/16/19	123.22	123.12	0.10	3859.01				
MW-12	3982.15	11/4/19	123.26	123.23	0.03	3858.91			0.1	0
MW-12	3982.15	12/9/19	-	-	-	-			0.1	2.9
MW-12	3982.15	1/10/20	123.48	123.25	0.23	3858.86			0.5	2
MW-12	3982.15	2/19/20	123.54	123.20	0.34	3858.89			0.1	0.4
MW-12	3982.15	2/24/20	123.38	123.20	0.18	3858.92				
MW-12	3982.15	3/13/20	123.50	123.24	0.26	3858.86			0.1	2.9

Table 1

**Summary of Fluid Level Measurements 2019 and 2020
Plains Pipeline, LP
Chevron Grayburg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-12	3982.15	4/29/20	123.76	123.34	0.42	3858.73			0.5	3.5
MW-12	3982.15	5/26/20	123.56	123.23	0.33	3858.86				
MW-12	3982.15	6/16/20	123.65	123.22	0.43	3858.85				
MW-12	3982.15	7/30/20	123.70	123.23	0.47	3858.83			0.3	
MW-12	3982.15	8/26/20	123.66	123.25	0.41	3858.82				
MW-12	3982.15	9/15/20	123.41	123.25	0.16	3858.87				
MW-12	3982.15	9/15/20	123.71	123.32	0.39	3858.76				
MW-12	3982.15	9/17/20	123.57	123.27	0.30	3858.82				
MW-12	3982.15	10/21/20	123.80	123.28	0.52	3858.77				
MW-12	3982.15	11/4/20	123.74	123.35	0.39	3858.73				
MW-12	3982.15	12/9/20	123.91	123.34	0.57	3858.70				
MW-13	3980.82	2/25/19	121.44	-	0.00	3859.38	141.63			9
MW-13	3980.82	5/29/19	121.62	-	0.00	3859.20				8
MW-13	3980.82	7/29/19	121.69	-	0.00	3859.13				7
MW-13	3980.82	10/16/19	121.74	-	0.00	3859.08				
MW-13	3980.82	2/24/20	121.81	-	0.00	3859.01	141.36			9.5
MW-13	3980.82	4/29/20	122.00	-	0.00	3858.82				
MW-13	3980.82	5/26/20	121.88	-	0.00	3858.94				10
MW-13	3980.82	6/16/20	121.89	-	0.00	3858.93				
MW-13	3980.82	7/30/20	121.87	-	0.00	3858.95				
MW-13	3980.82	8/26/20	121.90	-	0.00	3858.92				
MW-13	3980.82	9/17/20	121.92	-	0.00	3858.90	141.31			7.5
MW-13	3980.82	10/21/20	121.93	-	0.00	3858.89				
MW-13	3980.82	11/4/20	122.01	-	0.00	3858.81				9
MW-13	3980.82	12/9/20	121.97	-	0.00	3858.85				
MW-14	3981.35	2/25/19	121.97	-	0.00	3859.38	141.77			9
MW-14	3981.35	5/29/19	122.15	-	0.00	3859.20				8
MW-14	3981.35	7/29/19	122.22	-	0.00	3859.13				6
MW-14	3981.35	10/16/19	122.26	-	0.00	3859.09				

Table 1

**Summary of Fluid Level Measurements 2019 and 2020
Plains Pipeline, LP
Chevron Grayburg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico**

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	LNAPL Thickness (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Well Screen Interval (fbgs) Well Diameter (in.)	Volume LNAPL Bailed (gal.)	Volume of Groundwater Bailed (gal.)
MW-14	3981.35	2/24/20	122.38	-	0.00	3858.97	141.49			2.5
MW-14	3981.35	4/29/20	122.53	-	0.00	3858.82				
MW-14	3981.35	5/26/20	122.42	-	0.00	3858.93				10
MW-14	3981.35	6/16/20	122.42	-	0.00	3858.93				
MW-14	3981.35	7/30/20	122.42	-	0.00	3858.93				
MW-14	3981.35	8/26/20	122.44	-	0.00	3858.91				
MW-14	3981.35	9/17/20	122.48	-	0.00	3858.87	141.44			12
MW-14	3981.35	10/21/20	122.48	-	0.00	3858.87				
MW-14	3981.35	11/4/20	122.55	-	0.00	3858.80				9
MW-14	3981.35	12/9/20	122.52	-	0.00	3858.83				

Notes:

1. famsl - feet above mean sea level
2. fbtoc - feet below top of casing
3. LNAPL - Light non-aqueous phase liquid.
4. fbgs - feet below ground surface.
5. Elevations of the potentiometric surface were calculated using 0.81 as the factor for the specific gravity of LNAPL.
6. Blue shaded cells indicate groundwater monitoring event
7. Data collected before October 12, 2016 were collected and reported by Basin Environmental Service Technologies, LLC.
8. MW-8, MW-9, MW-10, MW-11, MW-12, MW-13 and MW-14 were installed in November 2017

Table 2

Summary of Analytical Results of BTEX in Groundwater 2019-2020
Plains Pipeline, LP
Chevron Grayberg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico

Sample ID	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
		NMWQCC Human Health Standards			
		0.01	0.75	0.75	0.62
MW-1	2/26/19	0.120	0.0863	0.0535	0.0495
MW-1	5/30/19	0.229	0.343	0.153	0.198
MW-1	7/30/19	0.162	0.148	0.0361	0.0848 J6
MW-1	10/18/19	0.212	0.230	0.102	0.101
MW-1	2/25/20	0.0537	0.105	0.0472	0.0830
MW-1 (Dup2)	2/25/20	0.0529	0.0876	0.0398	0.0696
MW-1	5/27/20	0.0213	0.0462	0.0175	0.0201
MW-1	9/18/20	0.0263	0.0523	0.0204	0.0362
Dup (MW-1)	9/18/20	0.0243	0.0493	0.019	0.0337
MW-1	11/4/20	0.0192	0.0275	0.0115	0.0151
MW-2	2/26/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-2	5/30/19	<0.000190	<0.000412	<0.000160	0.000913 B J
MW-2	7/30/19	0.000216	<0.000412	<0.000160	0.000526
MW-2	10/16/19	0.00260	0.000914 J	<0.000160	0.00380
MW-2	2/25/20	0.000297 J	<0.000412	<0.000160	<0.000510
MW-2	5/27/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-2	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-2	11/4/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-3	2/26/19	0.0159	0.000793 J	0.000161 B J	<0.000510
MW-3 (Dup 2)	2/26/19	0.0161	0.000766 J	0.000187 J	0.000584 B J
MW-3	5/30/19	0.0136	0.000825 J	<0.000160	0.000847 J
MW-3	7/30/19	0.00368	<0.000412	<0.000160	0.00355
MW-3	10/16/19	0.00250	0.000504 J	<0.000160	0.00397
MW-3	2/25/20	0.000820	<0.000412	<0.000160	<0.000510
MW-3	5/27/20	0.000825	<0.000412	<0.000160	<0.000510
MW-3	9/18/20	0.000475 J	0.000542 J	0.000615	0.00165
MW-3	11/4/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	2/26/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-4 (Dup1)	2/26/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	5/30/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	7/30/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	10/17/19	0.000201 J	0.000567 J	0.000252 J	0.000651 J
MW-4	2/24/20	0.000580	<0.000412	0.000283 B J	0.000512 J
MW-4	5/27/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	9/17/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	11/4/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	2/26/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	5/30/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	7/30/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	10/17/19	<0.000190	<0.000412	<0.000160	<0.000510

Table 2

Summary of Analytical Results of BTEX in Groundwater (2019-2020)
Plains Pipeline, LP
Chevron Grayberg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico

Sample ID	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
		NMWQCC Human Health Standards			
		0.01	0.75	0.75	0.62
MW-5 (Dup-2)	10/17/19	0.000275 J	<0.000412	<0.000160	<0.000510
MW-5	2/25/20	0.000247 J	<0.000412	<0.000160	<0.000510
MW-5	5/27/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	11/4/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-6	2/26/19	<0.000190	<0.000412	<0.000160	0.000644 B J
MW-6	5/30/19	0.0100	0.000972 J	0.000370 J	0.00374
MW-6	7/30/19	0.000772	<0.000412	<0.000160	0.000982
MW-6	10/16/19	0.00295	<0.000412	<0.000160	0.000861 J
MW-6	2/25/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-6	5/27/20	<0.000190	<0.000412	0.000208 J	0.000709 J
MW-6	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-6	11/4/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	2/26/19		LNAPL Present		
MW-7	5/30/19		LNAPL Present		
MW-7	7/30/19		LNAPL Present		
MW-7	10/16/19		LNAPL Present		
MW-7	2/24/20		LNAPL Present		
MW-7	5/27/20		LNAPL Present		
MW-7	9/18/20		LNAPL Present		
MW-7	11/4/20		LNAPL Present		
MW-8	2/26/19	2.18	0.341	0.08610 B	0.163 B
MW-8	5/30/19	3.57	1.56	0.205	0.590
MW-8 (Dup-2)	5/30/19	3.37	1.53	0.135	0.394
MW-8	7/30/19	3.06	0.518	0.102	0.261
MW-8 (Dup-1)	7/30/19	3.24	0.521	0.0849	0.211
MW-8	10/17/19	1.82	0.191	0.0981	0.227
MW-8	2/24/20	2.22	0.783	0.0990	0.412
MW-8	5/27/20	3.06	0.876	0.0507	0.232
MW-8	9/17/20	2.01	0.0873	0.0371	0.187
MW-8	11/4/20	2.42	0.751	0.0879	0.344
MW-9	2/26/19	0.0231	0.00116	0.000222 B J	<0.000150
MW-9	5/30/19	0.0513	0.00219	<0.000160	0.00616
MW-9	7/30/19	0.0474	0.000835	0.000327	0.00497
MW-9	10/17/19	0.00928	0.000656 J	<0.000160	0.0106
MW-9	2/25/20	0.00571	<0.000412	<0.000160	<0.000510
MW-9 (Dup-1)	2/25/20	0.00609	<0.000412	<0.000160	<0.000510
MW-9	5/27/20	0.00401	<0.000412	<0.000160	<0.000510
MW-9 (DUP-2)	5/27/20	0.00984	<0.000412	0.000192 BJ	0.00115 J
MW-9	9/18/20	0.00530	<0.000412	<0.000160	<0.000510
MW-9	11/4/20	0.00318	<0.000412	<0.000160	<0.000510

Table 2

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Lea County, New Mexico

Sample ID	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
		NMWQCC Human Health Standards			
		0.01	0.75	0.75	0.62
MW-9 (DUP-1)	11/4/20	0.00281	0.000463 J	0.000172 J	<0.000510
MW-10	2/26/19	0.00108	<0.000412	<0.000160	<0.000510
MW-10	5/30/19	0.0386	0.000570	0.000197	<0.000510
MW-10	7/30/19	0.0314	<0.000412	<0.000160	<0.000510
MW-10	10/16/19	0.0456	0.000642 J	0.000253 J	0.00576
MW-10 (Dup-1)	10/16/19	0.0343	0.000542 J	0.000281 J	0.00449
MW-10	2/25/20	0.00353	<0.000412	<0.000160	<0.000510
MW-10	5/27/20	0.00258	<0.000412	<0.000160	<0.000510
MW-10	9/17/20	0.00220	<0.000412	<0.000160	<0.000510
MW-10	11/4/20	0.00164	<0.000412	<0.000160	<0.000510
MW-11	2/26/19	0.0502	0.000826 J	0.00418	0.00343 B
MW-11	5/30/19	0.00585	<0.000412	0.000203 J	0.00356
MW-11 (Dup-1)	5/30/19	0.00512	<0.000412	0.000251 B J	0.00383 B
MW-11	7/30/19	0.0188	<0.000412	0.00104	0.00185
MW-11 (Dup-2)	7/30/19	0.0288	<0.000412	0.00157	0.00303
MW-11	10/16/19	0.00891	<0.000412	0.00363	0.00298
MW-11	2/24/20	0.117	0.00785	0.00500	0.0305
MW-11	5/27/20	0.00193	<0.000412	0.000191 J	<0.000510
MW-11	9/17/20	0.00287	<0.000412	0.00243	0.000799 J
MW-11	11/4/20	0.0138	<0.000412	0.00177	0.00142 J
MW-12	2/26/19	0.733	0.198	0.00788 B J	0.108 B
MW-12	5/30/19	1.14	0.264	0.0223	0.135
MW-12	7/30/19		LNAPL Present		
MW-12	10/16/19		LNAPL Present		
MW-12	2/24/20		LNAPL Present		
MW-12	5/27/20		LNAPL Present		
MW-12	9/18/20		LNAPL Present		
MW-12	9/18/20		LNAPL Present		
MW-12	11/4/20		LNAPL Present		
MW-13	2/26/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-13	5/30/19	0.000381 J	<0.000412	<0.000160	<0.000510
MW-13	7/30/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-13	10/18/19	0.000786	0.000830 J	0.000324 J	<0.000510
MW-13	2/25/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-13	5/27/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-13 (DUP-1)	5/27/20	0.000720	<0.000412	<0.000160	<0.000510
MW-13	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-13	11/4/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	2/26/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	5/30/19	<0.000190	<0.000412	<0.000160	<0.000510

Table 2

Summary of Analytical Results of BTEX in Groundwater (2019-2020)
Plains Pipeline, LP
Chevron Grayberg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico

Sample ID	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
		NMWQCC Human Health Standards			
		0.01	0.75	0.75	0.62
MW-14	7/30/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	10/18/19	0.000443 J	<0.000412	<0.000160	<0.000510
MW-14	2/25/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	5/27/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	11/4/20	<0.000190	<0.000412	<0.000160	<0.000510
Trip Blank	2/26/19	<0.000190	<0.000412	<0.000160	<0.000510
Trip Blank	5/30/19	<0.000190	<0.000412	<0.000160	<0.000510
Trip Blank	7/30/19	<0.000190	<0.000412	<0.000160	<0.000510
Trip Blank	2/25/20	<0.000190	<0.000412	<0.000160	0.000659 J

Notes:

1. Shaded cells indicate New Mexico Water Quality Control Commission Regulatory Limit exceedances.
2. Bold indicates detection. BTEX analyses by EPA Method 8021B.
3. MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, & MW-14 drilled and completed in November 2017
4. Data collected before December 12, 2016 were collected and reported by Basin Environmental Service Technologies, LLC
5. J flag indicates that the identification of the analyte is acceptable. The reported value is an estimate.
6. J6 flag indicates that the sample matrix interfered with the ability to make any accurate determination; spike value was low.
7. The NMWQCC Human Health Standard for toluene listed at the top of the table is from NMAC 20.6.2.3103 and became effective on December 11, 2018.

Table 3
Summary of Dissolved PAH Compounds in Groundwater 2012-2020
Plains Pipeline, LP
Chevron Grayburg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico

Sample ID	Sample Date	Anthracene (mg/L)	Acenaphthene (mg/L)	Acenaphthylene (mg/L)	Benzo(a)anthracene (mg/L)	Benzo(b)pyrene (mg/L)	Benzo(k)fluoranthene (mg/L)	Benzo(g,h,i)perylene (mg/L)	Benzo(k)fluoranthene (mg/L)	Chrysene (mg/L)	Dibenzo(a,h)anthracene (mg/L)	Dibenzofuran (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	Indeno(1,2,3-cd)pyrene (mg/L)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)
		NWQCC Human Health Standards or NWQCC Toxic Pollutant Standards																		
		0.001	0.001	0.001	0.0002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.03	0.001	0.001	0.03	0.03
MW-1	7/3/12	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	0.00672	<0.00526	<0.00526	NA	<0.00526
MW-1	5/7/14	<0.000050	0.000368	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.00247	<0.000050	0.00173	<0.000050	0.00974	0.00171	<0.000050	NA	NA
MW-1	11/29/17	<0.000183	<0.000183	<0.000183	0.000331	0.000355	0.000428	0.000453	0.000580	0.000449	0.000525	0.000343	0.000132 J	0.000646	0.000563	0.00252	0.000619	0.000173 J	0.00185 K	0.00207 K
MW-1	11/15/18	0.0000551	0.0000435 J	<0.0000120	<0.00000410	<0.0000116	0.00000549 J	0.00000294 J	<0.0000136	0.0000125 J	<0.00000396	0.000171	<0.0000157	0.000289	<0.0000148	0.000655	0.000158	0.0000279 J	0.00154	0.000366
MW-2	7/3/12	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	<0.00526	NA	<0.00526
MW-2	5/7/14	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	<0.000052	NA	NA
MW-2	10/16/19	<0.0000280	<0.0000200	<0.0000240	<0.00000820	<0.0000232	<0.00000424	<0.00000454	<0.0000272	<0.0000216	<0.00000792	0.00000625 B J	<0.0000314	<0.0000170	<0.0000296	<0.0000396	<0.0000164	<0.0000234	<0.0000164	<0.0000180
MW-2	11/4/20	<0.0000190	<0.0000190	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	<0.0000191	<0.0000270	<0.0000169	<0.0000158	<0.0000917	<0.0000180	<0.0000169	<0.0000687	<0.0000674
MW-3	7/3/12	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	NA	<0.00510
MW-3	5/7/14	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	NA	NA
MW-3	11/15/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.000318	<0.0000157	0.000213	<0.0000148	0.000793	0.0000760	<0.0000117	0.000752	<0.00000902
MW-3	10/16/19	<0.0000140	0.0000136 J	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.000328	<0.0000157	0.000144	<0.0000148	0.000383	0.0000916	<0.0000117	0.000377	0.0000142 J
MW-4	7/3/12	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	<0.00510	NA	<0.00510
MW-4	11/29/17	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.000133 J	<0.000183	0.000170 J	0.000316	<0.000183	NA	NA
MW-4	11/15/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000120 B J	<0.0000157	<0.00000850	<0.0000148	0.000148 B J	<0.00000820	<0.0000117	0.00000905 J	<0.00000902
MW-4	10/17/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000512 B J	<0.0000157	<0.00000850	<0.0000148	0.0000354 J	<0.00000820	<0.0000117	0.0000108 J	0.0000110 B J
MW-5	3/8/13	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	NA	<0.0103
MW-5	5/7/14	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	NA	NA
MW-5	10/17/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000465 B J	<0.0000157	<0.00000850	<0.0000148	0.0000242 J	<0.00000820	<0.0000117	<0.00000821	<0.00000902
MW-5 (Dup-2)	10/17/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	0.00000431 J	0.00000262 J	<0.0000136	<0.0000108	<0.00000396	0.00000588 B J	<0.0000157	<0.00000850	<0.0000148	0.0000270 J	<0.00000820	<0.0000117	<0.00000821	<0.00000902
MW-5	11/4/20	<0.0000190	<0.0000190	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	<0.0000191	<0.0000270	<0.0000169	<0.0000158	<0.0000917	<0.0000180	<0.0000169	<0.0000687	<0.0000674
MW-6	3/8/13	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	NA	<0.0102
MW-6	5/7/14	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	NA	NA
MW-6	10/16/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000614 B J	<0.0000157	<0.00000850	<0.0000148	0.0000337 J	<0.00000820	<0.0000117	<0.00000821	<0.00000902
MW-6	11/4/20	<0.0000190	<0.0000190	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	<0.0000191	<0.0000270	<0.0000169	<0.0000158	<0.0000917	<0.0000180	<0.0000169	<0.0000687	<0.0000674
MW-7	3/8/13	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	0.0058	<0.0102	0.00408	<0.0102	0.0652	0.00537	<0.0102	NA	0.0535
MW-8	11/30/17	<0.000184	0.000649	0.000610	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000344	<0.000184	0.00247	<0.000184	0.00341	<0.000184	0.0633	0.00427	0.000304	NA	NA
MW-8	11/15/18	<0.0000140	0.000412	<0.0000120	<0.00000410	<0.0000116	0.00000608 J	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00401	<0.0000157	0.00303	<0.0000148	0.0812	0.00157	0.0000203 J	0.0945	0.659
MW-8	10/17/19	0.0000821	0.000540	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00425	<0.0000157	0.00322	<0.0000148	0.0538	0.00203	0.0000247 J	0.0726	0.0517
MW-8	11/4/20	0.000112	0.000355	0.0005030	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	0.00504								

