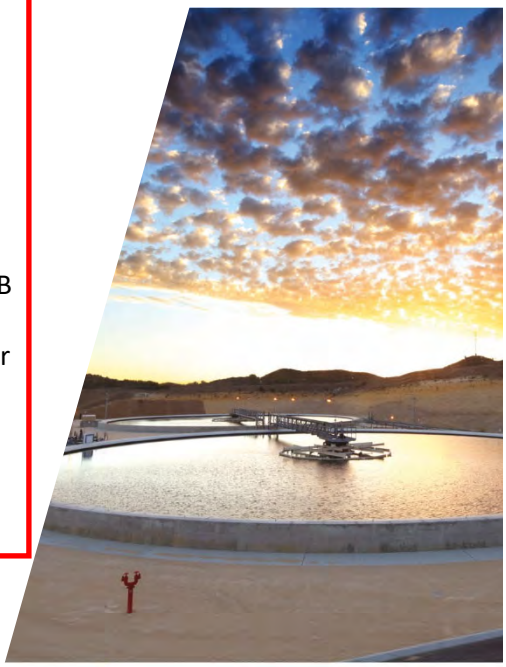
Review of 2021 Annual Groundwater Monitoring Report:
Content satisfactory

Contractor recommendations approved by NMOCD and are as follows;

1. Continue quarter MDPE events in monitor well MW-7
2. Conduct LNAPL abatement via hand-bailing on a monthly basis for monitor wells that have a measurable amount of LNAPL
3. Continue NMOCD-approved quarterly groundwater sampling events for BTEX by Method 8021B for all monitor wells located on-site
4. Continue NMOCD-approved annual groundwater sampling event for PAH by Method 8270CSIM for MW-8 and MW-9. MW-7 and MW-12 will need to be sampled once the LNAPL is no longer present
5. Submit the Annual Groundwater Monitoring Report to the NMOCD no later than March 31, 2023.

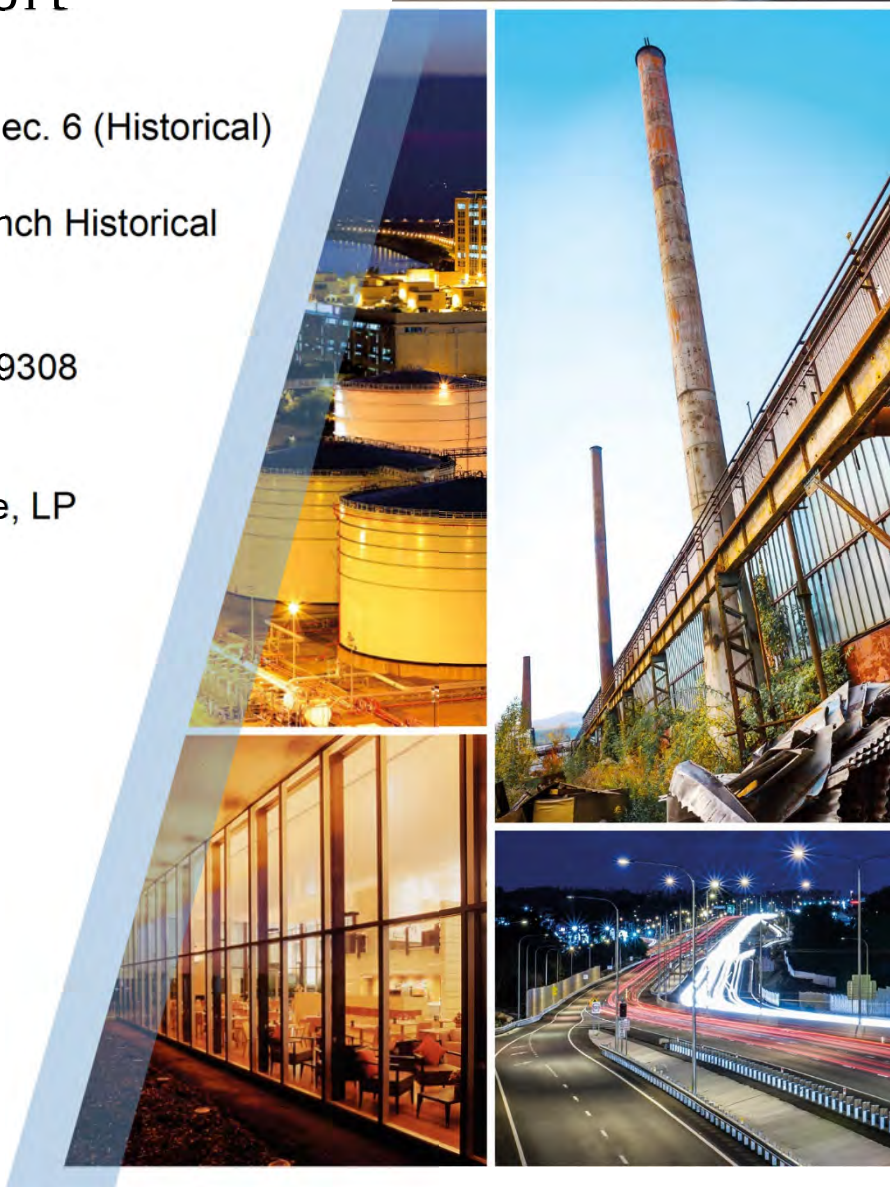
REVIEWED
By Nelson Velez at 8:58 am, Jul 22, 2022



2021 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

GHD Services, Inc. (GHD), on behalf of Plains All American Pipeline, L.P. (Plains), submits this 2021 Annual Groundwater Monitoring Report (Report) in compliance with New Mexico Oil Conservation Division (NMOCD) requirements. The Site falls under NMOCD Remediation Permit Number 1RP-2637. This Report provides the quarterly results of groundwater sampling events and remediation activities completed at Chevron Grayburg 6-inch Sec 6. (Historical) SRS #: Chevron Grayburg 6-inch Historical (Site).

The Site is located at NW ¼, NE ¼, Section 6, Township 18 South, Range 35 East in Lea County, New Mexico. The GPS coordinates are 32.7810858° N latitude and 103.4924927° W longitude. The property affected by the release is owned by the State of New Mexico and administered by the New Mexico State Land Office (NMSLO). A Site Location Map is provided as Figure 1. The remediation area and site details are depicted on Figure 2, Site Details Map.

1.1 Site Location History

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 Site was assigned Remediation Permit Number 1RP-2637 by the NMOCD. The NMOCD guidelines require groundwater to be analyzed for potential contaminants as defined by the New Mexico Water Quality Control Commission (NMWQCC) Standards 20.6.2.3103 Section A, which provide Human Health Standards for Groundwater. The constituents of concern (COCs) in affected groundwater at the Site are benzene, toluene, ethylbenzene, and total xylenes (BTEX); benzo(a)pyrene; and combined naphthalene and monomethylnapthalenes. NMWQCC standards as shown in Table 2.1 are used to guide assessment and remediation of the Site:

Table 2.1 NMWQCC Human Health Standards

Analyte	NMWQCC Human Health Standard
Benzene	0.01 mg/L
Toluene	0.75 mg/L
Ethylbenzene	0.75 mg/L
Total Xylenes	0.62 mg/L
Benzo(a)pyrene	0.0002 mg/L
Combined Naphthalene and Monomethylnaphthalenes	0.03 mg/L

3. 2021 Groundwater Sampling Events

GHD conducted quarterly groundwater sampling events for 14 monitor wells located on-site. Sample locations can be viewed in the Site Details Map provided on Figure 2. All on-site monitor wells were sampled in accordance with the following groundwater sampling schedule as approved by the NMOCD:

Table 2 NMOCD-Approved Groundwater Sampling Schedule

Sample Location ID	Groundwater Sampling Schedule
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, MW-14	Quarterly

MW-8 and MW-9, were sampled in accordance with the NMOCD's email correspondence to Plains, dated December 12, 2012, regarding polycyclic aromatic hydrocarbons (PAH) which provided the following directive:

> *"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 0.001 mg/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)."*

3.1 Groundwater Monitoring Methodology

The purged groundwater was stored into an above-ground storage tank (AST) located at the Site. The AST was periodically emptied by a vacuum truck, which disposed all fluids at a licensed disposal facility as directed by Plains.

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 measurable thicknesses of LNAPL were purged of three casing volumes of groundwater. Samples of groundwater were collected using new, disposable polyvinyl chloride (PVC) bailers. A duplicate sample was generally collected every twelve (12) wells. Laboratory supplied sample containers were filled directly from the bailers. Groundwater samples were placed on ice immediately after collection

and chilled to a maximum temperature of 4°C. All groundwater samples were analyzed by Pace Analytical Laboratory 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. Certified Laboratory Reports and Chain-of-Custody are provided in Appendix E. Monitor wells containing measurable amounts of Light-Aqueous Phase Liquids (LNAPL) were not sampled.

3.2 Laboratory Analytical Results Summary

BTEX analytical results for groundwater sampling events conducted during 2020 and 2021 are included in Table 2, BTEX Analytical Results for Groundwater Sampling Events 2020-2021. BTEX concentrations for the quarterly groundwater sampling events conducted in 2021 are shown in Figure 7, Figure 8, Figure 9, and Figure 10. A summary of PAH analytical results is shown in Table 3, Polycyclic Aromatic Hydrocarbons Analytical Results. All analytical results are summarized using the NMWQCC Human Health Standards found in Table 2.1.

3.2.1 First Quarter Summary

On February 25, 2021, GHD collected groundwater samples from twelve (12) monitor wells. Approximately 150 gallons of groundwater were purged and stored in the on-site AST. Analytical results indicated benzene concentrations were above 0.01 mg/L in MW-8 and MW-11. Toluene concentrations were above 0.75 mg/L in MW-8. No other Site wells exceeded the benzene or toluene standards. None of the Site wells exhibited ethylbenzene or total xylenes above the NMWQCC criteria. Results for the MW-1 analyses of the initial and field duplicate groundwater samples were within acceptable ranges.

No groundwater samples were collected at MW-7 and MW-12 due to measurable amounts of LNAPL gauged in the wells.

3.2.2 Second Quarter Summary

On May 12, 2021, GHD collected groundwater samples from twelve (12) monitor wells. Approximately 143 gallons of groundwater were purged and stored into the on-site AST. Analytical results indicated benzene concentrations were above 0.01 mg/L in MW-1, MW-8, and MW-11. No other Site wells exceeded the benzene standard. None of the Site wells exhibited toluene, ethylbenzene, or total xylenes concentrations above the NMWQCC criteria. Results for the MW-8 analyses of the initial and field duplicate groundwater samples were within acceptable ranges.

No groundwater samples were collected at MW-7 and MW-12 due to measurable amounts of LNAPL gauged in the wells.

3.2.3 Third Quarter Summary

On August 25, 2021, GHD collected groundwater samples from twelve (12) monitor wells. Approximately 84 gallons of groundwater were purged and stored into the on-site AST. Analytical results indicated benzene concentrations were above 0.01 mg/L in MW-1 and MW-8. No other Site wells exceeded the benzene standard. MW-8 also exhibited toluene and total xylenes above 0.75 mg/L and 0.62 mg/L, respectively. None of the other Site wells exhibited toluene, ethylbenzene, or

total xylenes concentrations above the NMWQCC criteria. Results for the analyses of the MW-1 initial and field duplicate groundwater samples were within acceptable ranges.

No groundwater samples were collected at MW-7 and MW-12 due to measurable amounts of LNAPL gauged in the wells.

3.2.4 Fourth Quarter Summary

On November 16, 2021, GHD collected groundwater samples from twelve (12) monitor wells. Approximately 128 gallons of groundwater were purged and stored into the on-site AST. Analytical results indicated benzene concentrations were above 0.01 mg/L in MW-1, MW-8, and MW-11. No other Site wells exceeded the benzene standard. None of the Site wells exhibited toluene, ethylbenzene, or total xylenes concentrations above the NMWQCC criteria. Results for the MW-11 analyses of the initial and field duplicate groundwater samples were within acceptable ranges.

No groundwater samples were collected at MW-7 and MW-12 due to measurable amounts of LNAPL gauged in the wells.

4. Potentiometric Surface and Gradient Summary

During the quarterly groundwater sampling events, GHD conducted gauging events prior to the groundwater sample collection. All fluid level measurements were from tops of casings which were professionally surveyed. Elevations of the potentiometric surface were calculated using a specific gravity of 0.81 of LNAPL, where present. Groundwater flow is generally toward the west-southwest, which is consistent with historical data. The average gradient of the potentiometric surface during 2021 is 0.0011 feet per foot (ft./ft.). The elevation of the potentiometric surface indicates an average decline of 0.04 ft during 2021. Monthly gauging and elevation of the potentiometric surface data for 2020-2021 are provided in Table 1. Quarterly groundwater gradient maps are provided in Figure 3, Figure 4, Figure 5, and Figure 6.

5. Remediation Activities

Quarterly mobile dual phase extraction (MDPE) events were conducted by Talon-LPE (Talon) of Amarillo, Texas. Each MDPE event was conducted for twelve (12) hours each at MW-7 on March 10, June 29, September 14, and December 8, 2021. According to Talon, total recovery of liquid hydrocarbons collected during these events was approximately 62 gallons (1.48 bbls); total recovery of hydrocarbon vapor was equivalent to approximately 96 gallons (2.29 bbls). All fluids recovered from MDPE events were disposed at a licensed disposal facility, and all hydrocarbon vapors were destroyed in a thermal oxidizer within the emissions limits established by the PI-7 Permit for the oxidizer unit. The Talon 2021 Annual MDPE Report is enclosed in Appendix D.

6. Summary of Findings

Based on groundwater sampling events and remedial activities performed at the Site in 2021, the following summary of findings is presented:

- Groundwater flow direction is toward the west-southwest and is consistent with previous monitoring events. The average gradient of the potentiometric surface during 2021 is 0.0011 ft./ft.
- The elevation of the potentiometric surface indicates an average decline of 0.04 ft. during 2021.
- LNAPL is present in 2 monitor wells (MW-7 and MW-12). The average LNAPL thickness was 6.35 ft. at MW-7 and 0.90 ft. at MW-12. Charts of LNAPL Thickness Versus Time are provided in Appendix B.
    - Talon operates quarterly MDPE events at MW-7.
- Benzene concentrations are consistently above NMWQCC criteria for MW-1, MW-8, and MW-11. Charts of Dissolved Benzene Concentrations Versus Time are provided in Appendix C.
    - MW-2, MW-3, MW-6, MW-9, and MW-10 historically have had benzene concentrations above the NMWQCC criteria, but groundwater samples have exhibited benzene concentrations below the NMWQCC criteria since February 2018, July 2019, July 2019, October 2019, and February 2020 respectively.
- Fluctuations in the elevation of the potentiometric surface can be attributed to the on-site removal of groundwater.
- Analytical results indicate 2 years of consecutive PAH concentrations below the NMWQCC Human Health Standards for all sampleable wells, except MW-8 and MW-9. MW-7 and MW-12 cannot be sampled due to measurable amounts of LNAPL being present.

7. Recommendations

Based upon the data and conclusions presented in this Report, the following are recommended for 2022:

- Continue operation of the MDPE events at MW-7 on a quarterly basis to reduce hydrocarbon source in groundwater and mitigate dissolved phase plume expansion.
- Conduct LNAPL abatement via hand-bailing on a monthly basis for monitor wells that have a measurable amount of LNAPL.
- Continue NMOCD-approved quarterly groundwater sampling events for BTEX by Method 8021B for all monitor wells located on-site.
- Continue NMOCD-approved annual groundwater sampling event for PAH by Method 8270C-SIM for MW-8 and MW-9. MW-7 and MW-12 will need to be sampled once the LNAPL is no longer present.

All of which is Respectfully Submitted,

GHD

Becky Haskell
Senior Project Manager

Tom Larson
Midland Operations Manager

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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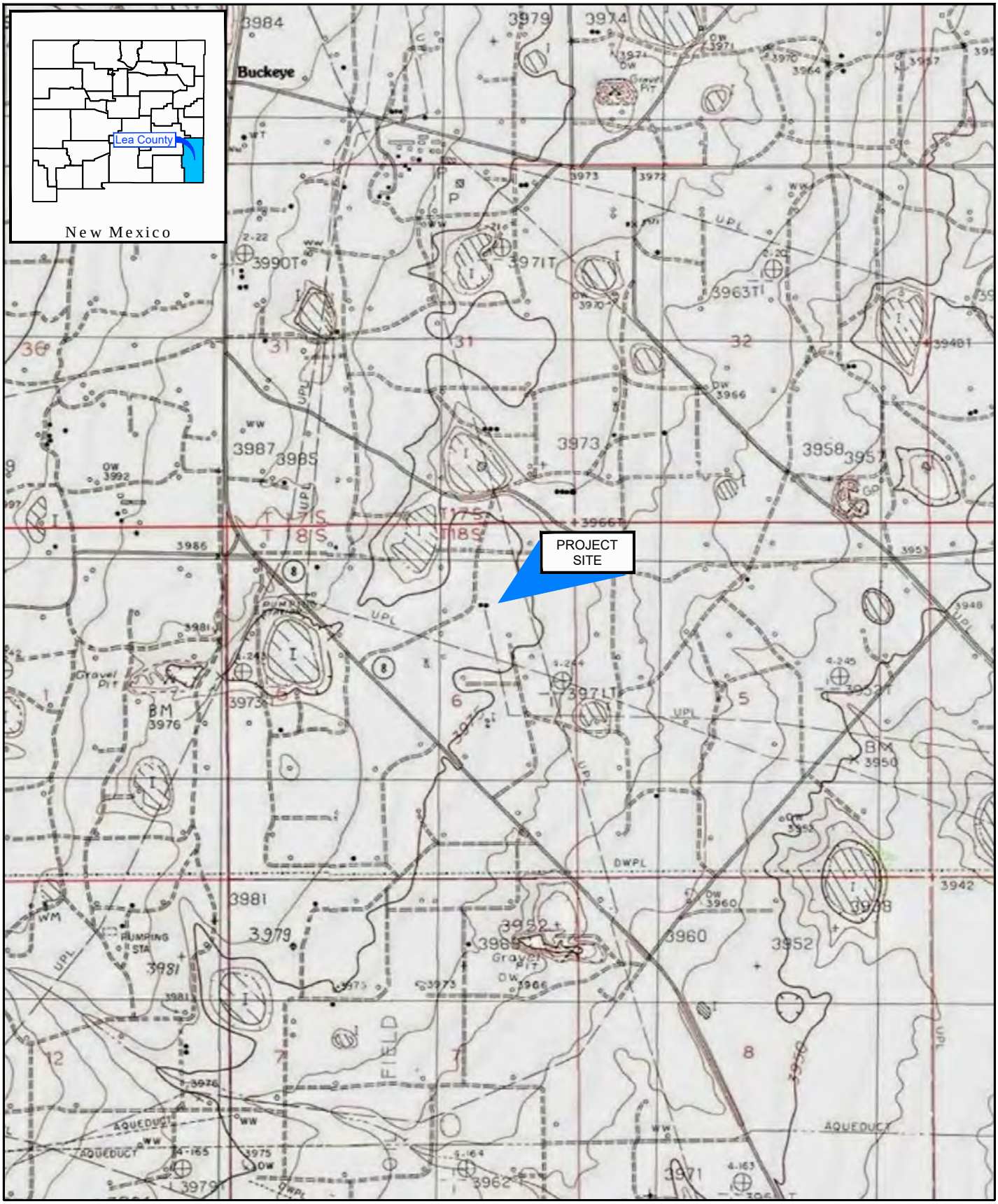

Source: USGS 7.5 Minute Quad "Lovington SW and Buckeye, New Mexico"

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

Feb 4, 2021

SITE LOCATION MAP

FIGURE 1

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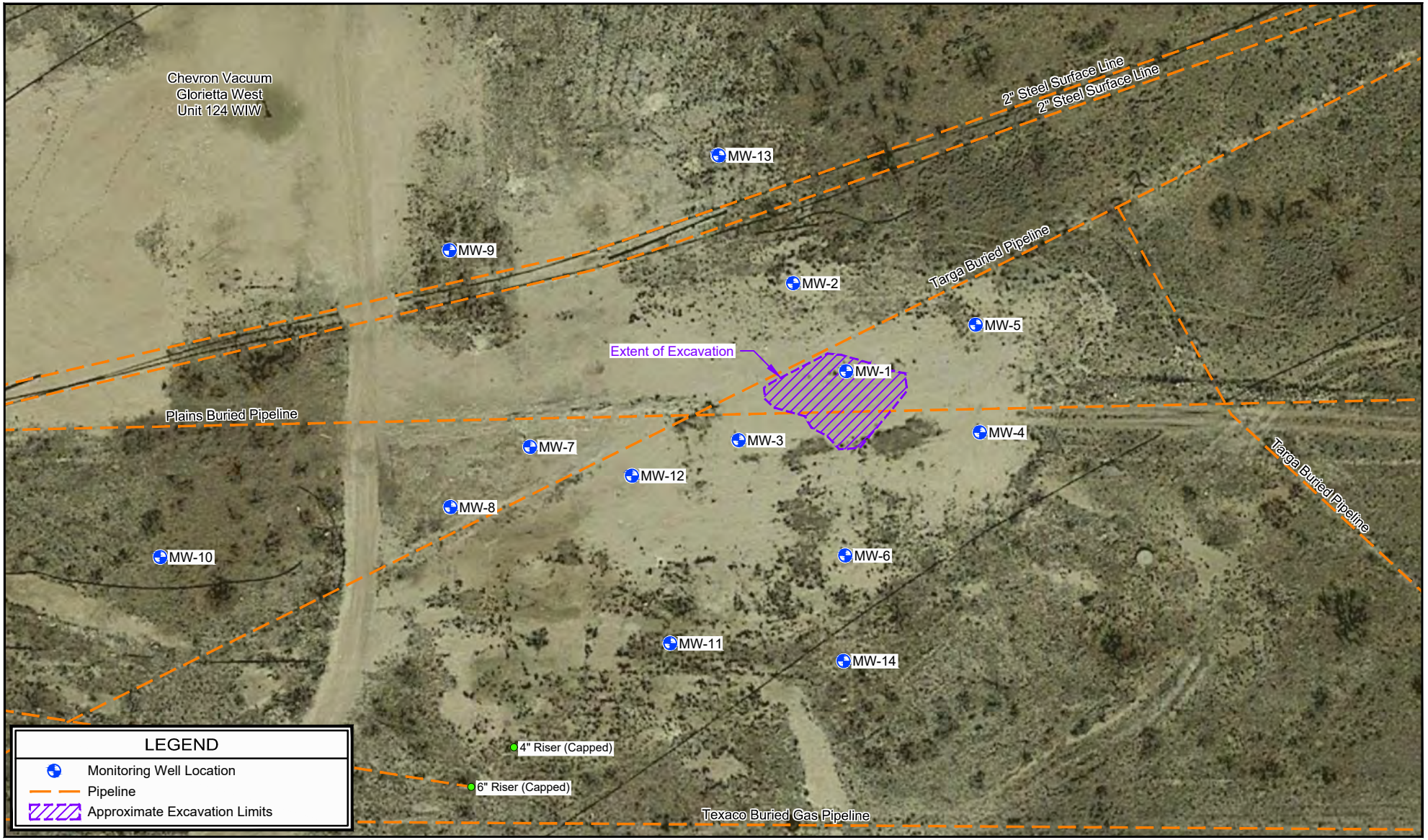

Source: Image © 2016 Google - Imagery Date: February 1, 2017

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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

11209906

Feb 4, 2021

SITE DETAILS MAP

FIGURE 2

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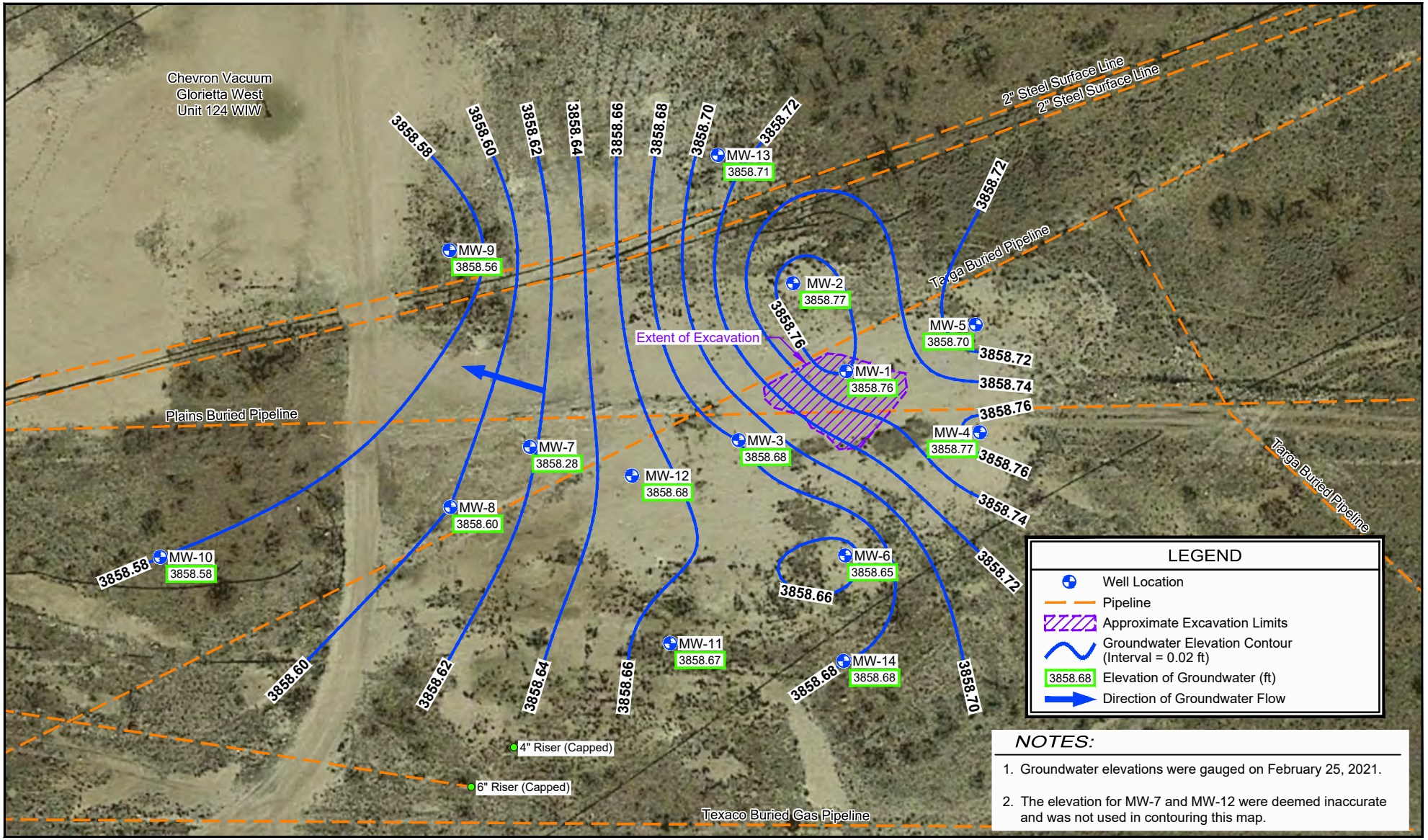

Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

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LEA COUNTY, NEW MEXICO
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11209906

Oct 8, 2021

GROUNDWATER GRADIENT MAP - FEBRUARY 25, 2021

FIGURE 3

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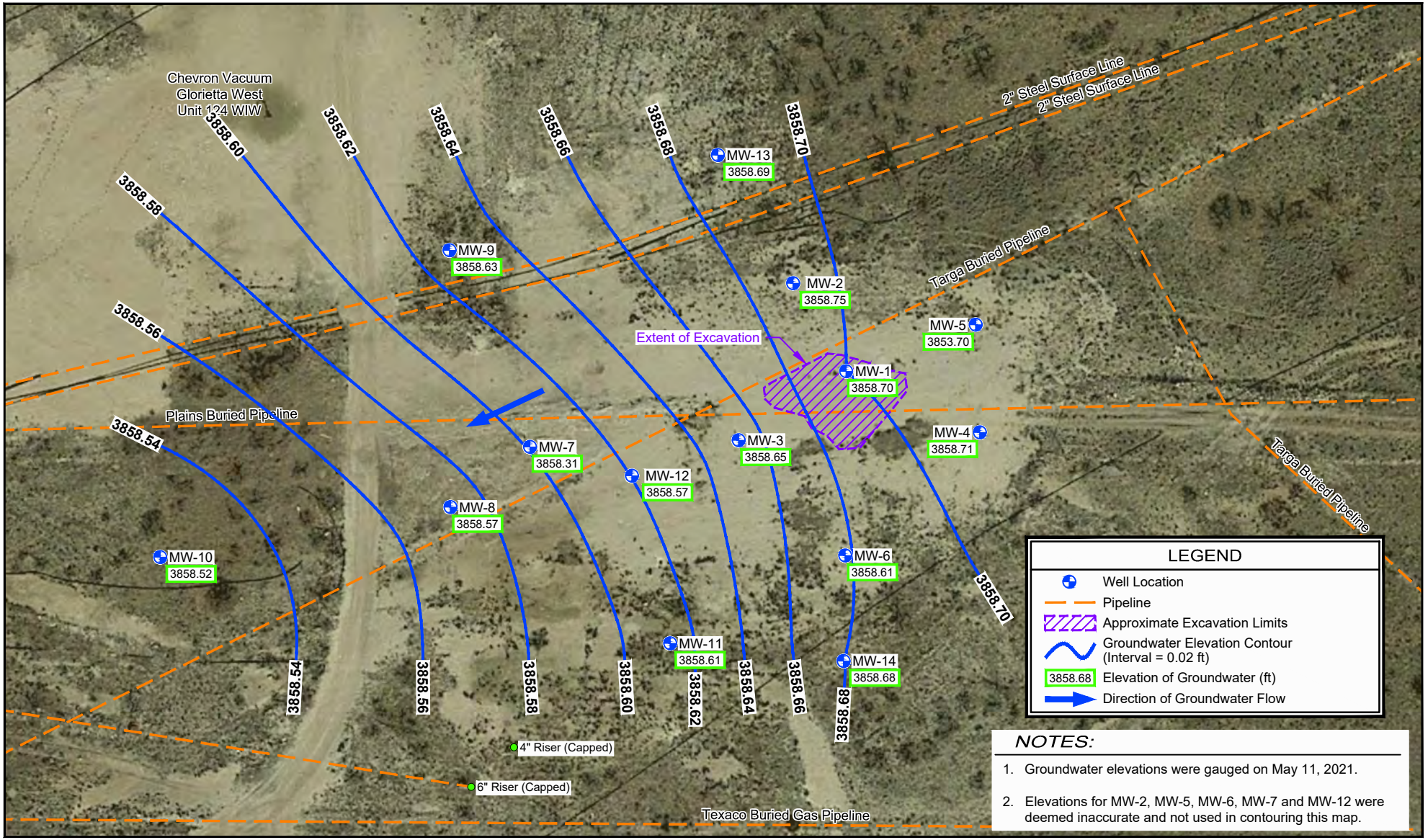

Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

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Coordinate System:
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GHD

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11209906

May 26, 2021

GROUNDWATER GRADIENT MAP - MAY 11, 2021

FIGURE 4

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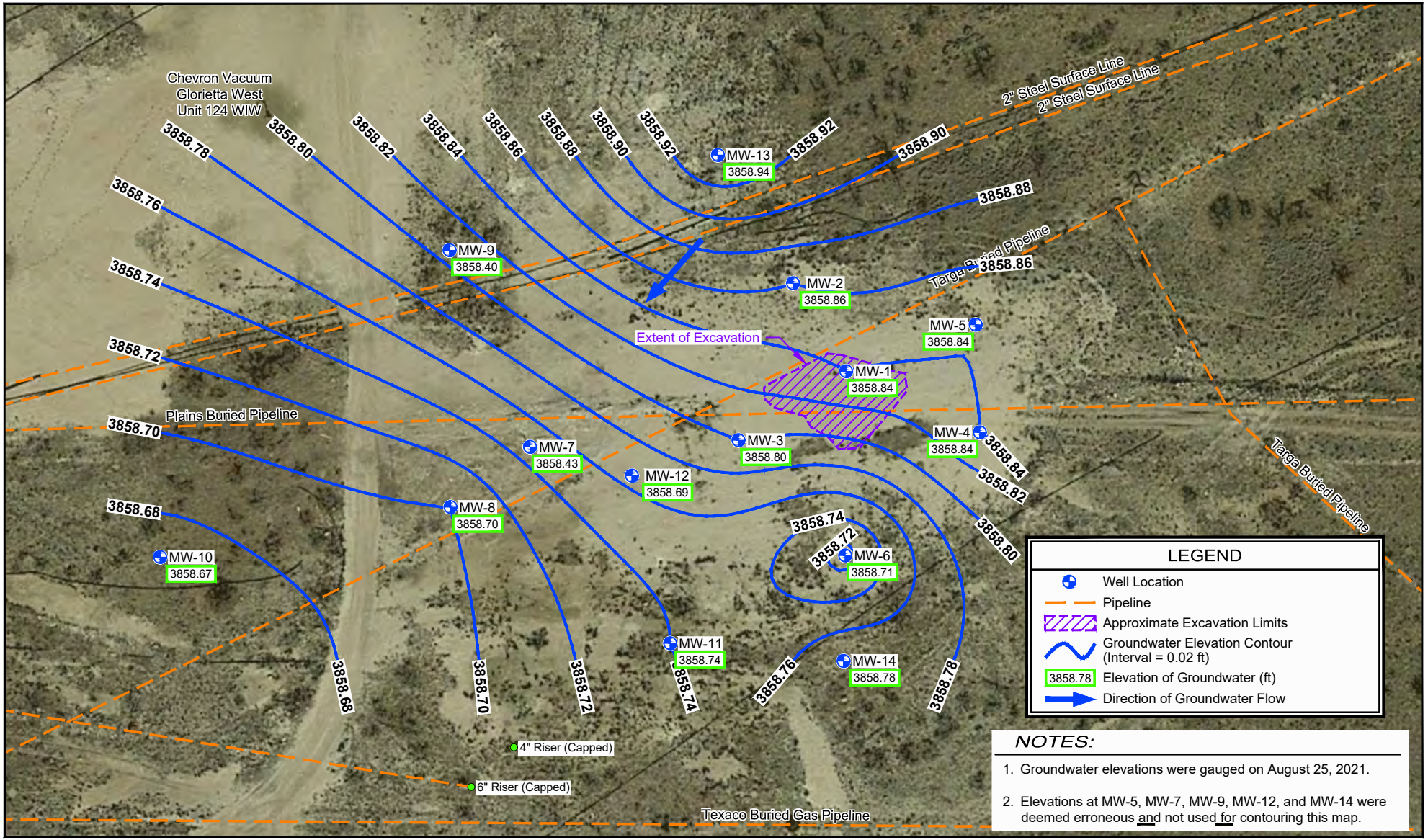

