Received by OCD: 4/5/2021 2 APPROVED

By Nelson Velez at 3:26 pm, Jan 11, 2022



Review of 2020 Annual Groundwater Monitoring Report: Content satisfactory

Contractor recommendations approved by OCD and are as follows;

- 1. Continue NMOCD-approved quarterly and semiannual groundwater monitoring events
- Continue weekly BTEX abatement events and operation of the oxygen emitter installed in MW-12 Submit the Annual Monitoring Report to the OCD no later than March 31, 2022.

2020 Annual Groundwater **Monitoring Report**

Lovington Gathering WTI Lea County, New Mexico SRS #2006-142 NMOCD Remediation Permit Number AP-96 Incident ID # nAPP2108928398

Plains All American Pipeline, LP





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1. Introduction

This 2020 Annual Groundwater Monitoring Report presents data collected at the Lovington Gathering WTI location (hereafter referred to as the "Site") by GHD Services, Inc. (GHD) on behalf of Plains All American Pipeline, LP (Plains) in compliance with the New Mexico Oil Conservation Division (NMOCD) requirements. This Site falls under NMOCD Abatement Plan number AP-96. This report presents groundwater assessment activities associated with quarterly well gauging and groundwater sampling events conducted in February, May, September, and November 2020.

1.1 Site Location and History

The legal description of the Site is SE 1/4, NE 1/4, Section 6, Township 17 South, Range 37 East, Lea County, New Mexico. The Site coordinates are 32.8649° N and 103.2853°W (Figure 1). The location is situated in a pasture containing various oil and gas production facilities. The surface owner is Mr. Robert Rice. Monitoring and remediation at the Site is currently the responsibility of Plains. The Site is characterized by a fenced, excavated, and backfilled release area, including a Plains pipeline right-of-way adjacent to an idle Plains pump station.

On April 21, 2006, during purging of the 6-inch steel Lovington Gathering WTI Pipeline owned by Plains, a release of sweet crude oil occurred as the result of internal corrosion. At the time the release was discovered, it was estimated that approximately 12 barrels (bbls) of crude oil were released with an aerial extent of surface impact estimated at approximately 1,500 square feet. A copy of the Release Notification and Corrective Action, NMOCD Form C-141 is attached as Appendix A. Cleanup action began the same day with approximately 8 bbls of crude oil being recovered. Basin Environmental Service Technologies, LLC (Basin) was notified by Plains to respond to the pipeline release, to repair the pipeline, and to excavate impacted soil. The pipeline was repaired utilizing a clamp, and visually stained soil was excavated and placed on plastic sheeting. Excavation activities during the response and subsequent remediation of the Site covered an area approximately 30 feet long by 27 feet wide and was approximately 5 to 6 feet below ground surface (bgs). On April 21, 2006, remediation and project management responsibilities were assumed by Basin. GHD assumed Site groundwater remediation and project management responsibilities on October 1, 2016.

Monitor wells MW-1, MW-2, and MW-3 were installed in July 2006. Monitor wells MW-4, MW-5, MW-6, and MW-7 were installed in November 2006. Monitor well MW-8 was installed in February 2007. Monitor well MW-9 was installed in August 2007. Monitor well MW-10 was installed in October 2009.

On September 17, 2018, monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 were plugged and abandoned at the Site. On September 19, 2018, GHD completed the installation of five 2-inch replacement monitor wells (MW-1R, MW-2R, MW-3R, MW-4R, and MW-5R) to maintain delineation and replace the five plugged and abandoned wells. The new monitor wells were installed in proximity to the original well locations (Figure 2). Additionally, two new monitoring wells, MW-11 and MW-12, were installed to further delineate down-gradient conditions at the southern portion of the Site. On May 27, 2020, GHD installed an oxygen emitter system into monitor well MW-12 to address benzene concentrations in the downgradient portion of the site.



Regulatory Framework

The NMOCD guidelines require groundwater to be analyzed for potential contaminants as defined by the New Mexico Water Quality Control Commission (NMWQCC) Standards 20.6.2.3103 Section A, which provides Human Health Standards for Groundwater. The constituents of concern (COCs) in affected groundwater at the Site are benzene, toluene, ethylbenzene, and total xylenes (BTEX). In this report, groundwater analytical results for the COCs are compared to the NMWQCC standards as shown in the following table:

Table 2.1 NMWQCC Human Health Standards for Groundwater

Analyte	NMWQCC Human Health Standards for Groundwater (mg/kg)
Benzene	0.01 mg/L
Toluene	0.75 mg/L
Ethylbenzene	0.75 mg/L
Total Xylenes	0.62 mg/L

The table below depicts the Site sampling schedule as approved by the NMOCD on November 4, 2013:

Table 2.2 NMOCD Approved Sampling Schedule

Location	Schedule
MW-1, MW-4, MW-5, MW-8	Semi-Annually
MW-2, MW-3, MW-6, MW-7, MW-9, MW-10, Goff Dairy Well, Goff Dairy Center Pivot, Goff Dairy Center Pivot Begin, Goff Dairy Center Pivot End, JW House Well	Quarterly

3. Groundwater Monitoring Activities

GHD conducted quarterly groundwater monitoring activities at the Site on February 20-21, May 20-21, September 2-3, and November 5, 2020. The Site is monitored in 12 on-site monitoring wells and five off-Site locations (Goff Dairy Well, Goff Dairy Center Pivot Well, Goff Dairy Center Pivot Beginning, Goff Dairy Center Pivot End, and JW House Well. All on-site monitor wells and off-Site locations (when accessible) were sampled in accordance with the sampling schedule referred to in Section 2.