Table 3
Summary of Dissolved PAH Compounds in Groundwater 2012-2020
Plains Pipeline, LP
Chevron Grayburg 6-Inch Sec. 6 (Historical)
Lea County, New Mexico

Sample ID	Sample Date	Anthracene (mg/L)	Acenaphthene (mg/L)	Acenaphthylene (mg/L)	Benzo(a)anthracene (mg/L)	Benzo(e)pyrene (mg/L)	Benzo(b)fluoranthene (mg/L)	Benzo(g,h,i)perylene (mg/L)	Benzo(k)fluoranthene (mg/L)	Chrysene (mg/L)	Dibenzo(a,h)anthracene (mg/L)	Dibenzofuran (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	Indeno(1,2,3-cd)pyrene (mg/L)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)
		NWQCCHuman Health Standards or NWQCC Toxic Pollutant Standards																		
		0.001	0.001	0.001	0.0002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.03	0.001	0.001	0.03	0.03
MW-14	11/30/17	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	0.000131 J	<0.000182	0.000148 J	0.000323	<0.000182	<0.000109 U K	0.000734 K
MW-14	11/15/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	<0.00000105	<0.0000157	<0.00000850	<0.0000148	0.0000956 B J	<0.00000820	<0.0000117	<0.00000821	<0.00000902

Notes:

1. Shaded cells indicate New Mexico Oil Conservation Division Regulatory Limit exceedance.

2. Bold indicates detection. PAH analyses by EPA Method 8270C.

3. J denotes target analyte positively identified below quantitation limit and above the detection limit

4. K denotes sample analyzed outside of recommended hold time

5. NA denotes analyte not analyzed

6. Samples collected and results dated between 2012 and 2014 were collected and reported by Basin Environmental Service Technologies, LLC.

7. J-flag indicates that the identification of the analyte is acceptable. The reported value is an estimate.

8. K-flag indicates that sample was analyzed outside of recommended hold time.

9. U-flag indicates that analyte was not detected.

10.NMWQCC Human Health Standard for naphthalenes + monmethylnaphthalenes is 0.03 mg/l, as noted in NMAC 20.6.2.3103(A.)(1)(j)).

Appendices

Appendix A

Release Notification and Corrective Action

NMOCD Form C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-14
Revised October 10, 200

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report

☐ Final Report

Name of Company	Plains Pipeline, LP	Contact	Jason Henry
Address	2530 Hwy 214 - Denver City, TX 79323	Telephone No.	(575) 441-1099
Facility Name	Chevron Grayburg 6-inch Sec. 6	Facility Type	Pipeline
Surface Owner	NMSLO	Mineral Owner	
		Lease No.	

LOCATION OF RELEASE

Unit Letter B	Section 6	Township 18S	Range 35E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	--------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude N 32.7810858° Longitude W 103.4924927°

WTR 80'

NATURE OF RELEASE

Type of Release	Crude Oil	Volume of Release	120 bbls	Volume Recovered	115 bbls
Source of Release	6" Steel Pipeline	Date and Hour of Occurrence	10/08/2010 @ 10:00	Date and Hour of Discovery	10/08/2010 @ 10:00
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Larry Johnson		
By Whom?	Jason Henry	Date and Hour	10/08/2010 @ 11:30		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

RECEIVED

OCT 15

HOBBSD

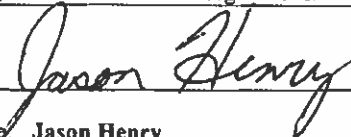

Describe Cause of Problem and Remedial Action Taken.*

Excavator struck a tee connected to the Chevron Grayburg 6" pipeline causing a release of crude oil. Throughput for the subject line is 2,000 bbls/day and the operating pressure of the pipeline is 50 psi. The depth of the pipeline at the release point is approximately 2' bgs. The H2S concentration in the crude is less than 10 ppm and the gravity of the crude is 36.

Describe Area Affected and Cleanup Action Taken.*

The released crude pooled in the trench next to the pipeline and a vac truck was used to recover the free product. The impacted area will be remediated per applicable guidelines.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

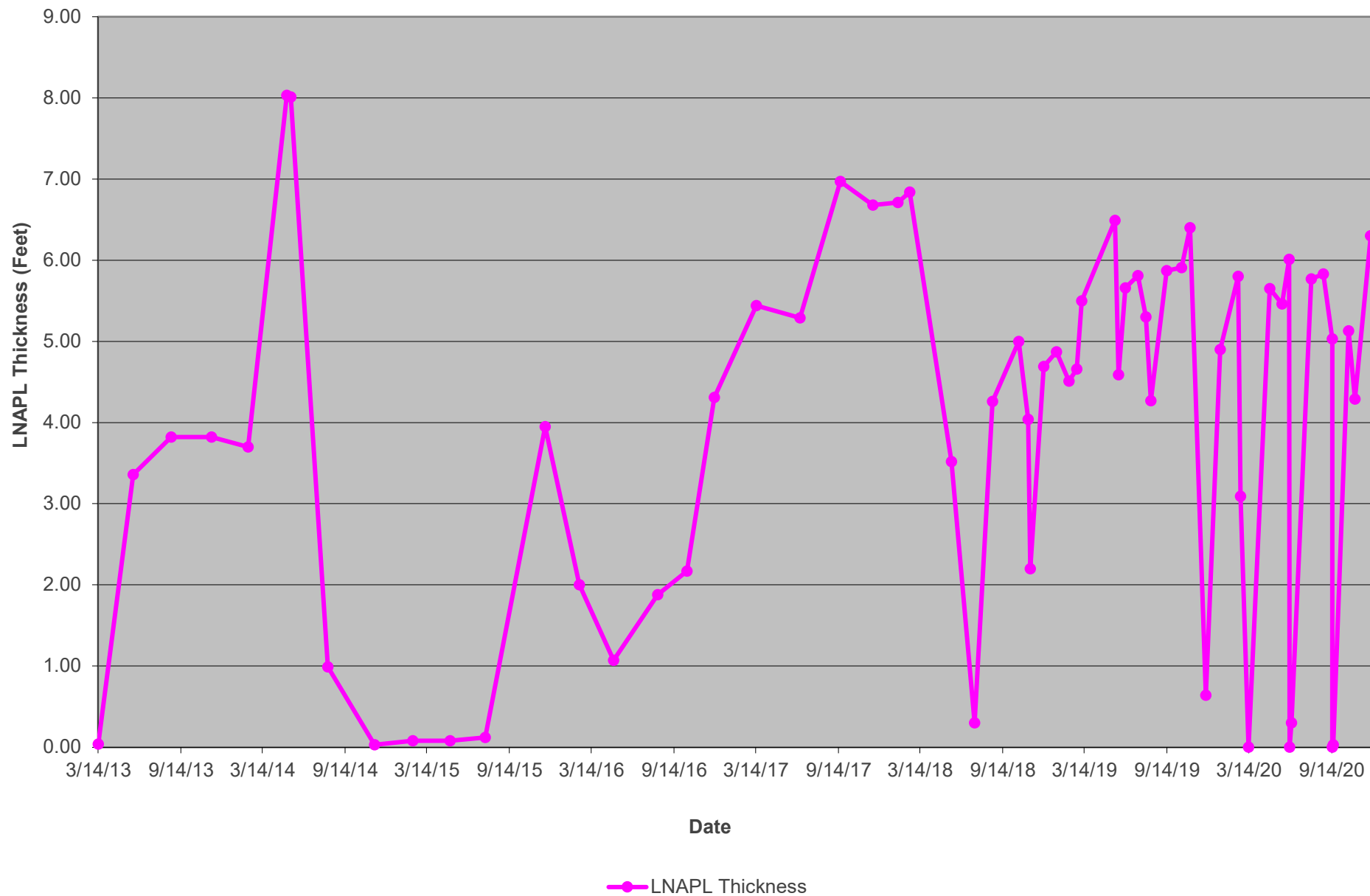
Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Jason Henry	Approved by District Supervisor  ENVIRONMENTAL ENGINEER	
Title: Remediation Coordinator	Approval Date: 10.15.10	Expiration Date: 12.15.10
E-mail Address: jhenry@paalp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10-15-2010 Phone: (575) 441-1099	SUBMIT FINAL C-141 w/DOCS BY	IRP# 10.10.2637

Attach Additional Sheets If Necessary

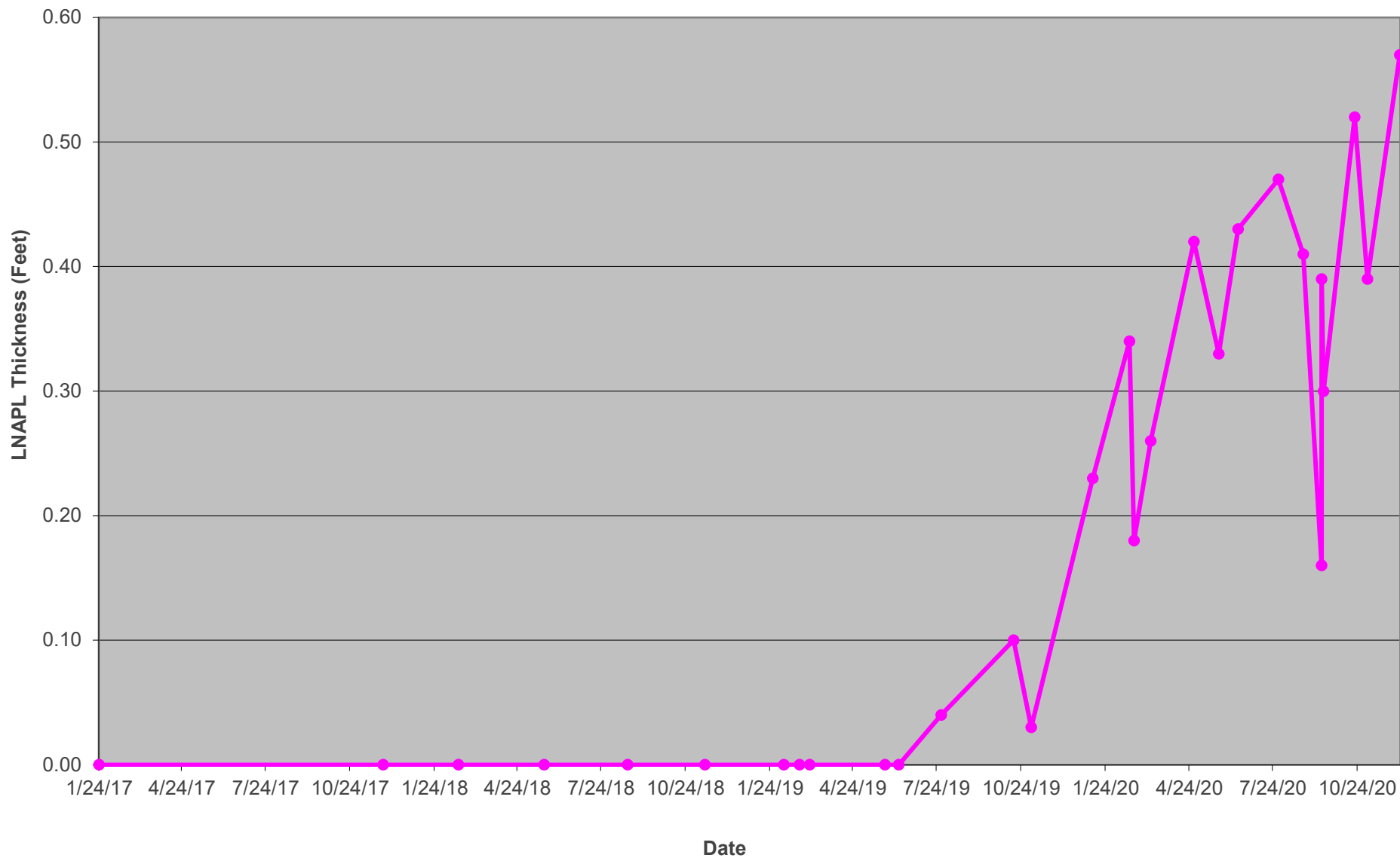
Appendix B

Charts of LNAPL Thicknesses in MW-7 and MW-12 vs. Time

CHEVRON GRAYBERG, 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
LNAPL THICKNESS vs. TIME
MW-7



CHEVRON GRAYBERG, 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
LNAPL THICKNESS vs. TIME
MW-12