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LEA COUNTY, NEW MEXICO
CHEVRON GRAYBURG 6-INCH HISTORICAL

11209906

Dec 3, 2021

GROUNDWATER GRADIENT MAP - AUGUST 24, 2021

FIGURE 5

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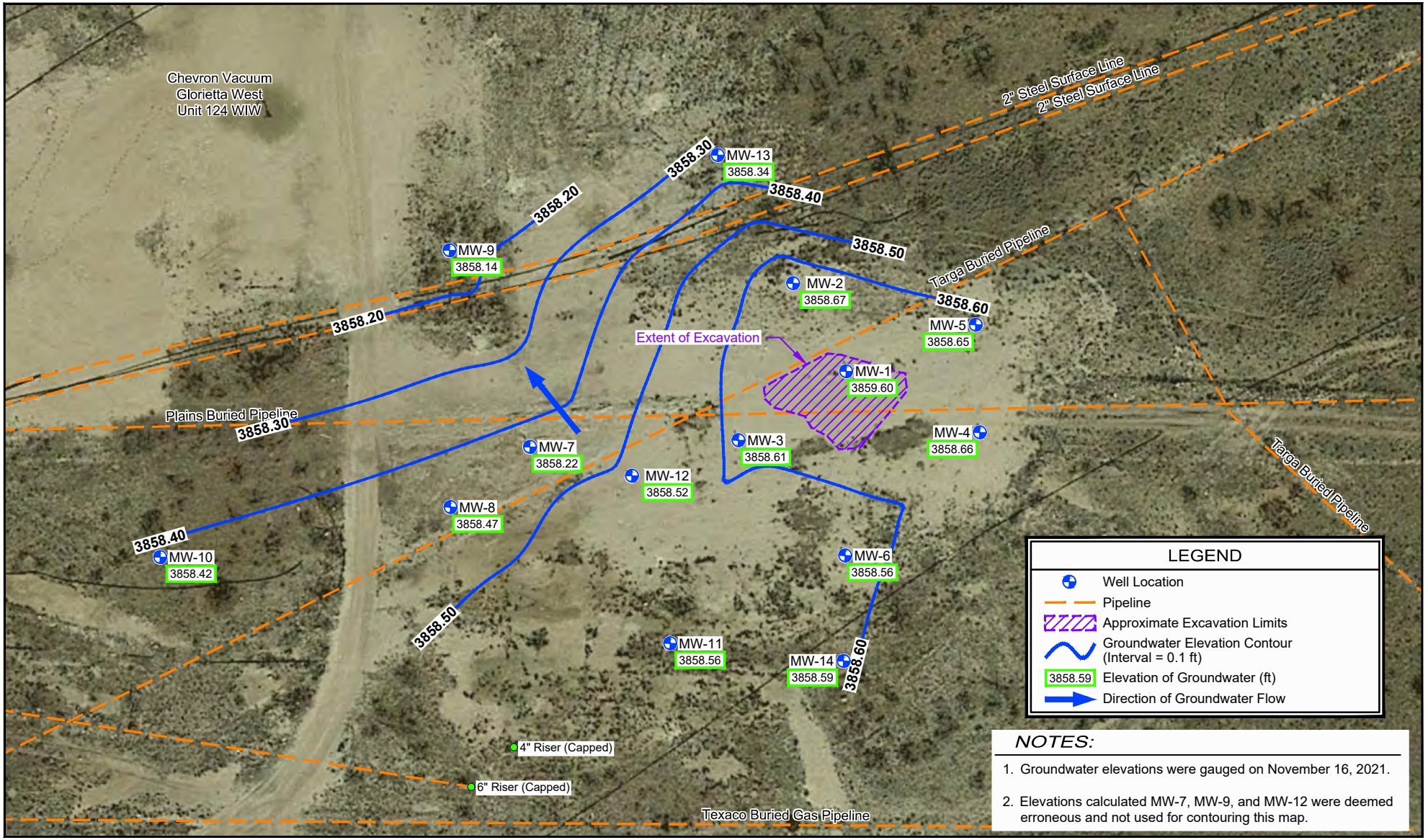

Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

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Coordinate System:
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GHD

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11209906

Jan 5, 2022

GROUNDWATER GRADIENT MAP - NOVEMBER 16, 2021

FIGURE 6

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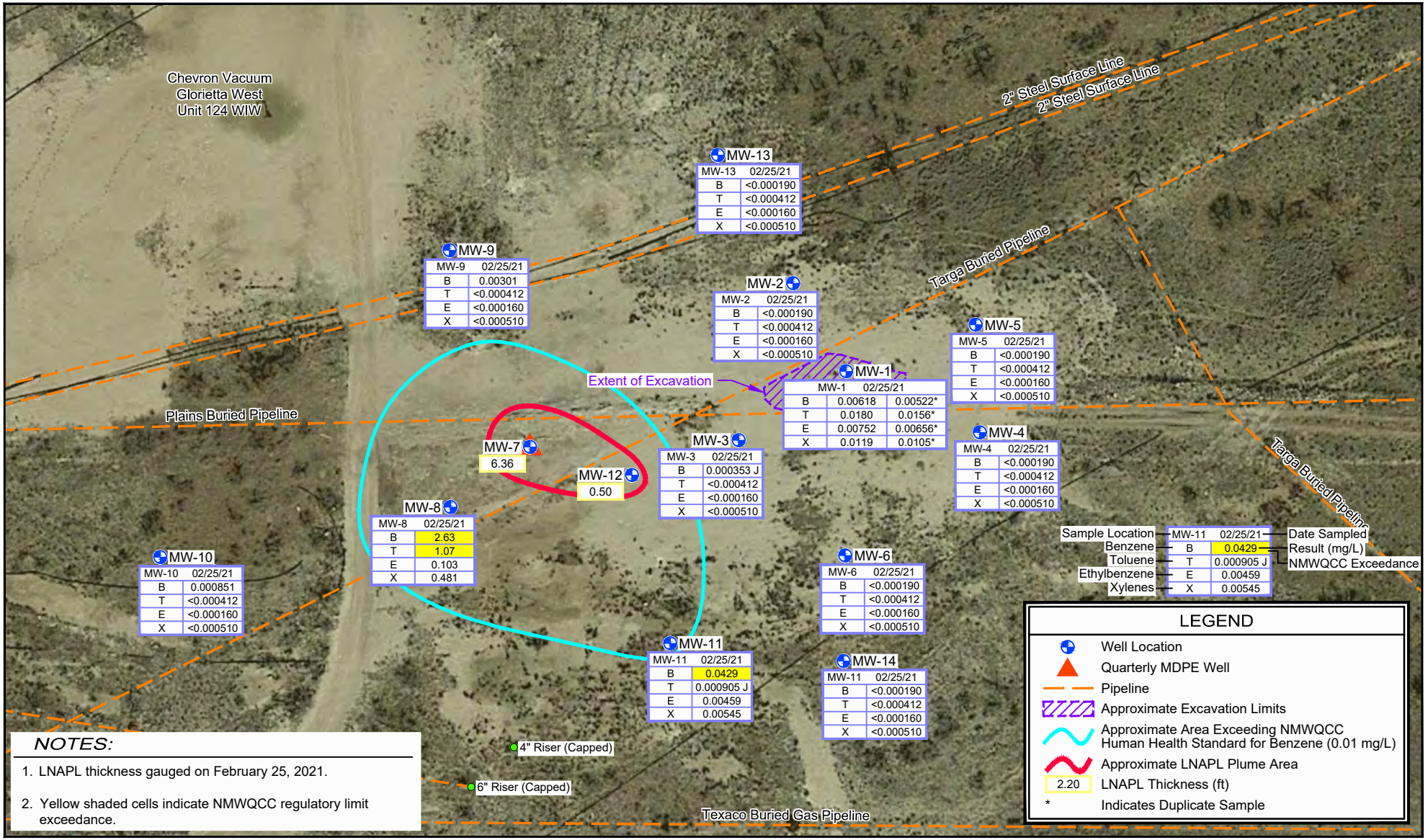

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Lat/Long: 32.78091° North, 103.492240° West

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LEA COUNTY, NEW MEXICO
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LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - FEBRUARY 2021

11209906

Jan 21, 2022

FIGURE 7

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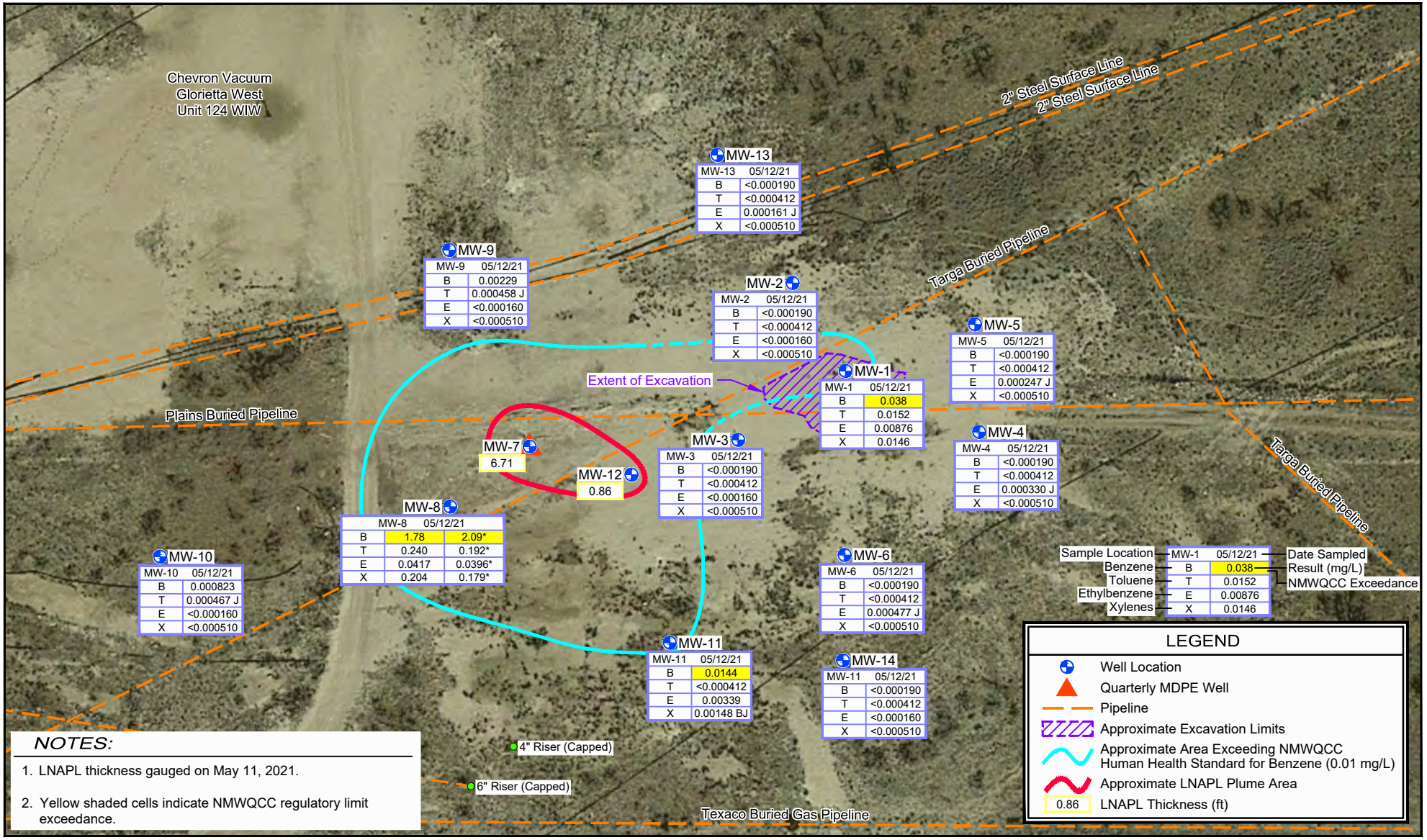

Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.78091° North, 103.492240° West

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Coordinate System:
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New Mexico East (US Feet)

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LEA COUNTY, NEW MEXICO
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LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - MAY 2021

11209906

Jan 21, 2022

FIGURE 8

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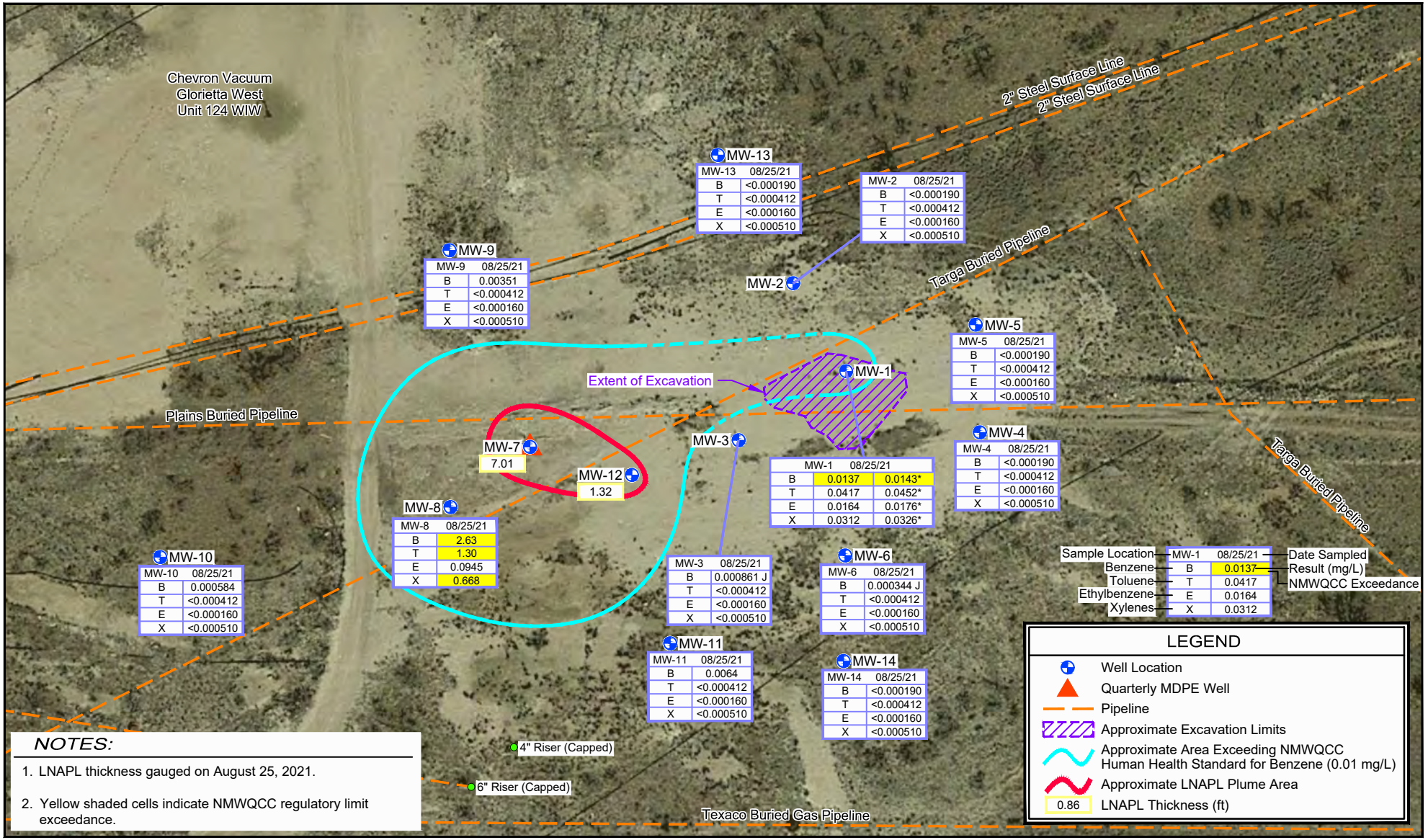

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Coordinate System:
NAD 1983 (2011) StatePlane-
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CHEVRON GRAYBURG 6-INCH HISTORICAL

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - AUGUST 2021

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Jan 21, 2022

FIGURE 9

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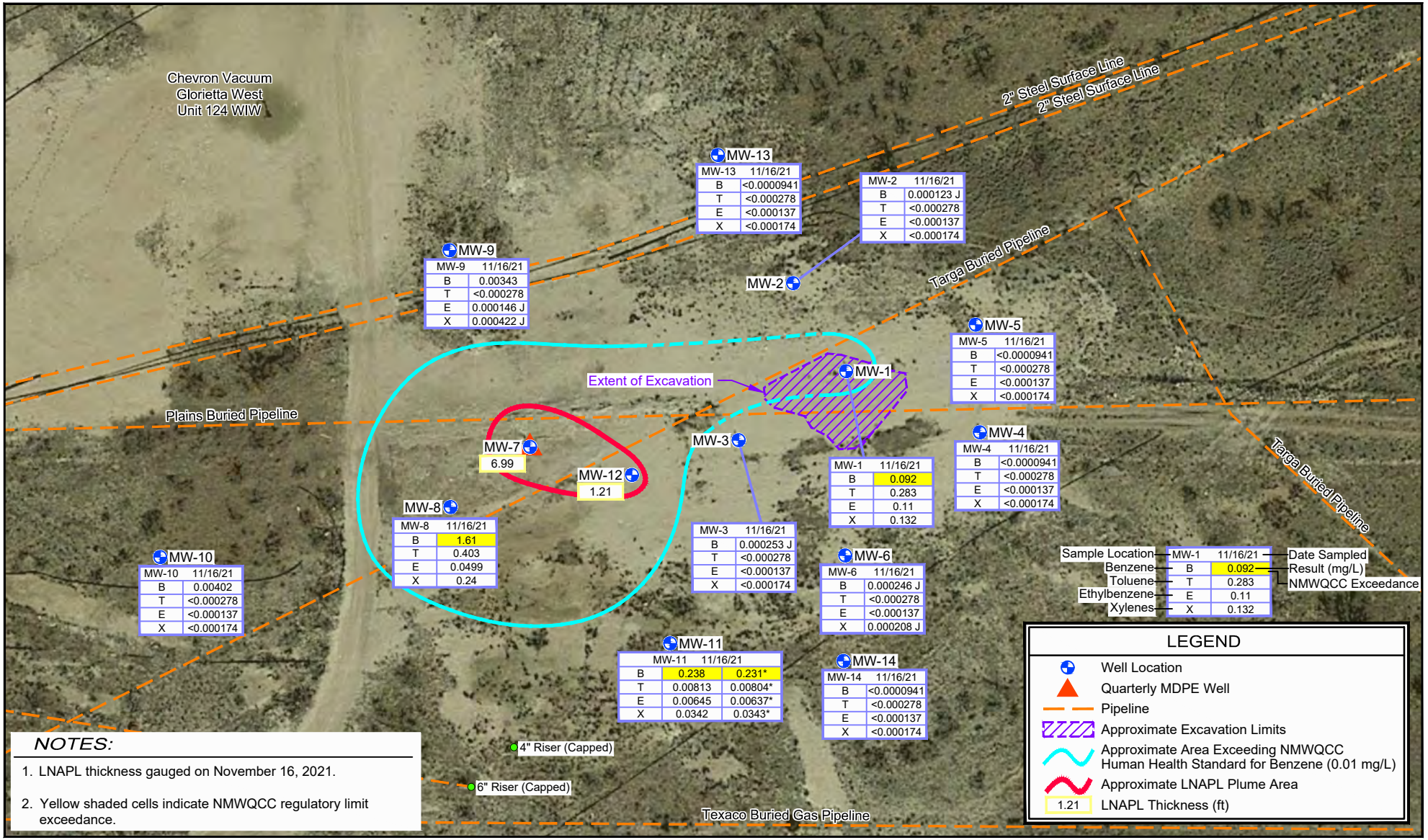

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Coordinate System:
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New Mexico East (US Feet)

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CHEVRON GRAYBURG 6-INCH HISTORICAL

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - NOVEMBER 2021

11209906

Jan 21, 2022

FIGURE 10

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Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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	1/10/20	-	-	-	-	-	-	0	3.0
MW-1	3982.09	2/19/20	-	-	-	-	-	-	0	3.0
MW-1	3982.09	2/24/20	123.07	-	-	3859.02	135.59	-	0	2.8
MW-1	3982.09	3/13/20	-	-	-	-	-	-	-	3.0
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	-	-	-	6.0
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	-	-	3.8
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	-	-	-	5.0
MW-1	3982.09	12/9/20	123.22	-	0.00	3858.87	-	-	-	-
MW-1	3982.09	1/28/21	123.31	-	0.00	3858.78	-	-	-	-
MW-1	3982.09	2/25/21	123.33	-	0.00	3858.76	128.97	-	-	2.0
MW-1	3982.09	3/24/21	123.33	-	0.00	3858.76	-	-	-	-
MW-1	3982.09	4/30/21	123.33	-	0.00	3858.76	-	-	-	-
MW-1	3982.09	5/11/21	123.39	-	0.00	3858.70	-	-	-	2.0
MW-1	3982.09	6/28/21	123.33	-	0.00	3858.76	-	-	-	-
MW-1	3982.09	7/27/21	123.26	-	0.00	3858.83	-	-	-	-
MW-1	3982.09	8/24/21	123.25	-	0.00	3858.84	-	-	-	2.8
MW-1	3982.09	9/30/21	123.40	-	0.00	3858.69	128.97	-	-	-
MW-1	3982.09	10/28/21	123.45	-	0.00	3858.64	128.97	-	-	-
MW-1	3982.09	11/16/21	122.49	-	0.00	3859.60	128.97	-	-	3.0
MW-2	3981.21	2/24/20	122.19	-	0.00	3859.02	127.41	-	0	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	-	-	-	-
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	-	-	3.3
MW-2	3981.21	10/21/20	122.27	-	0.00	3858.94	-	-	-	-

Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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	11/4/20	122.35	-	0.00	3858.86	-	-	-	2.0
MW-2	3981.21	12/9/20	122.29	-	0.00	3858.92	-	-	-	-
MW-2	3981.21	1/28/21	122.38	-	0.00	3858.83	-	-	-	-
MW-2	3981.21	2/25/21	122.44	-	0.00	3858.77	127.65	-	-	7.5
MW-2	3981.21	3/24/21	122.43	-	0.00	3858.78	-	-	-	-
MW-2	3981.21	4/30/21	122.45	-	0.00	3858.76	-	-	-	-
MW-2	3981.21	5/11/21	122.46	-	0.00	3858.75	-	-	-	2.5
MW-2	3981.21	6/28/21	122.41	-	0.00	3858.80	-	-	-	-
MW-2	3981.21	7/27/21	122.35	-	0.00	3858.86	-	-	-	-
MW-2	3981.21	8/24/21	122.35	-	0.00	3858.86	-	-	-	3.5
MW-2	3981.21	9/30/21	122.49	-	0.00	3858.72	127.65	-	-	-
MW-2	3981.21	10/28/21	122.54	-	0.00	3858.67	127.65	-	-	-
MW-2	3981.21	11/16/21	122.54	-	0.00	3858.67	127.65	-	-	2.5
MW-3	3982.31	1/10/20	-	-	-	-	-	-	0	3.0
MW-3	3982.31	2/19/20	-	-	-	-	-	-	0	3.0
MW-3	3982.31	2/24/20	123.39	-	0.00	3858.92	131.76	-	0	3.5
MW-3	3982.31	3/13/20	-	-	-	-	-	-	-	3.0
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	-	-	-	4.0
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	-	-	-	4.0
MW-3	3982.31	12/9/20	123.50	-	0.00	3858.81	-	-	-	-
MW-3	3982.31	1/28/21	123.63	-	0.00	3858.68	-	-	-	-
MW-3	3982.31	2/25/21	123.63	-	0.00	3858.68	131.47	-	-	3.5
MW-3	3982.31	3/24/21	123.59	-	0.00	3858.72	-	-	-	-
MW-3	3982.31	4/30/21	123.61	-	0.00	3858.70	-	-	-	-

Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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	5/11/21	123.66	-	0.00	3858.65	-	-	-	4.0
MW-3	3982.31	6/28/21	123.60	-	0.00	3858.71	-	-	-	-
MW-3	3982.31	7/27/21	123.52	-	0.00	3858.79	-	-	-	-
MW-3	3982.31	8/24/21	123.51	-	0.00	3858.80	-	-	-	3.0
MW-3	3982.31	9/30/21	123.67	-	0.00	3858.64	131.47	-	-	-
MW-3	3982.31	10/28/21	123.72	-	0.00	3858.59	131.47	-	-	-
MW-3	3982.31	11/16/21	123.70	-	0.00	3858.61	131.47	-	-	3.5
MW-4	3982.48	2/24/20	123.45	-	0.00	3859.03	135.59	-	-	27.0
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	-	-	-	24.0
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	-	-	20.0
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	-	-	-	21.0
MW-4	3982.48	12/9/20	123.60	-	0.00	3858.88	-	-	-	-
MW-4	3982.48	1/28/21	123.69	-	0.00	3858.79	-	-	-	-
MW-4	3982.48	2/25/21	123.71	-	0.00	3858.77	135.71	-	-	24.0
MW-4	3982.48	3/24/21	123.70	-	0.00	3858.78	-	-	-	-
MW-4	3982.48	4/30/21	123.70	-	0.00	3858.78	-	-	-	-
MW-4	3982.48	5/11/21	123.77	-	0.00	3858.71	-	-	-	24.0
MW-4	3982.48	6/28/21	123.71	-	0.00	3858.77	-	-	-	-
MW-4	3982.48	7/27/21	123.64	-	0.00	3858.84	-	-	-	-
MW-4	3982.48	8/24/21	123.64	-	0.00	3858.84	-	-	-	15.0
MW-4	3982.48	9/30/21	123.77	-	0.00	3858.71	135.71	-	-	-
MW-4	3982.48	10/28/21	123.81	-	0.00	3858.67	135.71	-	-	-
MW-4	3982.48	11/16/21	123.82	-	0.00	3858.66	135.71	-	-	23.0
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	-	-	-	7.0
MW-5	3981.45	6/16/20	122.47	-	0.00	3858.98	-	-	-	-

Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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-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	-	-	-	7.0
MW-5	3981.45	12/9/20	122.58	-	0.00	3858.87	-	-	-	-
MW-5	3981.45	1/28/21	122.66	-	0.00	3858.79	-	-	-	-
MW-5	3981.45	2/25/21	122.75	-	0.00	3858.70	136.42	-	-	7.0
MW-5	3981.45	3/24/21	122.69	-	0.00	3858.76	-	-	-	-
MW-5	3981.45	4/30/21	122.72	-	0.00	3858.73	-	-	-	-
MW-5	3981.45	5/11/21	127.75	-	0.00	3853.70	-	-	-	4.0
MW-5	3981.45	6/28/21	122.69	-	0.00	3858.76	-	-	-	-
MW-5	3981.45	7/27/21	122.60	-	0.00	3858.85	-	-	-	-
MW-5	3981.45	8/24/21	122.61	-	0.00	3858.84	-	-	-	5.3
MW-5	3981.45	9/30/21	122.74	-	0.00	3858.71	136.42	-	-	-
MW-5	3981.45	10/28/21	122.79	-	0.00	3858.66	136.42	-	-	-
MW-5	3981.45	11/16/21	122.80	-	0.00	3858.65	136.42	-	-	6.5
MW-6	3982.27	1/10/20	-	-	-	-	-	-	0	3.0
MW-6	3982.27	2/19/20	-	-	-	-	-	-	0	3.0
MW-6	3982.27	2/24/20	123.40	-	0.00	3858.87	139.87	-	0	5.0
MW-6	3982.27	3/13/20	-	-	-	-	-	-	-	3.0
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	-	-	-	8.0
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	-	-	10.0
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	-	-	-	8.0
MW-6	3982.27	12/9/20	123.50	-	0.00	3858.77	-	-	-	-
MW-6	3982.27	1/28/21	123.56	-	0.00	3858.71	-	-	-	-
MW-6	3982.27	2/25/21	123.62	-	0.00	3858.65	139.70	-	-	8.0

Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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-6	3982.27	3/24/21	123.60	-	0.00	3858.67	-	-	-	-
MW-6	3982.27	4/30/21	123.63	-	0.00	3858.64	-	-	-	-
MW-6	3982.27	5/11/21	123.66	-	0.00	3858.61	-	-	-	8.0
MW-6	3982.27	6/28/21	123.62	-	0.00	3858.65	-	-	-	-
MW-6	3982.27	7/27/21	123.55	-	0.00	3858.72	-	-	-	-
MW-6	3982.27	8/24/21	123.56	-	0.00	3858.71	-	-	-	2.5
MW-6	3982.27	9/30/21	123.65	-	0.00	3858.62	139.70	-	-	-
MW-6	3982.27	10/28/21	123.70	-	0.00	3858.57	139.70	-	-	-
MW-6	3982.27	11/16/21	123.71	-	0.00	3858.56	139.70	-	-	7.5
MW-7	3981.71	1/10/20	127.08	122.18	4.90	3858.86	-	-	3	0.0
MW-7	3981.71	2/19/20	127.79	121.99	5.80	3858.93	-	-	1.2	0.0
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	-	-	-	3.0
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-7	3981.71	1/28/21	128.70	122.12	6.58	3858.34	-	-	-	-
MW-7	3981.71	2/25/21	128.58	122.22	6.36	3858.28	133.11	-	-	-
MW-7	3981.71	3/24/21	127.19	122.33	4.86	3858.46	-	-	-	-
MW-7	3981.71	4/30/21	128.65	122.11	6.54	3858.36	-	-	-	-
MW-7	3981.71	5/11/21	128.84	122.13	6.71	3858.31	-	-	-	-
MW-7	3981.71	6/28/21	128.90	122.04	6.86	3858.37	-	-	-	-

Table 1

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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-7	3981.71	7/27/21	128.67	121.99	6.68	3858.45	-	-	-	-
MW-7	3981.71	8/24/21	128.96	121.95	7.01	3858.43	-	-	2.25	-
MW-7	3981.71	9/30/21	127.92	122.30	5.62	3858.34	133.11	-	-	-
MW-7	3981.71	10/28/21	127.97	122.35	5.62	3858.29	133.11	-	-	-
MW-7	3981.71	11/16/21	129.15	122.16	6.99	3858.22	133.11	-	1.5	-
MW-8	3981.20	1/10/20	-	-	-	-	-	-	0	3.0
MW-8	3981.20	2/19/20	-	-	-	-	-	-	0	3.0
MW-8	3981.20	2/24/20	122.34	-	0.00	3858.86	136.44	-	0	23.0
MW-8	3981.20	3/13/20	-	-	-	-	-	-	-	3.0
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	-	-	-	28.0
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	-	-	23.0
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-8	3981.20	1/28/21	122.57	-	0.00	3858.63	-	-	-	-
MW-8	3981.20	2/25/21	122.60	-	0.00	3858.60	136.44	-	-	26.0
MW-8	3981.20	3/24/21	122.58	-	0.00	3858.62	-	-	-	-
MW-8	3981.20	4/30/21	122.58	-	0.00	3858.62	-	-	-	-
MW-8	3981.20	5/11/21	122.63	-	0.00	3858.57	-	-	-	26.0
MW-8	3981.20	6/28/21	122.55	-	0.00	3858.65	-	-	-	-
MW-8	3981.20	7/27/21	122.50	-	0.00	3858.70	-	-	-	-
MW-8	3981.20	8/24/21	122.50	-	0.00	3858.70	-	-	-	12.0
MW-8	3981.20	9/30/21	122.66	-	0.00	3858.54	136.44	-	-	-
MW-8	3981.20	10/28/21	122.71	-	0.00	3858.49	136.44	-	-	-
MW-8	3981.20	11/16/21	122.73	-	0.00	3858.47	136.44	-	-	22
MW-9	3980.44	1/10/20	-	-	-	-	-	-	0	3.0

Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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-9	3980.44	2/19/20	-	-	-	-	-	-	0	3.0
MW-9	3980.44	2/24/20	121.56	-	0.00	3858.88	140.78	-	0	6.0
MW-9	3980.44	3/13/20	-	-	-	-	-	-	-	3.0
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	-	-	-	10.0
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	-	-	12.0
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	-	-	-	9.0
MW-9	3980.44	12/9/20	121.66	-	0.00	3858.78	-	-	-	-
MW-9	3980.44	1/28/21	121.77	-	0.00	3858.67	-	-	-	-
MW-9	3980.44	2/25/21	121.88	-	0.00	3858.56	140.68	-	-	9.0
MW-9	3980.44	3/24/21	121.74	-	0.00	3858.70	-	-	-	-
MW-9	3980.44	4/30/21	121.80	-	0.00	3858.64	-	-	-	-
MW-9	3980.44	5/11/21	121.81	-	0.00	3858.63	-	-	-	9.0
MW-9	3980.06	6/28/21	121.73	-	0.00	3858.33	-	-	-	-
MW-9	3980.06	7/27/21	122.66	-	0.00	3857.40	-	-	-	-
MW-9	3980.06	8/24/21	121.66	-	0.00	3858.40	-	-	-	9.5
MW-9	3980.06	9/30/21	121.85	-	0.00	3858.21	140.68	-	-	-
MW-9	3980.06	10/28/21	121.90	-	0.00	3858.16	140.68	-	-	-
MW-9	3980.06	11/16/21	121.92	-	0.00	3858.14	140.68	-	-	9.0
MW-10	3980.06	1/10/20	-	-	-	-	-	-	0	3.0
MW-10	3980.06	2/19/20	-	-	-	-	-	-	0	3.0
MW-10	3980.06	2/24/20	121.26	-	0.00	3858.80	141.52	-	0	5.0
MW-10	3980.06	3/13/20	-	-	-	-	-	-	-	3.0
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	-	-	-	5.0
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	-	-	-	-

Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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-10	3980.06	9/17/20	121.34	-	0.00	3858.72	141.48	-	-	13.0
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	-	-	-	10.0
MW-10	3980.06	12/9/20	121.42	-	0.00	3858.64	-	-	-	-
MW-10	3980.06	1/28/21	121.49	-	0.00	3858.57	-	-	-	-
MW-10	3980.06	2/25/21	121.48	-	0.00	3858.58	141.30	-	-	10.0
MW-10	3980.06	3/24/21	121.46	-	0.00	3858.60	-	-	-	-
MW-10	3980.06	4/30/21	121.50	-	0.00	3858.56	-	-	-	-
MW-10	3980.06	5/11/21	121.54	-	0.00	3858.52	-	-	-	10.0
MW-10	3980.06	6/28/21	121.46	-	0.00	3858.60	-	-	-	-
MW-10	3980.06	7/27/21	121.37	-	0.00	3858.69	-	-	-	-
MW-10	3980.06	8/24/21	121.39	-	0.00	3858.67	-	-	-	9.5
MW-10	3980.06	9/30/21	121.56	-	0.00	3858.50	141.30	-	-	-
MW-10	3980.06	10/28/21	121.63	-	0.00	3858.43	141.30	-	-	-
MW-10	3980.06	11/16/21	121.64	-	0.00	3858.42	141.30	-	-	9.0
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	-	-	-	38.0
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-11	3981.92	1/28/21	123.23	-	0.00	3858.69	-	-	-	-
MW-11	3981.92	2/25/21	123.25	-	0.00	3858.67	141.70	-	-	35.0
MW-11	3981.92	3/24/21	123.23	-	0.00	3858.69	-	-	-	-
MW-11	3981.92	4/30/21	123.24	-	0.00	3858.68	-	-	-	-
MW-11	3981.92	5/11/21	123.31	-	0.00	3858.61	-	-	-	35.0
MW-11	3981.92	6/28/21	123.24	-	0.00	3858.68	-	-	-	-
MW-11	3981.92	7/27/21	123.17	-	0.00	3858.75	-	-	-	-

Table 1

Monthly Gauging and Elevation of the Potentiometric Surface Data for 2020-2021
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-11	3981.92	8/24/21	123.18	-	0.00	3858.74	-	-	-	9.0
MW-11	3981.92	9/30/21	123.30	-	0.00	3858.62	141.70	-	-	-
MW-11	3981.92	10/28/21	123.37	-	0.00	3858.55	141.70	-	-	-
MW-11	3981.92	11/16/21	123.36	-	0.00	3858.56	141.70	-	-	24.0
MW-12	3982.15	1/10/20	123.48	123.25	0.23	3858.86	-	-	0.5	2.0
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
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-12	3982.15	1/28/21	123.90	123.40	0.50	3858.66	-	-	-	-
MW-12	3982.15	2/25/21	123.88	123.38	0.50	3858.68	142.01	-	-	-
MW-12	3982.15	3/24/21	123.98	123.37	0.61	3858.66	-	-	-	-
MW-12	3982.15	4/30/21	124.19	123.37	0.82	3858.62	-	-	-	-
MW-12	3982.15	5/11/21	124.28	123.42	0.86	3858.57	-	-	-	-
MW-12	3982.15	6/28/21	124.36	123.31	1.05	3858.64	-	-	-	-
MW-12	3982.15	7/27/21	124.38	123.21	1.17	3858.72	-	-	-	-
MW-12	3982.15	8/24/21	124.53	123.21	1.32	3858.69	-	-	1.0	-
MW-12	3982.15	9/30/21	124.35	123.43	0.92	3858.55	142.01	-	-	-
MW-12	3982.15	10/28/21	124.40	123.48	0.92	3858.50	142.01	-	-	-
MW-12	3982.15	11/16/21	124.61	123.40	1.21	3858.52	142.01	-	1.3	-
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	-	-	-	-

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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-13	3980.82	5/26/20	121.88	-	0.00	3858.94	-	-	-	10.0
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	-	-	-	9.0
MW-13	3980.82	12/9/20	121.97	-	0.00	3858.85	-	-	-	-
MW-13	3980.82	1/28/21	122.05	-	0.00	3858.77	-	-	-	-
MW-13	3980.82	2/25/21	122.11	-	0.00	3858.71	141.42	-	-	9.0
MW-13	3980.82	3/24/21	122.06	-	0.00	3858.76	-	-	-	-
MW-13	3980.82	4/30/21	122.10	-	0.00	3858.72	-	-	-	-
MW-13	3980.82	5/11/21	122.13	-	0.00	3858.69	-	-	-	9.0
MW-13	3980.82	6/28/21	122.27	-	0.00	3858.55	-	-	-	-
MW-13	3980.82	7/27/21	121.97	-	0.00	3858.85	-	-	-	-
MW-13	3980.82	8/24/21	121.88	-	0.00	3858.94	-	-	-	9.0
MW-13	3980.82	9/30/21	122.37	-	0.00	3858.45	141.42	-	-	-
MW-13	3980.82	10/28/21	122.40	-	0.00	3858.42	141.42	-	-	-
MW-13	3980.82	11/16/21	122.48	-	0.00	3858.34	141.42	-	-	9.0
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	-	-	-	10.0
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	-	-	12.0
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	-	-	-	9.0
MW-14	3981.35	12/9/20	122.52	-	0.00	3858.83	-	-	-	-
MW-14	3981.35	1/28/21	122.65	-	0.00	3858.70	-	-	-	-
MW-14	3981.35	2/25/21	122.67	-	0.00	3858.68	141.41	-	-	9.0
MW-14	3981.35	3/24/21	122.61	-	0.00	3858.74	-	-	-	-

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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-14	3981.35	4/30/21	122.64	-	0.00	3858.71	-	-	-	-
MW-14	3981.35	5/11/21	122.67	-	0.00	3858.68	-	-	-	9.0
MW-14	3981.35	6/28/21	122.62	-	0.00	3858.73	-	-	-	-
MW-14	3981.35	7/27/21	122.55	-	0.00	3858.80	-	-	-	-
MW-14	3981.35	8/24/21	122.57	-	0.00	3858.78	-	-	-	3.0
MW-14	3981.35	9/30/21	122.68	-	0.00	3858.67	141.41	-	-	-
MW-14	3981.35	10/28/21	122.74	-	0.00	3858.61	141.41	-	-	-
MW-14	3981.35	11/16/21	122.76	-	0.00	3858.59	141.41	-	-	9.0

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 potetntiometric surface were calculated using 0.81 as the factor for the specific gravity of LNAPL.
6. MW-8, MW-9, MW-10, MW-11, MW-12, MW-13 and MW-14 were installed in November 2017

Table 2
BTEX Analytical Results for Groundwater Sampling Events 2020-2021
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	2/25/20	**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**
MW-1 (DUP)	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-1	2/25/21	**0.00618**	**0.0180**	**0.00752**	**0.0119**
MW-1 (Dup-1)	2/25/21	**0.00522**	**0.0156**	**0.00656**	**0.0105**
MW-1	5/12/21	**0.0380**	**0.0152**	**0.00876**	**0.0146**
MW-1	8/25/21	**0.0137**	**0.0417**	**0.0164**	**0.0312**
MW-1 (DUP-1)	8/25/21	**0.0143**	**0.0452**	**0.0176**	**0.0326**
MW-1	11/16/21	**0.0920**	**0.283**	**0.11**	**0.132**
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-2	2/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-2	5/12/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-2	8/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-2	11/16/21	**0.000123 J**	<0.000278	<0.000137	<0.000174
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-3	2/25/21	**0.000353 J**	<0.000412	<0.000160	<0.000510
MW-3	5/12/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-3	8/25/21	**0.000861**	<0.000412	<0.000160	<0.000510
MW-3	11/16/21	**0.000253 J**	<0.000278	<0.000137	<0.000174
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-4	2/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	5/12/21	<0.000190	<0.000412	**0.000330 J**	<0.000510
MW-4	8/24/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	11/16/21	<0.0000941	<0.000278	<0.000137	<0.000174
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-5	2/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	5/12/21	<0.000190	<0.000412	**0.000247 J**	<0.000510

Table 2
BTEX Analytical Results for Groundwater Sampling Events 2020-2021
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	8/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-5	11/16/21	<0.0000941	<0.000278	<0.000137	<0.000174
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-6	2/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-6	5/12/21	<0.000190	<0.000412	**0.000477 J**	<0.000510
MW-6	8/25/21	**0.000344 J**	<0.000412	<0.000160	<0.000510
MW-6	11/16/21	**0.000246 J**	<0.000278	<0.000137	**0.000208 J**
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-8	2/25/21	**2.63**	**1.070**	**0.103**	**0.481**
MW-8	5/12/21	**1.78**	**0.240**	**0.0417**	**0.204**
MW-8 (DUP-1)	5/12/21	**2.09**	**0.192**	**0.0396**	**0.179**
MW-8	8/24/21	**2.63**	**1.30**	**0.0945**	**0.668**
MW-8	11/16/21	**1.61**	**0.403**	**0.0499**	**0.240**
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
MW-9 (DUP-1)	11/4/20	**0.00281**	**0.000463 J**	**0.000172 J**	<0.000510
MW-9	2/25/21	**0.00301**	<0.000412	<0.000160	<0.000510
MW-9	5/12/21	**0.00229**	**0.000458 J**	<0.000160	<0.000510
MW-9	8/25/21	**0.00351**	<0.000412	<0.000160	<0.000510
MW-9	11/16/21	**0.00343**	<0.000278	**0.000146 J**	**0.000422 J**
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-10	2/25/21	**0.000851**	<0.000412	<0.000160	<0.000510
MW-10	5/12/21	**0.000823**	**0.000467 J**	<0.000160	<0.000510
MW-10	8/25/21	**0.000584**	<0.000412	<0.000160	<0.000510
MW-10	11/16/21	**0.00402**	<0.000278	<0.000137	<0.000174
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-11	2/25/21	**0.0429**	**0.000905 J**	**0.00459**	**0.00545**

11209906

Table 2
BTEX Analytical Results for Groundwater Sampling Events 2020-2021
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-11	5/12/21	**0.0144**	<0.000412	**0.00339**	**0.00148 B J**
MW-11	8/25/21	**0.00644**	<0.000412	<0.000160	<0.000510
MW-11	11/16/21	**0.238**	**0.00813**	**0.00645**	**0.0342**
MW-11 (DUP)	11/16/21	**0.231**	**0.00804**	**0.00637**	**0.0343**
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-13	2/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-13	5/12/21	<0.000190	<0.000412	**0.000161 J**	<0.000510
MW-13	8/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-13	11/16/21	<0.0000941	<0.000278	<0.000137	<0.000174
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
MW-14	2/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	5/12/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	8/25/21	<0.000190	<0.000412	<0.000160	<0.000510
MW-14	11/16/21	<0.0000941	<0.000278	<0.000137	<0.000174

Notes:

1. Yellow 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. J flag indicates that the identification of the analyte is acceptable. The reported value is an estimate.
5. B flag indicates the same analyte is found in the associated blank.
6. 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
Polycyclic Aromatic Hydrocarbons Analytical Results
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(a)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	0.001	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	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	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	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	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	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	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	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	<0.00000270	<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	11/4/20	**0.000112**	**0.000355**	**0.0005030**	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	**0.00504**	<0.0000270	**0.00332**	<0.0000158	**0.0663**	**0.00313**	<0.0000169	**0.0737**	**0.0471**
MW-8	11/16/21	<0.0000190	**0.000543**	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	**0.0000319 J**	<0.0000160	**0.00388**	**0.0000372 J**	**0.00332**	<0.0000158	**0.0552**	**0.00297**	**0.0000344 J**	**0.0542**	**0.0272**
MW-9	11/4/20	<0.0000190	**0.0000267 J**	**0.0000656**	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	**0.00123**	<0.0000270	**0.000476**	<0.0000158	**0.00113**	**0.000438**	<0.0000169	**0.00126**	<0.0000674
MW-9	11/16/21	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.000614**	<0.0000270	**0.000209**	<0.0000158	**0.000334**	**0.000252**	<0.0000169	**0.000339 J4**	<0.0000674 J4
MW-10	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	**0.000214 B J**	<0.00000820	<0.0000117	<0.00000821	<0.00000902
MW-10	10/16/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	**0.000443**	<0.0000157	**0.000122**	<0.0000148	**0.000769**	**0.000190**	<0.0000117	**0.00255**	**0.0000235 J**
MW-11	11/15/18	**0.0000142 J**	<0.0000100	<0.0000120	<0.00000410	<0.0000116	**0.00000386 J**	<0.00000227	<0.0000136	<0.0000108	<0.00000396	**0.00000319 B J**	<0.0000157	<0.00000850	<0.0000148	**0.0000571 B J**	**0.0000111 J**	**0.0000206 J**	<0.00000821	<0.00000902
MW-11	10/16/19	<0.0000140	**0.0000316 J**	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	**0.000202**	<0.0000157	**0.000147**	<0.0000148	**0.000887**	**0.0000995**	<0.0000117	**0.00176**	**0.000774**
MW-12	11/30/17	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	<0.000180	**0.000190**	<0.000180	**0.000456**	**0.000338**	<0.000180	NA	NA
MW-12	11/15/18	<0.0000140	**0.0000333 J**	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	**0.000307**	<0.0000157	**0.000239**	<0.0000148	**0.00387**	**0.000123**	<0.0000117	**0.00356**	**0.000992**
MW-13	11/30/17	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000370	**0.000257**	<0.000185	<0.000111 U K	**0.000630 K**
MW-13	11/15/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	**0.00000233 J**	<0.00000227	<0.0000136	<0.0000108	<0.00000396	**0.00000169 B J**	<0.0000157	<0.00000850	<0.0000148	**0.0000813 B J**	<0.00000820	<0.0000117	<0.00000821	<0.00000902
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. Yellow shaded cells indicate New Mexico Oil Conservation Division Regulatory Limit exceedance. Requires additional sampling.
2. Bold indicates detection. PAH analyses by EPA Method 8270C.
3. Samples collected and results dated between 2012 and 2014 were collected and reported by Basin Environmental Service Technologies, LLC.
4. J-flag indicates that the identification of the analyte is acceptable. The reported value is an estimate.
5. K-flag indicates that sample was analyzed outside of recommended hold time.
6. B-flag indicates the same analyte is found in the associated blank.
7. < indicates that analyte was not detected.
8. NA indicates analyte not analyzed.
9. NMWQCC Human Health Standard for naphthalenes + monmethylnaphthalenes is 0.03 mg/l, as noted in NMAC 20.6.2.3103(A.)(1)(jj).

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 appropriat
District Office in accordanc
with Rule 116 on bac
side of for

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Rep

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	Mineral Owner	Lease No.
NMSLO		

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	6	18S	35E					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? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson	
By Whom? Jason Henry	Date and Hour: 10/08/2010 @ 11:30	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
OCT 15
HOBBS

If a Watercourse was Impacted, Describe Fully.*

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: Jason Henry

Printed Name: Jason Henry

Title: Remediation Coordinator

E-mail Address: jhenry@paalp.com

Date: 10-15-2010 Phone: (575) 441-1099

OIL CONSERVATION DIVISION

Approved by District Supervisor: ENVIRONMENTAL ENGINEER

Approval Date: 10.15.10 Expiration Date: 12.15.10

Conditions of Approval: SUBMIT FINAL C-141 W/DOCS BY

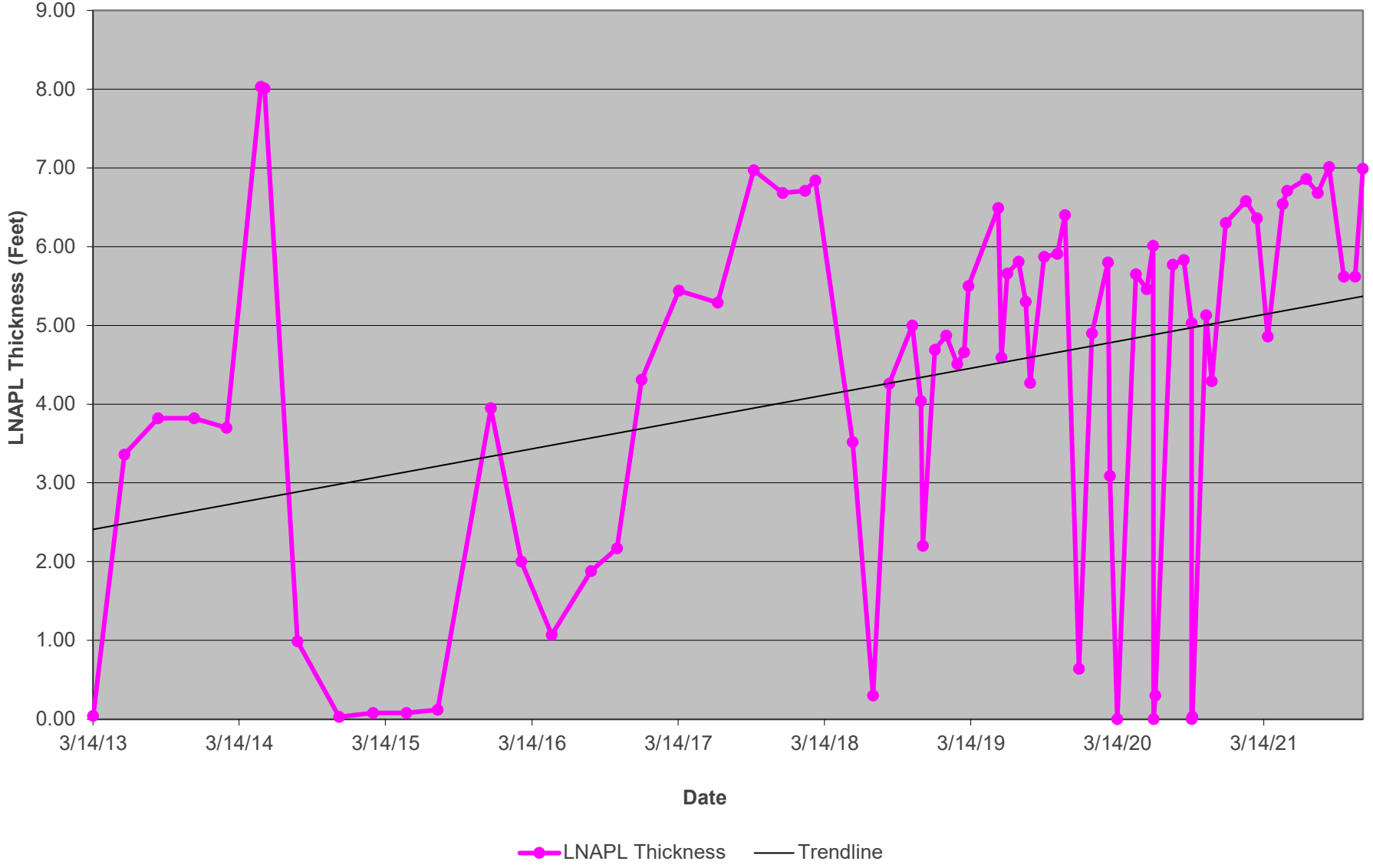
Attached ☐

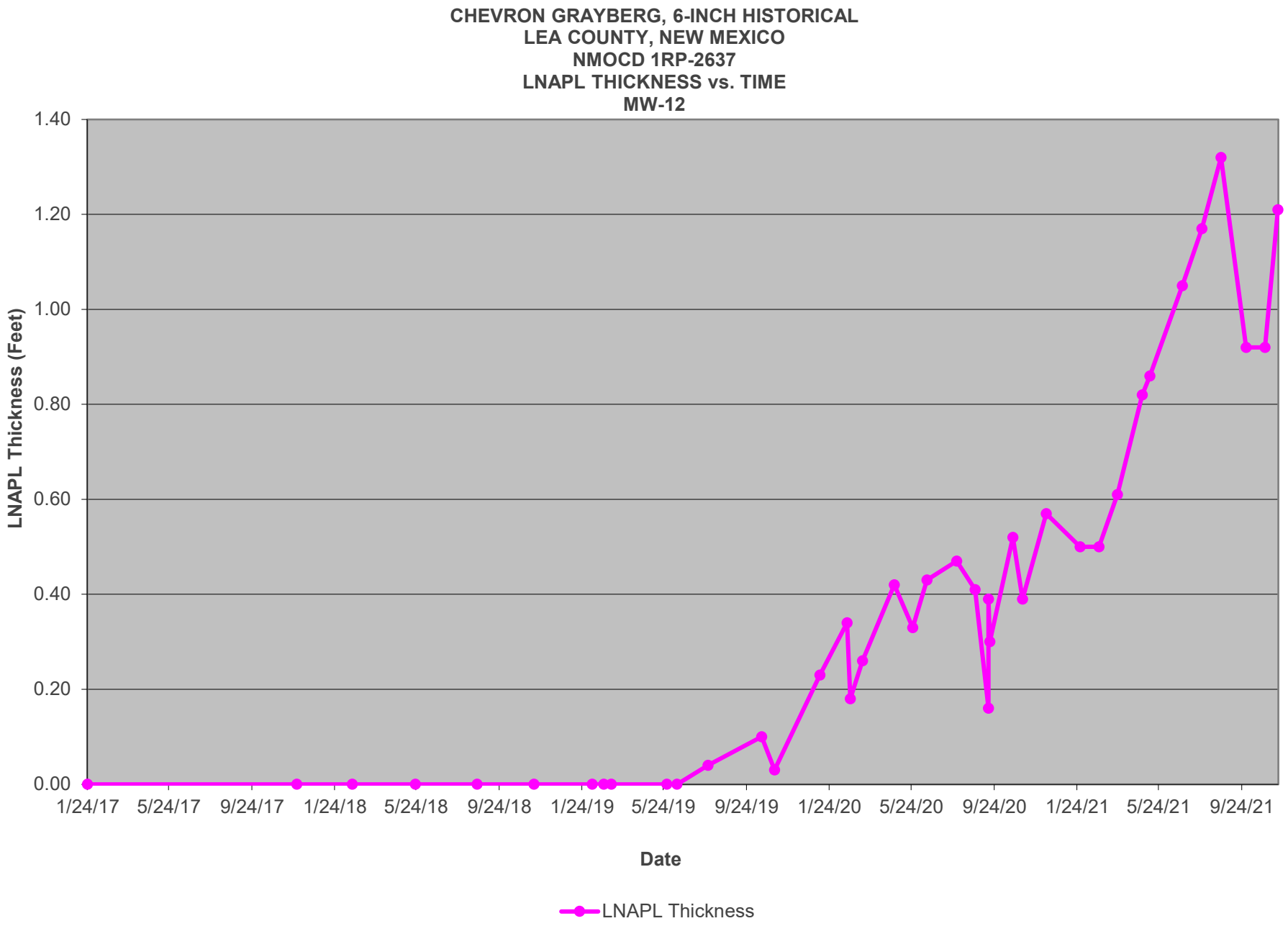
IRP# 10.10.2637

* Attach Additional Sheets If Necessary

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

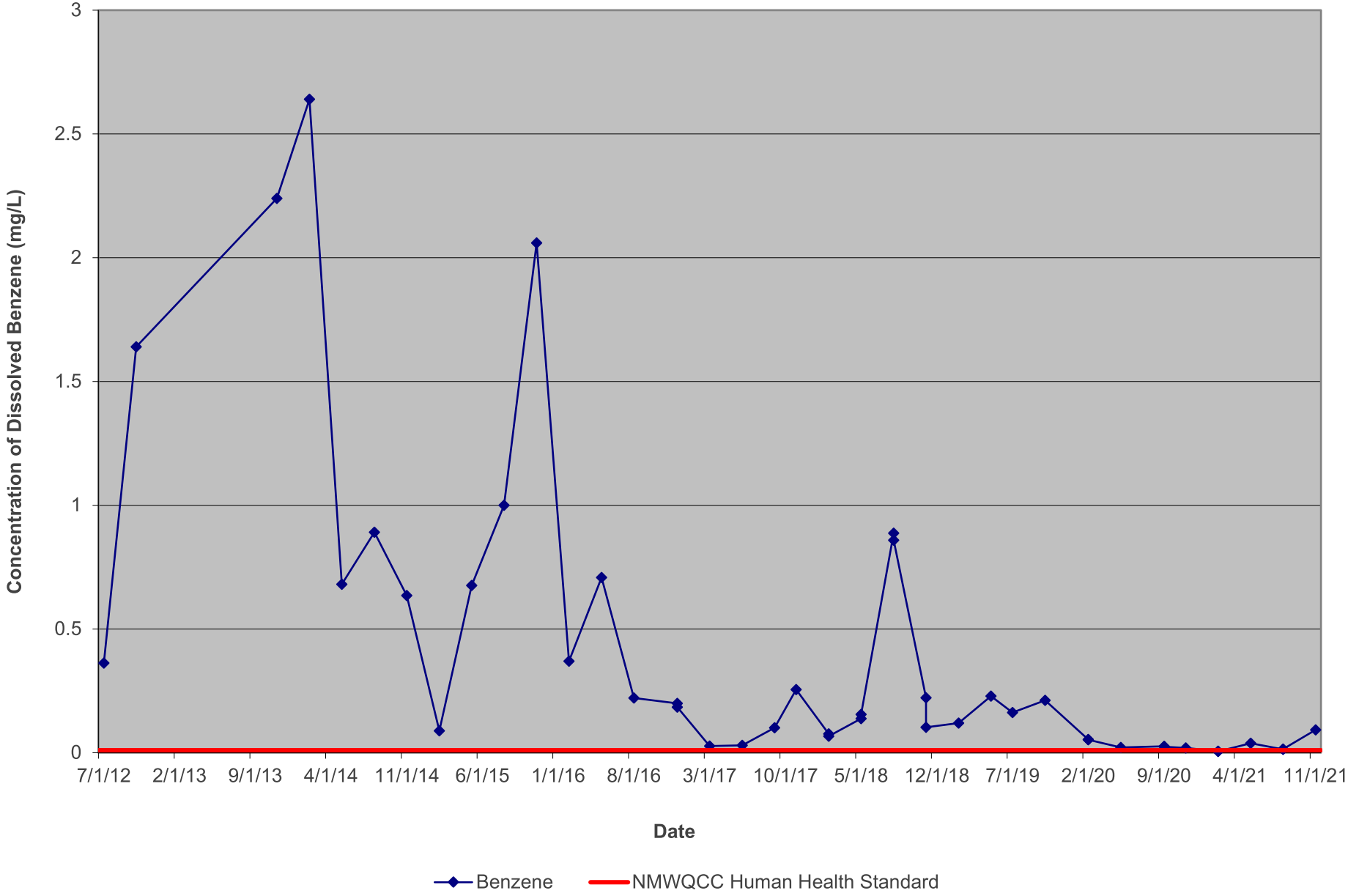
CHEVRON GRAYBERG, 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
LNAPL THICKNESS vs. TIME
MW-7



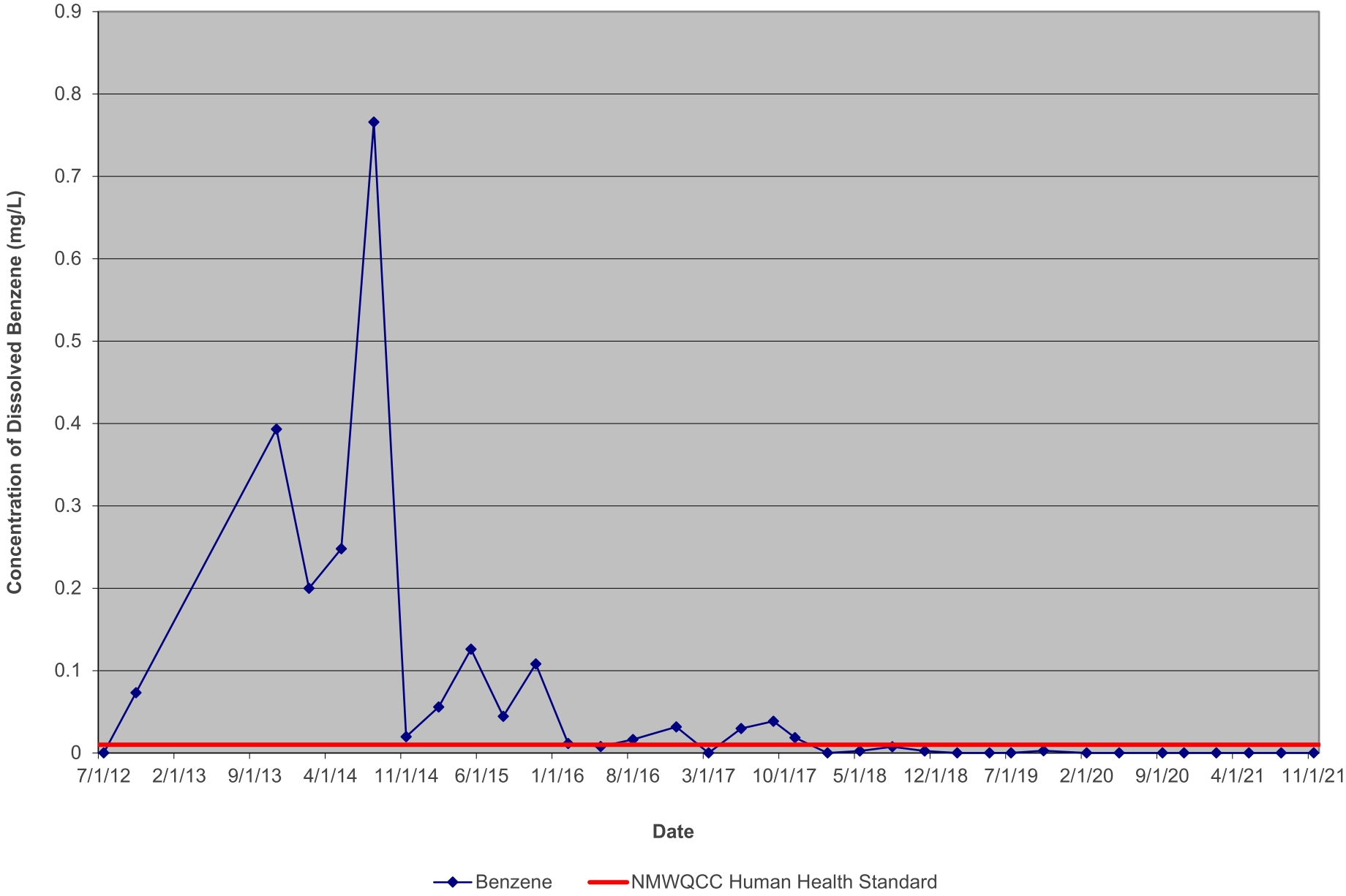


Appendix C
Charts of Dissolved Benzene in Monitor Wells vs. Time

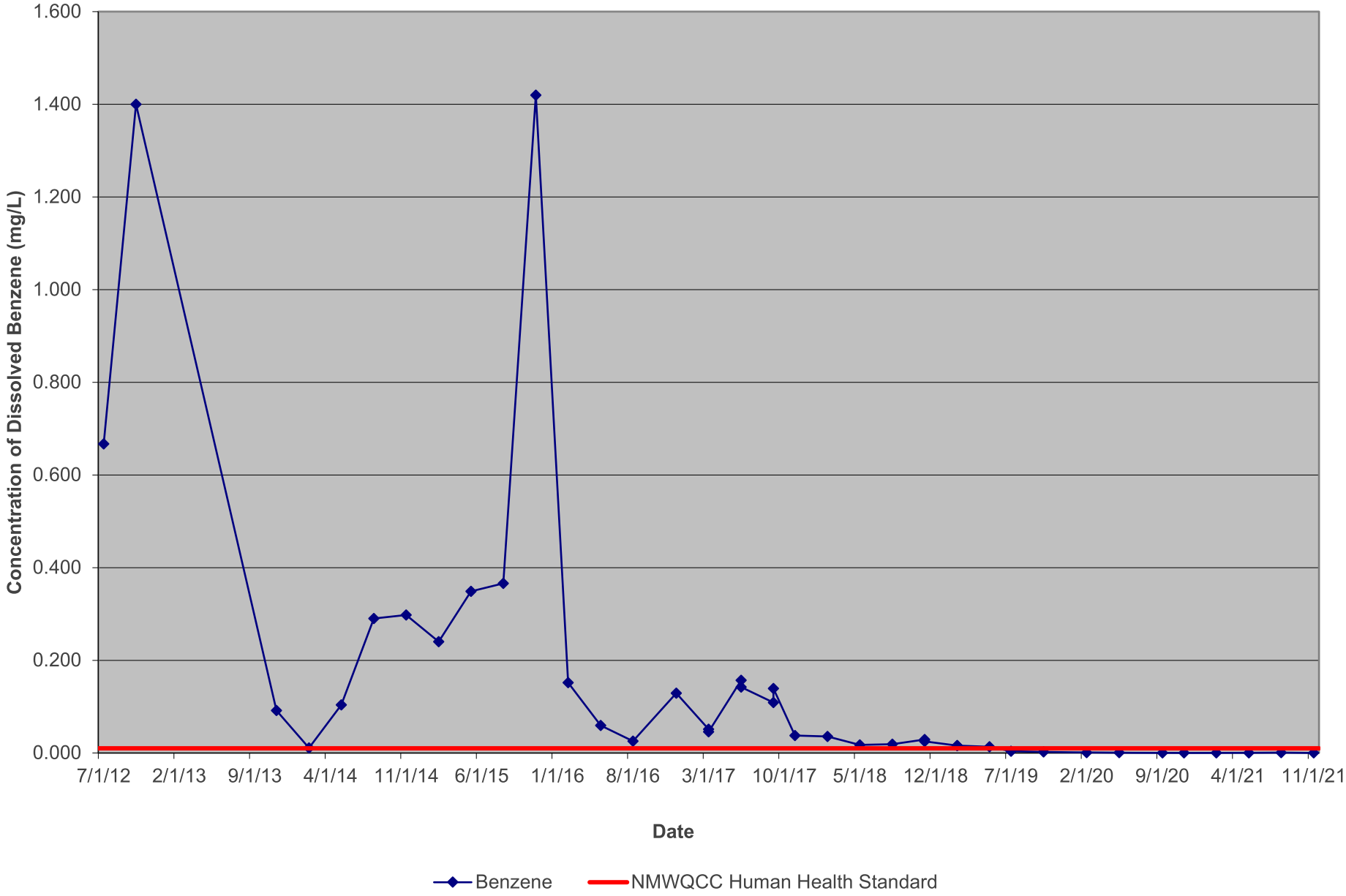
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-1