3.1 Groundwater Monitoring Methodology

Prior to gauging activity, each well cap was removed to allow groundwater levels to stabilize. Static fluid levels were gauged with an oil-water interface probe to the nearest hundredth of a foot. Each well was purged of three casing volumes of water, and groundwater samples were collected. One or two duplicate samples were collected during each quarterly sampling event using clean disposable polyvinyl chloride (PVC) bailers. Laboratory-supplied sample containers



were filled directly from bailers. Groundwater samples were placed on ice and chilled to a temperature of approximately 4°C (40°F). Proper chain-of-custody documentation accompanied the samples to Pace National Analytical Laboratory in Mt. Juliet, Tennessee for analysis of BTEX by EPA Method 8021B. No samples were collected for analysis of PAH by EPA Method 8270C-SIM during 2020 because all wells have met NMWQCC and NMOCD standards.

3.2 Groundwater Monitoring Results

Table 1 presents gauging data and calculated groundwater elevations using top-of-casing elevations obtained from a professional survey. Groundwater gradient maps for February 20, May 20, September 2, and November 5, 2020 are provided as Figures 3, 4, 5 and 6, respectively.

The groundwater flow direction during the reporting period was to the southeast; which is generally consistent with historical data. The average groundwater gradient determined for the Site from the four groundwater monitoring events was approximately 0.0069 ft/ft. Pertinent well gauging data indicated an increase in groundwater elevations for the first and fourth quarters of 2020 and a decline for the second and third quarters of 2020. Fluctuations in the groundwater elevation can be attributed to seasonal operation of the Goff Dairy center pivot irrigation system located adjacent and south-southwest of the Site. No measurable LNAPL was detected at the site during 2020 which is consistent with historical data.

During the February 20 and 21, 2020, quarterly monitoring event, monitor wells MW-6, MW-8, and MW-10 were gauged dry. MW-1R, MW-2R, MW-3R, MW-4R, MW-5R, MW-7, MW-9, MW-11, and MW-12, were sampled. The Goff Dairy Center Pivot, Goff Dairy Center Pivot Beg, and Goff Dairy Center Pivot End were sampled were sampled on March 26, 2020, and the Goff Dairy Well was sampled on April 1, 2020. Groundwater samples weren't collected from the off-Site JW House Well due to property being inaccessible. Analytical results indicated MW-1R, MW-2R, MW-3R, MW-4R, and MW-12 exhibited benzene concentrations above the Human Health Standard, ranging from 0.0114 mg/L in MW-3R to 1.04 mg/L in MW-4R. Benzene concentrations were not detected in any of the other wells. Toluene concentrations were not detected in any of the wells and MW-3R exhibited ethylbenzene concentrations below the Human Health Standard of 0.75 mg/L. Total xylenes were detected in MW-2R, MW-3R, MW-4R, MW-12, and Goff Dairy Well; however, these concentrations were all below the Human Health Standard of 0.62 mg/L.

The second quarter sampling event was conducted on May 20 and 21, 2020. Monitor wells MW-6, MW-8, and MW-10 were gauged dry. Groundwater samples were collected from monitor wells MW-1R, MW-2R, MW-3R, MW-4R, MW-5R, MW-7, MW-9, MW-11, and MW-12. The Goff Dairy Well, Goff Dairy Center Pivot, Goff Dairy Center Pivot Beg, and Goff Dairy Center Pivot End were sampled were sampled on July 2, 2020. Groundwater samples weren't collected from the off-Site JW House Well due to property being inaccessible. Analytical results for samples collected in second quarter indicated benzene concentrations above the Human Health Standard for MW-1R, MW-2R, MW-4R, and MW-12, ranging from 0.0987 in MW-2R to 0.918 in MW-4R. Monitor well MW-3R exhibited benzene concentrations at a level below the Human Health Standard of 0.01 mg/L. None of the wells exhibited concentrations of toluene and ethylbenzene. Total xylenes were detected in MW-4R and MW-12; however, these concentrations were all below the Human Health Standard of 0.62 mg/L.