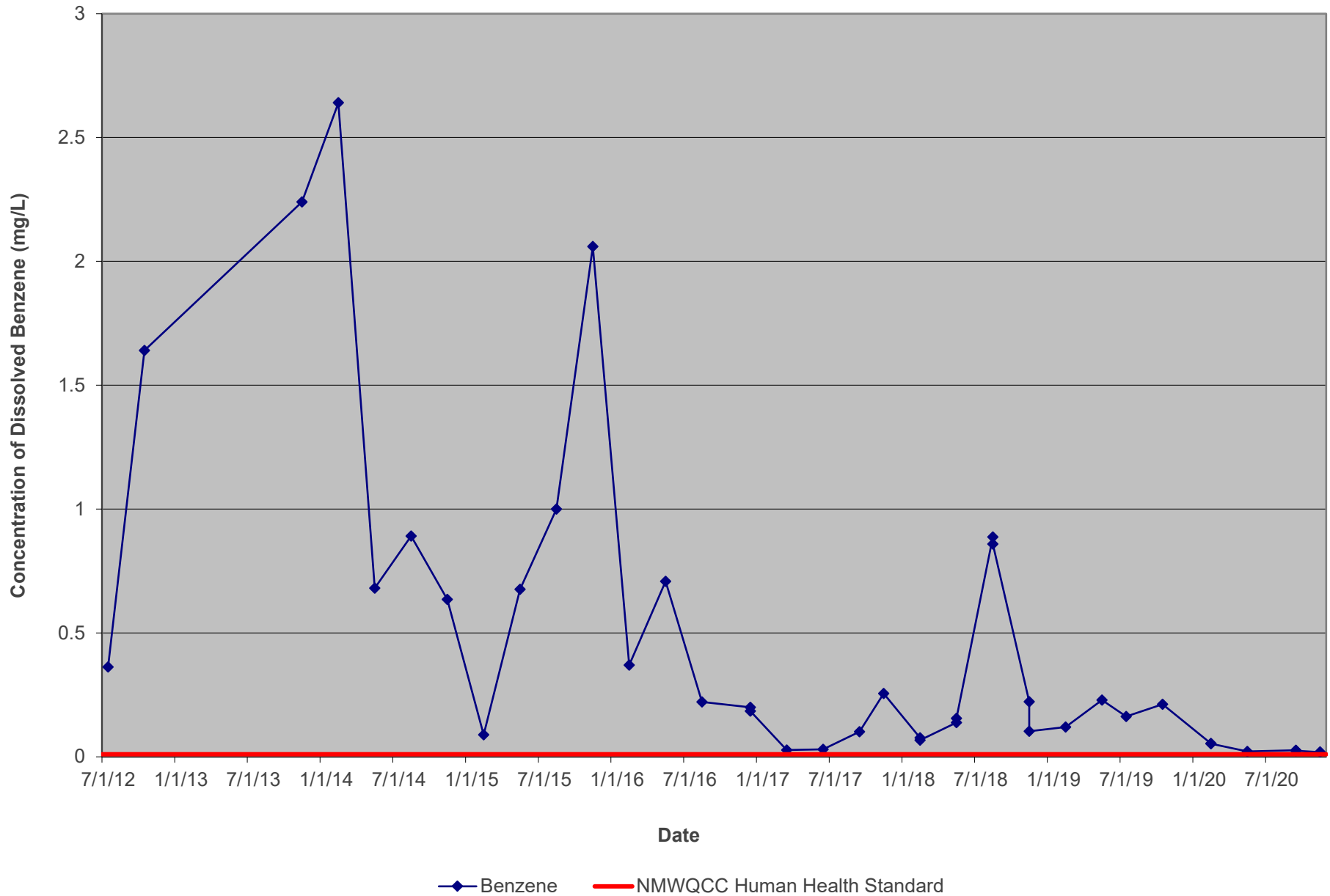


—●— LNAPL Thickness

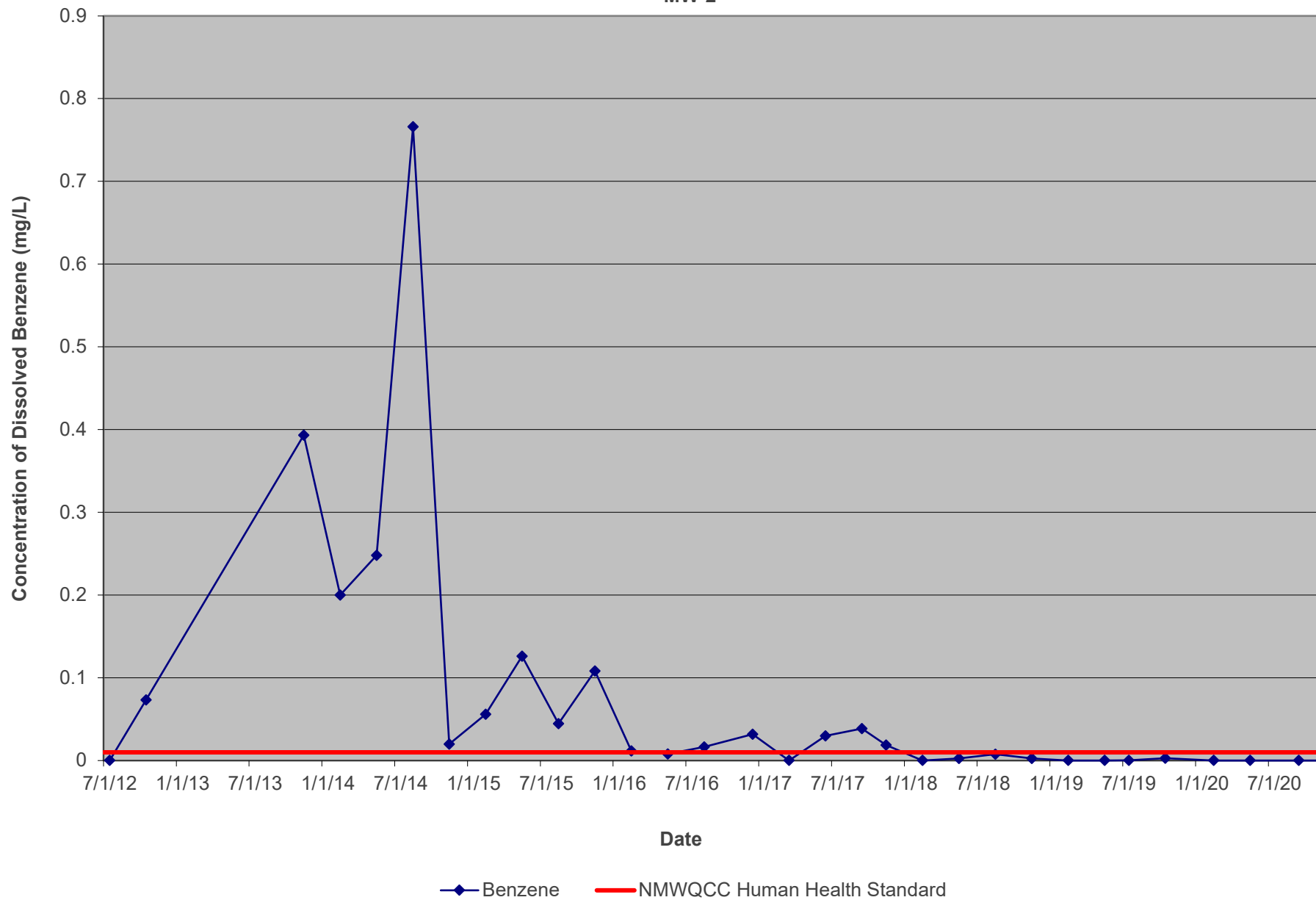
Appendix C

Charts of Dissolved Benzene in Monitor Wells vs. Time

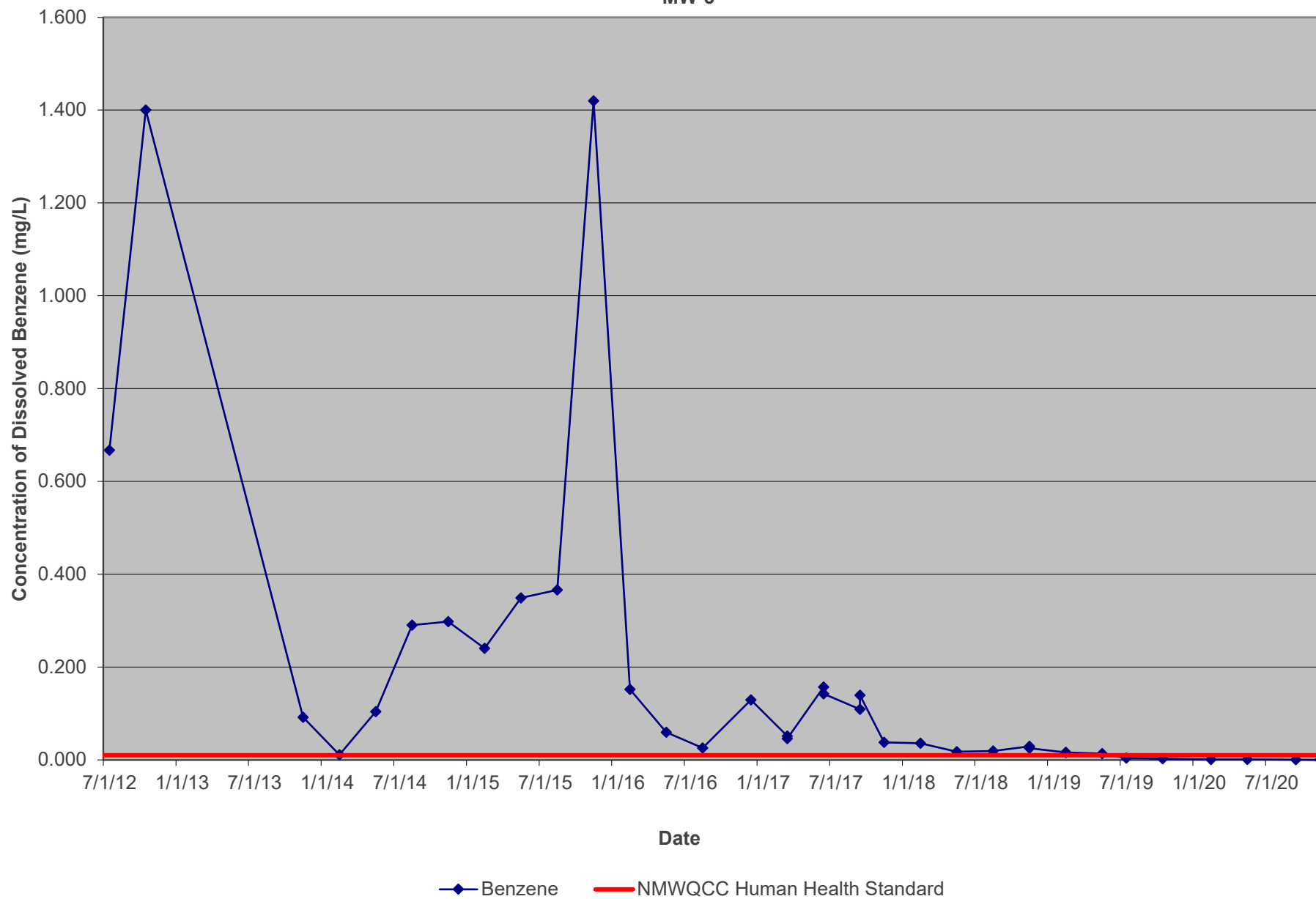
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-1



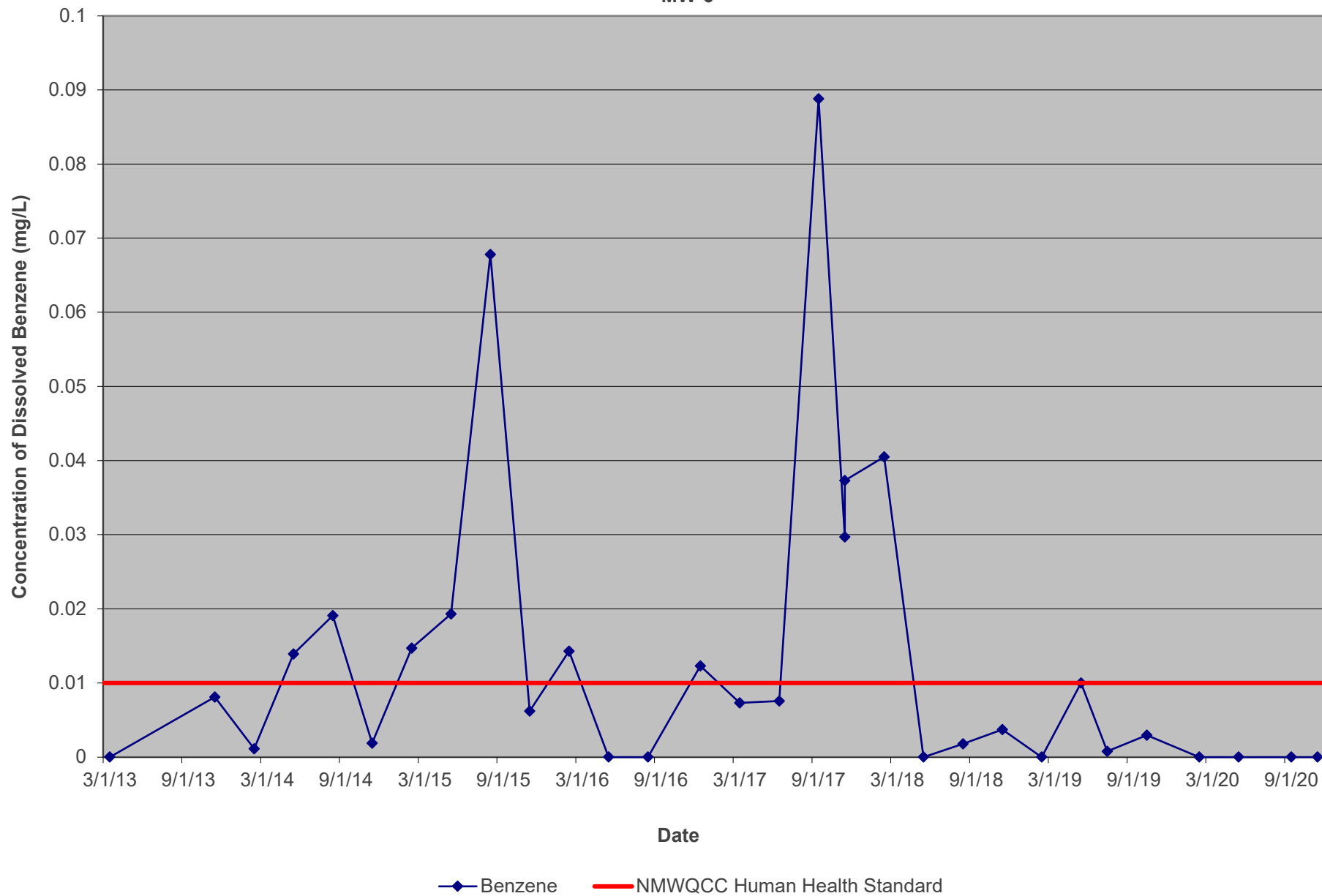
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-2



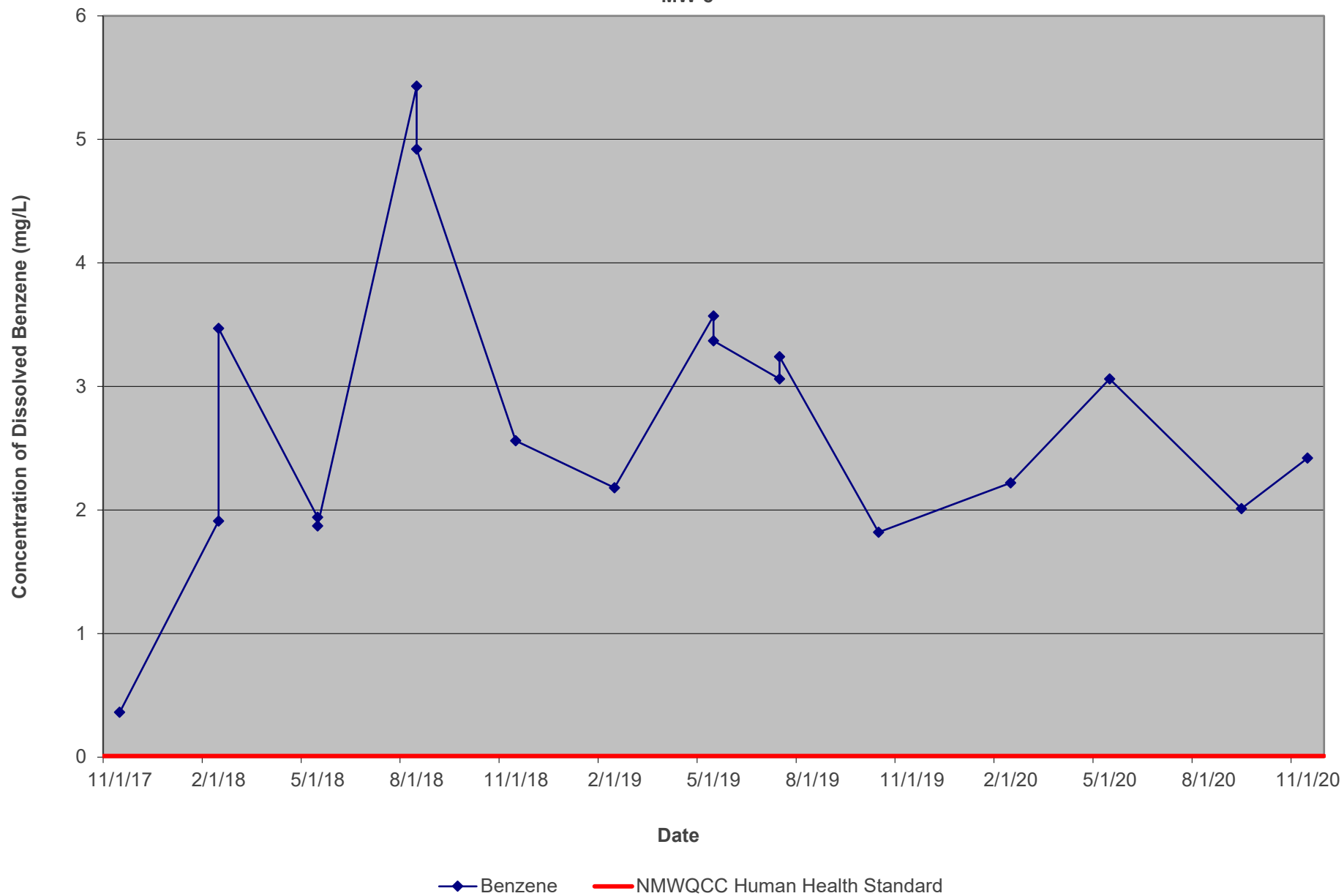
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-3



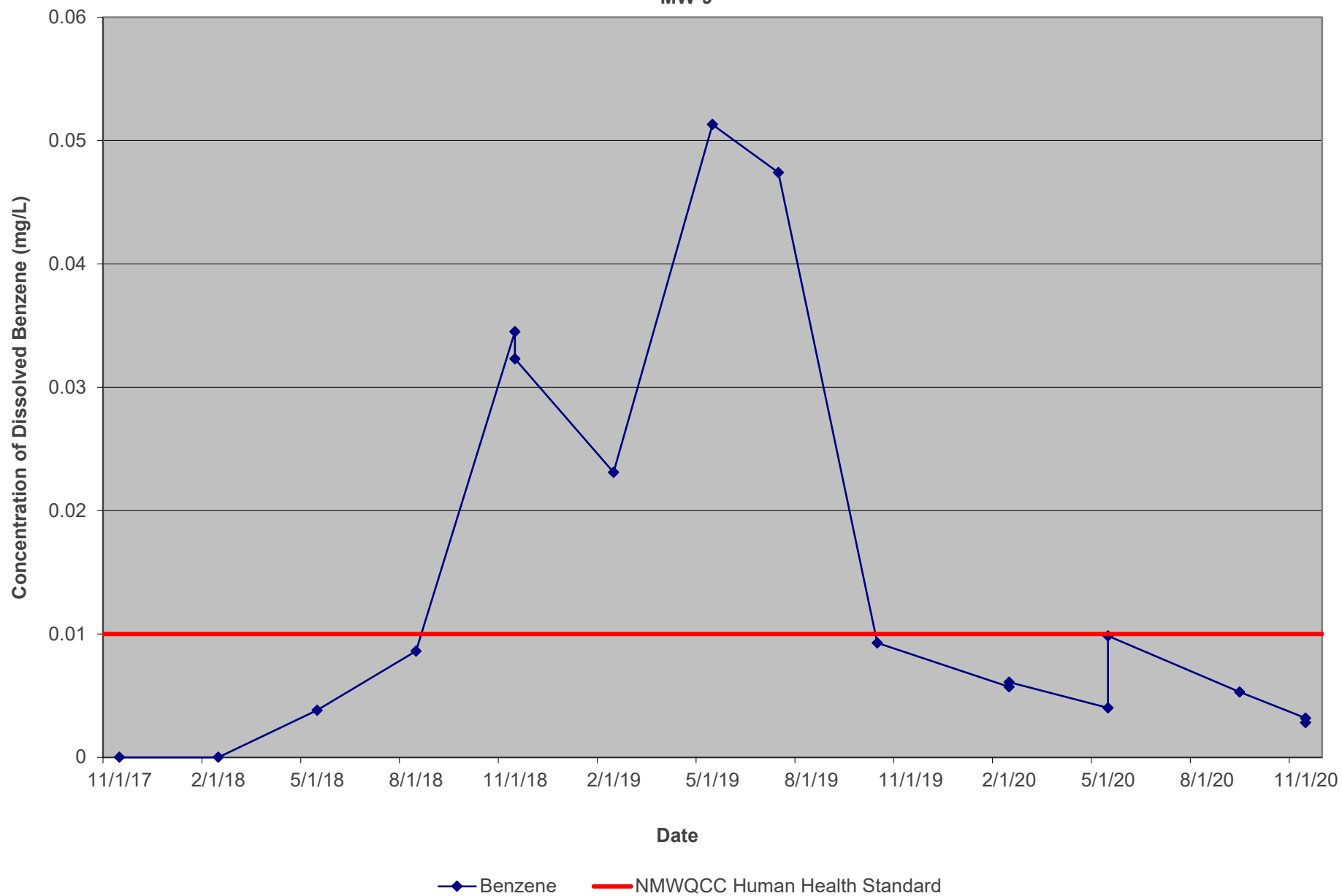
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-6