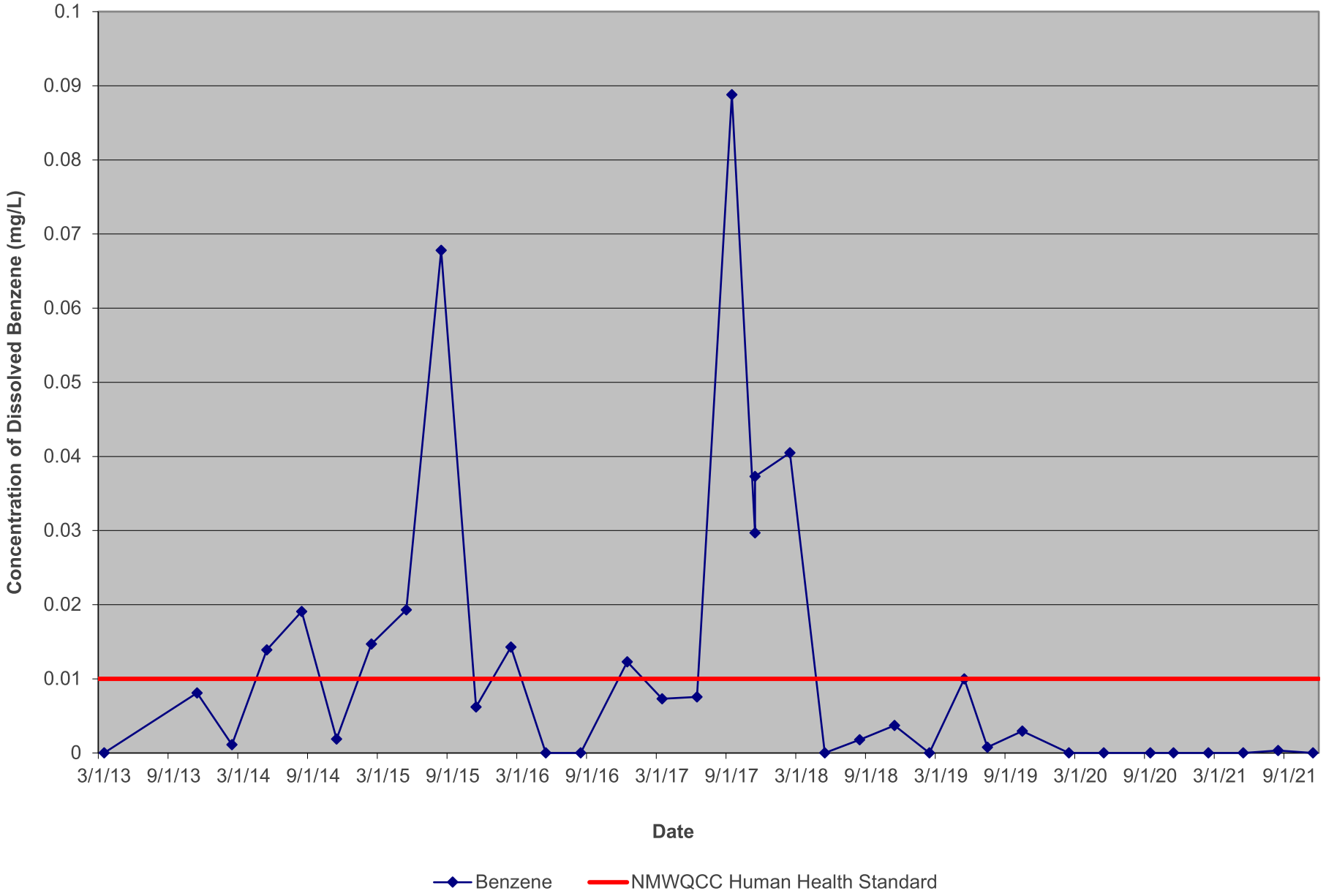
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-2



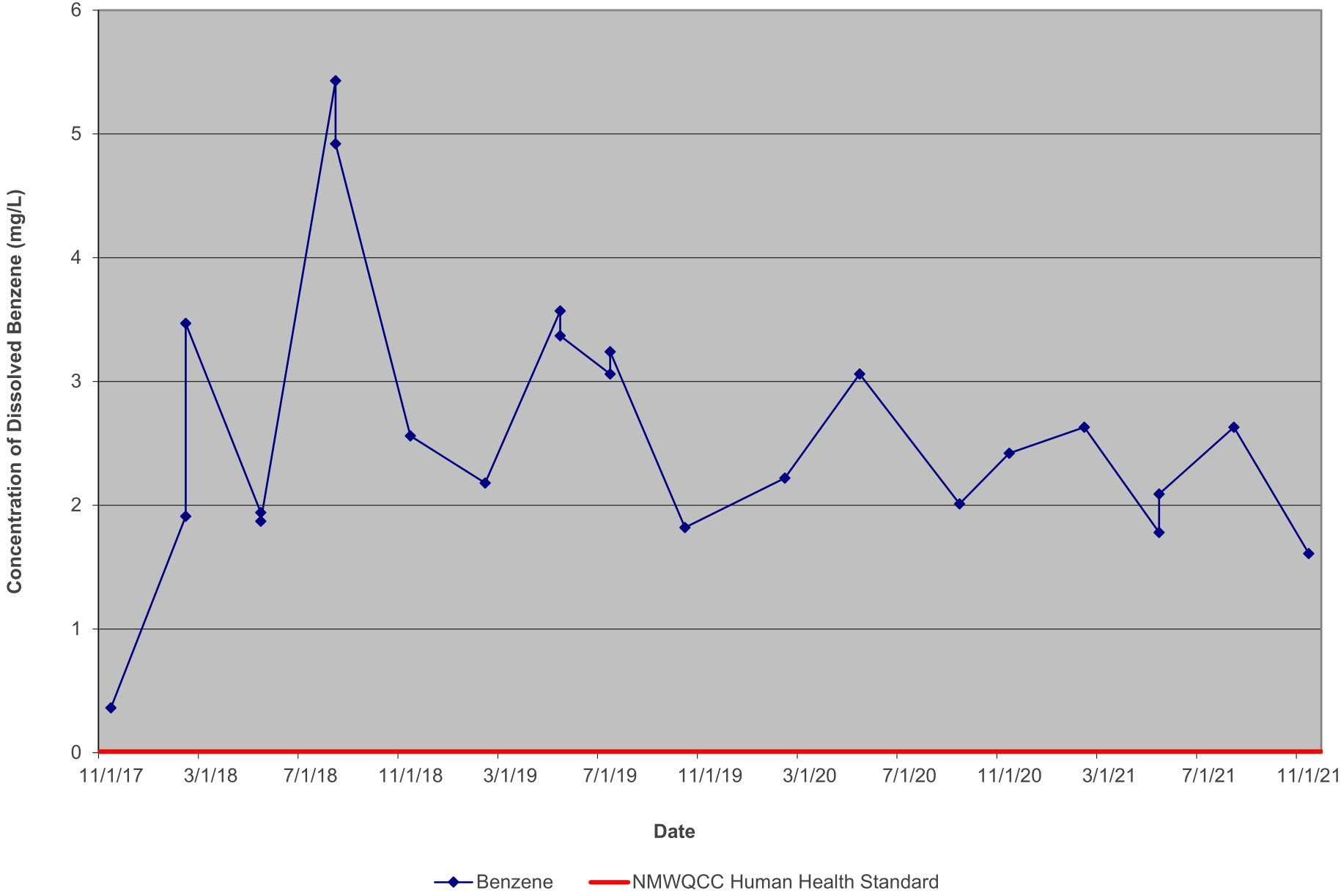
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-3



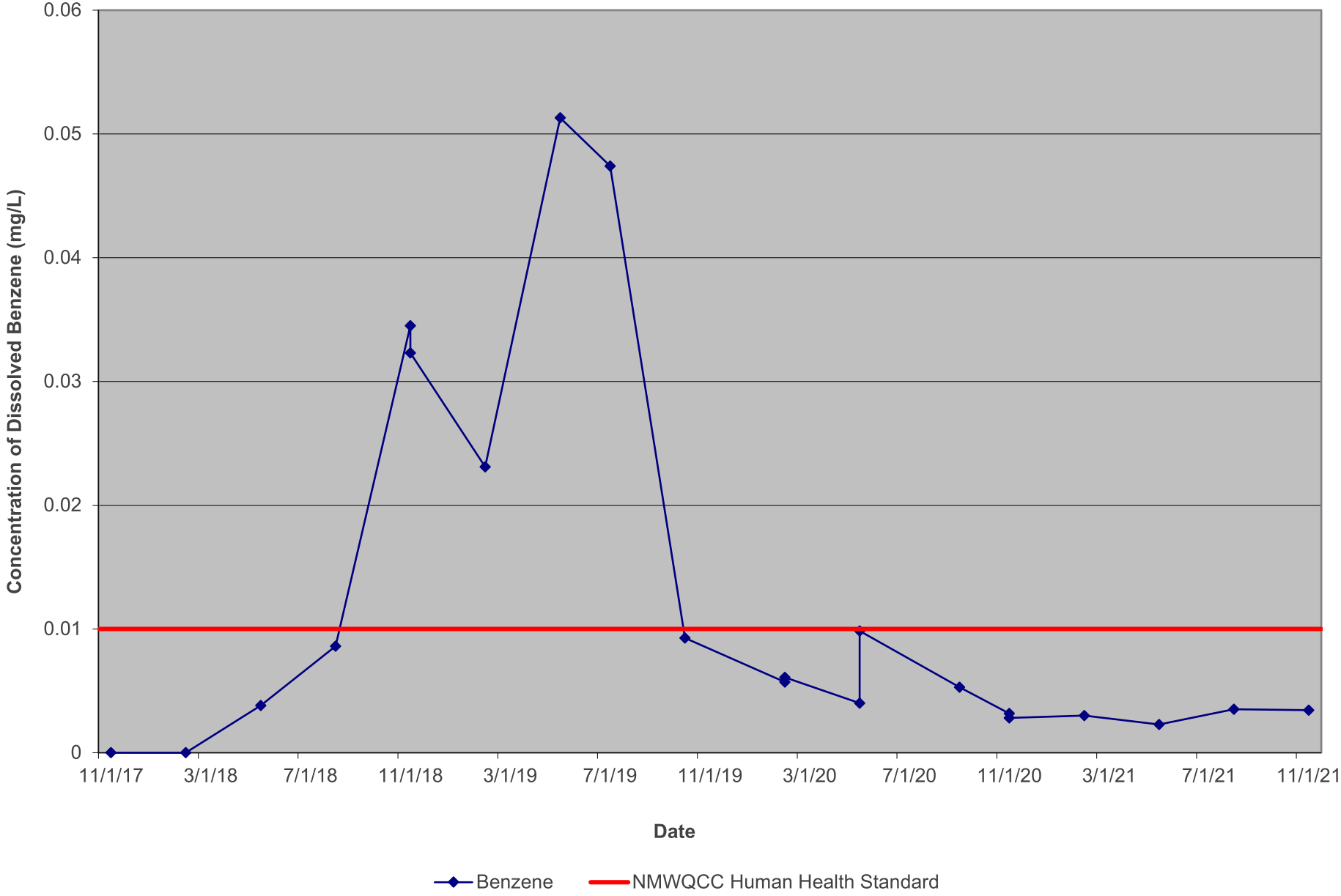
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-6



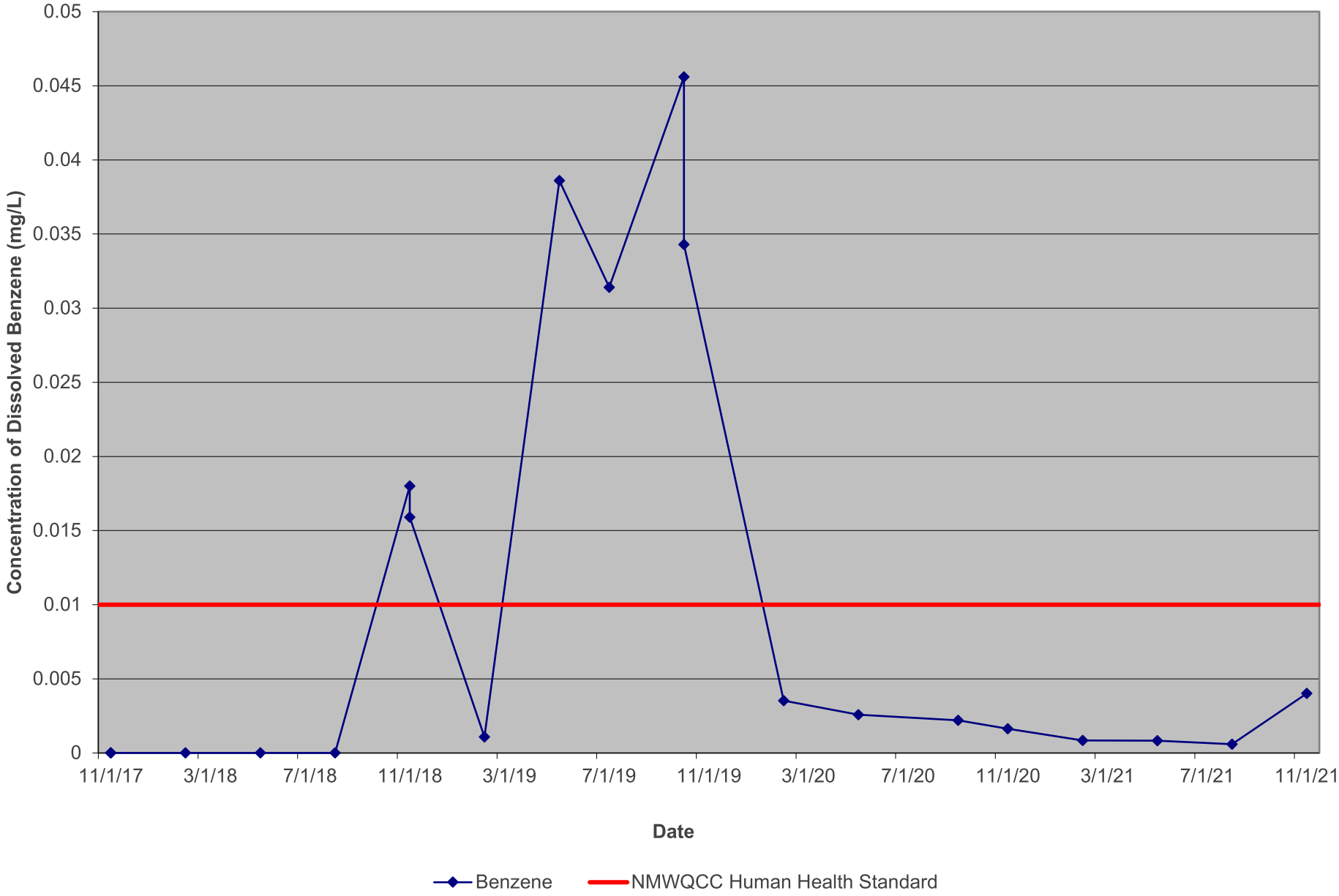
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-8



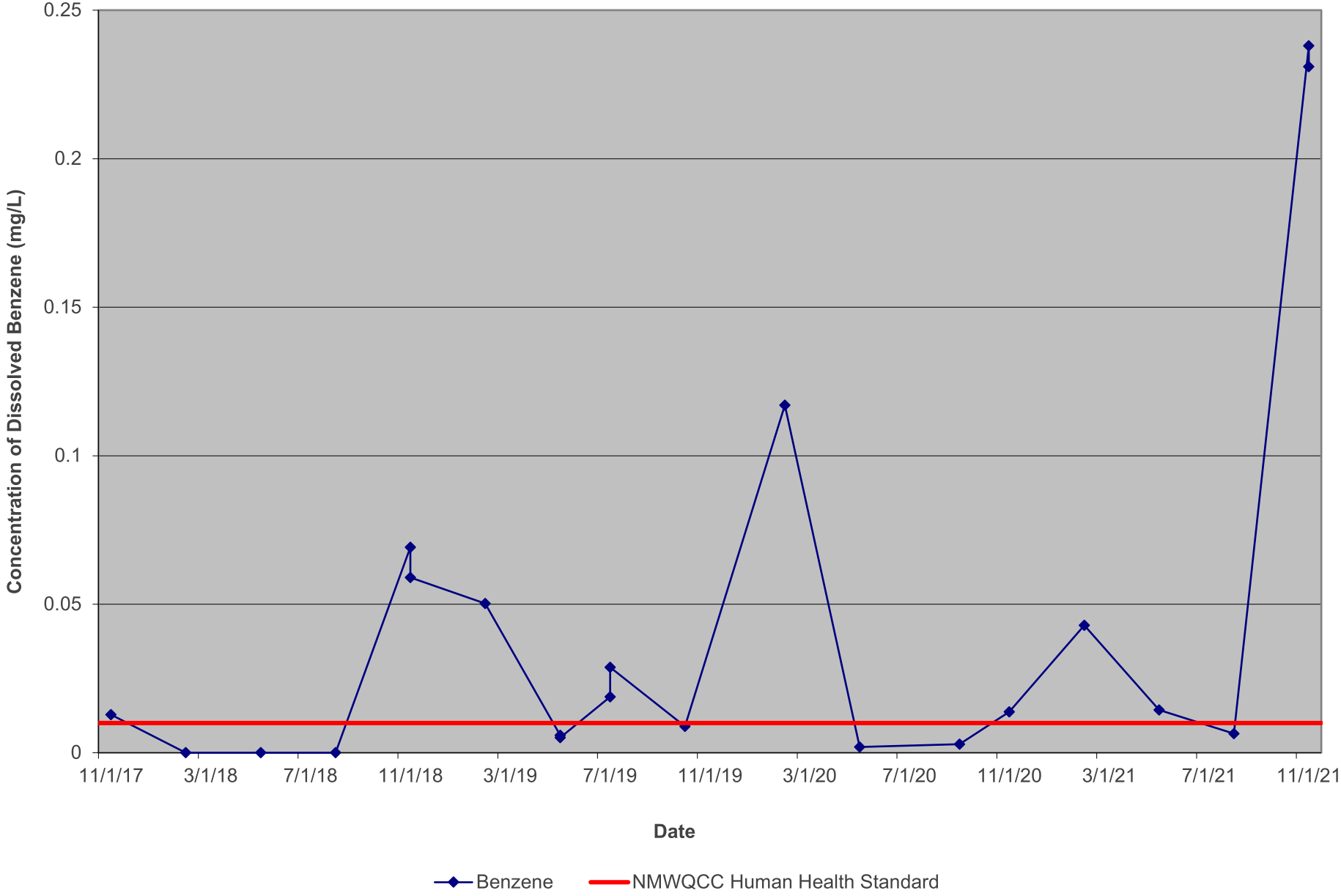
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-9



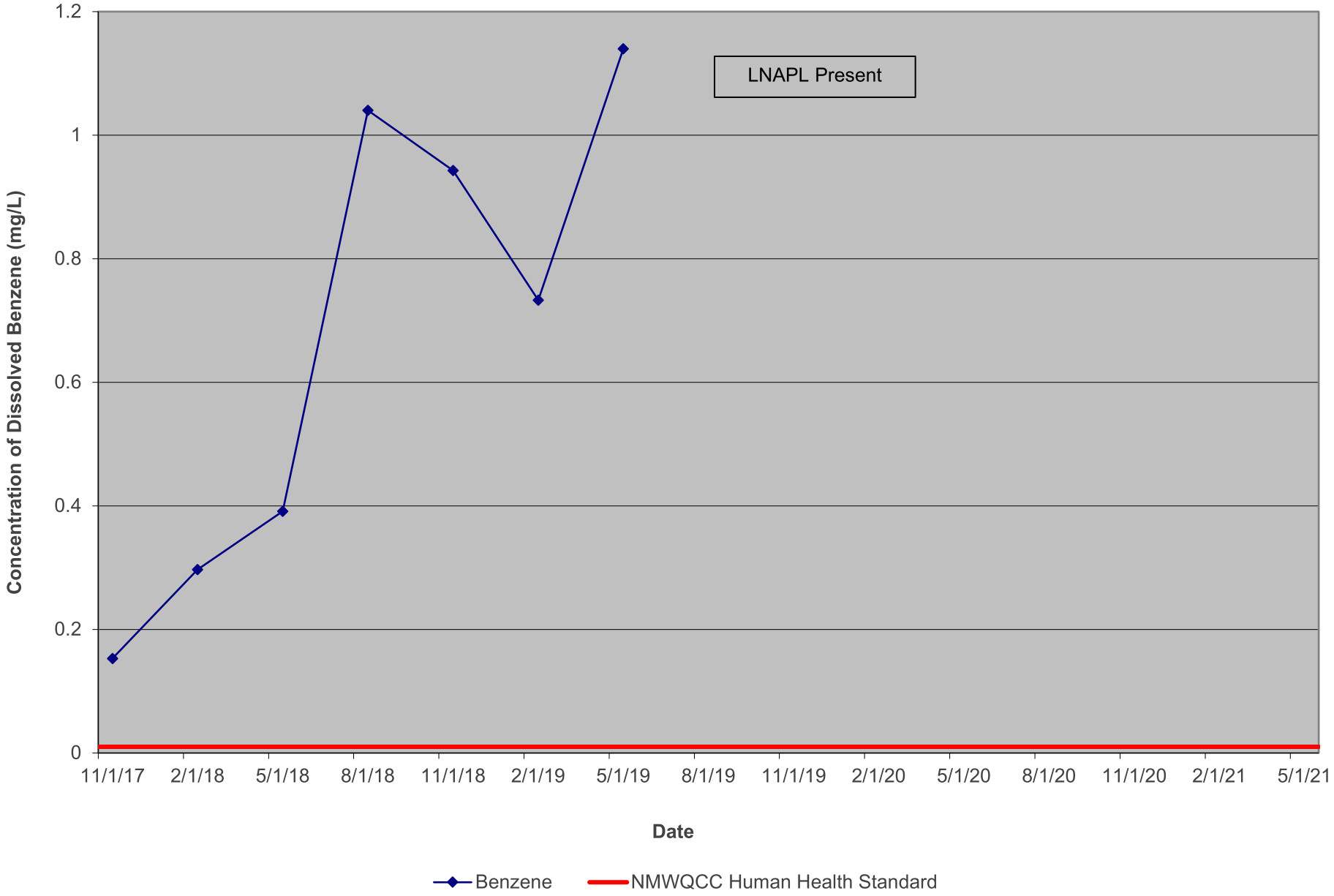
CHEVRON GRAYBURG 6-INCH HISTORICAL
LEA COUNTY, NEW MEXICO
NMOCD 1RP-2637
CONCENTRATION OF DISSOLVED BENZENE vs. TIME
MW-10



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
Talon 2021 Annual MDPE Report

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TALON LPE

MOBILE DUAL PHASE EXTRACTION REPORT
CHEVRON - GRAYBURG
BUCKEYE, LEA COUNTY, NEW MEXICO
SRS CHEVRON GRAYBURG 6 – INCH, HISTORICAL
2021 MDPE EVENTS

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January 28, 2022

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Attachments:

Attachment 1 - MDPE Field Logs
Attachment 2 - Laboratory Analytical Results
Attachment 3 – Oxidizer Charts

I. MDPE SUMMARY REPORT AND WASTE DISPOSITION

A. MDPE Results

The following report summarizes data collected during the four (4) 12-hour High Vacuum Multi-Phase Extraction (MDPE) events conducted during 2021 at the Chevron-Grayburg release site, located in Buckeye, Lea County, New Mexico. The objective of the MDPE treatment was to remove both vapor and liquid phase separated hydrocarbons (PSH) from onsite groundwater wells. Talon/LPE utilized an MDPE unit which consisted of a Soil Vapor Extraction (SVE) pump capable of generating vacuum up to 25 inHg. Off-gas vapors extracted from the extraction wells were destroyed using a propane-fired 1000-SCFM thermal oxidizer capable of processing 172.96 lbs/hr of gasoline.

A total of two (2) days of PSH recovery was performed on MW-7.

Prior to and immediately following the events, the groundwater wells were gauged for groundwater elevation and PSH. Depth to groundwater ranges were measured in feet below the top of casing. Refer to Attachment 1 for a summary of data collected during the MDPE events.

The volume of PSH removed during the MDPE events is shown to reflect the portions of PSH in the liquid phase and as off-gas vapor. Air removal rates were calculated from velocity measurements recorded at the influent manifold prior to entry into the MDPE unit. PSH recovery and air flow data has been detailed and is contained in Table 1 through Table 4. Influent air samples were collected over the course of the events. These samples were submitted for laboratory testing in order to compare the predicted vapor concentrations (based on field-screening or calculated based on fuel consumption) to the actual vapor concentrations. All influent samples were tested for Total-Gas Analysis (Hydrocarbon Composition) by GPA 2261M. Laboratory analytical results can be found in Attachment 2.

Based on a combination of field vapor screening and collected laboratory samples, a combined estimated total of **160.44 equivalent gallons of hydrocarbons (Total)** were removed during the events. The combined volume of hydrocarbons was comprised of approximately **62.00 gallons of PSH (liquid phase)** and approximately **98.44 gallons as off-gas vapor**. The calculations used to estimate the off-gas vapor mass recovered reflect the mass of total hydrocarbons recovered and does not necessarily equate to an equal mass of the product released. The mass recovery calculations may be affected by variations in the specific gravity of product released, age of release, activity of aerobic and/or anaerobic processes, and site-specific geochemical factors.

The cumulative air flow measurements for the MDPE event was calculated using a combination of field data measurements and Preso® B+ manufacturer provided formulas. **Air flow rates extracted from the recovery wells averaged 140.53 SCFM** during the events.

B. Air Quality

Influent air samples were collected during the event. These samples were submitted for laboratory testing in order to compare the predicted vapor concentrations (based on field-screening or calculated based on fuel consumption) to the actual vapor concentrations. The maximum concentration in air influent was recorded as 36,960 ppmv for Hydrocarbon Composition. Laboratory analytical results can be found in Attachment 2.

C. Waste Management and Disposition

A cumulative total of 315 gallons of fluid were generated during the events. The fluids were transferred to an on-site storage tank prior to being transported offsite to a licensed disposal facility.

II. SYSTEM OPERATION DATA AND MASS RECOVERY CALCULATIONS

Formulae:

$$\text{Concentration (C\_mg/l)} = \frac{\text{C\_ppmv x Mol. wt. in mg(estimated) x 1000 x 0.000001}}{\text{0.0821 x Temp (K)}}$$

$$\text{Recovery Rate (lbs/hr)} = \frac{\text{(C\_mg/l) x 2.2 x (Flowrate) x 60 x 28.32}}{\text{1,000,000}}$$

Recovery (lbs) = (lbs/hr) x (hrs)

$$\text{Correction Factor (CF)} = \frac{\text{FID/PID Reading (ppmv)}}{\text{FID/PID Reading at Time of Laboratory Analysis}}$$

$$\frac{\text{8.34 lbs}}{\text{gallon water}} \times \text{0.82 average specific gravity of light crude (estimated)} = \frac{\text{6.84 lbs light crude}}{\text{gallon}}$$

Table 1
System Operation Data and Mass Recovery Calculations 3/10/2021

Time	Period (hours)	Influent Temp. (°F)	Vacuum (inHg)	Vacuum (inH_20)	Differential pressure (inH_20)	Flow (SCFM)	FID Readings (ppm)	Lab Result (ppmv)	Assigned Lab Result (ppmv)	Correction Factor (CF)	Adjusted Lab Result (ppmv)	Adjusted Lab Result (mg/L)	Recovery (lbs/hr)	Recovery in Period (lbs)	Total Recovery (lbs)
7:30	1	60	18.0	244.96	29.5	121.10	50000	13500.00	13500.00	1.00	13500	16.41	7.43	7.43	7.43
8:30	1	64	18.0	244.96	26.1	113.47	50000	-	13500.00	1.00	13500	16.28	6.91	6.91	14.34
9:30	1	72	18.0	244.96	25.5	111.31	50000	-	13500.00	1.00	13500	16.04	6.67	6.67	21.01
10:30	1	80	18.0	244.96	27.3	114.32	50000	-	13500.00	1.00	13500	15.80	6.75	6.75	27.76
11:30	1	80	18.0	244.96	25.1	109.61	50000	-	13500.00	1.00	13500	15.80	6.47	6.47	34.24
12:30	1	82	18.0	244.96	23.6	106.09	50000	-	13500.00	1.00	13500	15.74	6.24	6.24	40.48
13:30	1	82	18.0	244.96	22.7	104.05	50000	-	12360.00	1.00	12360	14.38	5.59	5.59	46.07
14:30	1	86	18.0	244.96	21.8	101.59	50000	-	12360.00	1.00	12360	14.27	5.42	5.42	51.49
15:30	1	88	18.0	244.96	17.6	91.11	50000	-	12360.00	1.00	12360	14.22	4.84	4.84	56.34
16:30	1	86	18.0	244.96	20.6	98.75	50000	-	12360.00	1.00	12360	14.27	5.27	5.27	61.60
17:30	1	84	18.0	244.96	21.5	101.07	50000	12360.00	12360.00	1.00	12360	14.32	5.41	5.41	67.02
18:30	1	80	18.0	244.96	23.7	106.51	50000	-	12360.00	1.00	12360	14.43	5.75	5.75	72.76
Averages:		78.67	18.00	244.96	23.75	106.58	50000.00						Total	72.76	

PSH Mass Recovered in Vapor Phase = 10.64 gallons

FID maximum Concentration = 50,000 PPM

Ex: Conversion from ppmv to mg/L (influent 1)

Measured Conc.	Molecular Wt.	Pressure	Gas Constant	Temp.	Temp.	Conc.
(ppmv)	(Grams)	(atm)	(atm.liter/K.mole)	(F)	(K)	(C_mg/l)
13500	28.7959	1	0.0821	60	288.555556	16.4093786

Inputs are the green values.
Calculated values are yellow.
Constants are purple values.
Outpus are the blue values.