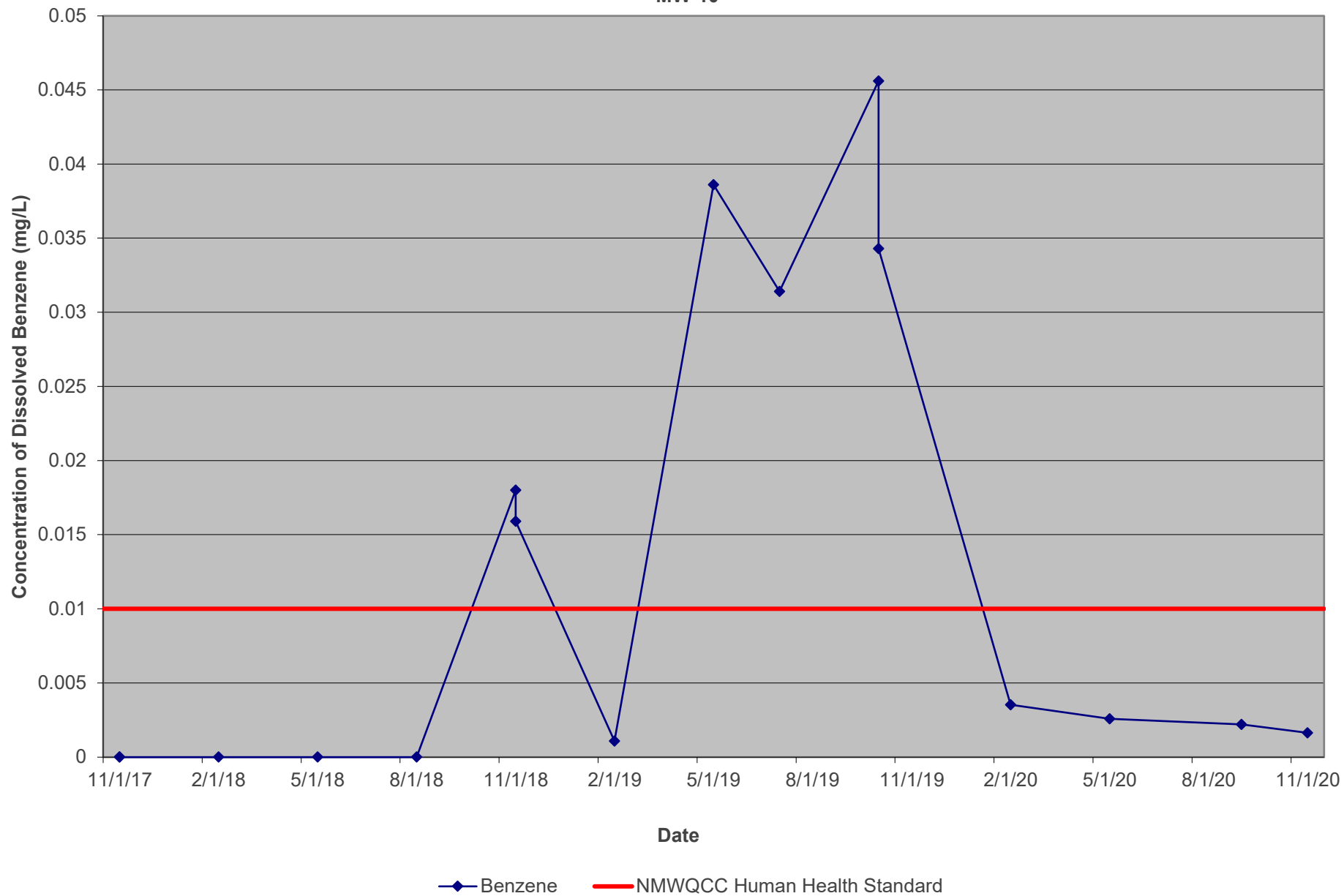
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-8



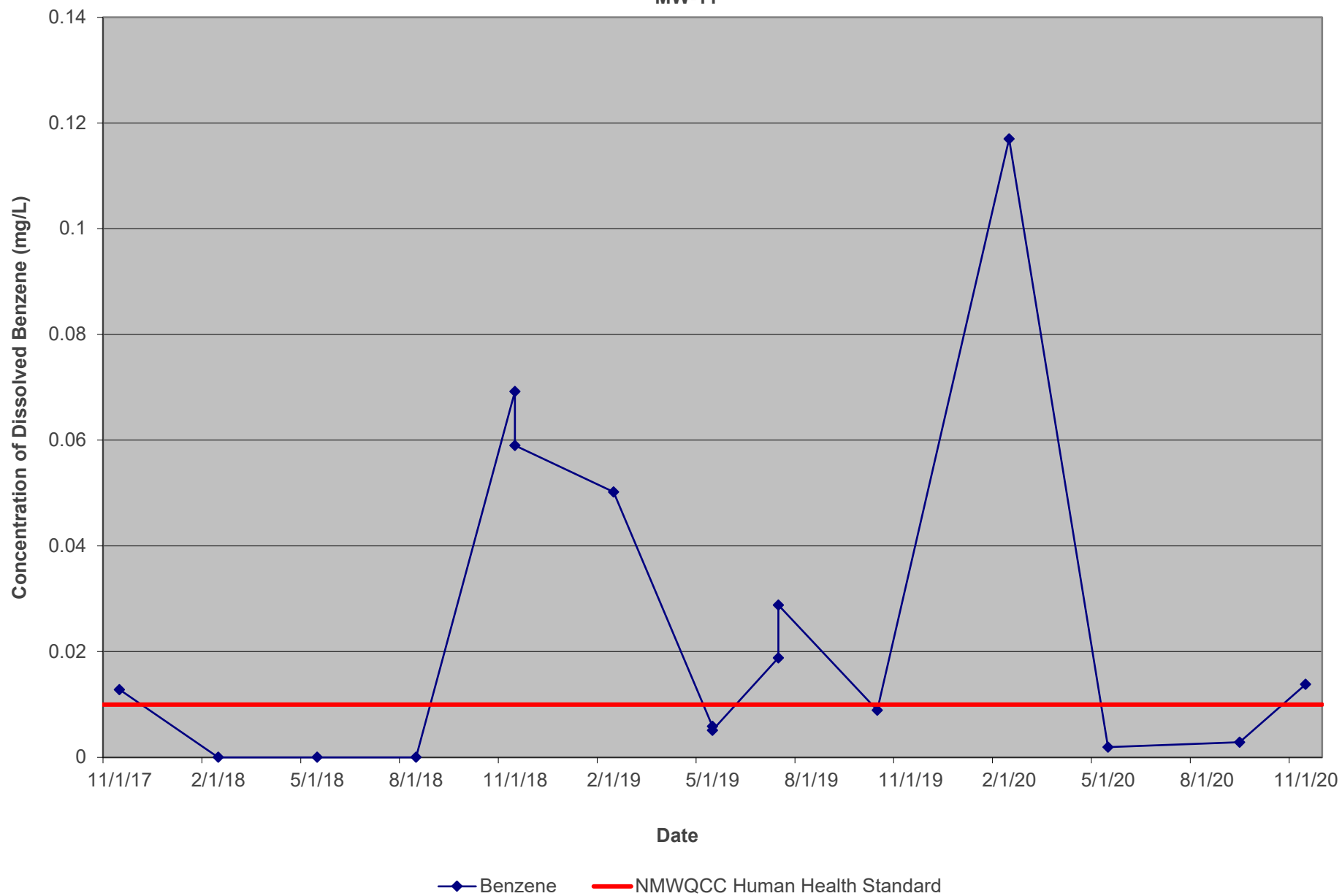
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-9



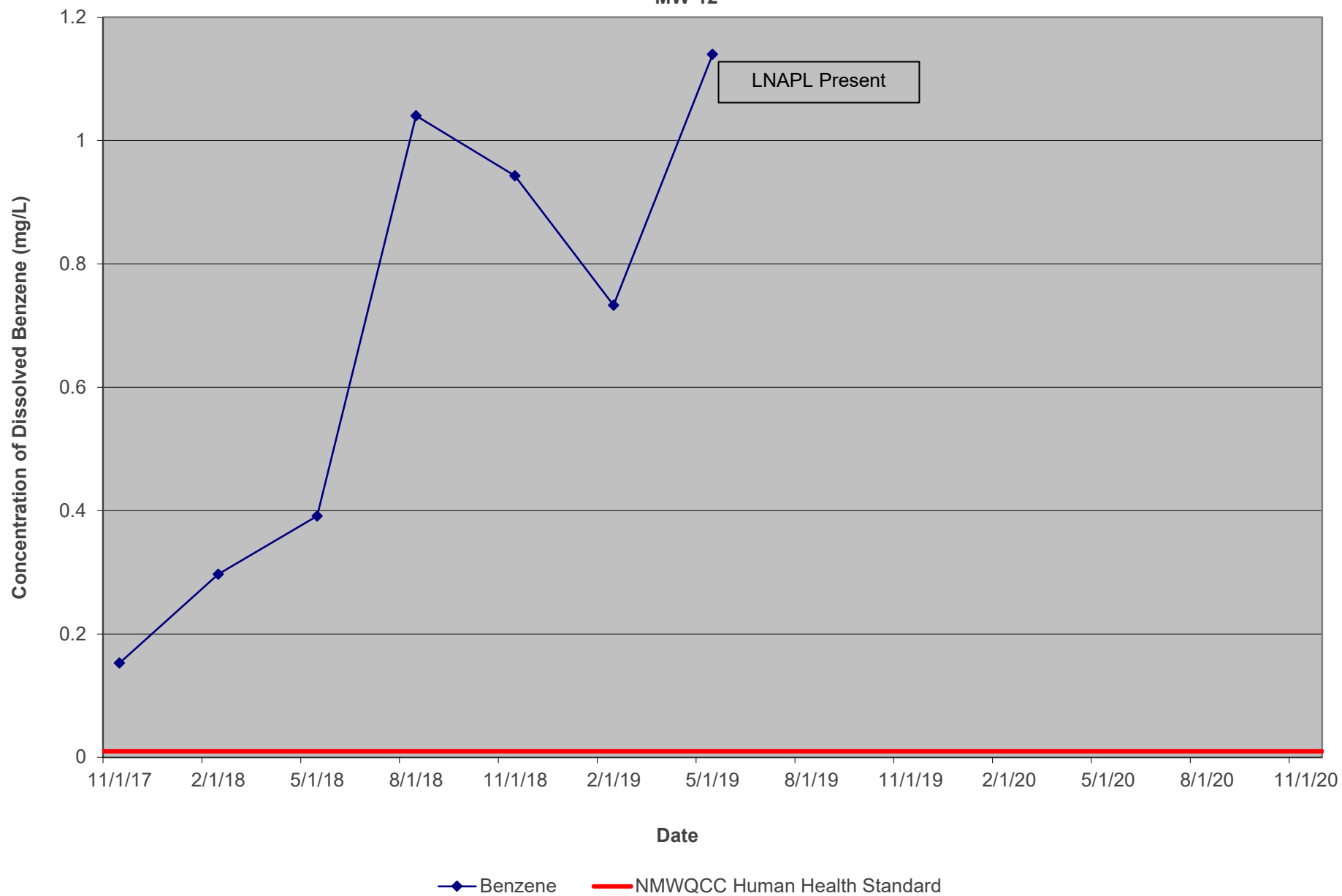
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-10



CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-11



CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-12



Appendix D

Certified Laboratory Reports



ANALYTICAL REPORT

March 05, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1193651
Samples Received: 02/27/2020
Project Number: 11135014
Description: Chevron Grayburg 6-inch Historical

Report To: Becky Haskell
2135 S Loop 250 W
Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley
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.



Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	5	
Tr: TRRP Summary	6	³ Ss
TRRP form R	7	
TRRP form S	8	⁴ Cn
TRRP Exception Reports	9	⁵ Tr
Sr: Sample Results	10	⁶ Sr
MW-4-022420 L1193651-01	10	
MW-11-022420 L1193651-02	11	⁷ Qc
MW-8-022420 L1193651-03	12	
MW-5-022520 L1193651-04	13	⁸ Gl
MW-14-022520 L1193651-05	14	
MW-13-022520 L1193651-06	15	⁹ Al
MW-3-022520 L1193651-07	16	
MW-2-022520 L1193651-08	17	¹⁰ Sc
MW-6-022520 L1193651-09	18	
MW-9-022520 L1193651-10	19	
DUP-1-022520 L1193651-11	20	
MW-10-022520 L1193651-12	21	
MW-1-022520 L1193651-13	22	
DUP-2-022520 L1193651-14	23	
TRIP BLANK L1193651-15	24	
Qc: Quality Control Summary	25	
Volatile Organic Compounds (GC) by Method 8021B	25	
Gl: Glossary of Terms	29	
Al: Accreditations & Locations	30	
Sc: Sample Chain of Custody	31	

MW-4-022420 L1193651-01 GW

				Collected by Phillip Cole	Collected date/time 02/24/20 15:15	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1435977	1	02/29/20 14:22	02/29/20 14:22	BMB	Mt. Juliet, TN

1
Cp2
Tc3
Ss4
Cn5
Tr6
Sr7
Qc8
Gl9
Al10
Sc

MW-11-022420 L1193651-02 GW

				Collected by Phillip Cole	Collected date/time 02/24/20 15:50	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 19:38	02/29/20 19:38	BMB	Mt. Juliet, TN

MW-8-022420 L1193651-03 GW

				Collected by Phillip Cole	Collected date/time 02/24/20 16:40	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	100	03/01/20 00:24	03/01/20 00:24	BMB	Mt. Juliet, TN

MW-5-022520 L1193651-04 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 13:35	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 20:02	02/29/20 20:02	BMB	Mt. Juliet, TN

MW-14-022520 L1193651-05 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 13:50	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 20:25	02/29/20 20:25	BMB	Mt. Juliet, TN

MW-13-022520 L1193651-06 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 14:00	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 20:49	02/29/20 20:49	BMB	Mt. Juliet, TN

MW-3-022520 L1193651-07 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 14:05	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 21:13	02/29/20 21:13	BMB	Mt. Juliet, TN

MW-2-022520 L1193651-08 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 14:15	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 22:00	02/29/20 22:00	BMB	Mt. Juliet, TN

MW-6-022520 L1193651-09 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 14:25	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 22:24	02/29/20 22:24	BMB	Mt. Juliet, TN

¹ Cp² Tc³ Ss

MW-9-022520 L1193651-10 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 14:30	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 22:48	02/29/20 22:48	BMB	Mt. Juliet, TN

⁴ Cn⁵ Tr⁶ Sr

DUP-1-022520 L1193651-11 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 00:00	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 23:12	02/29/20 23:12	BMB	Mt. Juliet, TN

⁷ Qc⁸ Gl

MW-10-022520 L1193651-12 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 14:40	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	02/29/20 23:36	02/29/20 23:36	BMB	Mt. Juliet, TN

⁹ Al¹⁰ Sc

MW-1-022520 L1193651-13 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 14:50	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436197	1	03/01/20 00:00	03/01/20 00:00	BMB	Mt. Juliet, TN

DUP-2-022520 L1193651-14 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 00:00	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436707	1	03/02/20 12:42	03/02/20 12:42	BMB	Mt. Juliet, TN

TRIP BLANK L1193651-15 GW

				Collected by Phillip Cole	Collected date/time 02/25/20 00:00	Received date/time 02/27/20 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1436204	1	02/29/20 22:53	02/29/20 22:53	BMB	Mt. Juliet, TN

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.



Mark W. Beasley
Project Manager



This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.



Mark W. Beasley
Project Manager

Laboratory Name: Pace Analytical National		LRC Date: 03/05/2020 13:09					
Project Name: Chevron Grayburg 6-inch Historical		Laboratory Job Number: L1193651-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 and 15					
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1435977, WG1436204, WG1436707 and WG1436197					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
		Were MS/MSD RPDs within laboratory QC limits?			X		
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Name: Pace Analytical National		LRC Date: 03/05/2020 13:09					
Project Name: Chevron Grayburg 6-inch Historical		Laboratory Job Number: L1193651-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 and 15					
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1435977, WG1436204, WG1436707 and WG1436197					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			X		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National		LRC Date: 03/05/2020 13:09
Project Name: Chevron Grayburg 6-inch Historical		Laboratory Job Number: L1193651-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 and 15
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1435977, WG1436204, WG1436707 and WG1436197
ER #¹	Description	
The Exception Report intentionally left blank, there are no exceptions applied to this SDG.		
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>		

Collected date/time: 02/24/20 15:15

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000580		0.000190	0.000500	0.000500	1	02/29/2020 14:22	WG1435977
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 14:22	WG1435977
Ethylbenzene	0.000283	<u>BJ</u>	0.000160	0.000500	0.000500	1	02/29/2020 14:22	WG1435977
Total Xylene	0.000512	<u>J</u>	0.000510	0.00150	0.00150	1	02/29/2020 14:22	WG1435977
(S) o,a,a-Trifluorotoluene(PID)	102				79.0-125		02/29/2020 14:22	WG1435977

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/24/20 15:50

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.117		0.000190	0.000500	0.000500	1	02/29/2020 19:38	WG1436197
Toluene	0.00785		0.000412	0.00100	0.00100	1	02/29/2020 19:38	WG1436197
Ethylbenzene	0.00500		0.000160	0.000500	0.000500	1	02/29/2020 19:38	WG1436197
Total Xylene	0.0305		0.000510	0.00150	0.00150	1	02/29/2020 19:38	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	88.6				79.0-125		02/29/2020 19:38	WG1436197

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Tr

⁶ Sr

⁷ Qc

⁸ Gl

⁹ Al

¹⁰ Sc

Collected date/time: 02/24/20 16:40

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	2.22		0.0190	0.000500	0.0500	100	03/01/2020 00:24	WG1436197
Toluene	0.783		0.0412	0.00100	0.100	100	03/01/2020 00:24	WG1436197
Ethylbenzene	0.0990		0.0160	0.000500	0.0500	100	03/01/2020 00:24	WG1436197
Total Xylene	0.412		0.0510	0.00150	0.150	100	03/01/2020 00:24	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	90.8				79.0-125		03/01/2020 00:24	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/25/20 13:35

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000247	J	0.000190	0.000500	0.000500	1	02/29/2020 20:02	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 20:02	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 20:02	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 20:02	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	91.1				79.0-125		02/29/2020 20:02	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/25/20 13:50

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	02/29/2020 20:25	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 20:25	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 20:25	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 20:25	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	90.7				79.0-125		02/29/2020 20:25	WG1436197

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Tr

⁶ Sr

⁷ Qc

⁸ Gl

⁹ Al

¹⁰ Sc

Collected date/time: 02/25/20 14:00

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	02/29/2020 20:49	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 20:49	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 20:49	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 20:49	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	90.9				79.0-125		02/29/2020 20:49	WG1436197

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Tr

⁶ Sr

⁷ Qc

⁸ Gl

⁹ Al

¹⁰ Sc

Collected date/time: 02/25/20 14:05

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000820		0.000190	0.000500	0.000500	1	02/29/2020 21:13	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 21:13	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 21:13	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 21:13	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	90.8				79.0-125		02/29/2020 21:13	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/25/20 14:15

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000297	J	0.000190	0.000500	0.000500	1	02/29/2020 22:00	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 22:00	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 22:00	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 22:00	WG1436197
(S) o,a,a-Trifluorotoluene(PID)	90.5				79.0-125		02/29/2020 22:00	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/25/20 14:25

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	02/29/2020 22:24	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 22:24	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 22:24	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 22:24	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	92.6				79.0-125		02/29/2020 22:24	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/25/20 14:30

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00571		0.000190	0.000500	0.000500	1	02/29/2020 22:48	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 22:48	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 22:48	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 22:48	WG1436197
(S) o,a,a-Trifluorotoluene(PID)	90.4				79.0-125		02/29/2020 22:48	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/25/20 00:00

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00609		0.000190	0.000500	0.000500	1	02/29/2020 23:12	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 23:12	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 23:12	WG1436197
Total Xylene	U		0.000510	0.00150	0.00150	1	02/29/2020 23:12	WG1436197
(S) o,a,a-Trifluorotoluene(PID)	90.5				79.0-125		02/29/2020 23:12	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

MMW-10-022520
Collected date/time: 02/25/20 14:40

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00353		0.000190	0.000500	0.000500	1	02/29/2020 23:36	WG1436197
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 23:36	WG1436197
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 23:36	WG1436197
Total Xylene (S) a,a,a-Trifluorotoluene(PID)	U 90.8		0.000510	0.00150	0.00150 79.0-125	1	02/29/2020 23:36	WG1436197

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

MMW-1-022520
Collected date/time: 02/25/20 14:50

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0537		0.000190	0.000500	0.000500	1	03/01/2020 00:00	WG1436197
Toluene	0.105		0.000412	0.00100	0.00100	1	03/01/2020 00:00	WG1436197
Ethylbenzene	0.0472		0.000160	0.000500	0.000500	1	03/01/2020 00:00	WG1436197
Total Xylene	0.0830		0.000510	0.00150	0.00150	1	03/01/2020 00:00	WG1436197
(S) a,a,a-Trifluorotoluene(PID)	90.1				79.0-125		03/01/2020 00:00	WG1436197

¹ Cp² Tc³ Ss⁴ Cn⁵ Tr⁶ Sr⁷ Qc⁸ Gl⁹ Al¹⁰ Sc

Collected date/time: 02/25/20 00:00

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0529		0.000190	0.000500	0.000500	1	03/02/2020 12:42	WG1436707
Toluene	0.0876		0.000412	0.00100	0.00100	1	03/02/2020 12:42	WG1436707
Ethylbenzene	0.0398		0.000160	0.000500	0.000500	1	03/02/2020 12:42	WG1436707
Total Xylene	0.0696		0.000510	0.00150	0.00150	1	03/02/2020 12:42	WG1436707
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		03/02/2020 12:42	WG1436707

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 02/25/20 00:00

L1193651

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	02/29/2020 22:53	WG1436204
Toluene	U		0.000412	0.00100	0.00100	1	02/29/2020 22:53	WG1436204
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/29/2020 22:53	WG1436204
Total Xylene	0.000659	J	0.000510	0.00150	0.00150	1	02/29/2020 22:53	WG1436204
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		02/29/2020 22:53	WG1436204

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC) by Method 8021B [L1193651-01](#)

Method Blank (MB)

(MB) R3504216-3 02/29/20 10:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	0.000182	↓	0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Tr

⁶Sr

⁷Qc

⁸Gl

⁹Al

¹⁰Sc

Laboratory Control Sample (LCS)

(LCS) R3504216-1 02/29/20 08:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0474	94.8	77.0-122	
Toluene	0.0500	0.0489	97.8	80.0-121	
Ethylbenzene	0.0500	0.0516	103	80.0-123	
Total Xylene	0.150	0.153	102	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	

Volatile Organic Compounds (GC) by Method 8021B [L1193651-02,03,04,05,06,07,08,09,10,11,12,13](#)

Method Blank (MB)

(MB) R3505440-2 02/29/20 15:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	90.8			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3505440-1 02/29/20 14:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0436	87.2	77.0-122	
Toluene	0.0500	0.0433	86.6	80.0-121	
Ethylbenzene	0.0500	0.0472	94.4	80.0-123	
Total Xylene	0.150	0.143	95.3	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			91.0	79.0-125	

¹Cp

²Tc

³Ss

⁴Cn

⁵Tr

⁶Sr

⁷Qc

⁸Gl

⁹Al

¹⁰Sc

Volatile Organic Compounds (GC) by Method 8021B [L1193651-15](#)

Method Blank (MB)

(MB) R3504218-3 02/29/20 22:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3504218-1 02/29/20 20:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0477	95.4	77.0-122	
Toluene	0.0500	0.0492	98.4	80.0-121	
Ethylbenzene	0.0500	0.0515	103	80.0-123	
Total Xylene	0.150	0.152	101	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Volatile Organic Compounds (GC) by Method 8021B [L1193651-14](#)

Method Blank (MB)

(MB) R3504660-3 03/02/20 10:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3504660-1 03/02/20 09:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0480	96.0	77.0-122	
Toluene	0.0500	0.0510	102	80.0-121	
Ethylbenzene	0.0500	0.0543	109	80.0-123	
Total Xylene	0.150	0.161	107	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

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.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(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.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
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.
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

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

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

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	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

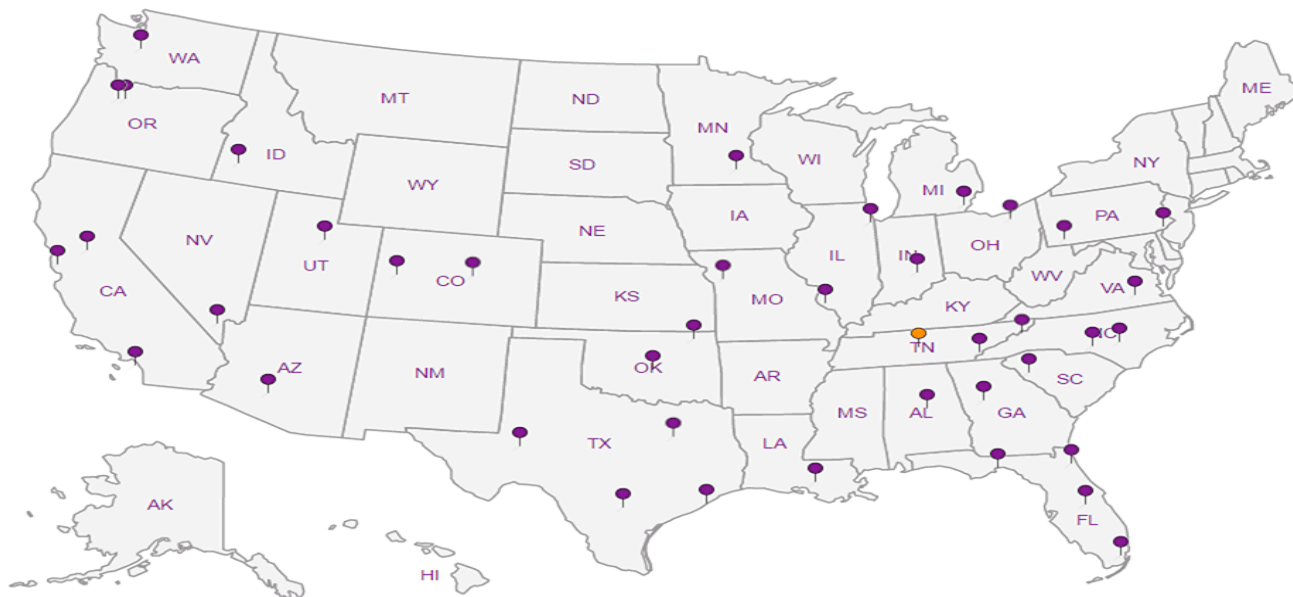
Third Party Federal Accreditations


A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		


¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ 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.



Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703		Billing Information: Accounts Payable 505 N. Big Spring, Ste. 600 Midland, TX 79701		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page <u>1</u> of <u>2</u>					
Report to: Becky Haskell		Email To: becky.haskell@ghd.com; Christopher.Knight@ghd.c														 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859					
Project Description: Chevron Grayburg 6-inch Histor		City/State Collected: Midland, NM		Please Circle: PT MT <u>CT</u> ET												SDG # 119 3651 1211					
Phone: 432-203-8673 Fax:		Client Project # 11135014		Lab Project # PLAINSGHD-11135014												Acctnum: PLAINSGHD Template: T139499 Prelogin: P756251 PM: 134 - Mark W. Beasley PB:					
Collected by (print): Phillip Cole Joe Mirelos		Site/Facility ID #		P.O. #												Shipped Via:					
Collected by (signature): Joe Mirelos		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 #												Remarks					
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed												Sample # (lab only)					
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 40ml/Amb-HCI													
MW-4-022420		G	GW	—	2-24	1515	3	X										-01			
MW-11-022420		G	GW	—	2-24	1550	3	X										-02			
MW-8-022420		G	GW	—	2-24	1640	3	X										-03			
MW-5-022520		G	GW	—	2-25	1335	3	X										-04			
MW-14-022520		G	GW	—	2-25	1350	3	X										-05			
MW-13-022520		G	GW	—	2-25	1400	3	X										-06			
MW-3-022520		G	GW	—	2-25	1405	3	X										-07			
MW-2-022520		G	GW	—	2-25	1415	3	X										-08			
MW-6-022520		G	GW	—	2-25	1425	3	X										-09			
MW-9-022520		G	GW	—	2-25	1430	3	X										-10			
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other		Remarks: a) invoice: Plains All American, gta Camille Bryant b) Report to SOLs c) Flag estimated concentration		Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking #		pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <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 If Applicable 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											
Relinquished by: (Signature) Joe Mirelos		Date: 2-26-2020	Time: 0900	Received by: (Signature) [Signature]		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MeL / MeOH TBR		Temp: 44 °C 5±0.5										Bottles Received: hr		If preservation required by Login: Date/Time	
Relinquished by: (Signature) [Signature]		Date: 2-26-2020	Time: 10:00	Received by: (Signature) [Signature]		Date: 2-27-20		Time: 0830										Hold:		Condition: NCF / OK	

Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703		Billing Information: Accounts Payable 505 N. Big Spring, Ste. 600 Midland, TX 79701		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page <u>2</u> of <u>2</u>			
Report to: Becky Haskell		Email To: becky.haskell@ghd.com; Christopher.Knight@ghd.c														 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859			
Project Description: Chevron Grayburg 6-inch Histor		City/State Collected: Hobbs, NM		Please Circle: PT MT <u>CT</u> ET												SDG # 1193651			
Phone: 432-203-8673 Fax:		Client Project # 11135014		Lab Project # PLAINSGHD-11135014												Table #			
Collected by (print): Joe Muebles		Site/Facility ID #		P.O. #												Acctnum: PLAINSGHD Template: T139499			
Collected by (signature): Joe Muebles		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 #												Prelogin: P756251 PM: 134 - Mark W. Beasley			
Immediately Packed on Ice N <u>Y</u> X				Date Results Needed												PB:			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs											Shipped Via:	
Dup-1-022520		G	GW	—	2-25	—	3	BTEX 40ml/Amb-HCI										Remarks	
mw-10-022520		G	GW	—	2-25	1440	3											Sample # (lab only)	
mw-1-022520		G	GW	—	2-25	1450	3											—11	
Dup-2-022520		G	GW	—	2-25	—	3											—12	
Trip		—	GW	—	—	—	1											—13	
			GW															—14	
			GW															—15	
			GW																
TRIP BLANK			GW																
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other		Remarks: a) invoice Plains All American attn. Camille Bryant b) Report to SDGs c) Flag estimated concentration		Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking #		pH _____ Temp _____ Flow _____ Other _____										Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <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 If Applicable 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	
Relinquished by: (Signature) Joe Muebles		Date: 2-26-2020	Time: 0900	Received by: (Signature) [Signature]		Trip Blank Received: <input checked="" type="checkbox"/> Yes / No <input type="checkbox"/>		Temp: 44.5 C 50.5 F Bottles Received: 42										If preservation required by Login: Date/Time	
Relinquished by: (Signature) [Signature]		Date: 2-20-20	Time: 1600	Received by: (Signature) [Signature]		Date: 2/20/20		Time: 0830										Hold:	
Relinquished by: (Signature) [Signature]		Date:	Time:	Received for lab by: (Signature) [Signature]		Date:		Time:										Condition: NCF / OK	



ANALYTICAL REPORT

June 05, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1223546
Samples Received: 05/29/2020
Project Number: 11209906/02
Description: Chevron Grayburd 6-Inch Sec. 6 Historical

Report To: Becky Haskell
2135 S Loop 250 W
Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley
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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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Tr
⁶ Sr
⁷ Qc
⁸ Gl
⁹ Al
¹⁰ Sc

MW-6 L1223546-01 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 11:00	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485655	1	06/02/20 12:04	06/02/20 12:04	ACG	Mt. Juliet, TN

1
Cp2
Tc3
Ss

MW-13 L1223546-02 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 11:15	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485655	1	06/02/20 12:25	06/02/20 12:25	ACG	Mt. Juliet, TN

4
Cn5
Tr

MW-14 L1223546-03 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 11:45	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485655	1	06/02/20 12:47	06/02/20 12:47	ACG	Mt. Juliet, TN

6
Sr7
Qc

MW-5 L1223546-04 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 11:30	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485655	1	06/02/20 13:08	06/02/20 13:08	ACG	Mt. Juliet, TN

8
Gl9
Al

MW-2 L1223546-05 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 12:00	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 14:47	06/02/20 14:47	ADM	Mt. Juliet, TN

10
Sc

MW-4 L1223546-06 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 12:15	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 15:08	06/02/20 15:08	ADM	Mt. Juliet, TN

MW-3 L1223546-07 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 12:45	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 15:28	06/02/20 15:28	ADM	Mt. Juliet, TN

MW-10 L1223546-08 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 12:30	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 15:49	06/02/20 15:49	DWR	Mt. Juliet, TN

MW-9 L1223546-09 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 13:00	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 16:10	06/02/20 16:10	DWR	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

MW-1 L1223546-10 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 13:30	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 16:30	06/02/20 16:30	DWR	Mt. Juliet, TN

4 Cn

5 Tr

6 Sr

MW-11 L1223546-11 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 13:15	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 16:51	06/02/20 16:51	DWR	Mt. Juliet, TN

7 Qc

8 Gl

MW-8 L1223546-12 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 13:45	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1485793	1	06/02/20 17:11	06/02/20 17:11	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B	WG1486448	10	06/03/20 23:08	06/03/20 23:08	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B	WG1487116	50	06/05/20 15:54	06/05/20 15:54	ADM	Mt. Juliet, TN

9 Al

10 Sc

DUP-1 L1223546-13 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 00:00	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1486448	1	06/03/20 23:30	06/03/20 23:30	ADM	Mt. Juliet, TN

DUP-2 L1223546-14 GW

				Collected by Matthew Laughlin	Collected date/time 05/27/20 00:00	Received date/time 05/29/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1486375	1	06/03/20 19:09	06/03/20 19:09	ACG	Mt. Juliet, TN

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.



Mark W. Beasley
Project Manager



This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.