Liquid-phase Hydrocarbon Recovery

∏ * r2 * h = volume

Total Hydrocarbon Recovery

PSH Mass Recovered in Vapor Phase =	72.76	lbs
	10.64	gallons
PSH Mass Recovered in Liquid Phase =	88.92	lbs
	13.00	gallons
TOTAL =	**161.68**	**lbs**
	23.64	**gallons**

Gallons removed determined at time of pick up

PSH Volume in Gallons=	13.00
PSH Mass in Pounds=	88.92

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 1

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0.000		0.00
Ethane (C2H6)	30.07	0.000		0.00
Propane (C3H8)	44.10	0.000		0.00
Iso-Butane (C4H10)	58.12	0.000		0.00
N-Butane (C4H10)	58.12	0.000		0.00
Iso-Pentane (C4H12)	72.15	0.020		200.00
N-Pentane (C5H12)	72.15	0.048		480.00
Hexane+ (C6H14)	93.19	1.282		12820.00
			Total	**13500.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	96.3890
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	3.1880
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0080
N-Pentane (C5H12)	72.1488	0.0190
Hexane+ (C6H14)	93.1887	0.3960
	Total	100
	Calculated MW	**28.7959**

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 2

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0		0.00
Ethane (C2H6)	30.07	0		0.00
Propane (C3H8)	44.10	0		0.00
Iso-Butane (C4H10)	58.12	0		0.00
N-Butane (C4H10)	58.12	0		0.00
Iso-Pentane (C4H12)	72.15	0.013		130.00
N-Pentane (C5H12)	72.15	0.045		450.00
Hexane+ (C6H14)	93.19	1.178		11780.00
			Total	**12360.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	96.7270
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	2.8870
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0050
N-Pentane (C5H12)	72.1488	0.0180
Hexane+ (C6H14)	93.1887	0.3630
	Total	100
	Calculated MW	**28.7245**

Calculated MW= $\frac{\text{sum (individual component MW x their reported mol\%)}}{100}$

ppmv= **% Vol x 10,000**

Table 2
System Operation Data and Mass Recovery Calculations 6/29/2021

Time	Period (hours)	Influent Temp. (°F)	Vacuum (inHg)	Vacuum (inH_20)	Differential pressure (inH_20)	Flow (SCFM)	PID Readings (ppm)	Lab Result (ppmv)	Assigned Lab Result (ppmv)	Correction Factor (CF)	Adjusted Lab Result (ppmv)	Adjusted Lab Result (mg/L)	Recovery (lbs/hr)	Recovery in Period (lbs)	Total Recovery (lbs)
16:30	1	80	17.0	231.35	37.4	139.28	3368	14940.00	14940.00	1.00	14940	17.60	9.16	9.16	9.16
17:30	1	80	17.0	231.35	37.5	139.47	3329	-	14940.00	0.99	14767	17.39	9.07	9.07	18.23
18:30	1	80	18.0	244.96	37.2	133.44	3302	-	14940.00	0.98	14647	17.25	8.61	8.61	26.84
19:30	1	78	18.0	244.96	36.9	133.15	3265	-	14940.00	0.97	14483	17.12	8.52	8.52	35.36
20:30	1	76	18.0	244.96	36.3	132.31	3217	-	14940.00	0.96	14270	16.94	8.38	8.38	43.74
21:30	1	74	18.0	244.96	35.8	131.64	3165	-	14940.00	0.94	14040	16.72	8.23	8.23	51.97
22:30	1	72	18.0	244.96	35.4	131.15	3011	-	13510.00	1.15	15586	18.55	9.10	9.10	61.06
23:30	1	72	18.0	244.96	35.6	131.52	2893	-	13510.00	1.11	14975	17.83	8.76	8.76	69.83
0:30	1	72	18.0	244.96	34.9	130.22	2763	-	13510.00	1.06	14302	17.03	8.29	8.29	78.12
1:30	1	72	18.0	244.96	34.5	129.47	2715	-	13510.00	1.04	14054	16.73	8.10	8.10	86.21
2:30	1	70	18.0	244.96	33.1	127.06	2610	13510.00	13510.00	1.00	13510	16.14	7.67	7.67	93.88
3:30	1	70	18.0	244.96	32.3	125.51	2523	-	13510.00	0.97	13060	15.61	7.32	7.32	101.20
Averages:		74.67	17.83	242.69	35.58	132.02	3013.42						Total	101.20	

PSH Mass Recovered in Vapor Phase = 14.80 gallons

Ex: Conversion from ppmv to mg/L (influent 1)

Measured Conc.	Molecular Wt.	Pressure	Gas Constant	Temp.	Temp.	Conc.
(ppmv)	(Grams)	(atm)	(atm.liter/K.mole)	(F)	(K)	(C_mg/l)
14940	28.9805	1	0.0821	80	299.666667	17.598451

Inputs are the green values.
Calculated values are yellow.
Constants are purple values.
Outpus are the blue values.

Liquid-phase Hydrocarbon Recovery
∏ * r2 * h = volume

Total Hydrocarbon Recovery

PSH Mass Recovered in Vapor Phase =	101.20	lbs
	14.80	gallons
PSH Mass Recovered in Liquid Phase =	88.92	lbs
	13.00	gallons
TOTAL =	**190.12**	**lbs**
	27.80	**gallons**

Gallons removed determined at time of pick up

PSH Volume in Gallons=	13.00
PSH Mass in Pounds=	88.92

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 1

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0.000		0.00
Ethane (C2H6)	30.07	0.000		0.00
Propane (C3H8)	44.10	0.000		0.00
Iso-Butane (C4H10)	58.12	0.000		0.00
N-Butane (C4H10)	58.12	0.000		0.00
Iso-Pentane (C4H12)	72.15	0.012		120.00
N-Pentane (C5H12)	72.15	0.045		450.00
Hexane+ (C6H14)	93.19	1.437		14370.00
			Total	**14940.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	95.3850
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	4.1450
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0050
N-Pentane (C5H12)	72.1488	0.0180
Hexane+ (C6H14)	93.19	0.4470
	Total	100
	Calculated MW	**28.9805**

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 2

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0		0.00
Ethane (C2H6)	30.07	0		0.00
Propane (C3H8)	44.10	0		0.00
Iso-Butane (C4H10)	58.12	0		0.00
N-Butane (C4H10)	58.12	0		0.00
Iso-Pentane (C4H12)	72.15	0.013		130.00
N-Pentane (C5H12)	72.15	0.04		400.00
Hexane+ (C6H14)	93.19	1.298		12980.00
			Total	**13510.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	96.0380
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	3.5390
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0050
N-Pentane (C5H12)	72.1488	0.0160
Hexane+ (C6H14)	93.1887	0.4020
	Total	100
	Calculated MW	**28.8533**

Calculated MW= $\frac{\text{sum (individual component MW x their reported mol\%)}}{100}$

ppmv= **% Vol x 10,000**

Table 3
System Operation Data and Mass Recovery Calculations 9/14/2021

Time	Period (hours)	Influent Temp. (°F)	Vacuum (inHg)	Vacuum (inH_20)	Differential pressure (inH_20)	Flow (SCFM)	PID Readings (ppm)	Lab Result (ppmv)	Assigned Lab Result (ppmv)	Correction Factor (CF)	Adjusted Lab Result (ppmv)	Adjusted Lab Result (mg/L)	Recovery (lbs/hr)	Recovery in Period (lbs)	Total Recovery (lbs)
19:00	1	80	17.0	231.35	54.9	168.75	1695	33040.00	33040.00	1.00	33040	39.36	24.83	24.83	24.83
20:00	1	80	17.0	231.35	54.3	167.83	1682	-	33040.00	0.99	32787	39.06	24.51	24.51	49.34
21:00	1	78	17.0	231.35	53.9	167.52	1691	-	33040.00	1.00	32962	39.42	24.68	24.68	74.02
22:00	1	76	17.0	231.35	53.7	167.52	1688	-	33040.00	1.00	32904	39.49	24.73	24.73	98.75
23:00	1	74	17.0	231.35	53.2	167.05	1679	-	33040.00	0.99	32728	39.43	24.62	24.62	123.37
0:00	1	72	17.0	231.35	53.6	167.99	1684	-	33040.00	0.99	32826	39.70	24.93	24.93	148.30
1:00	1	72	17.0	231.35	52.0	165.46	1685	-	36960.00	1.01	37270	45.29	28.01	28.01	176.31
2:00	1	72	17.0	231.35	49.9	162.09	1681	-	36960.00	1.01	37181	45.18	27.38	27.38	203.69
3:00	1	72	17.0	231.35	48.2	159.30	1684	-	36960.00	1.01	37248	45.26	26.95	26.95	230.64
4:00	1	72	17.0	231.35	45.9	155.46	1679	-	36960.00	1.00	37137	45.13	26.22	26.22	256.87
5:00	1	72	17.0	231.35	43.7	151.68	1671	36960.00	36960.00	1.00	36960	44.91	25.47	25.47	282.33
6:00	1	72	17.0	231.35	42.5	149.59	1673	-	36960.00	1.00	37004	44.96	25.14	25.14	307.47
Averages:		74.33	17.00	231.35	50.48	162.52	1682.67						Total	307.47	
													PSH Mass Recovered in Vapor Phase =	44.95	gallons

Ex: Conversion from ppmv to mg/L (influent 1)

Measured Conc.	Molecular Wt.	Pressure	Gas Constant	Temp.	Temp.	Conc.
(ppmv)	(Grams)	(atm)	(atm.liter/K.mole)	(F)	(K)	(C_mg/l)
33040	29.3107	1	0.0821	80	299.666667	39.3627047

Inputs are the green values.
Calculated values are yellow.
Constants are purple values.
Outpus are the blue values.

Liquid-phase Hydrocarbon Recovery
∏ * r2 * h = volume

Total Hydrocarbon Recovery

PSH Mass Recovered in Vapor Phase =	307.47	lbs
	44.95	gallons
PSH Mass Recovered in Liquid Phase =	136.80	lbs
	20.00	gallons
TOTAL =	**444.27**	**lbs**
	64.95	**gallons**

Gallons removed determined at time of pick up

PSH Volume in Gallons=	20.00
PSH Mass in Pounds=	136.8

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 1

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0.000		0.00
Ethane (C2H6)	30.07	0.000		0.00
Propane (C3H8)	44.10	0.000		0.00
Iso-Butane (C4H10)	58.12	0.000		0.00
N-Butane (C4H10)	58.12	0.000		0.00
Iso-Pentane (C4H12)	72.15	0.025		250.00
N-Pentane (C5H12)	72.15	0.074		740.00
Hexane+ (C6H14)	93.18	3.205		32050.00
			Total	**33040.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	95.0750
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	3.8770
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0100
N-Pentane (C5H12)	72.1488	0.0300
Hexane+ (C6H14)	93.1887	1.0080
	Total	100
	Calculated MW	**29.3107**

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 2

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0		0.00
Ethane (C2H6)	30.07	0		0.00
Propane (C3H8)	44.10	0		0.00
Iso-Butane (C4H10)	58.12	0		0.00
N-Butane (C4H10)	58.12	0		0.00
Iso-Pentane (C4H12)	72.15	0.027		270.00
N-Pentane (C5H12)	72.15	0.081		810.00
Hexane+ (C6H14)	93.18	3.588		35880.00
			Total	**36960.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	94.5900
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	4.2320
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0110
N-Pentane (C5H12)	72.1488	0.0330
Hexane+ (C6H14)	93.1887	1.1340
	Total	100
	Calculated MW	**29.4514**

Calculated MW= $\frac{\text{sum (individual component MW x their reported mol\%)}}{100}$

ppmv= **% Vol x 10,000**

Table 4
System Operation Data and Mass Recovery Calculations 12/8/2021

Time	Period (hours)	Influent Temp. (°F)	Vacuum (inHg)	Vacuum (inH_20)	Differential pressure (inH_20)	Flow (SCFM)	PID Readings (ppm)	Lab Result (ppmv)	Assigned Lab Result (ppmv)	Correction Factor (CF)	Adjusted Lab Result (ppmv)	Adjusted Lab Result (mg/L)	Recovery (lbs/hr)	Recovery in Period (lbs)	Total Recovery (lbs)
19:00	1	62	18.0	244.96	29.9	121.68	1703	6990.00	6990.00	1.00	6990	8.28	3.77	3.77	3.77
20:00	1	62	18.0	244.96	33.6	128.99	1705	-	6990.00	1.00	6998	8.29	4.00	4.00	7.76
21:00	1	62	18.0	244.96	39.7	140.21	1698	-	6990.00	1.00	6969	8.26	4.33	4.33	12.09
22:00	1	58	18.0	244.96	41.6	144.08	1700	-	6990.00	1.00	6978	8.33	4.49	4.49	16.58
23:00	1	58	18.0	244.96	45.5	150.68	1684	-	6990.00	0.99	6912	8.25	4.65	4.65	21.22
0:00	1	56	18.0	244.96	49.7	157.79	1675	-	6990.00	0.98	6875	8.24	4.86	4.86	26.08
1:00	1	56	18.0	244.96	50.8	159.52	1662	-	32520.00	1.02	33057	40.93	24.41	24.41	50.49
2:00	1	54	18.0	244.96	55.1	166.46	1659	-	32520.00	1.01	32997	41.01	25.52	25.52	76.01
8:00	1	54	16.0	217.74	61.5	190.00	1671	-	32520.00	1.02	33236	41.31	29.34	29.34	105.36
9:00	1	54	16.0	217.74	61.9	190.62	1642	-	32520.00	1.00	32659	40.59	28.93	28.93	134.28
10:00	1	54	16.0	217.74	62.0	190.77	1635	32520.00	32520.00	1.00	32520	40.42	28.83	28.83	163.11
11:00	1	54	16.0	217.74	62.2	191.08	1629	-	32520.00	1.00	32401	40.27	28.77	28.77	191.87
Averages:		57.00	17.33	235.89	49.46	160.99	1671.92						Total	191.87	

PSH Mass Recovered in Vapor Phase = 28.05 gallons

Ex: Conversion from ppmv to mg/L (influent 1)

Measured Conc.	Molecular Wt.	Pressure	Gas Constant	Temp.	Temp.	Conc.
(ppmv)	(Grams)	(atm)	(atm.liter/K.mole)	(F)	(K)	(C_mg/l)
6990	28.1695	1	0.0821	62	289.666667	8.27969462

Inputs are the green values.
Calculated values are yellow.
Constants are purple values.
Outpus are the blue values.

Liquid-phase Hydrocarbon Recovery
∏ * r2 * h = volume

Total Hydrocarbon Recovery

PSH Mass Recovered in Vapor Phase =	191.87	lbs
	28.05	gallons
PSH Mass Recovered in Liquid Phase =	109.44	lbs
	16.00	gallons
TOTAL =	**301.31**	**lbs**
	44.05	**gallons**

Gallons removed determined at time of pick up

PSH Volume in Gallons=	16.00
PSH Mass in Pounds=	109.44

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 1

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0.000		0.00
Ethane (C2H6)	30.07	0.000		0.00
Propane (C3H8)	44.10	0.000		0.00
Iso-Butane (C4H10)	58.12	0.000		0.00
N-Butane (C4H10)	58.12	0.000		0.00
Iso-Pentane (C4H12)	72.15	0.003		30.00
N-Pentane (C5H12)	72.15	0.008		80.00
Hexane+ (C6H14)	93.19	0.688		6880.00
			Total	**6990.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	99.6870
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	0.1010
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0010
N-Pentane (C5H12)	72.1488	0.0030
Hexane+ (C6H14)	93.1887	0.2080
	Total	100
	Calculated MW	**28.1695**

% Vol. (Wt. %) Hydrocarbon to ppmv - Influent 2

Compound	Molecular Weight (g/mol)	Wt. %	=	ppmv
Methane (CH4)	16.04	0		0.00
Ethane (C2H6)	30.07	0		0.00
Propane (C3H8)	44.10	0		0.00
Iso-Butane (C4H10)	58.12	0		0.00
N-Butane (C4H10)	58.12	0		0.00
Iso-Pentane (C4H12)	72.15	0.02		200.00
N-Pentane (C5H12)	72.15	0.059		590.00
Hexane+ (C6H14)	93.19	3.173		31730.00
			Total	**32520.00**

*Hexane+ is treated as 60% hexanes, 30 % heptanes, and 10 % octanes

Molecular Weight Calculations

component	Molecular Weight (g/mol)	mol%
Nitrogen (N2)	28.016	96.2870
Methane (CH4)	16.0425	0.0000
Carbon Dioxide (CO2)	44.011	2.6900
Ethane (C2H6)	30.069	0.0000
Propane (C3H8)	44.0956	0.0000
Iso-Butane (C4H10)	58.1222	0.0000
N-Butane (C4H10)	58.1222	0.0000
Iso-Pentane (C4H12)	72.1488	0.0080
N-Pentane (C5H12)	72.1488	0.0240
Hexane+ (C6H14)	93.1887	0.9910
	Total	100
	Calculated MW	**29.1062**

Calculated MW= $\frac{\text{sum (individual component MW x their reported mol\%)}}{100}$

ppmv= **% Vol x 10,000**

ATTACHMENT 1

MDPE Field Logs

MDPE FIELD NOTES					
Site Name:	Plains Chevron - Grayburg			Event #:	
Location:	Buckeye, NM			Arrive at site:	6:00
Date:	3/10/2021				
Job#:	700376.274.06	LPST #:		Start Vac:	6:30
Phase:		Unit:	1107	Stop Vac:	18:30
Onsite Personnel:	L. Bridges & T. Macklin			Leave Site:	19:00

GAUGING DATA							
WELL#	BEFORE			AFTER			COMMENTS
	PSH	GW	PSH-T	PSH	GW	PSH-T	
MW-7	122.03	128.51	6.48	-	125.52	0.00	Stinger at 122'
WASTE:	H_2O:		51	PSH:		13	TOTAL (GAL): 64

Sample Name		Analysis	Date:	Time:	Comments:	**Bottle #**	**Start Vac**	**End Vac**
INFLUENT	#1	C6+	10-Mar-21	7:30	FID = >50k			
INFLUENT	#2	C6+	10-Mar-21	17:30	FID = >50k			

Notes:
Tank T 2 1/2 PSH 2 T 64 PSH 13 H_2O 51
Propane: Start 75%
Finish 65%

Start Date:	3/10/2021	700376.274.06 Plains All American Pipeline, L.P.; Plains Chevron - Grayburg - Buckeye, NM (12HRS) 1107 Pg. 1 of 1										
		Well Flow						Well Data				
Time	Sample Taken	Influent Temp. (°F)	Diff. Pressure (inH_20) 2" Preso	Vac (inHg)	FID Composite (ppm)	Propane Tank (%-size) 500 Gal.	Exhaust Temp (°F)	COMMENTS: MW-7 VAC (inH_20)				
6:30												
7:30	*	60	29.5	18.0	> 50k		1575	17.8				
8:30		64	26.1	18.0	> 50k		1529	17.9				
9:30		72	25.5	18.0	> 50k		1515	17.4				
10:30		80	27.3	18.0	> 50k		1521	17.5				
11:30		80	25.1	18.0	> 50k		1516	17.6				
12:30		82	23.6	18.0	> 50k		1527	18.1				
13:30		82	22.7	18.0	> 50k		1530	17.5				
14:30		86	21.8	18.0	> 50k		1509	17.9				
15:30		88	17.6	18.0	> 50k		1490	17.2				
16:30		86	20.6	18.0	> 50k		1508	18.0				
17:30	**	84	21.5	18.0	> 50k		1499	18.5				
18:30		80	23.7	18.0	> 50k		1501	18.9				

MDPE FIELD NOTES					
Site Name:	Plains Chevron - Grayburg			Event #:	
Location:	Buckeye, NM			Arrive at site:	15:00
Date:	6/29/2021				
Job#:	700376.274.07	LPST #:		Start Vac:	15:30
Phase:		Unit:	1107	Stop Vac:	3:30
Onsite Personnel:	L. Bridges & T.Chambers			Leave Site:	4:00

GAUGING DATA							
WELL#	BEFORE			AFTER			COMMENTS
	PSH	GW	PSH-T	PSH	GW	PSH-T	
MW-7	121.96	128.82	6.86	-	126.15	0.00	Stinger at 122'
WASTE:	H_2O:	64		PSH:	13		TOTAL (GAL): 77

Sample Name		Analysis	Date:	Time:	Comments:	**Bottle #**	**Start Vac**	**End Vac**
INFLUENT	#1	C6+	29-Jun-21	16:30	PID=3368			
INFLUENT	#2	C6+	30-Jun-21	2:30	PID=2610			

Notes:
Tank T 3 PSH 2 1/2 T 77 PSH 13 H_2O 64
Propane: Start 65%
Finish 45%

Start Date: 6/29/2021		700376.274.07 Plains All American Pipeline, L.P.; Plains Chevron - Grayburg - Buckeye, NM (12HRS) 1107 Pg. 1 of 1										
		Well Flow						Well Data				
Time	Sample Taken	Influent Temp. (°F)	Diff. Pressure (inH_20) 2" Preso	Vac (inHg)	PID Composite (ppm)	Propane Tanlk (%-size) 500 Gal.	Exhaust Temp (°F)	COMMENTS: MW-7 VAC (inH_20)	VAC (inH_20)	VAC (inH_20)	VAC (inH_20)	VAC (inH_20)
15:30												
16:30	*	80	37.4	17.0	3368		1527	20.0				
17:30		80	37.5	17.0	3329		1586	19.7				
18:30		80	37.2	18.0	3302		1606	19.1				
19:30		78	36.9	18.0	3265		1605	19.3				
20:30		76	36.3	18.0	3217		1608	19.0				
21:30		74	35.8	18.0	3165		1612	18.9				
22:30		72	35.4	18.0	3011		1611	18.8				
23:30		72	35.6	18.0	2893		1614	18.4				
0:30		72	34.9	18.0	2763		1616	18.9				
1:30		72	34.5	18.0	2715		1615	18.3				
2:30	**	70	33.1	18.0	2610		1618	18.6				
3:30		70	32.3	18.0	2523		1622	18.3				

MDPE FIELD NOTES					
Site Name:	Plains Chevron - Grayburg			Event #:	
Location:	Buckeye, NM			Arrive at site:	17:30
Date:	9/14/2021				
Job#:	700376.274.08	LPST #:		Start Vac:	18:00
Phase:		Unit:	1107/3099	Stop Vac:	6:00
Onsite Personnel:	L. Bridges and T. Chambers			Leave Site:	6:30

GAUGING DATA							
WELL#	BEFORE			AFTER			COMMENTS
	PSH	GW	PSH-T	PSH	GW	PSH-T	
MW-7	122.00	128.49	6.49	-	124.51	0.00	Stinger at 122'
WASTE:	H_2O:	64		PSH:	20		TOTAL (GAL): 84

Sample Name		Analysis	Date:	Time:	Comments:	**Bottle #**	**Start Vac**	**End Vac**
INFLUENT	#1	C6+	14-Sep-21	19:00	PID=1695			
INFLUENT	#2	C6+	15-Sep-21	5:00	PID=1671			

Notes:
Tank T 3 1/4 PSH 2 1/2 T 84 PSH 20 H_2O 64
Propane: Start 40%
Finish 30%

Start Date: 9/14/2021		700376.274.08 Plains All American Pipeline, L.P.; Plains Chevron - Grayburg Buckeye, NM (12HRS) 1107/3099 Pg. 1 of 1										
		Well Flow						Well Data				
Time	Sample Taken	Influent Temp. (°F)	Diff. Pressure (inH_20) 2" Preso	Vac (inHg)	PID Composite (ppm)	Propane Tank (%-size) 500 Gal.	Exhaust Temp (°F)	COMMENTS: MW-7 VAC (inH_20)				
18:00												
19:00	*	80	54.9	17.0	1695		1540	20.9				
20:00		80	54.3	17.0	1682		1565	21.5				
21:00		78	53.9	17.0	1691		1587	21.8				
22:00		76	53.7	17.0	1688		1602	22.0				
23:00		74	53.2	17.0	1679		1632	22.3				
0:00		72	53.6	17.0	1684		1617	22.3				
1:00		72	52.0	17.0	1685		1615	22.1				
2:00		72	49.9	17.0	1681		1592	22.4				
3:00		72	48.2	17.0	1684		1601	22.3				
4:00		72	45.9	17.0	1679		1568	22.6				
5:00	**	72	43.7	17.0	1671		1575	22.5				
6:00		72	42.5	17.0	1673		1542	22.4				

MDPE FIELD NOTES					
Site Name:	Plains Chevron - Grayburg			Event #:	
Location:	Buckeye, NM			Arrive at site:	17:30
Date:	12/8/2021				
Job#:	700376.274.09	LPST #:		Start Vac:	18:00
Phase:		Unit:	1107/3099	Stop Vac:	6:00
Onsite Personnel:	L. Bridges and B. Huntington			Leave Site:	11:30

GAUGING DATA							
WELL#	BEFORE			AFTER			COMMENTS
	PSH	GW	PSH-T	PSH	GW	PSH-T	
MW-7	122.26	128.72	6.46	-	125.61	0.00	Stinger at 122'
WASTE:	H_2O:	74		PSH:	16		TOTAL (GAL): 90

Sample Name		Analysis	Date:	Time:	Comments:	**Bottle #**	**Start Vac**	**End Vac**
INFLUENT	#1	C6+	8-Dec-21	19:00	PID=1703			
INFLUENT	#2	C6+	9-Dec-21	10:00	PID=1635			

Notes:
Tank T 3 1/2 PSH 2 7/8 T 90 PSH 16 H_2O 74
Propane: Start 30%
Finish 5%

Start Date: 12/8/2021		700376.274.09 Plains All American Pipeline, L.P.; Plains Chevron - Grayburg Buckeye, NM (12HRS) 1107/3099 Pg. 1 of 1										
		Well Flow						Well Data				
Time	Sample Taken	Inflent Temp. (°F)	Diff. Pressure (inH_20) 2" Preso	Vac (inHg)	PID Composite (ppm)	Propane Tank (%-size) 500 Gal.	Exhaust Temp (°F)	COMMENTS: MW-7 VAC (inH_20)	VAC (inH_20)	VAC (inH_20)	VAC (inH_20)	VAC (inH_20)
18:00												
19:00	*	62	29.9	18.0	1703		1493	17.3				
20:00		62	33.6	18.0	1705		1464	17.8				
21:00		62	39.7	18.0	1698		1413	17.7				
22:00		58	41.6	18.0	1700		1422	17.4				
23:00		58	45.5	18.0	1684		1415	17.5				
0:00		56	49.7	18.0	1675		1418	17.6				
1:00		56	50.8	18.0	1662		1421	17.9				
2:00		54	55.1	18.0	1659		1419	18.0				
8:00		54	61.5	16.0	1671		1425	19.0				
9:00		54	61.9	16.0	1642		1429	19.5				
10:00	**	54	62.0	16.0	1635		1436	19.4				
11:00		54	62.2	16.0	1629		1437	19.6				

ATTACHMENT 2

Laboratory Analytical Results

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Certificate of Analysis

Number: 1030-21030626-001A

Apr. 19, 2021

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Station Name:	Influent # 1	Sampled By:	LB
Station Number:	700376.274.06	Sample Of:	Gas Spot
Station Location:	Buckeye, NM	Sample Date:	03/10/2021 07:30
Sample Point:	Chevron Grayburg	Sample Conditions:	
Analyzed:	03/16/2021 07:37:13 by PTW	Method:	GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	96.389	93.777		GPM TOTAL C2+	0.182
Methane	NIL	NIL		GPM TOTAL C3+	0.182
Carbon Dioxide	3.188	4.873		GPM TOTAL iC5+	0.182
Ethane	NIL	NIL	NIL		
Propane	NIL	NIL	NIL		
Iso-butane	NIL	NIL	NIL		
n-Butane	NIL	NIL	NIL		
Iso-pentane	0.008	0.020	0.003		
n-Pentane	0.019	0.048	0.007		
Hexanes Plus	0.396	1.282	0.172		
	100.000	100.000	0.182		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.9942	3.2176
Calculated Molecular Weight	28.79	93.19
Compressibility Factor	0.9996	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	21	5113
Water Sat. Gas Base BTU	21	5024

Tom Berry

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Certificate of Analysis

Number: 1030-21030626-002A

Apr. 19, 2021

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Station Name:	Influent # 2	Sampled By:	LB
Station Number:	700376.274.06	Sample Of:	Gas Spot
Station Location:	Buckeye, NM	Sample Date:	03/10/2021 17:30
Sample Point:	Chevron Grayburg	Sample Conditions:	
Analyzed:	03/16/2021 07:50:30 by PTW	Method:	GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	96.727	94.340		GPM TOTAL C2+	0.166
Methane	NIL	NIL		GPM TOTAL C3+	0.166
Carbon Dioxide	2.887	4.424		GPM TOTAL iC5+	0.166
Ethane	NIL	NIL	NIL		
Propane	NIL	NIL	NIL		
Iso-butane	NIL	NIL	NIL		
n-Butane	NIL	NIL	NIL		
Iso-pentane	0.005	0.013	0.002		
n-Pentane	0.018	0.045	0.006		
Hexanes Plus	0.363	1.178	0.158		
	100.000	100.000	0.166		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.9917	3.2176
Calculated Molecular Weight	28.72	93.19
Compressibility Factor	0.9996	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	19	5113
Water Sat. Gas Base BTU	19	5024

Tom Berry

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

SPL, Inc.

Analysis Request Chain of Custody Record

SPL Work Order No.:	SPL Work Order No.:	Acct. Mate Code:	Dept. Code	SPL Page 1 of 1

Report To: (Company Name):	Talon LPE	Project/Station Name: Chevron-Greyburg	Project/Station Number: 703376-274.06	Project/Station Location: Buckeye NM.	Requested TAT	
Address	921 N. Bivins				☐ 24hr *	
City/State/Zip	Amarillo, Texas 79107	Special Instructions:			☐ 48hr *	
Contact:	Jason Shubert				☐ 72hr *	
Phone:	806-467-0607 Fax: 806-467-0622				☐ Standard	
Invoice To: (Company Name):	Talon LPE	Indicate Billing Type.	Net 30 day Acct. ☐	Check #	Cash Recv'd $	☐ Other Indicate Below
Address	921 N Bivins		Credit Card ☐	Contact SPL. Inc for CC payment arrangements.		
City/State/Zip	Amarillo, Texas 79107	* Terms: Cylinders will be rented for $10/cyl. All cylinders checked out are to be returned within 21 days, whether they contain sample or not. Cylinders not returned after 30 days will be considered lost and will be billed at current replacement cost.				
Contact:	Jason Shubert					
Phone:	806-467-0607 Fax: 806-467-0622					
PO / Ref. No.:						
Contract/Proposal #:						

MDPE Sample ID & Point	Sample Date	Sample Time	Sample Type (Gas/Liq. Solid)	Duplicate	Composite	Spot	Cylinder Tracking Info * Cylinder #	Date Out	Date In	GS+	Requested Analysis	Comments
Intl. #1	3-10	0730	GAS							✓		
Int. #2	3-10	1730	"							✓		

* Surcharges May Apply

Sampled By-Print Name: LVB	Company Name:				
Signature:					
Relinquished By-Print Name: LVB	Date: 3/11/21	Time:	Received By-Print Name:	Date: 03/15/21	Time:
Signature:			Signature:		
Relinquished By-Print Name:	Date:	Time:	Received By-Print Name:	Date:	Time:
Signature:			Signature:		
Relinquished By-Print Name:	Date:	Time:	Received By-Print Name:	Date:	Time:
Signature:			Signature:		

☒ 5820 Interchange Dr, Houston, TX 77054 (713) 660-0901

☐ 9221 Highway 23 Belle Chasse, LA 70037 (504) 391-1337

☐ P.O. Box 3079 Laurel, MS 39442 (601) 428-0642

☐ 500 Ambassador Caffery Pkwy Scott, LA 70583 (337) 237-4775

☐ 1595 US 79 South Carthage, TX 75633 (903) 693-8242

☐ 458 Hughes Dr. Traverse City, MI 49686 (616) 947-5777

Note: As a convenience to our clients, this form is available in electronic format. Please contact one of our offices above for the form to be e-mailed to you.

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Certificate of Analysis

Number: 1030-21070163-001A

July 07, 2021

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Station Name:	Influent # 1	Sampled By:	TC
Station Number:	700376.274.07	Sample Of:	Gas Spot
Station Location:	Buckeye, NM	Sample Date:	06/29/2021 16:30
Sample Point:	Chevron Grayburg	Sample Conditions:	
Analyzed:	07/07/2021 09:38:08 by PTW	Method:	GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	95.385	92.211		GPM TOTAL C2+	0.202
Methane	NIL	NIL		GPM TOTAL C3+	0.202
Carbon Dioxide	4.145	6.295		GPM TOTAL iC5+	0.202
Ethane	NIL	NIL	NIL		
Propane	NIL	NIL	NIL		
Iso-butane	NIL	NIL	NIL		
n-Butane	NIL	NIL	NIL		
Iso-pentane	0.005	0.012	0.002		
n-Pentane	0.018	0.045	0.006		
Hexanes Plus	0.447	1.437	0.194		
	100.000	100.000	0.202		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	1.0006	3.2176
Calculated Molecular Weight	28.98	93.19
Compressibility Factor	0.9996	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	24	5113
Water Sat. Gas Base BTU	23	5024

Data reviewed by: Patrick Weber, Analyst

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Certificate of Analysis

Number: 1030-21070163-002A

July 07, 2021

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Station Name:	Influent # 2	Sampled By:	TC
Station Number:	700376.274.07	Sample Of:	Gas Spot
Station Location:	Buckeye, NM	Sample Date:	06/30/2021 02:30
Sample Point:	Chevron Grayburg	Sample Conditions:	
Analyzed:	07/07/2021 09:51:18 by PTW	Method:	GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	96.038	93.251		GPM TOTAL C2+	0.182
Methane	NIL	NIL		GPM TOTAL C3+	0.182
Carbon Dioxide	3.539	5.398		GPM TOTAL iC5+	0.182
Ethane	NIL	NIL	NIL		
Propane	NIL	NIL	NIL		
Iso-butane	NIL	NIL	NIL		
n-Butane	NIL	NIL	NIL		
Iso-pentane	0.005	0.013	0.002		
n-Pentane	0.016	0.040	0.006		
Hexanes Plus	0.402	1.298	0.174		
	100.000	100.000	0.182		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.9962	3.2176
Calculated Molecular Weight	28.85	93.19
Compressibility Factor	0.9996	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	21	5113
Water Sat. Gas Base BTU	21	5024

Data reviewed by: Patrick Weber, Analyst

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

SPL, Inc.