Mark W. Beasley
Project Manager

Laboratory Name: Pace Analytical National			LRC Date: 06/05/2020 19:33				
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical			Laboratory Job Number: L1223546-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13 and 14				
Reviewer Name: Mark W. Beasley			Prep Batch Number(s): WG1485793, WG1486375, WG1486448, WG1485655 and WG1487116				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			1
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Name: Pace Analytical National		LRC Date: 06/05/2020 19:33					
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical		Laboratory Job Number: L1223546-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13 and 14					
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1485793, WG1486375, WG1486448, WG1485655 and WG1487116					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			X		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National		LRC Date: 06/05/2020 19:33	
Project Name: Chevron Grayburd 6-Inch Sec. 6 Historical		Laboratory Job Number: L1223546-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13 and 14	
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1485793, WG1486375, WG1486448, WG1485655 and WG1487116	
ER #¹	Description		
1	8021B WG1485793 R3534236-4 and 5: The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).		
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>			

Collected date/time: 05/27/20 11:00

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	06/02/2020 12:04	WG1485655
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 12:04	WG1485655
Ethylbenzene	0.000208	J	0.000160	0.000500	0.000500	1	06/02/2020 12:04	WG1485655
Total Xylene	0.000709	J	0.000510	0.00150	0.00150	1	06/02/2020 12:04	WG1485655
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		06/02/2020 12:04	WG1485655

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 11:15

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	06/02/2020 12:25	WG1485655
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 12:25	WG1485655
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 12:25	WG1485655
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 12:25	WG1485655
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		06/02/2020 12:25	WG1485655

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 11:45

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	06/02/2020 12:47	WG1485655
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 12:47	WG1485655
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 12:47	WG1485655
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 12:47	WG1485655
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		06/02/2020 12:47	WG1485655

¹ Cp² Tc³ Ss⁴ Cn⁵ Tr⁶ Sr⁷ Qc⁸ Gl⁹ Al¹⁰ Sc

Collected date/time: 05/27/20 11:30

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	06/02/2020 13:08	WG1485655
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 13:08	WG1485655
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 13:08	WG1485655
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 13:08	WG1485655
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		06/02/2020 13:08	WG1485655

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 12:00

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	06/02/2020 14:47	WG1485793
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 14:47	WG1485793
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 14:47	WG1485793
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 14:47	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		06/02/2020 14:47	WG1485793

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 12:15

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	06/02/2020 15:08	WG1485793
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 15:08	WG1485793
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 15:08	WG1485793
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 15:08	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		06/02/2020 15:08	WG1485793

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 12:45

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000825		0.000190	0.000500	0.000500	1	06/02/2020 15:28	WG1485793
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 15:28	WG1485793
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 15:28	WG1485793
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 15:28	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		06/02/2020 15:28	WG1485793

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 12:30

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00258		0.000190	0.000500	0.000500	1	06/02/2020 15:49	WG1485793
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 15:49	WG1485793
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 15:49	WG1485793
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 15:49	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		06/02/2020 15:49	WG1485793

¹ Cp² Tc³ Ss⁴ Cn⁵ Tr⁶ Sr⁷ Qc⁸ Gl⁹ Al¹⁰ Sc

Collected date/time: 05/27/20 13:00

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00401		0.000190	0.000500	0.000500	1	06/02/2020 16:10	WG1485793
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 16:10	WG1485793
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/02/2020 16:10	WG1485793
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 16:10	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		06/02/2020 16:10	WG1485793

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 13:30

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0213		0.000190	0.000500	0.000500	1	06/02/2020 16:30	WG1485793
Toluene	0.0462		0.000412	0.00100	0.00100	1	06/02/2020 16:30	WG1485793
Ethylbenzene	0.0175		0.000160	0.000500	0.000500	1	06/02/2020 16:30	WG1485793
Total Xylene	0.0201		0.000510	0.00150	0.00150	1	06/02/2020 16:30	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	99.2				79.0-125		06/02/2020 16:30	WG1485793

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 13:15

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00193		0.000190	0.000500	0.000500	1	06/02/2020 16:51	WG1485793
Toluene	U		0.000412	0.00100	0.00100	1	06/02/2020 16:51	WG1485793
Ethylbenzene	0.000191	J	0.000160	0.000500	0.000500	1	06/02/2020 16:51	WG1485793
Total Xylene	U		0.000510	0.00150	0.00150	1	06/02/2020 16:51	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		06/02/2020 16:51	WG1485793

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 13:45

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	3.06		0.00950	0.000500	0.0250	50	06/05/2020 15:54	WG1487116
Toluene	0.876		0.00412	0.00100	0.0100	10	06/03/2020 23:08	WG1486448
Ethylbenzene	0.0507		0.000160	0.000500	0.000500	1	06/02/2020 17:11	WG1485793
Total Xylene	0.232		0.000510	0.00150	0.00150	1	06/02/2020 17:11	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	86.9				79.0-125		06/02/2020 17:11	WG1485793
(S) a,a,a-Trifluorotoluene(PID)	111				79.0-125		06/03/2020 23:08	WG1486448
(S) a,a,a-Trifluorotoluene(PID)	98.4				79.0-125		06/05/2020 15:54	WG1487116

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 00:00

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000720		0.000190	0.000500	0.000500	1	06/03/2020 23:30	WG1486448
Toluene	U		0.000412	0.00100	0.00100	1	06/03/2020 23:30	WG1486448
Ethylbenzene	U		0.000160	0.000500	0.000500	1	06/03/2020 23:30	WG1486448
Total Xylene	U		0.000510	0.00150	0.00150	1	06/03/2020 23:30	WG1486448
(S) a,a,a-Trifluorotoluene(PID)	108				79.0-125		06/03/2020 23:30	WG1486448

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 05/27/20 00:00

L1223546

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00984		0.000190	0.000500	0.000500	1	06/03/2020 19:09	WG1486375
Toluene	U		0.000412	0.00100	0.00100	1	06/03/2020 19:09	WG1486375
Ethylbenzene	0.000192	<u>BJ</u>	0.000160	0.000500	0.000500	1	06/03/2020 19:09	WG1486375
Total Xylene	0.00115	<u>J</u>	0.000510	0.00150	0.00150	1	06/03/2020 19:09	WG1486375
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		06/03/2020 19:09	WG1486375

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC) by Method 8021B
[L1223546-01,02,03,04](#)

Method Blank (MB)

(MB) R3535427-3 06/02/20 11:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	101			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3535427-1 06/02/20 09:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0510	102	77.0-122	
Toluene	0.0500	0.0510	102	80.0-121	
Ethylbenzene	0.0500	0.0463	92.6	80.0-123	
Total Xylene	0.150	0.135	90.0	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Volatile Organic Compounds (GC) by Method 8021B
[L1223546-05,06,07,08,09,10,11,12](#)

Method Blank (MB)

(MB) R3534236-3 06/02/20 11:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	105			79.0-125

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Laboratory Control Sample (LCS)

(LCS) R3534236-1 06/02/20 10:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0555	111	77.0-122	
Toluene	0.0500	0.0534	107	80.0-121	
Ethylbenzene	0.0500	0.0526	105	80.0-123	
Total Xylene	0.150	0.159	106	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			99.3	79.0-125	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3534236-4 06/02/20 19:35 • (MSD) R3534236-5 06/02/20 19:56

Analyte	Spike Amount mg/l	Original Result	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500		0.132	0.127	92.0	82.0	1	10.0-160			3.86	21
Toluene	0.0500		0.428	0.428	32.0	32.0	1	12.0-148	E	E	0.000	21
Ethylbenzene	0.0500		0.102	0.0881	87.8	60.0	1	22.0-149			14.6	21
Total Xylene	0.150		0.619	0.581	66.0	40.7	1	13.0-155			6.33	21
(S) a,a,a-Trifluorotoluene(PID)					103	106		79.0-125				

Volatile Organic Compounds (GC) by Method 8021B [L1223546-14](#)

Method Blank (MB)

(MB) R3534726-3 06/03/20 14:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	0.000453	⌵	0.000412	0.00100
Ethylbenzene	0.000181	⌵	0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	103			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3534726-1 06/03/20 12:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0533	107	77.0-122	
Toluene	0.0500	0.0555	111	80.0-121	
Ethylbenzene	0.0500	0.0574	115	80.0-123	
Total Xylene	0.150	0.169	113	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			103	79.0-125	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Volatile Organic Compounds (GC) by Method 8021B [L1223546-12,13](#)

Method Blank (MB)

(MB) R3534954-3 06/03/20 20:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	105			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3534954-1 06/03/20 19:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0498	99.6	77.0-122	
Toluene	0.0500	0.0455	91.0	80.0-121	
Ethylbenzene	0.0500	0.0473	94.6	80.0-123	
Total Xylene	0.150	0.145	96.7	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			107	79.0-125	

1

Cp

2

Tc

3

Ss

4

Cn

5

Tr

6

Sr

7

Qc

8

Gl

9

Al

10

Sc

Volatile Organic Compounds (GC) by Method 8021B

[L1223546-12](#)

Method Blank (MB)

(MB) R3535577-3 06/05/20 12:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3535577-1 06/05/20 10:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0504	101	77.0-122	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

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.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(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.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
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.
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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.

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

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	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

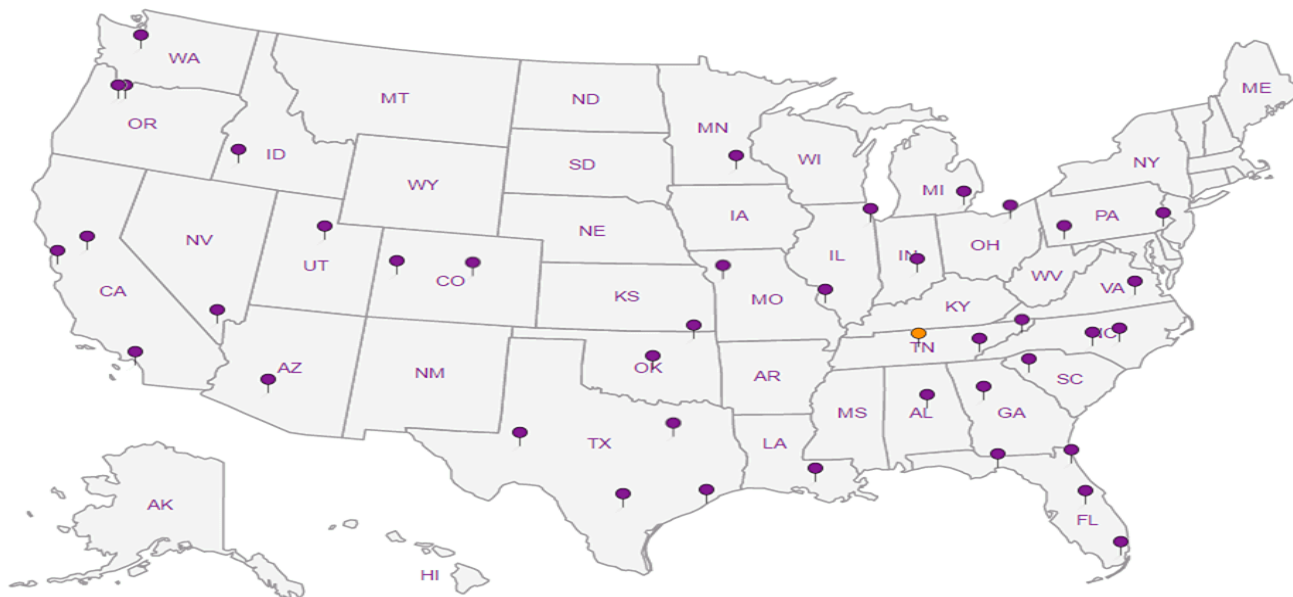
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ 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.



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ANALYTICAL REPORT

September 30, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1264768
Samples Received: 09/22/2020
Project Number: 11209906/C2
Description: Chevron Grayburd 6-Inch Sec. 6 Historical

Report To: Becky Haskell
2135 S Loop 250 W
Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley
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.



Cp: Cover Page	1	¹ Cp
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Ss: Sample Summary	3	² Tc
Cn: Case Narrative	5	
Tr: TRRP Summary	6	³ Ss
TRRP form R	7	
TRRP form S	8	⁴ Cn
TRRP Exception Reports	9	⁵ Tr
Sr: Sample Results	10	⁶ Sr
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MW-11-091720 L1264768-02	11	⁷ Qc
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MW-10-091720 L1264768-04	13	⁸ Gl
MW-13-091820 L1264768-05	14	
MW-9-091820 L1264768-06	15	⁹ Al
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Gl: Glossary of Terms	25	
Al: Accreditations & Locations	26	
Sc: Sample Chain of Custody	27	

MW-4-091720 L1264768-01 GW

				Collected by Ryan Livingston	Collected date/time 09/17/20 14:15	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549889	1	09/27/20 20:02	09/27/20 20:02	JAH	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

MW-11-091720 L1264768-02 GW

				Collected by Ryan Livingston	Collected date/time 09/17/20 14:45	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549889	1	09/27/20 20:27	09/27/20 20:27	JAH	Mt. Juliet, TN

4 Cn

5 Tr

6 Sr

MW-8-091720 L1264768-03 GW

				Collected by Ryan Livingston	Collected date/time 09/17/20 15:15	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549889	50	09/27/20 22:58	09/27/20 22:58	JAH	Mt. Juliet, TN

7 Qc

8 Gl

MW-10-091720 L1264768-04 GW

				Collected by Ryan Livingston	Collected date/time 09/17/20 16:00	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549889	1	09/27/20 20:52	09/27/20 20:52	JAH	Mt. Juliet, TN

9 Al

10 Sc

MW-13-091820 L1264768-05 GW

				Collected by Ryan Livingston	Collected date/time 09/18/20 11:10	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549889	1	09/27/20 21:18	09/27/20 21:18	JAH	Mt. Juliet, TN

MW-9-091820 L1264768-06 GW

				Collected by Ryan Livingston	Collected date/time 09/18/20 11:15	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549889	1	09/27/20 21:43	09/27/20 21:43	JAH	Mt. Juliet, TN

MW-2-091820 L1264768-07 GW

				Collected by Ryan Livingston	Collected date/time 09/18/20 11:50	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549889	1	09/27/20 22:08	09/27/20 22:08	JAH	Mt. Juliet, TN

MW-5-091820 L1264768-08 GW

				Collected by Ryan Livingston	Collected date/time 09/18/20 11:55	Received date/time 09/22/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1550768	1	09/28/20 23:50	09/28/20 23:50	JAH	Mt. Juliet, TN

MW-1-091820 L1264768-09 GW

Collected by
Ryan Livingston

Collected date/time
09/18/20 12:15

Received date/time
09/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1550768	1	09/29/20 00:16	09/29/20 00:16	JAH	Mt. Juliet, TN

¹ Cp² Tc³ Ss

MW-3-091820 L1264768-10 GW

Collected by
Ryan Livingston

Collected date/time
09/18/20 12:10

Received date/time
09/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1550768	1	09/29/20 00:41	09/29/20 00:41	JAH	Mt. Juliet, TN

⁴ Cn⁵ Tr⁶ Sr

MW-14-091820 L1264768-11 GW

Collected by
Ryan Livingston

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

Received date/time
09/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1550768	1	09/29/20 01:06	09/29/20 01:06	JAH	Mt. Juliet, TN

⁷ Qc⁸ Gl

MW-6-091820 L1264768-12 GW

Collected by
Ryan Livingston

Collected date/time
09/18/20 13:25

Received date/time
09/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1550768	1	09/29/20 01:31	09/29/20 01:31	JAH	Mt. Juliet, TN

⁹ Al¹⁰ Sc

DUP-091820 L1264768-13 GW

Collected by
Ryan Livingston

Collected date/time
09/18/20 00:00

Received date/time
09/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1550768	1	09/29/20 01:56	09/29/20 01:56	JAH	Mt. Juliet, TN

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.



Mark W. Beasley
Project Manager



This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.



Mark W. Beasley
Project Manager

Laboratory Name: Pace Analytical National			LRC Date: 09/30/2020 17:07				
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical			Laboratory Job Number: L1264768-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13				
Reviewer Name: Mark W. Beasley			Prep Batch Number(s): WG1549889 and WG1550768				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
		Were MS/MSD RPDs within laboratory QC limits?			X		
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Name: Pace Analytical National		LRC Date: 09/30/2020 17:07					
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical		Laboratory Job Number: L1264768-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13					
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1549889 and WG1550768					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			X		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National		LRC Date: 09/30/2020 17:07
Project Name: Chevron Grayburd 6-Inch Sec. 6 Historical		Laboratory Job Number: L1264768-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1549889 and WG1550768
ER #¹	Description	
The Exception Report intentionally left blank, there are no exceptions applied to this SDG.		
1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).		

Collected date/time: 09/17/20 14:15

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	09/27/2020 20:02	WG1549889
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 20:02	WG1549889
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 20:02	WG1549889
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 20:02	WG1549889
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/27/2020 20:02	WG1549889

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/17/20 14:45

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00287		0.000190	0.000500	0.000500	1	09/27/2020 20:27	WG1549889
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 20:27	WG1549889
Ethylbenzene	0.00243		0.000160	0.000500	0.000500	1	09/27/2020 20:27	WG1549889
Total Xylene	0.000799	J	0.000510	0.00150	0.00150	1	09/27/2020 20:27	WG1549889
(S) o,a,a-Trifluorotoluene(PID)	98.8				79.0-125		09/27/2020 20:27	WG1549889

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/17/20 15:15

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	2.01		0.00950	0.000500	0.0250	50	09/27/2020 22:58	WG1549889
Toluene	0.0873		0.0206	0.00100	0.0500	50	09/27/2020 22:58	WG1549889
Ethylbenzene	0.0371		0.00800	0.000500	0.0250	50	09/27/2020 22:58	WG1549889
Total Xylene	0.187		0.0255	0.00150	0.0750	50	09/27/2020 22:58	WG1549889
(S) a,a,a-Trifluorotoluene(PID)	99.2				79.0-125		09/27/2020 22:58	WG1549889

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/17/20 16:00

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00220		0.000190	0.000500	0.000500	1	09/27/2020 20:52	WG1549889
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 20:52	WG1549889
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 20:52	WG1549889
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 20:52	WG1549889
(S) a,a,a-Trifluorotoluene(PID)	99.8				79.0-125		09/27/2020 20:52	WG1549889

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/18/20 11:10

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	09/27/2020 21:18	WG1549889
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 21:18	WG1549889
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 21:18	WG1549889
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 21:18	WG1549889
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/27/2020 21:18	WG1549889

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/18/20 11:15

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00530		0.000190	0.000500	0.000500	1	09/27/2020 21:43	WG1549889
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 21:43	WG1549889
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 21:43	WG1549889
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 21:43	WG1549889
(S) a,a,a-Trifluorotoluene(PID)	99.1				79.0-125		09/27/2020 21:43	WG1549889

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Collected date/time: 09/18/20 11:50 L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	09/27/2020 22:08	WG1549889
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 22:08	WG1549889
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 22:08	WG1549889
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 22:08	WG1549889
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		09/27/2020 22:08	WG1549889

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

MW-5-091820
Collected date/time: 09/18/20 11:55

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	09/28/2020 23:50	WG1550768
Toluene	U		0.000412	0.00100	0.00100	1	09/28/2020 23:50	WG1550768
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/28/2020 23:50	WG1550768
Total Xylene	U		0.000510	0.00150	0.00150	1	09/28/2020 23:50	WG1550768
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		09/28/2020 23:50	WG1550768

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/18/20 12:15

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0263		0.000190	0.000500	0.000500	1	09/29/2020 00:16	WG1550768
Toluene	0.0523		0.000412	0.00100	0.00100	1	09/29/2020 00:16	WG1550768
Ethylbenzene	0.0204		0.000160	0.000500	0.000500	1	09/29/2020 00:16	WG1550768
Total Xylene	0.0362		0.000510	0.00150	0.00150	1	09/29/2020 00:16	WG1550768
(S) a,a,a-Trifluorotoluene(PID)	99.9				79.0-125		09/29/2020 00:16	WG1550768

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/18/20 12:10

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000475	J	0.000190	0.000500	0.000500	1	09/29/2020 00:41	WG1550768
Toluene	0.000542	J	0.000412	0.00100	0.00100	1	09/29/2020 00:41	WG1550768
Ethylbenzene	0.000615		0.000160	0.000500	0.000500	1	09/29/2020 00:41	WG1550768
Total Xylene	0.00165		0.000510	0.00150	0.00150	1	09/29/2020 00:41	WG1550768
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		09/29/2020 00:41	WG1550768

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

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

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	09/29/2020 01:06	WG1550768
Toluene	U		0.000412	0.00100	0.00100	1	09/29/2020 01:06	WG1550768
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/29/2020 01:06	WG1550768
Total Xylene	U		0.000510	0.00150	0.00150	1	09/29/2020 01:06	WG1550768
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		09/29/2020 01:06	WG1550768

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/18/20 13:25

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	09/29/2020 01:31	WG1550768
Toluene	U		0.000412	0.00100	0.00100	1	09/29/2020 01:31	WG1550768
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/29/2020 01:31	WG1550768
Total Xylene	U		0.000510	0.00150	0.00150	1	09/29/2020 01:31	WG1550768
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		09/29/2020 01:31	WG1550768

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 09/18/20 00:00

L1264768

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0243		0.000190	0.000500	0.000500	1	09/29/2020 01:56	WG1550768
Toluene	0.0493		0.000412	0.00100	0.00100	1	09/29/2020 01:56	WG1550768
Ethylbenzene	0.0190		0.000160	0.000500	0.000500	1	09/29/2020 01:56	WG1550768
Total Xylene	0.0337		0.000510	0.00150	0.00150	1	09/29/2020 01:56	WG1550768
(S) a,a,a-Trifluorotoluene(PID)	99.7				79.0-125		09/29/2020 01:56	WG1550768

¹ Cp² Tc³ Ss⁴ Cn⁵ Tr⁶ Sr⁷ Qc⁸ Gl⁹ Al¹⁰ Sc

Volatile Organic Compounds (GC) by Method 8021B [L1264768-01,02,03,04,05,06,07](#)

Method Blank (MB)

(MB) R3575841-2 09/27/20 14:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	101			79.0-125

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Laboratory Control Sample (LCS)

(LCS) R3575841-1 09/27/20 14:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0437	87.4	77.0-122	
Toluene	0.0500	0.0448	89.6	80.0-121	
Ethylbenzene	0.0500	0.0481	96.2	80.0-123	
Total Xylene	0.150	0.143	95.3	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			98.9	79.0-125	

Volatile Organic Compounds (GC) by Method 8021B [L1264768-08,09,10,11,12,13](#)

Method Blank (MB)

(MB) R3575843-3 09/28/20 21:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3575843-1 09/28/20 20:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0448	89.6	77.0-122	
Toluene	0.0500	0.0457	91.4	80.0-121	
Ethylbenzene	0.0500	0.0480	96.0	80.0-123	
Total Xylene	0.150	0.145	96.7	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			100	79.0-125	

¹Cp

²Tc

³Ss

⁴Cn

⁵Tr

⁶Sr

⁷Qc

⁸Gl

⁹Al

¹⁰Sc

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.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(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.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
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.
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.
---	---

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

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	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

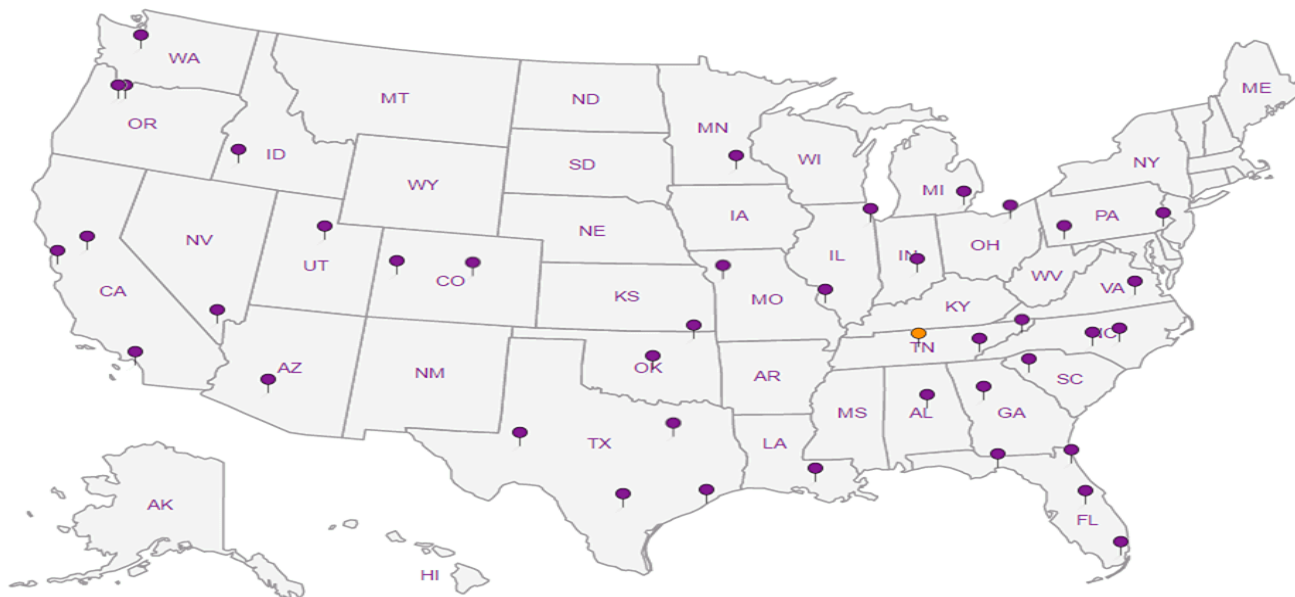
Third Party Federal Accreditations


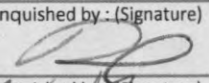
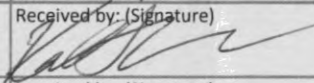
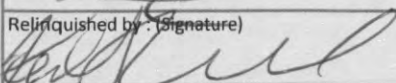
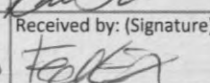
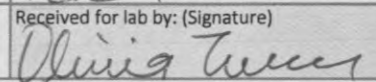
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ 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.



Becky Haskell GHD 2135 S. Loop W. 250 W. Midland, TX 79703			Billing Information:			Pres Chk	Analysis / Container / Preservative										Chain of Custody Page <u>2</u> of <u>2</u>		
																	 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859		
Report to: christopher.Knight@ghd.com			Email To: becky.haskell@ghd.com			BTEX 8021												L # <u>1264768</u> F134	
Project Description: Chevron Grayburg 6-inch Sec. 6 Historical			City/State Collected: NM															Acctnum:	
Phone: 432-250-7917 Fax:		Client Project # 11209906/C2		Lab Project #														Template:	
Collected by (print): Ryan Livingston		Site/Facility ID #		P.O. #														Prelogin:	
Collected by (signature):		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 #														TSR:	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed		No. of Cntrs		PB:													
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	Shipped Via:												
							Remarks Sample # (lab only)												
MW-4-091720		Grab	GW	-	9-17-20	1415	3 X 01												
MW-11-091720		Grab	GW	-	9-17-20	1445	3 X 62												
MW-8-091720		Grab	GW	-	9-17-20	1515	3 X 63												
MW-10-091720		Grab	GW	-	9-17-20	1600	3 X 04												
MW-13-091820		Grab	GW	-	9-18-20	1110	3 X 05												
MW-9-091820		Grab	GW	-	9-18-20	1115	3 X 06												
MW-2-091820		Grab	GW	-	9-18-20	1150	3 X 07												
MW-5-091820		Grab	GW	-	9-18-20	1155	3 X 08												
MW-1-091820		Grab	GW	-	9-18-20	1215	3 X 09												
MW-3-091820		Grab	GW	-	9-18-20	1210	3 X 10												
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"/> Y <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 If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # <u>922 0813 2454</u>										RAD SCREEN: <0.5 mR/hr							
Relinquished by: (Signature) 		Date: <u>9-21-20</u>	Time: <u>0700</u>	Received by: (Signature) 		Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> HCL/MeOH TBR		If preservation required by Login: Date/Time											
Relinquished by: (Signature) 		Date: <u>9.21.20</u>	Time: <u>16:30</u>	Received by: (Signature) 		Temp: <u>03.2-0.1°C</u> Bottles Received: <u>39</u>													
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) 		Date: <u>9/22/20</u> Time: <u>9:00</u>		Hold:		Condition: NCF / <u>OK</u>									

Released to Imaging: 1/11/2022 4:00:19 PM



ANALYTICAL REPORT

November 13, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1282243
Samples Received: 11/05/2020
Project Number: 11209906/02
Description: Chevron Grayburd 6-Inch Sec. 6 Historical
Site: CHEVRON GRAYBURG
Report To: Becky Haskell
2135 S Loop 250 W
Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley
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.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	²Tc
Cn: Case Narrative	5	
Tr: TRRP Summary	6	³Ss
TRRP form R	7	
TRRP form S	8	⁴Cn
TRRP Exception Reports	9	⁵Tr
Sr: Sample Results	10	⁶Sr
MW-2 L1282243-01	10	
MW-4 L1282243-02	11	⁷Qc
MW-5 L1282243-03	12	
MW-13 L1282243-04	13	⁸Gl
MW-14 L1282243-05	14	
MW-6 L1282243-06	15	⁹Al
MW-3 L1282243-07	16	
MW-11 L1282243-08	17	¹⁰Sc
MW-10 L1282243-09	18	
MW-9 L1282243-10	19	
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Sc: Sample Chain of Custody	29	

MW-2 L1282243-01 GW

				Collected by Zach Comino	Collected date/time 11/04/20 08:50	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 17:03	11/08/20 17:03	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1574121	1	11/10/20 23:49	11/11/20 14:22	LEA	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

MW-4 L1282243-02 GW

				Collected by Zach Comino	Collected date/time 11/04/20 09:25	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 17:25	11/08/20 17:25	JAH	Mt. Juliet, TN

4 Cn

5 Tr

6 Sr

MW-5 L1282243-03 GW

				Collected by Zach Comino	Collected date/time 11/04/20 09:55	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 19:28	11/08/20 19:28	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1574121	1	11/10/20 23:49	11/11/20 14:42	LEA	Mt. Juliet, TN

7 Qc

8 Gl

9 Al

MW-13 L1282243-04 GW

				Collected by Zach Comino	Collected date/time 11/04/20 10:20	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 19:47	11/08/20 19:47	JAH	Mt. Juliet, TN

10 Sc

MW-14 L1282243-05 GW

				Collected by Zach Comino	Collected date/time 11/04/20 10:55	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 20:09	11/08/20 20:09	JAH	Mt. Juliet, TN

MW-6 L1282243-06 GW

				Collected by Zach Comino	Collected date/time 11/04/20 11:30	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 20:31	11/08/20 20:31	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1574121	1	11/10/20 23:49	11/11/20 15:02	LEA	Mt. Juliet, TN

MW-3 L1282243-07 GW

				Collected by Zach Comino	Collected date/time 11/04/20 12:00	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 20:53	11/08/20 20:53	JAH	Mt. Juliet, TN

MW-11 L1282243-08 GW

				Collected by Zach Comino	Collected date/time 11/04/20 12:25	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 21:15	11/08/20 21:15	JAH	Mt. Juliet, TN

MW-10 L1282243-09 GW

				Collected by Zach Comino	Collected date/time 11/04/20 12:55	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 21:37	11/08/20 21:37	JAH	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

MW-9 L1282243-10 GW

				Collected by Zach Comino	Collected date/time 11/04/20 13:20	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 21:59	11/08/20 21:59	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1574121	1	11/10/20 23:49	11/11/20 15:22	LEA	Mt. Juliet, TN

4 Cn

5 Tr

6 Sr

MW-1 L1282243-11 GW

				Collected by Zach Comino	Collected date/time 11/04/20 13:50	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	1	11/08/20 22:21	11/08/20 22:21	JAH	Mt. Juliet, TN

7 Qc

8 Gl

MW-8 L1282243-12 GW

				Collected by Zach Comino	Collected date/time 11/04/20 14:30	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573095	20	11/08/20 22:43	11/08/20 22:43	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1574121	1	11/10/20 23:49	11/11/20 15:43	LEA	Mt. Juliet, TN

9 Al

10 Sc

DUP-1 L1282243-13 GW

				Collected by Zach Comino	Collected date/time 11/04/20 00:00	Received date/time 11/05/20 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573893	1	11/10/20 13:03	11/10/20 13:03	JHH	Mt. Juliet, TN

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.



Mark W. Beasley
Project Manager



This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.



Mark W. Beasley
Project Manager

Laboratory Name: Pace Analytical National		LRC Date: 11/13/2020 11:19					
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical		Laboratory Job Number: L1282243-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13					
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1573893, WG1574121 and WG1573095					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		Were MS/MSD RPDs within laboratory QC limits?		X			2
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Name: Pace Analytical National		LRC Date: 11/13/2020 11:19					
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical		Laboratory Job Number: L1282243-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13					
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1573893, WG1574121 and WG1573095					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			X		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				
1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).							

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National		LRC Date: 11/13/2020 11:19
Project Name: Chevron Grayburd 6-Inch Sec. 6 Historical		Laboratory Job Number: L1282243-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1573893, WG1574121 and WG1573095
ER #¹	Description	
1	8270C-SIM WG1574121 Fluoranthene: Percent Recovery is outside of established control limits.	
2	8270C-SIM WG1574121 Indeno(1,2,3-cd)pyrene: Relative Percent Difference is outside of established control limits.	
1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).		

Collected date/time: 11/04/20 08:50

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/08/2020 17:03	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 17:03	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 17:03	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 17:03	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/08/2020 17:03	WG1573095

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/11/2020 14:22	WG1574121
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/11/2020 14:22	WG1574121
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 14:22	WG1574121
1-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/11/2020 14:22	WG1574121
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/11/2020 14:22	WG1574121
(S) Nitrobenzene-d5	70.0				31.0-160		11/11/2020 14:22	WG1574121
(S) 2-Fluorobiphenyl	95.0				48.0-148		11/11/2020 14:22	WG1574121
(S) p-Terphenyl-d14	99.0				37.0-146		11/11/2020 14:22	WG1574121



Collected date/time: 11/04/20 09:25

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	11/08/2020 17:25	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 17:25	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 17:25	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 17:25	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/08/2020 17:25	WG1573095

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/04/20 09:55

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/08/2020 19:28	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 19:28	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 19:28	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 19:28	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		11/08/2020 19:28	WG1573095

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/11/2020 14:42	WG1574121
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/11/2020 14:42	WG1574121
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 14:42	WG1574121
1-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/11/2020 14:42	WG1574121
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/11/2020 14:42	WG1574121
(S) Nitrobenzene-d5	67.0				31.0-160		11/11/2020 14:42	WG1574121
(S) 2-Fluorobiphenyl	94.5				48.0-148		11/11/2020 14:42	WG1574121
(S) p-Terphenyl-d14	98.5				37.0-146		11/11/2020 14:42	WG1574121



Collected date/time: 11/04/20 10:20

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	11/08/2020 19:47	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 19:47	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 19:47	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 19:47	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/08/2020 19:47	WG1573095

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/04/20 10:55

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	11/08/2020 20:09	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 20:09	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 20:09	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 20:09	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/08/2020 20:09	WG1573095

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/04/20 11:30

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/08/2020 20:31	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 20:31	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 20:31	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 20:31	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/08/2020 20:31	WG1573095

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/11/2020 15:02	WG1574121
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/11/2020 15:02	WG1574121
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 15:02	WG1574121
1-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/11/2020 15:02	WG1574121
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/11/2020 15:02	WG1574121
(S) Nitrobenzene-d5	70.5				31.0-160		11/11/2020 15:02	WG1574121
(S) 2-Fluorobiphenyl	97.0				48.0-148		11/11/2020 15:02	WG1574121
(S) p-Terphenyl-d14	109				37.0-146		11/11/2020 15:02	WG1574121



Collected date/time: 11/04/20 12:00

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.000190	0.000500	0.000500	1	11/08/2020 20:53	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 20:53	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 20:53	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 20:53	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/08/2020 20:53	WG1573095

¹ Cp² Tc³ Ss⁴ Cn⁵ Tr⁶ Sr⁷ Qc⁸ Gl⁹ Al¹⁰ Sc

Collected date/time: 11/04/20 12:25

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0138		0.000190	0.000500	0.000500	1	11/08/2020 21:15	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 21:15	WG1573095
Ethylbenzene	0.00177		0.000160	0.000500	0.000500	1	11/08/2020 21:15	WG1573095
Total Xylene (S) o,a,a-Trifluorotoluene(PID)	0.00142 103	J	0.000510	0.00150	0.00150 79.0-125	1	11/08/2020 21:15	WG1573095