Analysis Request Chain of Custody Record

SPL	SPL Work Order No.:	SPL Work Order No.:	Acct. Mate Code:	Dept. Code	SPL Page 1 of 1	

Report To: (Company Name):	Talon LPE	Project/Station Name:	Project/Station Number:	Project/Station Location:	Requested TAT	
Address	921 N. Bivins	Chevron Greyburg	208376.274.07	Buckeye, NM	☐ 24hr *	
City/State/Zip	Amarillo, Texas 79107	Special Instructions:			☐ 48hr *	
Contact:	Jason Shubert				☐ 72hr *	
Phone:	806-467-0607 Fax: 806-467-0622				☐ Standard	
Invoice To: (Company Name):	Talon LPE	Indicate Billing Type.	Net 30 day Acct. ☐	Check #	Cash Rec'd $	☐ Other Indicate Below
Address	921 N Bivins		Credit Card ☐	Contact SPL, Inc for CC payment arrangements.		
City/State/Zip	Amarillo, Texas 79107	* Terms: Cylinders will be rented for $10/cyl. All cylinders checked out are to be returned within 21 days, whether they contain sample or not. Cylinders not returned after 30 days will be considered lost and will be billed at current replacement cost.			7/6 0930	
Contact:	Jason Shubert					
Phone:	806-467-0607 Fax: 806-467-0622					
PO / Ref. No.:						
Contract/Proposal #:						

Sample ID & Point MDPE	*Sample Date	Sample Time	Sample Type (Gas/Liq. Solid)	Duplicate	Composite	Spot	Cylinder Tracking Info * Cylinder #	Date Out	Date In	Requested Analysis C6+	Comments
Influent #1	6-29	1630	GAS							✓	
Influent #2	6-30	0230	1							✓	

Sampled By-Print Name: Trevor Chambers
Signature: Trev
Company Name:

Relinquished By-Print Name: Trevor Chambers Signature: Trev	Date: 7-2-21	Time:	Received By-Print Name: Signature:	Date: 7/6	Time: 1048
Relinquished By-Print Name: Signature:	Date:	Time:	Received By-Print Name: Signature:	Date:	Time:
Relinquished By-Print Name: Signature:	Date:	Time:	Received By-Print Name: Signature:	Date:	Time:

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☐ 9221 Highway 23 Belle Chasse, LA 70037 (504) 391-1337
☐ P.O. Box 3079 Laurel, MS 39442 (601) 428-0842
☐ 500 Ambassador Caffery Pkwy Scott, LA 70583 (337) 237-4775
☐ 1585 US 79 South Carthage, TX 75633 (903) 693-8242
☐ 458 Hughes Dr. Traverse City, MI 49686 (616) 947-5777

New! As a convenience to our clients, this form is available in electronic format. Please contact one of our offices above for the form to be e-mailed to you.

Certificate of Analysis

Number: 1030-21090695-001A

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Sep. 28, 2021

Station Name: Influent # 1
Station Number: 700376.274.08
Station Location: Hobbs, NM
Sample Point: Chevron Grayburg
Analyzed: 09/27/2021 06:45:59 by PTW

Sampled By: TC
Sample Of: Gas Spot
Sample Date: 09/14/2021 19:00
Sample Conditions:
Method: GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia
Nitrogen	95.075	90.874	
Methane	NIL	NIL	
Carbon Dioxide	3.877	5.822	
Ethane	NIL	NIL	NIL
Propane	NIL	NIL	NIL
Iso-butane	NIL	NIL	NIL
n-Butane	NIL	NIL	NIL
Iso-pentane	0.010	0.025	0.004
n-Pentane	0.030	0.074	0.011
Hexanes Plus	1.008	3.205	0.438
	100.000	100.000	0.453

GPM TOTAL C2+	0.453
GPM TOTAL C3+	0.453
GPM TOTAL iC5+	0.453

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	1.0120	3.2176
Calculated Molecular Weight	29.31	93.19
Compressibility Factor	0.9995	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	53	5113
Water Sat. Gas Base BTU	52	5024

Data reviewed by: Patrick Weber, Analyst

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Certificate of Analysis

Number: 1030-21090695-002A

Sep. 28, 2021

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Station Name:	Influent # 2	Sampled By:	TC
Station Number:	700376.274.08	Sample Of:	Gas Spot
Station Location:	Hobbs, NM	Sample Date:	09/15/2021 05:00
Sample Point:	Chevron Grayburg	Sample Conditions:	
Analyzed:	09/27/2021 07:00:11 by CDK	Method:	GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	94.590	89.980		GPM TOTAL C2+	0.508
Methane	NIL	NIL		GPM TOTAL C3+	0.508
Carbon Dioxide	4.232	6.324		GPM TOTAL iC5+	0.508
Ethane	NIL	NIL	NIL		
Propane	NIL	NIL	NIL		
Iso-butane	NIL	NIL	NIL		
n-Butane	NIL	NIL	NIL		
Iso-pentane	0.011	0.027	0.004		
n-Pentane	0.033	0.081	0.012		
Hexanes Plus	1.134	3.588	0.492		
	100.000	100.000	0.508		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	1.0169	3.2176
Calculated Molecular Weight	29.45	93.19
Compressibility Factor	0.9995	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	60	5113
Water Sat. Gas Base BTU	59	5024

Data reviewed by: Patrick Weber, Analyst

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

SPL, Inc.

Analysis Request Chain of Custody Record

SPL

SPL Work Order No.:	SPL Work Order No.:	Acct. Mate Code:	Dept. Code	SPL Page 1 of 1

Report To: (Company Name):	Talon LPE			Project/Station Name:	Project/Station Number:	Project/Station Location:	Requested TAT
Address	921 N. Bivins			Chevron Graysburg	700376.274.08	Hobbs NM	☐ 24hr *
City/State/Zip	Amarillo, Texas 79107			Special Instructions:			☐ 48hr *
Contact:	Jason Shubert						☐ 72hr *
Phone:	806-467-0607	Fax:	806-467-0622				☐ Standard
Invoice To: (Company Name):	Talon LPE			Indicate Billing Type.	Net 30 day Acct. ☐	Check #	Cash Recv'd $
Address	921 N Bivins				Credit Card ☐	Contact SPL, Inc for CC payment arrangements.	☐ Other Indicate Below
City/State/Zip	Amarillo, Texas 79107			* Terms: Cylinders will be rented for $10/cyl. All cylinders checked out are to be returned within 21 days, whether they contain sample or not. Cylinders not returned after 30 days will be considered lost and will be billed at current replacement cost.			
Contact:	Jason Shubert						
Phone:	806-467-0607	Fax:	806-467-0622				
PO / Ref. No.:							
Contract/Proposal #:							

Sample ID & Point	Sample Date	Sample Time	Sample Type (Gas/Liq. Solid)	Duplicate	Composite	Spot	Cylinder Tracking Info * Cylinder #	Date Out	Date In	Requested Analysis C6+	Comments
MDPE											
Influent #1	9.14	1900	GAS							X	
Influent #2	9.15	0500	1							X	

* Surcharges May Apply

Sampled By-Print Name: Trevor Chambers	Signature: TRW	Company Name:			
Relinquished By-Print Name: Trevor Chambers	Signature: TRW	Date: 9/20/21	Time:	Received By-Print Name:	Signature: D. Gruben	Date: 9/21/21	Time:
Relinquished By-Print Name:	Signature:	Date:	Time:	Received By-Print Name:	Signature:	Date:	Time:
Relinquished By-Print Name:	Signature:	Date:	Time:	Received By-Print Name:	Signature:	Date:	Time:

☒ 8820 Interchange Dr. Houston, TX 77054 (713) 660-0901
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☐ P.O. Box 3079 Laurel, MS 39442 (601) 428-0842
☐ 459 Hughes Dr. Traverse City, MI 49686 (616) 947-5777

Note: As a convenience to our clients, this form is available in electronic format. Please contact one of our offices above for the form to be e-mailed to you.

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Certificate of Analysis

Number: 1030-21120596-001A

Dec. 22, 2021

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Station Name:	Influent #1	Sampled By:	LB
Station Number:	700376.274.09	Sample Of:	Gas Spot
Station Location:	Buckeye, NM	Sample Date:	12/08/2021 19:00
Sample Point:	Chevron Greyburg	Sample Conditions:	
Analyzed:	12/21/2021 09:23:23 by PTW	Method:	GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	99.687	99.143		GPM TOTAL C2+	0.091
Methane	NIL	NIL		GPM TOTAL C3+	0.091
Carbon Dioxide	0.101	0.158		GPM TOTAL iC5+	0.091
Ethane	NIL	NIL	NIL		
Propane	NIL	NIL	NIL		
Iso-butane	NIL	NIL	NIL		
n-Butane	NIL	NIL	NIL		
Iso-pentane	0.001	0.003	NIL		
n-Pentane	0.003	0.008	0.001		
Hexanes Plus	0.208	0.688	0.090		
	100.000	100.000	0.091		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.9724	3.2176
Calculated Molecular Weight	28.17	93.19
Compressibility Factor	0.9997	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	11	5113
Water Sat. Gas Base BTU	11	5024

Data reviewed by: Patrick Weber, Analyst

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Houston Laboratories
8820 Interchange Drive
Houston, TX 77054
Phone 713-660-0901

Certificate of Analysis

Number: 1030-21120596-002A

Dec. 22, 2021

Jason Shubert
Talon/LPE
921 N Bivins
Amarillo, TX 79107

Station Name:	Influent #2	Sampled By:	LB
Station Number:	700376.274.09	Sample Of:	Gas Spot
Station Location:	Buckeye, NM	Sample Date:	12/09/2021 10:00
Sample Point:	Chevron Greyburg	Sample Conditions:	
Analyzed:	12/21/2021 09:37:05 by PTW	Method:	GPA-2261M

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	96.287	92.680		GPM TOTAL C2+	0.442
Methane	NIL	NIL		GPM TOTAL C3+	0.442
Carbon Dioxide	2.690	4.068		GPM TOTAL iC5+	0.442
Ethane	NIL	NIL	NIL		
Propane	NIL	NIL	NIL		
Iso-butane	NIL	NIL	NIL		
n-Butane	NIL	NIL	NIL		
Iso-pentane	0.008	0.020	0.003		
n-Pentane	0.024	0.059	0.009		
Hexanes Plus	0.991	3.173	0.430		
	100.000	100.000	0.442		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	1.0049	3.2176
Calculated Molecular Weight	29.10	93.19
Compressibility Factor	0.9995	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	52	5113
Water Sat. Gas Base BTU	51	5024

Data reviewed by: Patrick Weber, Analyst

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Analysis Request Chain of Custody Record

SPL

Report To: (Company Name):	Talon LPE	SPL Work Order No.:	SPL Work Order No.:	Acct. Mate Code:	Dept. Code	SPL Page 1 of 1	
Address	921 N. Bivins	Project/Station Name: Chevron Grayburg	Project/Station Number: 703726.274.09	Project/Station Location: Buckeye NM		Requested TAT	
City/State/Zip	Amarillo, Texas 79107	Special Instructions:				24hr*	
Contact:	Jason Shubert					48hr*	
Phone:	806-467-0607 Fax: 806-467-0622					72hr*	
Invoice To: (Company Name):	Talon LPE	Indicate Billing Type.	Net 30 day Acct.	Check #	Cash Recv'd $	Standard	
Address	921 N Bivins		Credit Card	Contact SPL, Inc for CC payment arrangements.		Other Indicate Below	
City/State/Zip	Amarillo, Texas 79107	* Terms: Cylinders will be rented for $10/cyl. All cylinders checked out are to be returned within 21 days, whether they contain sample or not. Cylinders not returned after 30 days will be considered lost and will be billed at current replacement cost.	Requested Analysis				
Contact:	Jason Shubert						
Phone:	806-467-0607 Fax: 806-467-0622						
PO / Ref. No.:							
Contract/Proposal #:						* Surcharges May Apply	

Sample ID & Point (MOPE)	Sample Date	Sample Time	Sample Type (Gas/Liq. Solid)	Duplicate	Composite	Spot	Cylinder #	Date Out	Date In	C6+												Comments
Inflt #1	12.8	1900	GAS							✓												
Inflt #2	12.9	1000	"							✓												

Sampled By-Print Name: [illegible] Signature: [signature]			Company Name:		
Relinquished By-Print Name: [illegible] Signature: [signature]	Date: 12/9/21	Time:	Received By-Print Name: Signature: [signature]	Date: 12/16/21	Time:
Relinquished By-Print Name: Signature:	Date:	Time:	Received By-Print Name: Signature:	Date:	Time:
Relinquished By-Print Name: Signature:	Date:	Time:	Received By-Print Name: Signature:	Date:	Time:

- [X] 8820 Interchange Dr. Houston, TX 77054 (713) 660-0901
- [ ] 500 Ambassador Caffery Pkwy Scott, LA 70583 (337) 237-4775
- [ ] 8221 Highway 23 Belle Chasse, LA 70037 (504) 391-1337
- [ ] 1595 US 79 South Carthage, TX 75633 (903) 693-6242
- [ ] P.O. Box 3079 Laurel, MS 39442 (601) 428-0842
- [ ] 459 Hughes Dr. Traverse City, MI 49686 (616) 947-5777

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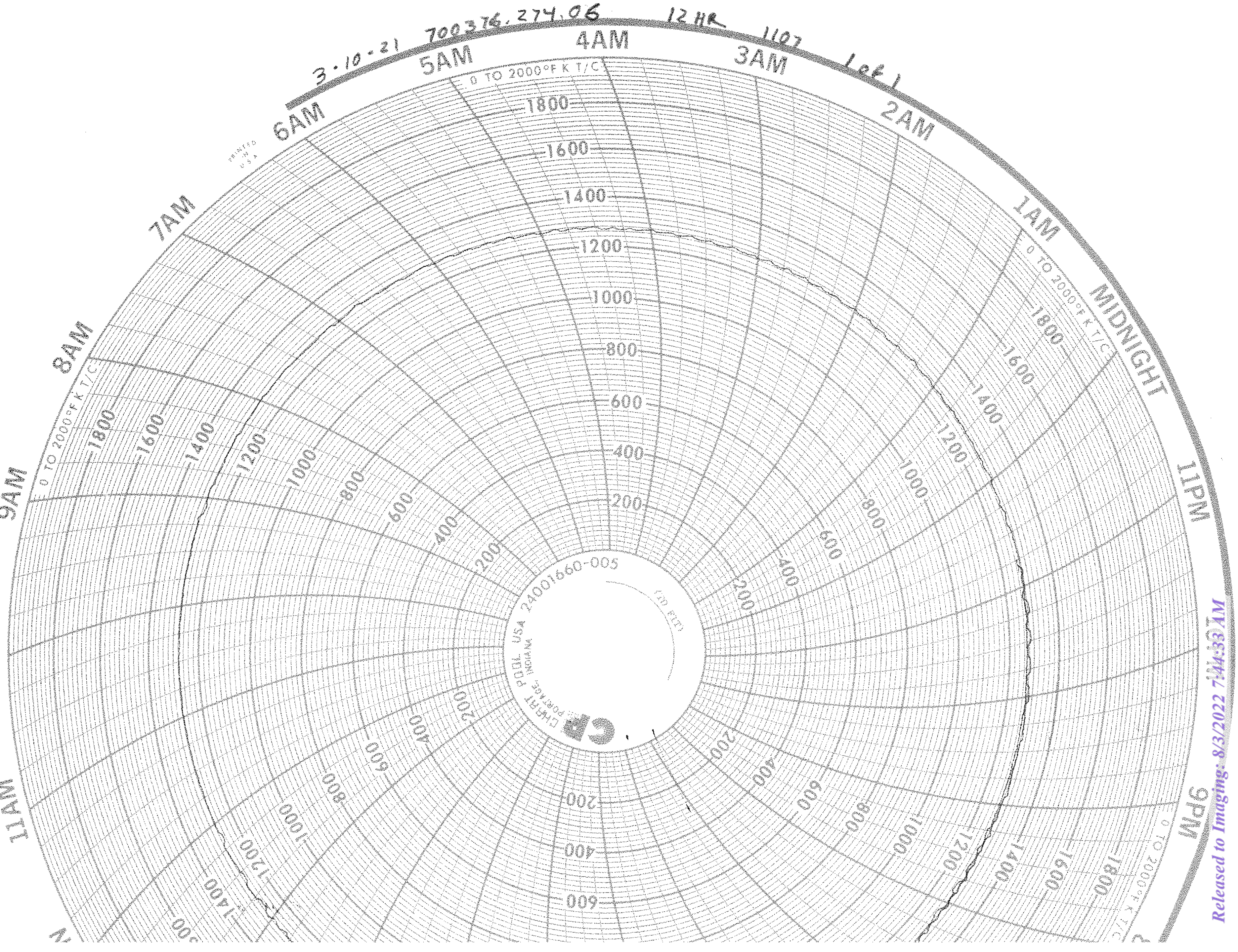
ATTACHMENT 3

Oxidizer Charts



Appendix E
Certified Laboratory Reports and Chain-of-Custody (omitted in draft)

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

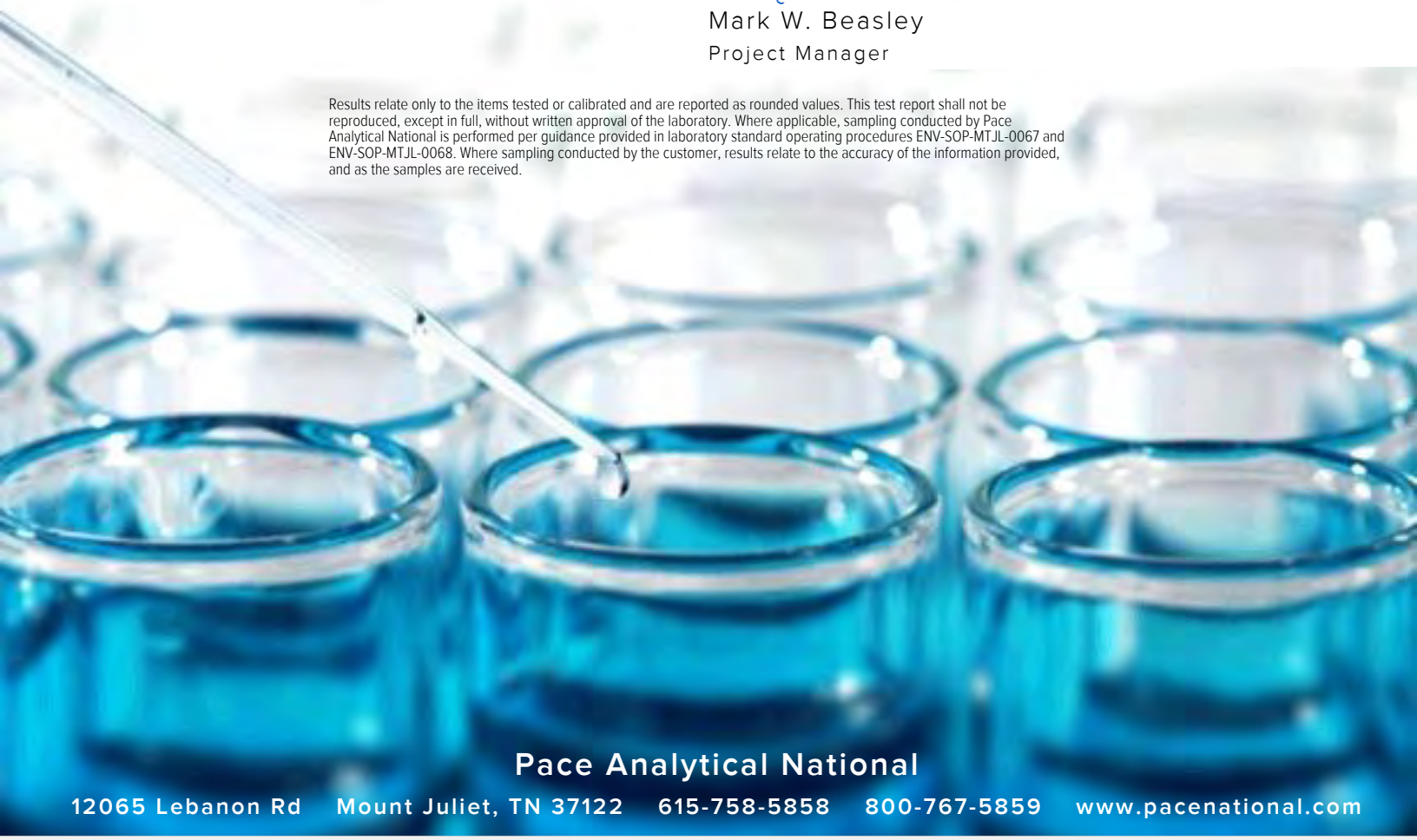
March 09, 2021

Plains All American, LP - GHD

Sample Delivery Group:	L1320813
Samples Received:	02/26/2021
Project Number:	
Description:	Cheveron 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



Pace Analytical National
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MW-5 L1320813-01 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 08:45 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1628808	1	03/05/21 18:43	03/05/21 18:43	BMB	Mt. Juliet, TN

MW-4 L1320813-02 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 09:30 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1628808	1	03/05/21 19:05	03/05/21 19:05	BMB	Mt. Juliet, TN

MW-2 L1320813-03 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 10:10 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/05/21 23:45	03/05/21 23:45	BMB	Mt. Juliet, TN

MW-6 L1320813-04 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 10:50 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 00:07	03/06/21 00:07	BMB	Mt. Juliet, TN

MW-14 L1320813-05 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 11:35 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 00:29	03/06/21 00:29	BMB	Mt. Juliet, TN

MW-3 L1320813-06 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 12:20 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 00:50	03/06/21 00:50	BMB	Mt. Juliet, TN

MW-13 L1320813-07 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 13:00 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 01:12	03/06/21 01:12	BMB	Mt. Juliet, TN

MW-10 L1320813-08 GW

Collected by: Zach Comino | Collected date/time: 02/25/21 13:35 | Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 01:34	03/06/21 01:34	BMB	Mt. Juliet, TN

MW-9 L1320813-09 GW

Collected by: Zach Comino
Collected date/time: 02/25/21 14:10
Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 01:56	03/06/21 01:56	BMB	Mt. Juliet, TN

MW-11 L1320813-10 GW

Collected by: Zach Comino
Collected date/time: 02/25/21 14:50
Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 02:17	03/06/21 02:17	BMB	Mt. Juliet, TN

MW-1 L1320813-11 GW

Collected by: Zach Comino
Collected date/time: 02/25/21 15:35
Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 02:39	03/06/21 02:39	BMB	Mt. Juliet, TN

MW-8 L1320813-12 GW

Collected by: Zach Comino
Collected date/time: 02/25/21 16:00
Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	20	03/06/21 04:06	03/06/21 04:06	BMB	Mt. Juliet, TN

DUP-1 L1320813-13 GW

Collected by: Zach Comino
Collected date/time: 02/25/21 00:00
Received date/time: 02/26/21 09:55

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1630109	1	03/06/21 03:01	03/06/21 03:01	BMB	Mt. Juliet, TN

CASE NARRATIVE

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 Review Checklist: Reportable Data

Laboratory Name: Pace Analytical National	LRC Date: 03/09/2021 08:48
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1320813-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1628808 and WG1630109

#[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: 03/09/2021 08:48
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1320813-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1628808 and WG1630109

#[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 Name: Pace Analytical National	LRC Date: 03/09/2021 08:48
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1320813-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1628808 and WG1630109

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).

MW-3
Collected date/time: 02/25/21 08:45

SAMPLE RESULTS - 01

L1320813

ONE LAB. NATIONWIDE.

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	03/05/2021 18:43	WG1628808
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2021 18:43	WG1628808
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2021 18:43	WG1628808
Total Xylene	U		0.000510	0.00150	0.00150	1	03/05/2021 18:43	WG1628808
(S) a,a,a-Trifluorotoluene(PID)	*104*				*79.0-125*		*03/05/2021 18:43*	WG1628808

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	03/05/2021 19:05	WG1628808
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2021 19:05	WG1628808
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2021 19:05	WG1628808
Total Xylene	U		0.000510	0.00150	0.00150	1	03/05/2021 19:05	WG1628808
(S) a,a,a-Trifluorotoluene(PID)	*104*				*79.0-125*		*03/05/2021 19:05*	WG1628808

MW-2
Collected date/time: 02/25/21 10:10

SAMPLE RESULTS - 03

L1320813

ONE LAB. NATIONWIDE.

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	03/05/2021 23:45	WG1630109
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2021 23:45	WG1630109
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2021 23:45	WG1630109
Total Xylene	U		0.000510	0.00150	0.00150	1	03/05/2021 23:45	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*03/05/2021 23:45*	WG1630109

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	03/06/2021 00:07	WG1630109
Toluene	U		0.000412	0.00100	0.00100	1	03/06/2021 00:07	WG1630109
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/06/2021 00:07	WG1630109
Total Xylene	U		0.000510	0.00150	0.00150	1	03/06/2021 00:07	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*104*				*79.0-125*		*03/06/2021 00:07*	WG1630109

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	03/06/2021 00:29	WG1630109
Toluene	U		0.000412	0.00100	0.00100	1	03/06/2021 00:29	WG1630109
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/06/2021 00:29	WG1630109
Total Xylene	U		0.000510	0.00150	0.00150	1	03/06/2021 00:29	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*104*				*79.0-125*		*03/06/2021 00:29*	WG1630109

MW-3
Collected date/time: 02/25/21 12:20

SAMPLE RESULTS - 06

L1320813

ONE LAB. NATIONWIDE.

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	0.000353	J	0.000190	0.000500	0.000500	1	03/06/2021 00:50	WG1630109
Toluene	U		0.000412	0.00100	0.00100	1	03/06/2021 00:50	WG1630109
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/06/2021 00:50	WG1630109
Total Xylene	U		0.000510	0.00150	0.00150	1	03/06/2021 00:50	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*03/06/2021 00:50*	WG1630109

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

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	03/06/2021 01:12	WG1630109
Toluene	U		0.000412	0.00100	0.00100	1	03/06/2021 01:12	WG1630109
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/06/2021 01:12	WG1630109
Total Xylene	U		0.000510	0.00150	0.00150	1	03/06/2021 01:12	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*104*				*79.0-125*		*03/06/2021 01:12*	WG1630109

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	0.000851		0.000190	0.000500	0.000500	1	03/06/2021 01:34	WG1630109
Toluene	U		0.000412	0.00100	0.00100	1	03/06/2021 01:34	WG1630109
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/06/2021 01:34	WG1630109
Total Xylene	U		0.000510	0.00150	0.00150	1	03/06/2021 01:34	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*03/06/2021 01:34*	WG1630109

MW-9
Collected date/time: 02/25/21 14:10

SAMPLE RESULTS - 09

L1320813

ONE LAB. NATIONWIDE.

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	0.00301		0.000190	0.000500	0.000500	1	03/06/2021 01:56	WG1630109
Toluene	U		0.000412	0.00100	0.00100	1	03/06/2021 01:56	WG1630109
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/06/2021 01:56	WG1630109
Total Xylene	U		0.000510	0.00150	0.00150	1	03/06/2021 01:56	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*03/06/2021 01:56*	WG1630109

MW-11
Collected date/time: 02/25/21 14:50

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	0.0429		0.000190	0.000500	0.000500	1	03/06/2021 02:17	WG1630109
Toluene	0.000905	J	0.000412	0.00100	0.00100	1	03/06/2021 02:17	WG1630109
Ethylbenzene	0.00459		0.000160	0.000500	0.000500	1	03/06/2021 02:17	WG1630109
Total Xylene	0.00545		0.000510	0.00150	0.00150	1	03/06/2021 02:17	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*03/06/2021 02:17*	WG1630109

MW-1
Collected date/time: 02/25/21 15:35

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	0.00618		0.000190	0.000500	0.000500	1	03/06/2021 02:39	WG1630109
Toluene	0.0180		0.000412	0.00100	0.00100	1	03/06/2021 02:39	WG1630109
Ethylbenzene	0.00752		0.000160	0.000500	0.000500	1	03/06/2021 02:39	WG1630109
Total Xylene	0.0119		0.000510	0.00150	0.00150	1	03/06/2021 02:39	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*03/06/2021 02:39*	WG1630109

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	2.63		0.00380	0.000500	0.0100	20	03/06/2021 04:06	WG1630109
Toluene	1.07		0.00824	0.00100	0.0200	20	03/06/2021 04:06	WG1630109
Ethylbenzene	0.103		0.00320	0.000500	0.0100	20	03/06/2021 04:06	WG1630109
Total Xylene	0.481		0.0102	0.00150	0.0300	20	03/06/2021 04:06	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*03/06/2021 04:06*	WG1630109

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	0.00522		0.000190	0.000500	0.000500	1	03/06/2021 03:01	WG1630109
Toluene	0.0156		0.000412	0.00100	0.00100	1	03/06/2021 03:01	WG1630109
Ethylbenzene	0.00656		0.000160	0.000500	0.000500	1	03/06/2021 03:01	WG1630109
Total Xylene	0.0105		0.000510	0.00150	0.00150	1	03/06/2021 03:01	WG1630109
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*03/06/2021 03:01*	WG1630109

Method Blank (MB)

(MB) R3627779-3 03/05/21 10:50

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)	*103*			*79.0-125*

Laboratory Control Sample (LCS)

(LCS) R3627779-1 03/05/21 09:22

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	0.0495	99.0	80.0-121	
Ethylbenzene	0.0500	0.0499	99.8	80.0-123	
Total Xylene	0.150	0.150	100	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*103*	*79.0-125*	

Method Blank (MB)

(MB) R3628064-3 03/05/21 21:13

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)	*103*			*79.0-125*

Laboratory Control Sample (LCS)

(LCS) R3628064-1 03/05/21 19:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0486	97.2	77.0-122	
Toluene	0.0500	0.0473	94.6	80.0-121	
Ethylbenzene	0.0500	0.0471	94.2	80.0-123	
Total Xylene	0.150	0.141	94.0	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*103*	*79.0-125*	

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.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN, 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

Plains All American, LP - GHD

2135 S. Loop 250 W
Midland, TX 79703

Billing Information:
Camille Bryant
1106 Griffith Drive
Midland, TX 79706

Pres Chk

Analysis / Container / Preservative

Chain of Custody

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Becky Haskell

Email To: becky.haskell@ghd.com (see remarks)

Project Description: Chevron Grayburg 6-Inch Historical

City/State Collected:

Phone: 432-250-7917
Fax:

Client Project # SRS #: Chevron Grayburg 6-Inch Historical

Lab Project # 1120990b

L# L1320813

B045

Collected by (print): Zack Comino

Site/Facility ID # Chevron Grayburg

P.O. #

Acctnum: Plains GHD

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Template:

Prelogin:

TSR:

PB:

Immediately Packed on Ice N ___ Y X

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 10m/Amb-HCL	Remarks	Sample # (lab only)
MW-5	Grab	GW		02/25/2021	0845	3	X		-01
MW-4	Grab	GW		02/25/2021	0930	3	X		-02
MW-2		GW			1010				-03
MW-6		GW			1050				-04
MW-14		GW			1135				-05
MW-3		GW			1220				-06
MW-13		GW			1300				-07
MW-10		GW			1335				-08
MW-9		GW			1410				-09
MW-11		GW			1450				-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
Email final report to becky.haskell@ghd.com, cjbryan@paalp.com, algroves@paalp.com and maochoa@paalp.com

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 1922 0813 1825

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Zack Comino	02/25/2021	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.2 °C Bottles Received: 39

Date: 2/26/21 Time: 9:55

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Plains All American, LP - GHD

2135 S. Loop 250 W
Midland, TX 79703

Billing Information:
Camille Bryant
1106 Griffith Drive
Midland, TX 79706

Report to: Becky Haskell

Email To: becky.haskell@ghd.com (see remarks)

Project Description: Chevron Grayburg 6-Inch Historical

City/State Collected:

Phone: 432-250-7917
Fax:

Client Project #: SRS #: Chevron Grayburg 6-Inch Historical

Lab Project #: 11209906

Collected by (print): Zach Comino

Site/Facility ID #: Chevron Grayburg

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N___ Y X

Analysis / Container / Preservative

Chain of Custody

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12065 Lebanon Rd
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Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# LX320813