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/04/20 12:55

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00164		0.000190	0.000500	0.000500	1	11/08/2020 21:37	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 21:37	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 21:37	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 21:37	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/08/2020 21:37	WG1573095

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Collected date/time: 11/04/20 13:20

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00318		0.000190	0.000500	0.000500	1	11/08/2020 21:59	WG1573095
Toluene	U		0.000412	0.00100	0.00100	1	11/08/2020 21:59	WG1573095
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/08/2020 21:59	WG1573095
Total Xylene	U		0.000510	0.00150	0.00150	1	11/08/2020 21:59	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/08/2020 21:59	WG1573095

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Acenaphthene	0.0000267	J	0.0000190	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Acenaphthylene	0.0000656		0.0000171	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Dibenzofuran	0.00123		0.0000191	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/11/2020 15:22	WG1574121
Fluorene	0.000476		0.0000169	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Naphthalene	0.00113		0.0000917	0.000250	0.000250	1	11/11/2020 15:22	WG1574121
Phenanthrene	0.000438		0.0000180	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 15:22	WG1574121
1-Methylnaphthalene	0.00126		0.0000687	0.000250	0.000250	1	11/11/2020 15:22	WG1574121
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/11/2020 15:22	WG1574121
(S) Nitrobenzene-d5	66.0				31.0-160		11/11/2020 15:22	WG1574121
(S) 2-Fluorobiphenyl	96.0				48.0-148		11/11/2020 15:22	WG1574121
(S) p-Terphenyl-d14	95.0				37.0-146		11/11/2020 15:22	WG1574121



Collected date/time: 11/04/20 13:50

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0192		0.000190	0.000500	0.000500	1	11/08/2020 22:21	WG1573095
Toluene	0.0275		0.000412	0.00100	0.00100	1	11/08/2020 22:21	WG1573095
Ethylbenzene	0.0115		0.000160	0.000500	0.000500	1	11/08/2020 22:21	WG1573095
Total Xylene	0.0151		0.000510	0.00150	0.00150	1	11/08/2020 22:21	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/08/2020 22:21	WG1573095

¹ Cp² Tc³ Ss⁴ Cn⁵ Tr⁶ Sr⁷ Qc⁸ Gl⁹ Al¹⁰ Sc

Collected date/time: 11/04/20 14:30

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	2.42		0.00380	0.000500	0.0100	20	11/08/2020 22:43	WG1573095
Toluene	0.751		0.00824	0.00100	0.0200	20	11/08/2020 22:43	WG1573095
Ethylbenzene	0.0879		0.00320	0.000500	0.0100	20	11/08/2020 22:43	WG1573095
Total Xylene	0.344		0.0102	0.00150	0.0300	20	11/08/2020 22:43	WG1573095
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/08/2020 22:43	WG1573095

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Anthracene	0.000112		0.0000190	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Acenaphthene	0.000355		0.0000190	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Acenaphthylene	0.000503		0.0000171	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Dibenzofuran	0.00504		0.0000191	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/11/2020 15:43	WG1574121
Fluorene	0.00332		0.0000169	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Naphthalene	0.0663		0.0000917	0.000250	0.000250	1	11/11/2020 15:43	WG1574121
Phenanthrene	0.00313		0.0000180	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/11/2020 15:43	WG1574121
1-Methylnaphthalene	0.0737		0.0000687	0.000250	0.000250	1	11/11/2020 15:43	WG1574121
2-Methylnaphthalene	0.0471		0.0000674	0.000250	0.000250	1	11/11/2020 15:43	WG1574121
(S) Nitrobenzene-d5	102				31.0-160		11/11/2020 15:43	WG1574121
(S) 2-Fluorobiphenyl	97.0				48.0-148		11/11/2020 15:43	WG1574121
(S) p-Terphenyl-d14	97.5				37.0-146		11/11/2020 15:43	WG1574121



Collected date/time: 11/04/20 00:00

L1282243

Volatile Organic Compounds (GC) by Method 8021B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00281		0.000190	0.000500	0.000500	1	11/10/2020 13:03	WG1573893
Toluene	0.000463	J	0.000412	0.00100	0.00100	1	11/10/2020 13:03	WG1573893
Ethylbenzene	0.000172	J	0.000160	0.000500	0.000500	1	11/10/2020 13:03	WG1573893
Total Xylene	U		0.000510	0.00150	0.00150	1	11/10/2020 13:03	WG1573893
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/10/2020 13:03	WG1573893

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC) by Method 8021B [L1282243-01,02,03,04,05,06,07,08,09,10,11,12](#)

Method Blank (MB)

(MB) R3592453-2 11/08/20 12:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3592453-1 11/08/20 11:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0453	90.6	77.0-122	
Toluene	0.0500	0.0499	99.8	80.0-121	
Ethylbenzene	0.0500	0.0553	111	80.0-123	
Total Xylene	0.150	0.156	104	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			102	79.0-125	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Volatile Organic Compounds (GC) by Method 8021B

L1282243-13

Method Blank (MB)

(MB) R3591794-2 11/10/20 11:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	0.000649	J	0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	101			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3591794-1 11/10/20 10:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0430	86.0	77.0-122	
Toluene	0.0500	0.0486	97.2	80.0-121	
Ethylbenzene	0.0500	0.0527	105	80.0-123	
Total Xylene	0.150	0.152	101	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	

1Cp

2Tc

3Ss

4Cn

5Tr

6Sr

7Qc

8Gl

9Al

10Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM L1282243-01.03.06.10.12

Method Blank (MB)

(MB) R3592175-3 11/11/20 10:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Anthracene	U		0.0000190	0.0000500
Acenaphthene	U		0.0000190	0.0000500
Acenaphthylene	U		0.0000171	0.0000500
Benzo(a)anthracene	U		0.0000203	0.0000500
Benzo(a)pyrene	U		0.0000184	0.0000500
Benzo(b)fluoranthene	U		0.0000168	0.0000500
Benzo(g,h,i)perylene	U		0.0000184	0.0000500
Benzo(k)fluoranthene	U		0.0000202	0.0000500
Chrysene	U		0.0000179	0.0000500
Dibenz(a,h)anthracene	U		0.0000160	0.0000500
Fluoranthene	U		0.0000270	0.000100
Fluorene	U		0.0000169	0.0000500
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500
Naphthalene	U		0.0000917	0.000250
Phenanthrene	U		0.0000180	0.0000500
Pyrene	U		0.0000169	0.0000500
1-Methylnaphthalene	U		0.0000687	0.000250
2-Methylnaphthalene	U		0.0000674	0.000250
Dibenzofuran	U		0.0000191	0.0000500
(S) Nitrobenzene-d5	89.5			31.0-160
(S) 2-Fluorobiphenyl	120			48.0-148
(S) p-Terphenyl-d14	140			37.0-146

1

Cp

2

Tc

3

Ss

4

Cn

5

Tr

6

Sr

7

Qc

8

Gl

9

Al

10

Sc

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

(LCS) R3592175-1 11/11/20 09:38 • (LCSD) R3592175-2 11/11/20 09:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dibenzofuran	0.00200	0.00223	0.00214	111	107	67.0-134			4.12	20
Anthracene	0.00200	0.00217	0.00208	108	104	67.0-150			4.24	20
Acenaphthene	0.00200	0.00225	0.00219	112	109	65.0-138			2.70	20
Acenaphthylene	0.00200	0.00228	0.00220	114	110	66.0-140			3.57	20
Benzo(a)anthracene	0.00200	0.00201	0.00189	100	94.5	61.0-140			6.15	20
Benzo(a)pyrene	0.00200	0.00184	0.00173	92.0	86.5	60.0-143			6.16	20
Benzo(b)fluoranthene	0.00200	0.00206	0.00203	103	102	58.0-141			1.47	20
Benzo(g,h,i)perylene	0.00200	0.00203	0.00215	102	108	52.0-153			5.74	20
Benzo(k)fluoranthene	0.00200	0.00209	0.00212	105	106	58.0-148			1.43	20
Chrysene	0.00200	0.00221	0.00225	111	112	64.0-144			1.79	20
Dibenz(a,h)anthracene	0.00200	0.00217	0.00205	108	102	52.0-155			5.69	20

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

[L1282243-01.03.06.10.12](#)

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

(LCS) R3592175-1 11/11/20 09:38 • (LCSD) R3592175-2 11/11/20 09:58

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 %
Fluoranthene	0.00200	0.00215	0.00207	108	103	69.0-153			3.79	20
Fluorene	0.00200	0.00228	0.00223	114	111	64.0-136			2.22	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00194	0.00184	97.0	92.0	54.0-153			5.29	20
Naphthalene	0.00200	0.00225	0.00214	112	107	61.0-137			5.01	20
Phenanthrene	0.00200	0.00214	0.00208	107	104	62.0-137			2.84	20
Pyrene	0.00200	0.00209	0.00219	105	109	60.0-142			4.67	20
1-Methylnaphthalene	0.00200	0.00247	0.00234	123	117	66.0-142			5.41	20
2-Methylnaphthalene	0.00200	0.00227	0.00216	114	108	62.0-136			4.97	20
(S) Nitrobenzene-d5				80.5	76.5	31.0-160				
(S) 2-Fluorobiphenyl				104	101	48.0-148				
(S) p-Terphenyl-d14				103	109	37.0-146				

L1282213-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1282213-01 11/11/20 11:19 • (MS) R3592175-4 11/11/20 11:40 • (MSD) R3592175-5 11/11/20 12:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.00200	0.000107	0.00206	0.00206	97.7	97.7	1	56.0-156			0.000	20
Acenaphthene	0.00200	0.0000778	0.00216	0.00213	104	103	1	44.0-153			1.40	20
Acenaphthylene	0.00200	U	0.00220	0.00218	110	109	1	53.0-150			0.913	20
Benzo(a)anthracene	0.00200	0.000181	0.00209	0.00209	95.4	95.4	1	47.0-151			0.000	20
Benzo(a)pyrene	0.00200	U	0.00168	0.00151	84.0	75.5	1	45.0-146			10.7	20
Benzo(b)fluoranthene	0.00200	0.0000690	0.00202	0.00186	97.5	89.5	1	43.0-142			8.25	20
Benzo(g,h,i)perylene	0.00200	U	0.00187	0.00161	93.5	80.5	1	40.0-147			14.9	20
Benzo(k)fluoranthene	0.00200	U	0.00191	0.00172	95.5	86.0	1	43.0-148			10.5	21
Chrysene	0.00200	0.000137	0.00204	0.00206	95.1	96.2	1	50.0-148			0.976	20
Dibenz(a,h)anthracene	0.00200	U	0.00185	0.00162	92.5	81.0	1	37.0-151			13.3	20
Fluoranthene	0.00200	0.00113	0.00205	0.00205	46.0	46.0	1	56.0-157	J6	J6	0.000	20
Fluorene	0.00200	0.0000864	0.00221	0.00218	106	105	1	48.0-148			1.37	20
Indeno(1,2,3-cd)pyrene	0.00200	U	0.00189	0.00153	94.5	76.5	1	41.0-148		J3	21.1	20
Naphthalene	0.00200	U	0.00212	0.00206	106	103	1	10.0-160			2.87	20
Phenanthrene	0.00200	0.000918	0.00207	0.00206	57.6	57.1	1	47.0-147			0.484	20
Dibenzofuran	0.00200	0.0000301	0.00210	0.00205	103	101	1	48.0-138			2.41	20
Pyrene	0.00200	0.000727	0.00213	0.00218	70.1	72.7	1	51.0-148			2.32	20
1-Methylnaphthalene	0.00200	U	0.00231	0.00227	115	114	1	21.0-160			1.75	20
2-Methylnaphthalene	0.00200	U	0.00216	0.00212	108	106	1	31.0-160			1.87	20
(S) Nitrobenzene-d5					76.5	75.5		31.0-160				
(S) 2-Fluorobiphenyl					99.5	100		48.0-148				
(S) p-Terphenyl-d14					103	102		37.0-146				

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.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(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.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
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.
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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Tr
⁶ Sr
⁷ Qc
⁸ Gl
⁹ Al
¹⁰ Sc

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	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

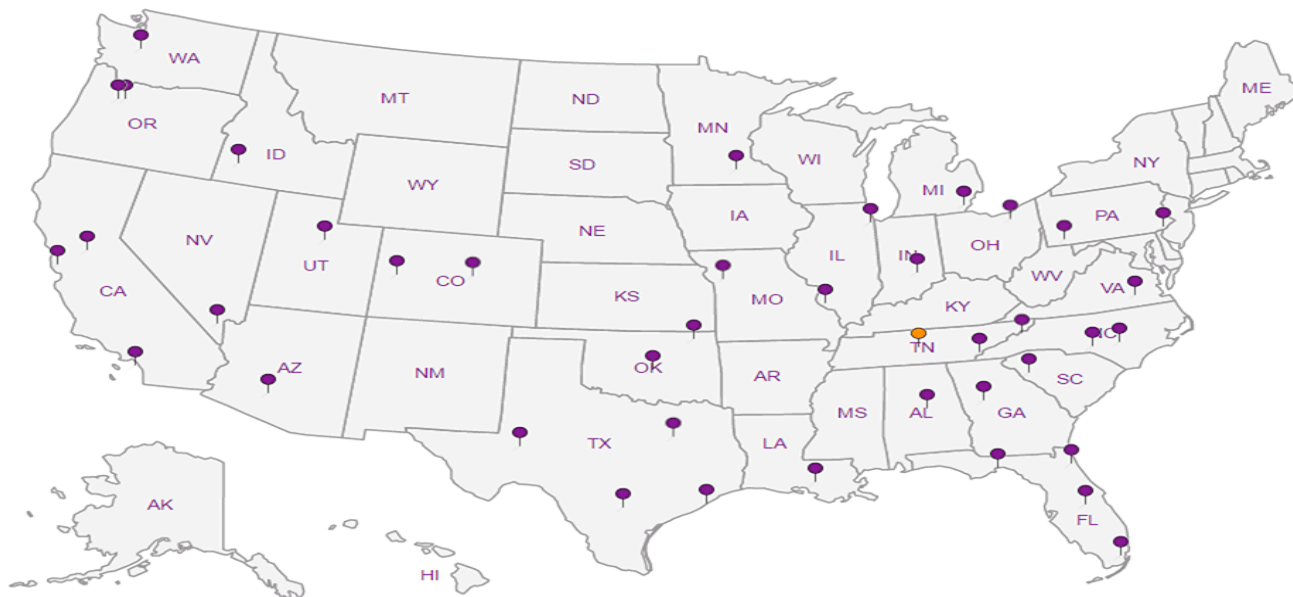
Third Party Federal Accreditations


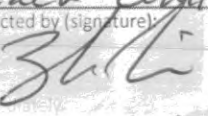
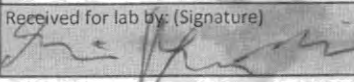
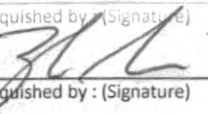
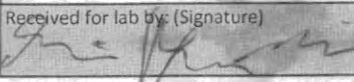
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ 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.



Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703		Billing Information: Camille Bryant 10 Desta Dr., Ste. 550E Midland, TX 79705		Pres Chk		Analysis / Container / Preservative										Chain of Custody Page ____ of ____							
Report to: Becky Haskell		Email To: becky.haskell@ghd.com; glenn.quinney@ghd.co														 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859							
Project Description: Chevron Grayburd 6-Inch Sec. 6 Historical		City/State Collected: Buckeye NM		Please Circle: PT MT CT ET												SDG # L1282243 B026							
Phone: 432-250-7917		Client Project # 11209906/02		Lab Project # PLAINSGHD-11209906												Table #							
Collected by (print): Zachary Connelley		Site/Facility ID # Chevron Grayburd		P.O. #												Acctnum: PLAINSGHD Template: T167396							
Collected by (signature): 		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"/> Three Day		Quote #												Prelogin: P805684 PM: 134 - Mark W. Beasley							
Packed on Ice: <input checked="" type="checkbox"/>				Date Results Needed												FX Ground							
Sample ID		Conip/Grab		Media		Depth		Date		Time		BTL		PA		VI		40ml Amb		No Pres		WT	
MW-2		Grab		GW		11/4/20		0850		6		X		X								-01	
MW-4				GW				0925		3		X										-02	
MW-5				GW				0955		6		X		X								-03	
MW-13				GW				1020		3		X										-04	
MW-14				GW				1055		3		X										-05	
MW-6				GW				1130		6		X		X								-06	
MW-3								1200		3		X										-07	
MW-11								1225		3		X										-08	
MW-10								1255		3		X										-09	
MW-9								1320		6		X		X								-10	
Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other		Remarks: Samples returned by: 1922 Date: 11/4/20 Time: 1530		Received by (Signature): 		Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> HCL / MeOH TBR		pH _____ Temp _____ Flow _____ Other _____		COC Seal Present/Intact: <input checked="" type="checkbox"/> NP COC Signed/Accurate: <input checked="" type="checkbox"/> NP Bottles Arrive Intact: <input checked="" type="checkbox"/> NP		If preservation required by Login: Date/Time		Hold:		Condition: NCF / OK							
Relinquished by (Signature): 		Date: 11/4/20 Time: 1530		Received by (Signature): 		Temp: 2.7-2.5°C Bottles Received: 52		Date: 11/5/20 Time: 16		Hold:		Condition: NCF / OK											

[illegible]



about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

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 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 22543

CONDITIONS

Operator: PLAINS MARKETING L.P. 333 Clay St, Ste 1600 Houston, TX 77002	OGRID: 34053
	Action Number: 22543
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2020 Annual Groundwater Monitoring Report: Content satisfactory Contractor recommendations approved by OCD and are as follows; 1. Continue quarter MDPE events in monitor well MW-7 2. Continue on-going quarterly groundwater monitoring events 3. Continue annual sampling for PAHs. Add monitor wells MW-8 and MW-9 during the fourth quarter of 2021 to sample for PAH compounds. Additionally, add any monitor wells to be sampled for PAHs once there is no longer LNAPL detected 4. Eliminate PAH analysis from MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-9, MW-10, MW-11, MW-13, and MW-14 after 2021 5. Submit the Annual Monitoring Report to the OCD no later than March 31, 2022.	1/11/2022