Table #

Acctnum: Plains GHD

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 10m/Amb-HCL	Remarks	Sample # (lab only)
MW-1	Grab	GW		02/25/2021	1535	3	X		-11
MW-8	Grab	GW		02/25/2021	1600	3	X		-12
Dup-1	↓	GW		↓	-	↓	↓		-13
		GW							
		GW							
		GW							
		GW							
		GW							
		GW							
		GW							

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
Email final report to becky.haskell@ghd.com, cjbryan@paalp.com, algroves@paalp.com and maochoa@paalp.com

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Zach Comino	02/25/2021	1700	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.7 °C
.9-1.8

Bottles Received: 39

Date: 2/26

Time: 955

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®

ANALYTICAL REPORT

May 24, 2021

Revised Report

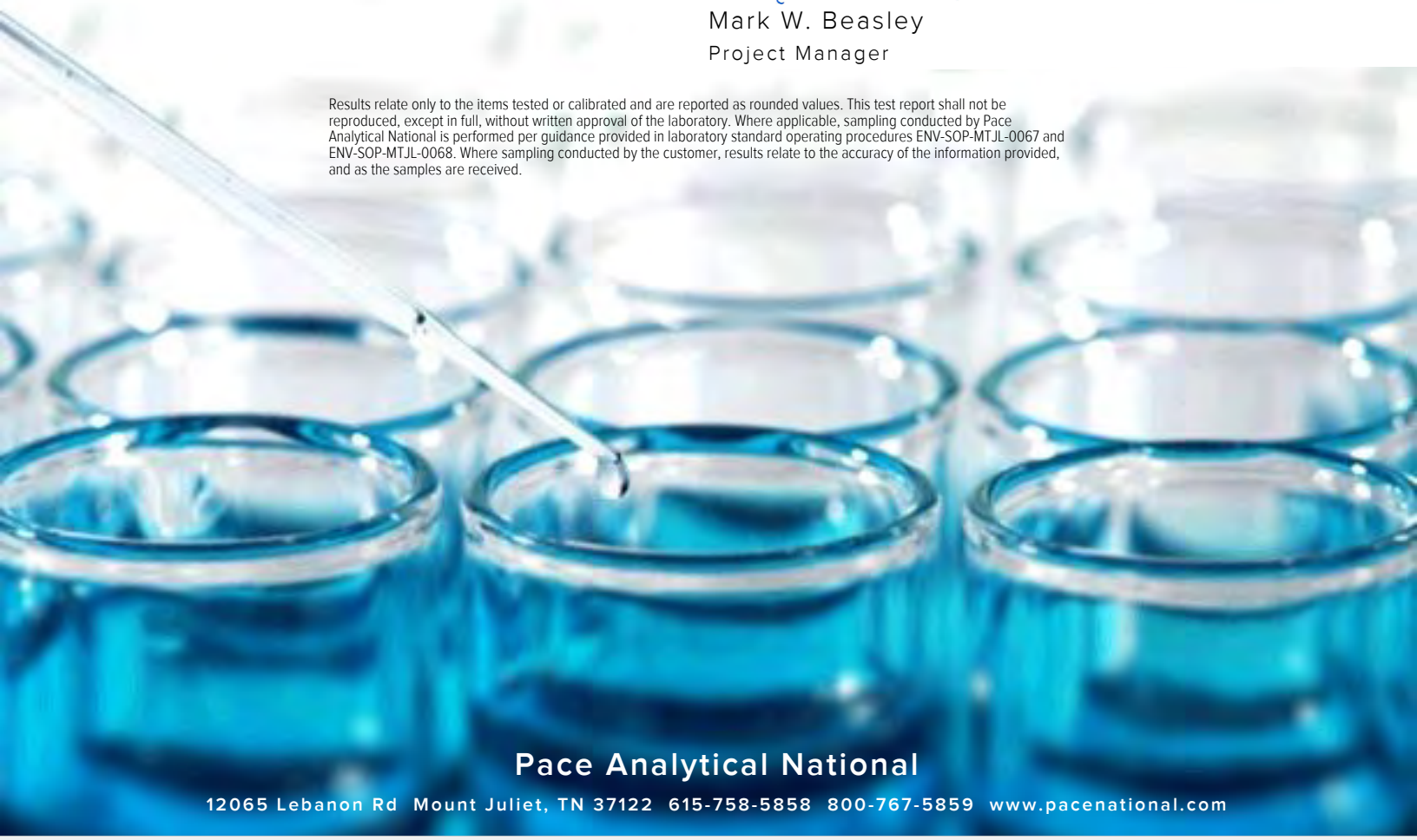
Plains All American, LP - GHD

Sample Delivery Group:	L1352416
Samples Received:	05/13/2021
Project Number:	11209906/02
Description:	Cheveron Grayburd 6-Inch Sec. 6 Historical
Site:	CHEVERON GRAYBURD
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.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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MW-14 L1352416-01 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 09:10 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1670713	1	05/17/21 05:12	05/17/21 05:12	TPR	Mt. Juliet, TN

MW-6 L1352416-02 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 09:25 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1670713	1	05/17/21 05:34	05/17/21 05:34	TPR	Mt. Juliet, TN

MW-4 L1352416-03 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 09:40 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1670713	1	05/17/21 05:56	05/17/21 05:56	TPR	Mt. Juliet, TN

MW-5 L1352416-04 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 09:55 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1670713	1	05/17/21 06:18	05/17/21 06:18	TPR	Mt. Juliet, TN

MW-2 L1352416-05 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 10:20 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1670713	1	05/17/21 06:40	05/17/21 06:40	TPR	Mt. Juliet, TN

MW-13 L1352416-06 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 10:35 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1670713	1	05/17/21 07:02	05/17/21 07:02	TPR	Mt. Juliet, TN

MW-3 L1352416-07 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 10:40 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1670713	1	05/17/21 07:24	05/17/21 07:24	TPR	Mt. Juliet, TN

MW-10 L1352416-08 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 11:25 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1671666	1	05/16/21 18:06	05/16/21 18:06	JAH	Mt. Juliet, TN

SAMPLE SUMMARY

MW-9 L1352416-09 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 12:10 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1671666	1	05/16/21 18:28	05/16/21 18:28	JAH	Mt. Juliet, TN

MW-11 L1352416-10 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 13:05 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1671666	1	05/16/21 18:50	05/16/21 18:50	JAH	Mt. Juliet, TN

MW-1 L1352416-11 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 13:30 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1671666	1	05/16/21 19:11	05/16/21 19:11	JAH	Mt. Juliet, TN

MW-8 L1352416-12 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 14:20 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1671666	20	05/17/21 00:17	05/17/21 00:17	JAH	Mt. Juliet, TN

DUP-1 L1352416-13 GW

Collected by: Zach Comino | Collected date/time: 05/12/21 00:00 | Received date/time: 05/13/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1671666	1	05/16/21 19:33	05/16/21 19:33	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B	WG1672916	20	05/19/21 10:07	05/19/21 10:07	BMB	Mt. Juliet, TN

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

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

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 05/24/21 14:54

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

Revised May 2010

Laboratory Review Checklist: Reportable Data

Laboratory Name: Pace Analytical National	LRC Date: 05/24/2021 16:11
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1352416-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1671666, WG1670713 and WG1672916

#[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).

Revised May 2010

Laboratory Review Checklist: Supporting Data

Laboratory Name: Pace Analytical National	LRC Date: 05/24/2021 16:11
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1352416-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1671666, WG1670713 and WG1672916

#[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).

Revised May 2010

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National	LRC Date: 05/24/2021 16:11
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1352416-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1671666, WG1670713 and WG1672916

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).

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	05/17/2021 05:12	WG1670713
Toluene	U		0.000412	0.00100	0.00100	1	05/17/2021 05:12	WG1670713
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/17/2021 05:12	WG1670713
Total Xylene	U		0.000510	0.00150	0.00150	1	05/17/2021 05:12	WG1670713
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/17/2021 05:12*	WG1670713

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	05/17/2021 05:34	WG1670713
Toluene	U		0.000412	0.00100	0.00100	1	05/17/2021 05:34	WG1670713
Ethylbenzene	0.000477	J	0.000160	0.000500	0.000500	1	05/17/2021 05:34	WG1670713
Total Xylene	U		0.000510	0.00150	0.00150	1	05/17/2021 05:34	WG1670713
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/17/2021 05:34*	WG1670713

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	05/17/2021 05:56	WG1670713
Toluene	U		0.000412	0.00100	0.00100	1	05/17/2021 05:56	WG1670713
Ethylbenzene	0.000330	J	0.000160	0.000500	0.000500	1	05/17/2021 05:56	WG1670713
Total Xylene	U		0.000510	0.00150	0.00150	1	05/17/2021 05:56	WG1670713
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/17/2021 05:56*	WG1670713

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	05/17/2021 06:18	WG1670713
Toluene	U		0.000412	0.00100	0.00100	1	05/17/2021 06:18	WG1670713
Ethylbenzene	0.000247	J	0.000160	0.000500	0.000500	1	05/17/2021 06:18	WG1670713
Total Xylene	U		0.000510	0.00150	0.00150	1	05/17/2021 06:18	WG1670713
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/17/2021 06:18*	WG1670713

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

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	05/17/2021 06:40	WG1670713
Toluene	U		0.000412	0.00100	0.00100	1	05/17/2021 06:40	WG1670713
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/17/2021 06:40	WG1670713
Total Xylene	U		0.000510	0.00150	0.00150	1	05/17/2021 06:40	WG1670713
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/17/2021 06:40*	WG1670713

MW-13
Collected date/time: 05/12/21 10:35
L1352416

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	05/17/2021 07:02	WG1670713
Toluene	U		0.000412	0.00100	0.00100	1	05/17/2021 07:02	WG1670713
Ethylbenzene	0.000161	J	0.000160	0.000500	0.000500	1	05/17/2021 07:02	WG1670713
Total Xylene	U		0.000510	0.00150	0.00150	1	05/17/2021 07:02	WG1670713
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/17/2021 07:02*	WG1670713

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

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	05/17/2021 07:24	WG1670713
Toluene	U		0.000412	0.00100	0.00100	1	05/17/2021 07:24	WG1670713
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/17/2021 07:24	WG1670713
Total Xylene	U		0.000510	0.00150	0.00150	1	05/17/2021 07:24	WG1670713
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/17/2021 07:24*	WG1670713

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	0.000823		0.000190	0.000500	0.000500	1	05/16/2021 18:06	WG1671666
Toluene	0.000467	J	0.000412	0.00100	0.00100	1	05/16/2021 18:06	WG1671666
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/16/2021 18:06	WG1671666
Total Xylene	U		0.000510	0.00150	0.00150	1	05/16/2021 18:06	WG1671666
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/16/2021 18:06*	WG1671666

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00229		0.000190	0.000500	0.000500	1	05/16/2021 18:28	WG1671666
Toluene	0.000458	J	0.000412	0.00100	0.00100	1	05/16/2021 18:28	WG1671666
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/16/2021 18:28	WG1671666
Total Xylene	U		0.000510	0.00150	0.00150	1	05/16/2021 18:28	WG1671666
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*05/16/2021 18:28*	WG1671666

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	0.0144		0.000190	0.000500	0.000500	1	05/16/2021 18:50	WG1671666
Toluene	U		0.000412	0.00100	0.00100	1	05/16/2021 18:50	WG1671666
Ethylbenzene	0.00339		0.000160	0.000500	0.000500	1	05/16/2021 18:50	WG1671666
Total Xylene	0.00148	B J	0.000510	0.00150	0.00150	1	05/16/2021 18:50	WG1671666
(S) a,a,a-Trifluorotoluene(PID)	*101*				*79.0-125*		*05/16/2021 18:50*	WG1671666

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	0.0380		0.000190	0.000500	0.000500	1	05/16/2021 19:11	WG1671666
Toluene	0.0152		0.000412	0.00100	0.00100	1	05/16/2021 19:11	WG1671666
Ethylbenzene	0.00876		0.000160	0.000500	0.000500	1	05/16/2021 19:11	WG1671666
Total Xylene	0.0146		0.000510	0.00150	0.00150	1	05/16/2021 19:11	WG1671666
(S) a,a,a-Trifluorotoluene(PID)	*101*				*79.0-125*		*05/16/2021 19:11*	WG1671666

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	1.78		0.00380	0.000500	0.0100	20	05/17/2021 00:17	WG1671666
Toluene	0.240		0.00824	0.00100	0.0200	20	05/17/2021 00:17	WG1671666
Ethylbenzene	0.0417		0.00320	0.000500	0.0100	20	05/17/2021 00:17	WG1671666
Total Xylene	0.204		0.0102	0.00150	0.0300	20	05/17/2021 00:17	WG1671666
(S) a,a,a-Trifluorotoluene(PID)	*101*				*79.0-125*		*05/17/2021 00:17*	WG1671666

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

DUP-1
Collected date/time: 05/12/21 00:00
L1352416

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	2.09		0.00380	0.000500	0.0100	20	05/19/2021 10:07	WG1672916
Toluene	0.192		0.000412	0.00100	0.00100	1	05/16/2021 19:33	WG1671666
Ethylbenzene	0.0396		0.000160	0.000500	0.000500	1	05/16/2021 19:33	WG1671666
Total Xylene	0.179		0.000510	0.00150	0.00150	1	05/16/2021 19:33	WG1671666
(S) a,a,a-Trifluorotoluene(PID)	*92.5*				*79.0-125*		*05/16/2021 19:33*	WG1671666
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*05/19/2021 10:07*	WG1672916

Method Blank (MB)

(MB) R3657656-3 05/17/21 00:46

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) R3657656-1 05/16/21 23:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0487	97.4	77.0-122	
Toluene	0.0500	0.0477	95.4	80.0-121	
Ethylbenzene	0.0500	0.0481	96.2	80.0-123	
Total Xylene	0.150	0.154	103	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*102*	*79.0-125*	

L1352416-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1352416-07 05/17/21 07:24 • (MS) R3657656-4 05/17/21 08:31 • (MSD) R3657656-5 05/17/21 08:53

Analyte	Spike Amount mg/l	Original Result mg/l	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	U	0.0357	0.0401	71.4	80.2	1	10.0-160			11.6	21
Toluene	0.0500	U	0.0349	0.0391	69.8	78.2	1	12.0-148			11.4	21
Ethylbenzene	0.0500	U	0.0353	0.0389	70.6	77.8	1	22.0-149			9.70	21
Total Xylene	0.150	U	0.112	0.123	74.7	82.0	1	13.0-155			9.36	21
(S) a,a,a-Trifluorotoluene(PID)					*101*	*101*		*79.0-125*				

Method Blank (MB)

(MB) R3655959-3 05/16/21 14:19

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	0.000899	J	0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	*102*			*79.0-125*

Laboratory Control Sample (LCS)

(LCS) R3655959-1 05/16/21 13:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0455	91.0	77.0-122	
Toluene	0.0500	0.0470	94.0	80.0-121	
Ethylbenzene	0.0500	0.0500	100	80.0-123	
Total Xylene	0.150	0.131	87.3	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*102*	*79.0-125*	

Method Blank (MB)

(MB) R3657969-3 05/19/21 08:40

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)	*104*			*79.0-125*

Laboratory Control Sample (LCS)

(LCS) R3657969-1 05/19/21 07:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0550	110	77.0-122	
(S) a,a,a-Trifluorotoluene(PID)			*105*	*79.0-125*	

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.
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 Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

Company Name/Address:
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

Report to:
Becky Haskell

Email To:
becky.haskell@ghd.com;glenn.quinney@ghd.co

Project Description:
Cheveron Grayburd 6-Inch Sec. 6 Historical

City/State Collected:

Please Circle: PT MT CT ET

Phone: **432-250-7917**

Client Project #
11209906/02

Lab Project #
PLAINSGHD-11209906

Collected by (print):
Zack Corino

Site/Facility ID #
Cheveron Grayburg

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

BTEX 40mlAmb-HCl

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 40mlAmb-HCl	Remarks	Sample # (lab only)
MW-14	Grab	GW		05/12/2021	0910	3	X		-01
MW-6		GW			0925				-02
MW-4		GW			0940				-03
MW-5		GW			0955				-04
MW-2		GW			1020				-05
MW-13		GW			1035				-06
MW-3		GW			1040				-07
MW-10		GW			1125				-08
MW-9		GW			1210				-09
MW-11		GW			1305				-10

Chain of Custody Page ___ of ___

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG H116
Table #135246

Acctnum: **PLAINSGHD**
Template: **T167396**
Prelogin: **P844050**
PM: **134 - Mark W. Beasley**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 7870 8688 4056

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	05/12/2021	1430		A201	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6, 1.5 °C Bottles Received: 39	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Jordan Digate	Date: 5/13/21 Time: 10:00	Hold: Condition: NCF / OK

Company Name/Address:
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

Report to:
Becky Haskell

Email To:
becky.haskell@ghd.com;glenn.quinney@ghd.co

Project Description:
Cheveron Grayburd 6-Inch Sec. 6 Historical

City/State Collected:

Please Circle: PT MT CT ET

Phone: **432-250-7917**

Client Project #
11209906/02

Lab Project #
PLAINSGHD-11209906

Collected by (print): Zach Gomino

Site/Facility ID #: Chevron Grayburg

P.O. #

Collected by (signature):

Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 40mlAmb-HCl	Remarks	Sample # (lab only)
MW-1	Grab	GW		05/12/2021	1330	3	X		-1
MW-8	X	GW		X	1420	X	X		-2
Dup-1	X	GW		X		X	X		-3
		GW							
		GW							
		GW							
		GW							
		GW							

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1352416

Table #

Acctnum: **PLAINSGHD**
Template: **T167396**
Prelogin: **P844050**
PM: **134 - Mark W. Beasley**
PB:
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 7870 8688 4056

Sample Receipt Checklist
COC Seal Present/Intact: __NP X__Y __N
COC Signed/Accurate: X__Y __N
Bottles arrive intact: X__Y __N
Correct bottles used: X__Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: X__Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: X__Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	05/12/2021	1430		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				1.6, 1.5 39
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Jordeyn Ingate	5/13/21 10:00

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

ANALYTICAL REPORT

September 08, 2021

Plains All American, LP - GHD

Sample Delivery Group:	L1395862
Samples Received:	08/27/2021
Project Number:	11209906
Description:	Cheveron Grayburd 6-Inch Sec. 6 Historical

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

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

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

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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MW-2-082521 L1395862-01 GW

Collected by: DF/JM | Collected date/time: 08/25/21 11:40 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1732419	1	09/01/21 02:01	09/01/21 02:01	BMB	Mt. Juliet, TN

MW-4-082421 L1395862-02 GW

Collected by: DF/JM | Collected date/time: 08/24/21 11:50 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1734999	1	09/05/21 00:24	09/05/21 00:24	ACG	Mt. Juliet, TN

MW-5-082521 L1395862-03 GW

Collected by: DF/JM | Collected date/time: 08/25/21 11:20 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1735434	1	09/05/21 13:17	09/05/21 13:17	ACG	Mt. Juliet, TN

MW-13-082521 L1395862-04 GW

Collected by: DF/JM | Collected date/time: 08/25/21 11:20 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1735434	1	09/05/21 13:39	09/05/21 13:39	ACG	Mt. Juliet, TN

MW-14-082521 L1395862-05 GW

Collected by: DF/JM | Collected date/time: 08/25/21 10:10 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1735434	1	09/05/21 14:00	09/05/21 14:00	ACG	Mt. Juliet, TN

MW-6-082521 L1395862-06 GW

Collected by: DF/JM | Collected date/time: 08/25/21 10:40 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1735434	1	09/05/21 14:22	09/05/21 14:22	ACG	Mt. Juliet, TN

MW-3-082521 L1395862-07 GW

Collected by: DF/JM | Collected date/time: 08/25/21 12:00 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1735434	1	09/05/21 14:44	09/05/21 14:44	ACG	Mt. Juliet, TN

MW-10-082521 L1395862-08 GW

Collected by: DF/JM | Collected date/time: 08/25/21 10:20 | Received date/time: 08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1735434	1	09/05/21 15:06	09/05/21 15:06	ACG	Mt. Juliet, TN

SAMPLE SUMMARY

MW-9-082521 L1395862-09 GW

Collected by	Collected date/time	Received date/time
DF/JM	08/25/21 10:50	08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1733706	1	09/03/21 09:00	09/03/21 09:00	JAH	Mt. Juliet, TN

MW-11-082421 L1395862-10 GW

Collected by	Collected date/time	Received date/time
DF/JM	08/24/21 11:40	08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1733706	1	09/03/21 09:22	09/03/21 09:22	JAH	Mt. Juliet, TN

MW-1-082521 L1395862-11 GW

Collected by	Collected date/time	Received date/time
DF/JM	08/25/21 12:00	08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1733706	1	09/03/21 10:06	09/03/21 10:06	JAH	Mt. Juliet, TN

MW-8-082421 L1395862-12 GW

Collected by	Collected date/time	Received date/time
DF/JM	08/24/21 12:30	08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1733706	20	09/03/21 13:26	09/03/21 13:26	JAH	Mt. Juliet, TN

DUP-082521 L1395862-13 GW

Collected by	Collected date/time	Received date/time
DF/JM	08/25/21 00:00	08/27/21 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1733706	1	09/03/21 10:27	09/03/21 10:27	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.

Olivia Studebaker
Project Manager

Laboratory Data Package Cover Page

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,

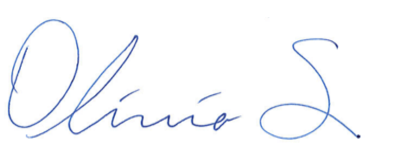
b. The calculated RPD, and

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.



Olivia Studebaker

Project Manager

Revised May 2010

Laboratory Review Checklist: Reportable Data

Laboratory Name: Pace Analytical National	LRC Date: 09/08/2021 11:13
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1395862-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Olivia Studebaker	Prep Batch Number(s): WG1732419, WG1734999, WG1733706 and WG1735434

#[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).

Revised May 2010

Laboratory Review Checklist: Supporting Data

Laboratory Name: Pace Analytical National	LRC Date: 09/08/2021 11:13
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1395862-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Olivia Studebaker	Prep Batch Number(s): WG1732419, WG1734999, WG1733706 and WG1735434

#[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				

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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).

DG-365-ITRP-13
Revised May 2010

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National	LRC Date: 09/08/2021 11:13
Project Name: Cheveron Grayburd 6-Inch Sec. 6 Historical	Laboratory Job Number: L1395862-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Olivia Studebaker	Prep Batch Number(s): WG1732419, WG1734999, WG1733706 and WG1735434

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).

MW-2-082521
Collected date/time: 08/25/21 11:40
L1395862

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	09/01/2021 02:01	WG1732419
Toluene	U		0.000412	0.00100	0.00100	1	09/01/2021 02:01	WG1732419
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/01/2021 02:01	WG1732419
Total Xylene	U		0.000510	0.00150	0.00150	1	09/01/2021 02:01	WG1732419
(S) a,a,a-Trifluorotoluene(PID)	*99.2*				*79.0-125*		*09/01/2021 02:01*	WG1732419

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	09/05/2021 00:24	WG1734999
Toluene	U		0.000412	0.00100	0.00100	1	09/05/2021 00:24	WG1734999
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/05/2021 00:24	WG1734999
Total Xylene	U		0.000510	0.00150	0.00150	1	09/05/2021 00:24	WG1734999
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*09/05/2021 00:24*	WG1734999

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	09/05/2021 13:17	WG1735434
Toluene	U		0.000412	0.00100	0.00100	1	09/05/2021 13:17	WG1735434
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/05/2021 13:17	WG1735434
Total Xylene	U		0.000510	0.00150	0.00150	1	09/05/2021 13:17	WG1735434
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*09/05/2021 13:17*	WG1735434

MW-13-082521
Collected date/time: 08/25/21 11:20
L1395862

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	09/05/2021 13:39	WG1735434
Toluene	U		0.000412	0.00100	0.00100	1	09/05/2021 13:39	WG1735434
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/05/2021 13:39	WG1735434
Total Xylene	U		0.000510	0.00150	0.00150	1	09/05/2021 13:39	WG1735434
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*09/05/2021 13:39*	WG1735434

MW-14-082521
Collected date/time: 08/25/21 10:10

L1395862

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	09/05/2021 14:00	WG1735434
Toluene	U		0.000412	0.00100	0.00100	1	09/05/2021 14:00	WG1735434
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/05/2021 14:00	WG1735434
Total Xylene	U		0.000510	0.00150	0.00150	1	09/05/2021 14:00	WG1735434
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*09/05/2021 14:00*	WG1735434

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000344	J	0.000190	0.000500	0.000500	1	09/05/2021 14:22	WG1735434
Toluene	U		0.000412	0.00100	0.00100	1	09/05/2021 14:22	WG1735434
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/05/2021 14:22	WG1735434
Total Xylene	U		0.000510	0.00150	0.00150	1	09/05/2021 14:22	WG1735434
(S) a,a,a-Trifluorotoluene(PID)	*103*				*79.0-125*		*09/05/2021 14:22*	WG1735434

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000861		0.000190	0.000500	0.000500	1	09/05/2021 14:44	WG1735434
Toluene	U		0.000412	0.00100	0.00100	1	09/05/2021 14:44	WG1735434
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/05/2021 14:44	WG1735434
Total Xylene	U		0.000510	0.00150	0.00150	1	09/05/2021 14:44	WG1735434
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*09/05/2021 14:44*	WG1735434

MW-10-082521
Collected date/time: 08/25/21 10:20
L1395862

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	0.000584		0.000190	0.000500	0.000500	1	09/05/2021 15:06	WG1735434
Toluene	U		0.000412	0.00100	0.00100	1	09/05/2021 15:06	WG1735434
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/05/2021 15:06	WG1735434
Total Xylene	U		0.000510	0.00150	0.00150	1	09/05/2021 15:06	WG1735434
(S) a,a,a-Trifluorotoluene(PID)	*102*				*79.0-125*		*09/05/2021 15:06*	WG1735434

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	0.00351		0.000190	0.000500	0.000500	1	09/03/2021 09:00	WG1733706
Toluene	U		0.000412	0.00100	0.00100	1	09/03/2021 09:00	WG1733706
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/03/2021 09:00	WG1733706
Total Xylene	U		0.000510	0.00150	0.00150	1	09/03/2021 09:00	WG1733706
(S) a,a,a-Trifluorotoluene(PID)	*99.6*				*79.0-125*		*09/03/2021 09:00*	WG1733706

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	0.00644		0.000190	0.000500	0.000500	1	09/03/2021 09:22	WG1733706
Toluene	U		0.000412	0.00100	0.00100	1	09/03/2021 09:22	WG1733706
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/03/2021 09:22	WG1733706
Total Xylene	U		0.000510	0.00150	0.00150	1	09/03/2021 09:22	WG1733706
(S) a,a,a-Trifluorotoluene(PID)	*99.3*				*79.0-125*		*09/03/2021 09:22*	WG1733706

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	0.0137		0.000190	0.000500	0.000500	1	09/03/2021 10:06	WG1733706
Toluene	0.0417		0.000412	0.00100	0.00100	1	09/03/2021 10:06	WG1733706
Ethylbenzene	0.0164		0.000160	0.000500	0.000500	1	09/03/2021 10:06	WG1733706
Total Xylene	0.0312		0.000510	0.00150	0.00150	1	09/03/2021 10:06	WG1733706
(S) a,a,a-Trifluorotoluene(PID)	*98.0*				*79.0-125*		*09/03/2021 10:06*	WG1733706

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	2.63		0.00380	0.000500	0.0100	20	09/03/2021 13:26	WG1733706
Toluene	1.30		0.00824	0.00100	0.0200	20	09/03/2021 13:26	WG1733706
Ethylbenzene	0.0945		0.00320	0.000500	0.0100	20	09/03/2021 13:26	WG1733706
Total Xylene	0.668		0.0102	0.00150	0.0300	20	09/03/2021 13:26	WG1733706
(S) a,a,a-Trifluorotoluene(PID)	*101*				*79.0-125*		*09/03/2021 13:26*	WG1733706

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	0.0143		0.000190	0.000500	0.000500	1	09/03/2021 10:27	WG1733706
Toluene	0.0452		0.000412	0.00100	0.00100	1	09/03/2021 10:27	WG1733706
Ethylbenzene	0.0176		0.000160	0.000500	0.000500	1	09/03/2021 10:27	WG1733706
Total Xylene	0.0326		0.000510	0.00150	0.00150	1	09/03/2021 10:27	WG1733706
(S) a,a,a-Trifluorotoluene(PID)	*98.2*				*79.0-125*		*09/03/2021 10:27*	WG1733706

QUALITY CONTROL SUMMARY

L1395862-01

Method Blank (MB)

(MB) R3700660-3 08/31/21 13:42

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)	*100*			*79.0-125*

Laboratory Control Sample (LCS)

(LCS) R3700660-1 08/31/21 12:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0481	96.2	77.0-122	
Toluene	0.0500	0.0492	98.4	80.0-121	
Ethylbenzene	0.0500	0.0479	95.8	80.0-123	
Total Xylene	0.150	0.168	112	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*99.0*	*79.0-125*	

Method Blank (MB)

(MB) R3700727-3 09/03/21 03:21

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)	*100*			*79.0-125*

Laboratory Control Sample (LCS)

(LCS) R3700727-1 09/03/21 02:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0456	91.2	77.0-122	
Toluene	0.0500	0.0469	93.8	80.0-121	
Ethylbenzene	0.0500	0.0460	92.0	80.0-123	
Total Xylene	0.150	0.160	107	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*99.4*	*79.0-125*	

L1395862-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1395862-12 09/03/21 13:26 • (MS) R3700727-4 09/03/21 14:08 • (MSD) R3700727-5 09/03/21 14:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	1.00	2.63	3.04	2.89	41.0	26.0	20	10.0-160			5.06	21
Toluene	1.00	1.30	1.95	1.84	65.0	54.0	20	12.0-148			5.80	21
Ethylbenzene	1.00	0.0945	0.975	0.905	88.1	81.0	20	22.0-149			7.45	21
Total Xylene	3.00	0.668	3.66	3.42	99.7	91.7	20	13.0-155			6.78	21
(S) a,a,a-Trifluorotoluene(PID)					*102*	*101*		*79.0-125*				

QUALITY CONTROL SUMMARY

L1395862-02

Method Blank (MB)

(MB) R3700707-2 09/04/21 21:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	0.000264	J	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) R3700707-1 09/04/21 20:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0590	118	77.0-122	
Toluene	0.0500	0.0563	113	80.0-121	
Ethylbenzene	0.0500	0.0600	120	80.0-123	
Total Xylene	0.150	0.177	118	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*101*	*79.0-125*	

QUALITY CONTROL SUMMARY

L1395862-03,04,05,06,07,08

Method Blank (MB)

(MB) R3700782-3 09/05/21 12:08

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) R3700782-1 09/05/21 11:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0530	106	77.0-122	
Toluene	0.0500	0.0510	102	80.0-121	
Ethylbenzene	0.0500	0.0545	109	80.0-123	
Total Xylene	0.150	0.160	107	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			*103*	*79.0-125*	

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.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L1395862

K133

Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Billing Information: Invoice to: Plains All American Pipeline, Attn - Camille Bryant

Pres Chk

Report to: Becky Haskell

Email To: becky.haskell@ghd.com

Project Description: SRS 2006-142

City/State Collected: Lea County, NM

Phone: 432-250-7917
Fax:

Client Project # Chevron-Grayburg Historical (GHD 11209906)

Lab Project #

Collected by (print): David Fletcher, Joe Miceles

Site/Facility ID #

P.O. #

Collected by (signature): Joe Miceles

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Per SSOW

Immediately Packed on Ice N ___ Y ✓

Analysis / Container / Preservative: BTEX 8021B

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8021B	Remarks	Sample # (lab only)
MW-2-082521	G	GW	–	8-25	1140	3	X		-01
MW-4-082421	G	GW	–	8-24	1150	↓	↓		-02
MW-5-082521	↓	↓	↓	8-25	1120	↓	↓		-03
MW-13-082521	↓	↓	↓	8-25	1120	↓	↓		-04
MW-14-082521	↓	↓	↓	8-25	1010	↓	↓		-05
MW-6-082521	↓	↓	↓	8-25	1040	↓	↓		-06
MW-3-082521	↓	↓	↓	8-25	1200	↓	↓		-07
MW-10-082521	↓	↓	↓	8-25	1020	↓	↓		-08
MW-9-082521	↓	↓	↓	8-25	1050	↓	↓		-09
MW-11-082421	G	GW	–	8-24	1140	3	X		-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: i) Report to SDLs
ii) Flag estimated concentrations

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier __ ______

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
Joe Miceles	8-26-21	0700	[signature]	Trip Blank Received: Yes / (No) HCL / MeoH TBR
[signature]	8-26-21	16:00	Scott	Temp: AT 0 °C 5.4±0=5.4 Bottles Received: 39
			Received for lab by: (Signature) [signature]	Date: 8/27/21 Time: 8:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Billing Information:
Invoice to:
Plains All American Pipeline,
attn - Camille Bryant

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

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National Center for Testing & Innovation

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Mount Juliet, TN 37122
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Phone: 800-767-5859
Fax: 615-758-5859

L# L1358162

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Report to: Becky Haskell

Email To: becky.haskell@ghd.com

Project Description: SRS 2006-142

City/State Collected: Lea Co. NM

Phone: 432-250-7917
Fax:

Client Project # Chevron - Grayburg Historical (GHD 11209906)

Lab Project #

Collected by (print): David Fletcher, Joe Mireles

Site/Facility ID #

P.O. #

Collected by (signature): Joe Mireles

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Per SSOW

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8021B	Remarks	Sample # (lab only)
MW-1-082521	G	GW	—	8-25	1200	3	X		-11
MW-8-082421	G	GW	—	8-24	1230	3	X		-12
Dup-082521	G	GW	—	8-25	—	3	X		-13

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: I) report to SDLs
II) Flag estimated concentrations

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

	Date:	Time:		
Relinquished by : (Signature) Joe Mireles	8-26-21	0700	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	8.26.21	16:10	Received by: (Signature)	Temp: 4.7+0.5=5.2°C Bottles Received: 39
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/27/21 Time: 8:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

December 02, 2021

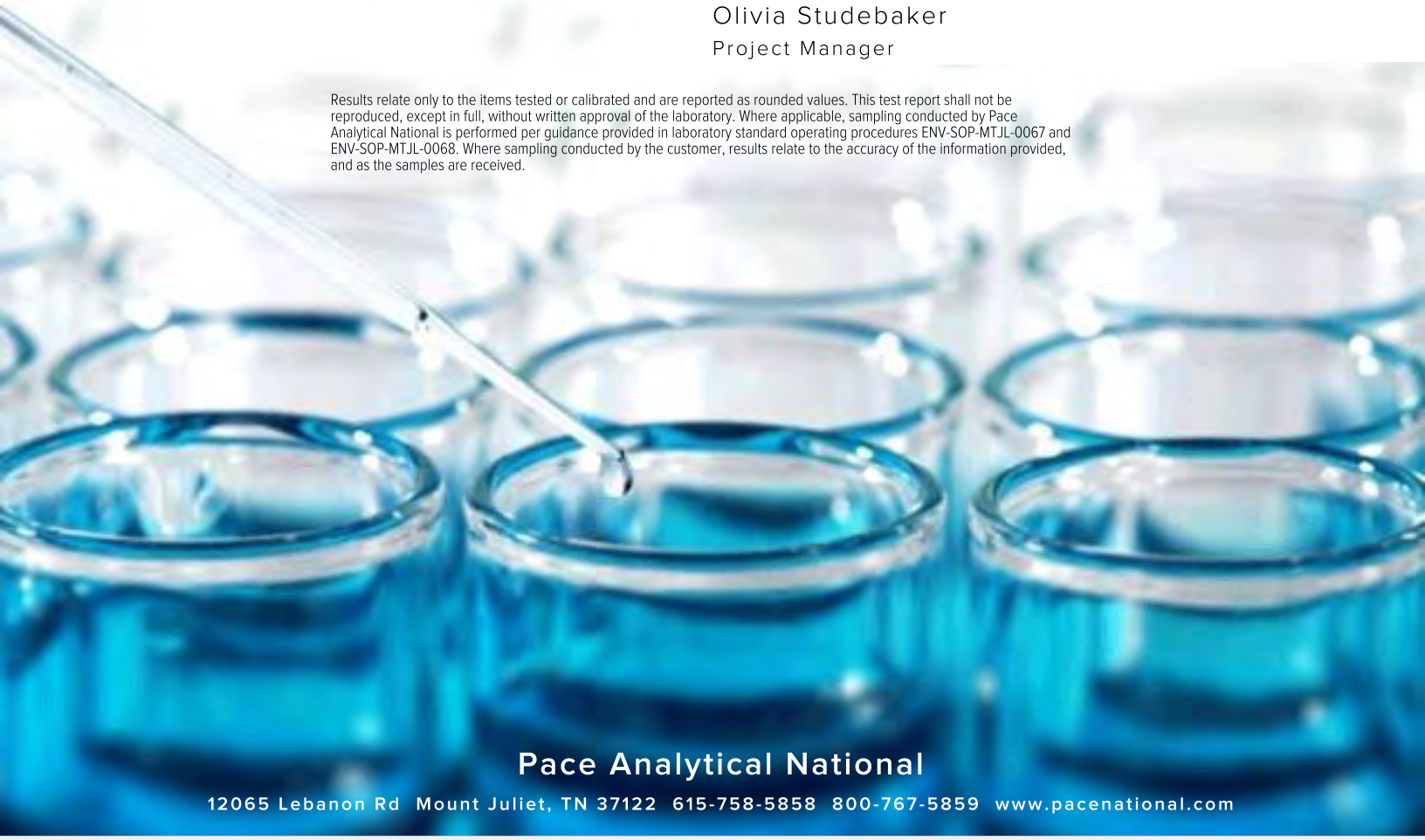
Plains All American, LP - GHD

Sample Delivery Group:	L1433771
Samples Received:	11/19/2021
Project Number:	SRS CHEVRON GRAYBURG
Description:	Chevron Grayburg 6-inch Historical
Site:	SRS CHEVRON GRAYBURG
Report To:	Becky Haskell 2135 S Loop 250 W Midland, TX 79703

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

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



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12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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MW-14-111621 L1433771-05 14

MW-6-111621 L1433771-06 15

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MW-2-111621 L1433771-01 GW

Collected by: DF/JM | Collected date/time: 11/16/21 12:00 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/27/21 22:14	11/27/21 22:14	ACG	Mt. Juliet, TN

MW-4-111621 L1433771-02 GW

Collected by: DF/JM | Collected date/time: 11/16/21 12:15 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/27/21 22:34	11/27/21 22:34	ACG	Mt. Juliet, TN

MW-5-111621 L1433771-03 GW

Collected by: DF/JM | Collected date/time: 11/16/21 12:30 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/27/21 22:55	11/27/21 22:55	ACG	Mt. Juliet, TN

MW-13-111621 L1433771-04 GW

Collected by: DF/JM | Collected date/time: 11/16/21 12:45 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/27/21 23:15	11/27/21 23:15	ACG	Mt. Juliet, TN

MW-14-111621 L1433771-05 GW

Collected by: DF/JM | Collected date/time: 11/16/21 13:00 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/27/21 23:35	11/27/21 23:35	ACG	Mt. Juliet, TN

MW-6-111621 L1433771-06 GW

Collected by: DF/JM | Collected date/time: 11/16/21 13:15 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/27/21 23:56	11/27/21 23:56	ACG	Mt. Juliet, TN

MW-10-111621 L1433771-07 GW

Collected by: DF/JM | Collected date/time: 11/16/21 11:45 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/28/21 00:16	11/28/21 00:16	ACG	Mt. Juliet, TN

MW-3-111621 L1433771-08 GW

Collected by: DF/JM | Collected date/time: 11/16/21 13:30 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/28/21 00:36	11/28/21 00:36	ACG	Mt. Juliet, TN

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

MW-11-111621 L1433771-09 GW

Collected by: DF/JM | Collected date/time: 11/16/21 14:00 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/28/21 00:57	11/28/21 00:57	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1781131	10	11/29/21 20:27	11/29/21 20:27	BMB	Mt. Juliet, TN

DUP-111621 L1433771-10 GW

Collected by: DF/JM | Collected date/time: 11/16/21 00:00 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/28/21 01:17	11/28/21 01:17	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1781131	10	11/29/21 20:48	11/29/21 20:48	BMB	Mt. Juliet, TN

MW-1-111621 L1433771-11 GW

Collected by: DF/JM | Collected date/time: 11/16/21 14:15 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/28/21 01:38	11/28/21 01:38	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1781131	10	11/29/21 21:09	11/29/21 21:09	BMB	Mt. Juliet, TN

MW-9-111621 L1433771-12 GW

Collected by: DF/JM | Collected date/time: 11/16/21 13:45 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/28/21 01:58	11/28/21 01:58	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1781131	1	11/29/21 19:22	11/29/21 19:22	BMB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1778019	1	11/22/21 23:32	11/23/21 13:34	LEA	Mt. Juliet, TN

MW-8-111621 L1433771-13 GW

Collected by: DF/JM | Collected date/time: 11/17/21 11:40 | Received date/time: 11/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780339	1	11/28/21 02:18	11/28/21 02:18	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1781131	25	11/29/21 21:31	11/29/21 21:31	BMB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1778249	1	11/24/21 00:28	11/24/21 09:39	LEA	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.

Olivia Studebaker
Project Manager

Laboratory Data Package Cover Page

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.

Olivia Studebaker

Project Manager

Revised May 2010

Laboratory Review Checklist: Reportable Data

Laboratory Name: Pace Analytical National	LRC Date: 12/02/2021 11:57
Project Name: Chevron Grayburg 6-inch Historical	Laboratory Job Number: L1433771-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Olivia Studebaker	Prep Batch Number(s): WG1778249, WG1780339, WG1781131 and WG1778019

#[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			1
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			2
		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).

Revised May 2010

Laboratory Review Checklist: Supporting Data

Laboratory Name: Pace Analytical National	LRC Date: 12/02/2021 11:57
Project Name: Chevron Grayburg 6-inch Historical	Laboratory Job Number: L1433771-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Olivia Studebaker	Prep Batch Number(s): WG1778249, WG1780339, WG1781131 and WG1778019

#[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).

Revised May 2010

Laboratory Review Checklist: Exceptions Reports

Laboratory Name: Pace Analytical National	LRC Date: 12/02/2021 11:57
Project Name: Chevron Grayburg 6-inch Historical	Laboratory Job Number: L1433771-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13
Reviewer Name: Olivia Studebaker	Prep Batch Number(s): WG1778249, WG1780339, WG1781131 and WG1778019

ER #[1]	Description
1	8260B WG1781131 1,2-Dichloroethane-d4 L1433771-09: Percent Recovery is outside of established control limits.
2	8270C-SIM WG1778019 1-Methylnaphthalene, 2-Methylnaphthalene: Percent Recovery 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).

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000123	J	0.0000941	0.00100	0.00100	1	11/27/2021 22:14	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/27/2021 22:14	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/27/2021 22:14	WG1780339
Total Xylenes	U		0.000174	0.00300	0.00300	1	11/27/2021 22:14	WG1780339
(S) Toluene-d8	*108*				*80.0-120*		*11/27/2021 22:14*	WG1780339
(S) 4-Bromofluorobenzene	*100*				*77.0-126*		*11/27/2021 22:14*	WG1780339
(S) 1,2-Dichloroethane-d4	*124*				*70.0-130*		*11/27/2021 22:14*	WG1780339

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	11/27/2021 22:34	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/27/2021 22:34	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/27/2021 22:34	WG1780339
Total Xylenes	U		0.000174	0.00300	0.00300	1	11/27/2021 22:34	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/27/2021 22:34*	WG1780339
(S) 4-Bromofluorobenzene	*98.4*				*77.0-126*		*11/27/2021 22:34*	WG1780339
(S) 1,2-Dichloroethane-d4	*124*				*70.0-130*		*11/27/2021 22:34*	WG1780339

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	11/27/2021 22:55	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/27/2021 22:55	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/27/2021 22:55	WG1780339
Total Xylenes	U		0.000174	0.00300	0.00300	1	11/27/2021 22:55	WG1780339
(S) Toluene-d8	*108*				*80.0-120*		*11/27/2021 22:55*	WG1780339
(S) 4-Bromofluorobenzene	*99.6*				*77.0-126*		*11/27/2021 22:55*	WG1780339
(S) 1,2-Dichloroethane-d4	*123*				*70.0-130*		*11/27/2021 22:55*	WG1780339

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	0.00100	1	11/27/2021 23:15	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/27/2021 23:15	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/27/2021 23:15	WG1780339
Total Xylenes	U		0.000174	0.00300	0.00300	1	11/27/2021 23:15	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/27/2021 23:15*	WG1780339
(S) 4-Bromofluorobenzene	*98.9*				*77.0-126*		*11/27/2021 23:15*	WG1780339
(S) 1,2-Dichloroethane-d4	*124*				*70.0-130*		*11/27/2021 23:15*	WG1780339

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	0.00100	1	11/27/2021 23:35	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/27/2021 23:35	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/27/2021 23:35	WG1780339
Total Xylenes	U		0.000174	0.00300	0.00300	1	11/27/2021 23:35	WG1780339
(S) Toluene-d8	*108*				*80.0-120*		*11/27/2021 23:35*	WG1780339
(S) 4-Bromofluorobenzene	*101*				*77.0-126*		*11/27/2021 23:35*	WG1780339
(S) 1,2-Dichloroethane-d4	*127*				*70.0-130*		*11/27/2021 23:35*	WG1780339

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000246	J	0.0000941	0.00100	0.00100	1	11/27/2021 23:56	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/27/2021 23:56	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/27/2021 23:56	WG1780339
Total Xylenes	0.000208	J	0.000174	0.00300	0.00300	1	11/27/2021 23:56	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/27/2021 23:56*	WG1780339
(S) 4-Bromofluorobenzene	*94.8*				*77.0-126*		*11/27/2021 23:56*	WG1780339
(S) 1,2-Dichloroethane-d4	*122*				*70.0-130*		*11/27/2021 23:56*	WG1780339

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00402		0.0000941	0.00100	0.00100	1	11/28/2021 00:16	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/28/2021 00:16	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/28/2021 00:16	WG1780339
Total Xylenes	U		0.000174	0.00300	0.00300	1	11/28/2021 00:16	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/28/2021 00:16*	WG1780339
(S) 4-Bromofluorobenzene	*98.8*				*77.0-126*		*11/28/2021 00:16*	WG1780339
(S) 1,2-Dichloroethane-d4	*122*				*70.0-130*		*11/28/2021 00:16*	WG1780339

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000253	J	0.0000941	0.00100	0.00100	1	11/28/2021 00:36	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/28/2021 00:36	WG1780339
Ethylbenzene	U		0.000137	0.00100	0.00100	1	11/28/2021 00:36	WG1780339
Total Xylenes	U		0.000174	0.00300	0.00300	1	11/28/2021 00:36	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/28/2021 00:36*	WG1780339
(S) 4-Bromofluorobenzene	*99.5*				*77.0-126*		*11/28/2021 00:36*	WG1780339
(S) 1,2-Dichloroethane-d4	*125*				*70.0-130*		*11/28/2021 00:36*	WG1780339

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.238		0.000941	0.00100	0.0100	10	11/29/2021 20:27	WG1781131
Toluene	0.00813		0.000278	0.00100	0.00100	1	11/28/2021 00:57	WG1780339
Ethylbenzene	0.00645		0.000137	0.00100	0.00100	1	11/28/2021 00:57	WG1780339
Total Xylenes	0.0342		0.000174	0.00300	0.00300	1	11/28/2021 00:57	WG1780339
(S) Toluene-d8	*106*				*80.0-120*		*11/28/2021 00:57*	WG1780339
(S) Toluene-d8	*90.9*				*80.0-120*		*11/29/2021 20:27*	WG1781131
(S) 4-Bromofluorobenzene	*101*				*77.0-126*		*11/28/2021 00:57*	WG1780339
(S) 4-Bromofluorobenzene	*91.9*				*77.0-126*		*11/29/2021 20:27*	WG1781131
(S) 1,2-Dichloroethane-d4	*119*				*70.0-130*		*11/28/2021 00:57*	WG1780339
(S) 1,2-Dichloroethane-d4	*131*	J1			*70.0-130*		*11/29/2021 20:27*	WG1781131

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

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.231		0.000941	0.00100	0.0100	10	11/29/2021 20:48	WG1781131
Toluene	0.00804		0.000278	0.00100	0.00100	1	11/28/2021 01:17	WG1780339
Ethylbenzene	0.00637		0.000137	0.00100	0.00100	1	11/28/2021 01:17	WG1780339
Total Xylenes	0.0343		0.000174	0.00300	0.00300	1	11/28/2021 01:17	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/28/2021 01:17*	WG1780339
(S) Toluene-d8	*90.3*				*80.0-120*		*11/29/2021 20:48*	WG1781131
(S) 4-Bromofluorobenzene	*98.8*				*77.0-126*		*11/28/2021 01:17*	WG1780339
(S) 4-Bromofluorobenzene	*93.1*				*77.0-126*		*11/29/2021 20:48*	WG1781131
(S) 1,2-Dichloroethane-d4	*122*				*70.0-130*		*11/28/2021 01:17*	WG1780339
(S) 1,2-Dichloroethane-d4	*125*				*70.0-130*		*11/29/2021 20:48*	WG1781131

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0920		0.0000941	0.00100	0.00100	1	11/28/2021 01:38	WG1780339
Toluene	0.283		0.00278	0.00100	0.0100	10	11/29/2021 21:09	WG1781131
Ethylbenzene	0.110		0.000137	0.00100	0.00100	1	11/28/2021 01:38	WG1780339
Total Xylenes	0.132		0.000174	0.00300	0.00300	1	11/28/2021 01:38	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/28/2021 01:38*	WG1780339
(S) Toluene-d8	*96.3*				*80.0-120*		*11/29/2021 21:09*	WG1781131
(S) 4-Bromofluorobenzene	*99.0*				*77.0-126*		*11/28/2021 01:38*	WG1780339
(S) 4-Bromofluorobenzene	*94.3*				*77.0-126*		*11/29/2021 21:09*	WG1781131
(S) 1,2-Dichloroethane-d4	*119*				*70.0-130*		*11/28/2021 01:38*	WG1780339
(S) 1,2-Dichloroethane-d4	*129*				*70.0-130*		*11/29/2021 21:09*	WG1781131

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00343		0.0000941	0.00100	0.00100	1	11/28/2021 01:58	WG1780339
Toluene	U		0.000278	0.00100	0.00100	1	11/29/2021 19:22	WG1781131
Ethylbenzene	0.000146	J	0.000137	0.00100	0.00100	1	11/28/2021 01:58	WG1780339
Total Xylenes	0.000422	J	0.000174	0.00300	0.00300	1	11/28/2021 01:58	WG1780339
(S) Toluene-d8	*107*				*80.0-120*		*11/28/2021 01:58*	WG1780339
(S) Toluene-d8	*96.9*				*80.0-120*		*11/29/2021 19:22*	WG1781131
(S) 4-Bromofluorobenzene	*100*				*77.0-126*		*11/28/2021 01:58*	WG1780339
(S) 4-Bromofluorobenzene	*99.8*				*77.0-126*		*11/29/2021 19:22*	WG1781131
(S) 1,2-Dichloroethane-d4	*123*				*70.0-130*		*11/28/2021 01:58*	WG1780339
(S) 1,2-Dichloroethane-d4	*128*				*70.0-130*		*11/29/2021 19:22*	WG1781131

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	11/23/2021 13:34	WG1778019
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Dibenzofuran	0.000614		0.0000191	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/23/2021 13:34	WG1778019
Fluorene	0.000209		0.0000169	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Naphthalene	0.000334		0.0000917	0.000250	0.000250	1	11/23/2021 13:34	WG1778019
Phenanthrene	0.000252		0.0000180	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/23/2021 13:34	WG1778019
1-Methylnaphthalene	0.000339	J4	0.0000687	0.000250	0.000250	1	11/23/2021 13:34	WG1778019
2-Methylnaphthalene	U	J4	0.0000674	0.000250	0.000250	1	11/23/2021 13:34	WG1778019
(S) Nitrobenzene-d5	*86.8*				*31.0-160*		*11/23/2021 13:34*	WG1778019
(S) 2-Fluorobiphenyl	*92.6*				*48.0-148*		*11/23/2021 13:34*	WG1778019
(S) p-Terphenyl-d14	*117*				*37.0-146*		*11/23/2021 13:34*	WG1778019

Sample Narrative:

L1433771-12 WG1778019: Duplicate Analysis performed due to QC failure. Results confirm; reporting in hold data

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.61		0.00235	0.00100	0.0250	25	11/29/2021 21:31	WG1781131
Toluene	0.403		0.00695	0.00100	0.0250	25	11/29/2021 21:31	WG1781131
Ethylbenzene	0.0499		0.000137	0.00100	0.00100	1	11/28/2021 02:18	WG1780339
Total Xylenes	0.240		0.000174	0.00300	0.00300	1	11/28/2021 02:18	WG1780339
(S) Toluene-d8	*103*				*80.0-120*		*11/28/2021 02:18*	WG1780339
(S) Toluene-d8	*94.6*				*80.0-120*		*11/29/2021 21:31*	WG1781131
(S) 4-Bromofluorobenzene	*98.3*				*77.0-126*		*11/28/2021 02:18*	WG1780339
(S) 4-Bromofluorobenzene	*94.9*				*77.0-126*		*11/29/2021 21:31*	WG1781131
(S) 1,2-Dichloroethane-d4	*122*				*70.0-130*		*11/28/2021 02:18*	WG1780339
(S) 1,2-Dichloroethane-d4	*126*				*70.0-130*		*11/29/2021 21:31*	WG1781131

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	11/24/2021 09:39	WG1778249
Acenaphthene	0.000543		0.0000190	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Chrysene	0.0000319	J	0.0000179	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Dibenzofuran	0.00388		0.0000191	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Fluoranthene	0.0000372	J	0.0000270	0.000100	0.000100	1	11/24/2021 09:39	WG1778249
Fluorene	0.00332		0.0000169	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Naphthalene	0.0552		0.0000917	0.000250	0.000250	1	11/24/2021 09:39	WG1778249
Phenanthrene	0.00297		0.0000180	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
Pyrene	0.0000344	J	0.0000169	0.0000500	0.0000500	1	11/24/2021 09:39	WG1778249
1-Methylnaphthalene	0.0542		0.0000687	0.000250	0.000250	1	11/24/2021 09:39	WG1778249
2-Methylnaphthalene	0.0272		0.0000674	0.000250	0.000250	1	11/24/2021 09:39	WG1778249
(S) Nitrobenzene-d5	*124*				*31.0-160*		*11/24/2021 09:39*	WG1778249
(S) 2-Fluorobiphenyl	*103*				*48.0-148*		*11/24/2021 09:39*	WG1778249
(S) p-Terphenyl-d14	*115*				*37.0-146*		*11/24/2021 09:39*	WG1778249

Method Blank (MB)

(MB) R3734599-3 11/27/21 21:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*109*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*

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

(LCS) R3734599-1 11/27/21 20:32 • (LCSD) R3734599-2 11/27/21 20:53

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 %
Benzene	0.00500	0.00548	0.00538	110	108	70.0-123			1.84	20
Ethylbenzene	0.00500	0.00531	0.00513	106	103	79.0-123			3.45	20
Toluene	0.00500	0.00523	0.00499	105	99.8	79.0-120			4.70	20
Xylenes, Total	0.0150	0.0149	0.0145	99.3	96.7	79.0-123			2.72	20
(S) Toluene-d8				*109*	*106*	*80.0-120*				
(S) 4-Bromofluorobenzene				*99.2*	*99.2*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*126*	*124*	*70.0-130*				

QUALITY CONTROL SUMMARY

L1433771-09,10,11,12,13

Method Blank (MB)

(MB) R3734978-3 11/29/21 13:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
(S) Toluene-d8	*91.2*			*80.0-120*
(S) 4-Bromofluorobenzene	*93.0*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*128*			*70.0-130*

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

(LCS) R3734978-1 11/29/21 12:09 • (LCSD) R3734978-2 11/29/21 12:30

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 %
Benzene	0.00500	0.00485	0.00502	97.0	100	70.0-123			3.44	20
Toluene	0.00500	0.00479	0.00419	95.8	83.8	79.0-120			13.4	20
(S) Toluene-d8				*96.1*	*90.0*	*80.0-120*				
(S) 4-Bromofluorobenzene				*100*	*92.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*129*	*130*	*70.0-130*				

Method Blank (MB)

(MB) R3735494-3 11/23/21 11:15

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	*88.0*			*31.0-160*
(S) 2-Fluorobiphenyl	*84.5*			*48.0-148*
(S) p-Terphenyl-d14	*98.0*			*37.0-146*

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

(LCS) R3735494-1 11/23/21 10:35 • (LCSD) R3735494-2 11/23/21 10:55

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	0.00166	0.00145	83.0	72.5	67.0-134			13.5	20
Anthracene	0.00200	0.00160	0.00147	80.0	73.5	67.0-150			8.47	20
Acenaphthene	0.00200	0.00168	0.00147	84.0	73.5	65.0-138			13.3	20
Acenaphthylene	0.00200	0.00169	0.00150	84.5	75.0	66.0-140			11.9	20
Benzo(a)anthracene	0.00200	0.00155	0.00163	77.5	81.5	61.0-140			5.03	20
Benzo(a)pyrene	0.00200	0.00142	0.00152	71.0	76.0	60.0-143			6.80	20
Benzo(b)fluoranthene	0.00200	0.00154	0.00162	77.0	81.0	58.0-141			5.06	20
Benzo(g,h,i)perylene	0.00200	0.00131	0.00140	65.5	70.0	52.0-153			6.64	20
Benzo(k)fluoranthene	0.00200	0.00151	0.00167	75.5	83.5	58.0-148			10.1	20
Chrysene	0.00200	0.00164	0.00175	82.0	87.5	64.0-144			6.49	20
Dibenz(a,h)anthracene	0.00200	0.00123	0.00136	61.5	68.0	52.0-155			10.0	20

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

(LCS) R3735494-1 11/23/21 10:35 • (LCSD) R3735494-2 11/23/21 10:55

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 %
Fluoranthene	0.00200	0.00151	0.00141	75.5	70.5	69.0-153			6.85	20
Fluorene	0.00200	0.00165	0.00148	82.5	74.0	64.0-136			10.9	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00121	0.00132	60.5	66.0	54.0-153			8.70	20
Naphthalene	0.00200	0.00154	0.00132	77.0	66.0	61.0-137			15.4	20
Phenanthrene	0.00200	0.00178	0.00165	89.0	82.5	62.0-137			7.58	20
Pyrene	0.00200	0.00213	0.00202	106	101	60.0-142			5.30	20
1-Methylnaphthalene	0.00200	0.00148	0.00127	74.0	63.5	66.0-142		J4	15.3	20
2-Methylnaphthalene	0.00200	0.00138	0.00115	69.0	57.5	62.0-136		J4	18.2	20
(S) Nitrobenzene-d5				*87.5*	*85.5*	*31.0-160*				
(S) 2-Fluorobiphenyl				*85.5*	*76.5*	*48.0-148*				
(S) p-Terphenyl-d14				*96.0*	*102*	*37.0-146*				

Method Blank (MB)

(MB) R3733537-3 11/24/21 09:19

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	*99.5*			*31.0-160*
(S) 2-Fluorobiphenyl	*114*			*48.0-148*
(S) p-Terphenyl-d14	*113*			*37.0-146*

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

(LCS) R3733537-1 11/24/21 08:39 • (LCSD) R3733537-2 11/24/21 08:59

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	0.00212	0.00221	106	111	67.0-134			4.16	20
Anthracene	0.00200	0.00205	0.00213	102	106	67.0-150			3.83	20
Acenaphthene	0.00200	0.00208	0.00214	104	107	65.0-138			2.84	20
Acenaphthylene	0.00200	0.00201	0.00208	100	104	66.0-140			3.42	20
Benzo(a)anthracene	0.00200	0.00181	0.00174	90.5	87.0	61.0-140			3.94	20
Benzo(a)pyrene	0.00200	0.00146	0.00133	73.0	66.5	60.0-143			9.32	20
Benzo(b)fluoranthene	0.00200	0.00145	0.00139	72.5	69.5	58.0-141			4.23	20
Benzo(g,h,i)perylene	0.00200	0.00141	0.00125	70.5	62.5	52.0-153			12.0	20
Benzo(k)fluoranthene	0.00200	0.00139	0.00124	69.5	62.0	58.0-148			11.4	20
Chrysene	0.00200	0.00174	0.00165	87.0	82.5	64.0-144			5.31	20
Dibenz(a,h)anthracene	0.00200	0.00147	0.00130	73.5	65.0	52.0-155			12.3	20

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

(LCS) R3733537-1 11/24/21 08:39 • (LCSD) R3733537-2 11/24/21 08:59

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 %
Fluoranthene	0.00200	0.00218	0.00221	109	111	69.0-153			1.37	20
Fluorene	0.00200	0.00227	0.00236	114	118	64.0-136			3.89	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00144	0.00129	72.0	64.5	54.0-153			11.0	20
Naphthalene	0.00200	0.00195	0.00200	97.5	100	61.0-137			2.53	20
Phenanthrene	0.00200	0.00214	0.00222	107	111	62.0-137			3.67	20
Pyrene	0.00200	0.00197	0.00203	98.5	102	60.0-142			3.00	20
1-Methylnaphthalene	0.00200	0.00202	0.00209	101	105	66.0-142			3.41	20
2-Methylnaphthalene	0.00200	0.00192	0.00199	96.0	99.5	62.0-136			3.58	20
(S) Nitrobenzene-d5				*98.0*	*102*	*31.0-160*				
(S) 2-Fluorobiphenyl				*111*	*115*	*48.0-148*				
(S) p-Terphenyl-d14				*93.5*	*87.5*	*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.
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.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J4	The associated batch QC was outside the established quality control range for accuracy.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

Plains All American, LP - GHD

2135 S Loop 250 W
Midland, TX 79703

Billing Information:
Attn: Camille Bryant
10 Desta Dr., Ste. 550E
Midland, TX 79705

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 1433771
L-242

Report to: **Becky Haskell**

Email To: **becky.haskell@ghd.com**

Project Description: **Chevron Grayburg 6-Inch Historical**

City/State Collected: **Buckeye, NM**

Phone: **432-250-7917**
Fax:

Client Project # SRS **SRS Chevron Grayburg 6-Inch Historical**

Lab Project # **SRS Chevron Grayburg 6-Inch Historical**

Collected by (print): David Fletcher Joe Miceles

Site/Facility ID # **SRS Chevron Grayburg**

P.O. #

Collected by (signature): Joe Miceles

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: **Standard TAT Per SSOW**

Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 40mLAmb-HCL	PAHSIMLVI 40mLAmb-NoPres-WT	Remarks	Sample # (lab only)
MW-2-111621	G	GW	—	11-16-21	1200	3	X			-01
MW-4-111621					1215					-02
MW-5-111621					1230					-03
MW-13-111621					1245					-04
MW-14-111621					1300					-05
MW-6-111621					1315					-06
MW-10-111621					1145					-07
MW-3-111621					1330					-08
MW-11-111621					1400					-09
DUP-111621	G	GW	—	11-16-21	—	3	X			-10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
1. Report to SDLs; 2. Flag estimated concentrations;
3. Lab Project #: PLAINSGHD-11209906

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y ✓N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Joe Miceles	11-17-21	1600	
	11-18-21	15:00	

Trip Blank Received: (Yes) No
2 (HCL) MeoH TBR

Temp: 2.6 to 2.6 °C Bottles Received: 45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Received for lab by: (Signature)
Date: 11/19/21 Time: 900

Plains All American, LP - GHD

2135 S Loop 250 W
Midland, TX 79703

Billing Information:
Attn: Camille Bryant
10 Desta Dr., Ste. 550E
Midland, TX 79705

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Becky Haskell

Email To: becky.haskell@ghd.com

Project Description: Chevron Grayburg 6-Inch Historical

City/State Collected: Buckeye, NM

Phone: 432-250-7917
Fax:

Client Project #: SRS Chevron Grayburg 6-Inch Historical

Lab Project #: SRS Chevron Grayburg 6-Inch Historical

L# 1433771

Table #

Collected by (print): Joe Mireles / David Fletcher

Site/Facility ID #: SRS Chevron Grayburg

P.O. #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Collected by (signature): Joe Mireles

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard TAT Per SSOW

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 40mLAmb-HCL	PAHSIMLVI 40mLAmb-NoPres-WT	Temperature								Remarks	Sample # (lab only)
MW-1-111621	G	GW	—	11-16-21	1415	3	X											-11
MW-9-111621	↓	GW	—	11-16-21	1345	6	X	X										-12
MW-8-111721	G	GW	—	11-17-21	1140	6	X	X	X R.E. JM 11-18-21									-13
TB	G	W	—	—	—	12			X									-14

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ________

Remarks:
1. Report to SDLs; 2. Flag estimated concentrations;
3. Lab Project #: PLAINSGHD-11209906

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier __ ______

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y ✓N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)		
Joe Mireles	11-17-21	1600	[signature]	Trip Blank Received: Yes / No; HCL / MeoH; TBR; 2	
[signature]	11-18-21	15:00	[signature]	Temp: 2.6±0=2.6 °C	Bottles Received: 45
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 11/19/21	Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

J035

LM33771

@9:00

Tracking Numbers		Temperature
		2.6+0=2.6
		2.9+0=2.9

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
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

Operator:	OGRID:
PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	34053
	Action Number: 93007
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2021 Annual Groundwater Monitoring Report: Content satisfactory Contractor recommendations approved by NMOCD and are as follows; 1. Continue quarter MDPE events in monitor well MW-7 2. Conduct LNAPL abatement via hand-bailing on a monthly basis for monitor wells that have a measurable amount of LNAPL 3. Continue NMOCD-approved quarterly groundwater sampling events for BTEX by Method 8021B for all monitor wells located on-site 4. Continue NMOCD-approved annual groundwater sampling event for PAH by Method 8270CSIM for MW-8 and MW-9. MW-7 and MW-12 will need to be sampled once the LNAPL is no longer present 5. Submit the Annual Monitoring Report to the NMOCD no later than March 31, 2023.	8/3/2022