During the September 2 and 3, 2020, groundwater sampling event monitor wells MW-6, MW-8, and MW-10 were gauged dry. Groundwater samples were collected from MW-1R, MW-2R, MW-3R, MW-4R, MW-5R, MW-7, MW-9, MW-11, MW-12, Goff Dairy Well, Goff Dairy Center Pivot, Goff Dairy Center Pivot Beg, and Goff Dairy Center Pivot End. Groundwater samples weren't collected from the off-Site JW House Well due to property being inaccessible. Analytical results indicated benzene concentrations above the Human Health Standard were detected in MW-1R, MW-2R, MW-4R, and MW-12, ranging from 0.0773 mg/L in MW-2R to 1.58 mg/L in MW-4R. Benzene concentrations were not detected in any other wells. MW-1R and MW-12 exhibited toluene concentrations below the Human Health Standard of 0.75 mg/L. Ethylbenzene was not detected in any of the wells. Total xylenes were detected in MW-4R and MW-12; however, these concentrations were all below the Human Health Standard of 0.62 mg/L.

The fourth quarterly sampling event was conducted on November 5, 2020. Monitor wells MW-6, MW-8, and MW-10 were gauged dry. Groundwater samples were collected from MW-1R, MW-2R, MW-3R, MW-4R, MW-5R, MW-7, MW-9, MW-11, MW-12. The Goff Dairy Well and pivot system were not sampled as the pivot was not in operation. Additionally, the JW House Well was not sampled due to it being inaccessible. Analytical results indicated benzene concentrations above the NMWQCC Human Health Standard (0.01 mg/L) in MW-1R, MW-2R, MW-4R, and MW-12, ranging from 0.0924 mg/L in MW-2R to 2.43 in MW-4R. None of the wells exhibited toluene concentrations. Ethylbenzene and total xylenes were detected in the MW-3R (DUP-1) sample at concentrations below the NMWQCC Human Health Standard of 0.75 mg/L and 0.62 mg/L, respectively.

Charts of concentrations of dissolved benzene versus time for MW-1R, MW-2R, MW-3R, MW-4R, MW-5R, MW-7, MW-9, MW-11, and MW-12 were generated to evaluate trends of benzene concentrations. These charts indicate stable or declining trends at all samples points except for MW-4R and MW-12. The charts are provided in Appendix B.

Results of BTEX analyses in groundwater are summarized in Table 2. Maps of concentrations of BTEX in groundwater during monitoring events conducted in February, May, September, and November 2020 are presented as Figures 7, 8, 9, and 10, respectively.

Groundwater samples were not analyzed for polycyclic aromatic hydrocarbons (PAHs) as all wells have met NMWQCC and NMOCD standards. A summary of PAH analytical results is included as Table 3. Copies of certified laboratory reports and chain-of-custody documentation are attached in Appendix C.

4. Corrective Action

Due to increases in benzene concentrations in MW-4R and MW-12 Plains was proactive and made the decision to conduct BTEX abatement via hand bailing. Beginning on March 26, 2020, weekly BTEX abatement events were conducted on monitor wells MW-1R, MW-2R, MW-3R, MW-4R and MW-12, via manual recovery of groundwater. Additionally, an oxygen emitter system was installed into MW-12 to enhance aerobic biodegradation of dissolved-phase hydrocarbons in groundwater on May 27, 2020. The oxygen emitter was removed prior to gauging and sampling activities, as appropriate, and replaced after these activities were completed.



Summary of Findings

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

- The Site is monitored in 12 groundwater monitoring wells and five off-Site groundwater sample points.
- Wells MW-6, MW-8, and MW-10 were gauged dry during all four quarterly events of 2020.
- An oxygen emitter system was installed in MW-12 on May 27, 2020.
- The groundwater flow direction was to the southeast. The average groundwater gradient for 2020 was approximately 0.0069 ft./ft.
- Fluctuations in the elevation of the potentiometric surface can be attributed to seasonal
 operation of the Goff Dairy center pivot irrigation system located adjacent and southsouthwest of the Site and the regional decline of the potentiometric surface.
- No wells exhibited measurable LNAPL.
- Benzene concentrations were detected in MW-1R, MW-2R, MW-4R, and MW-12 in all four
 quarterly monitoring events, and MW-3R during the first quarter, at concentrations exceeding
 the NMWQCC Human Health Standard. Benzene was detected in MW-3R during the second
 quarter at concentrations below the NMWQCC Human Health Standard.
- Charts of dissolved benzene versus time demonstrate stable or declining trends in all sample points except for MW-4R and MW-12.
- PAH constituents were not analyzed for as all wells have met NMWQCC and NMOCD standards.

6. Recommendations

Based upon the data and findings presented in this report, the following are recommended for 2021:

- Continue NMOCD-approved quarterly and semi-annual groundwater monitoring events with annual reporting to the NMOCD. Each monitoring event will include gauging, purging, and sampling groundwater for BTEX.
- Continue quarterly monitoring of MW-1R, MW-2R, MW-3R, MW-4R, and MW-12, paying
 particular attention to trends of contaminant levels in these wells. Determination of the need
 for additional delineation wells will be made at a later date.
- Continue weekly BTEX abatement events and operation of the oxygen emitter installed in MW-12.



All of which is Respectfully Submitted,

Rebecca Haskell

GHD

Becky Haskell

Senior Project Manager

Tom Larson

Midland Operations Manager

Thomas Clayon



about GHD

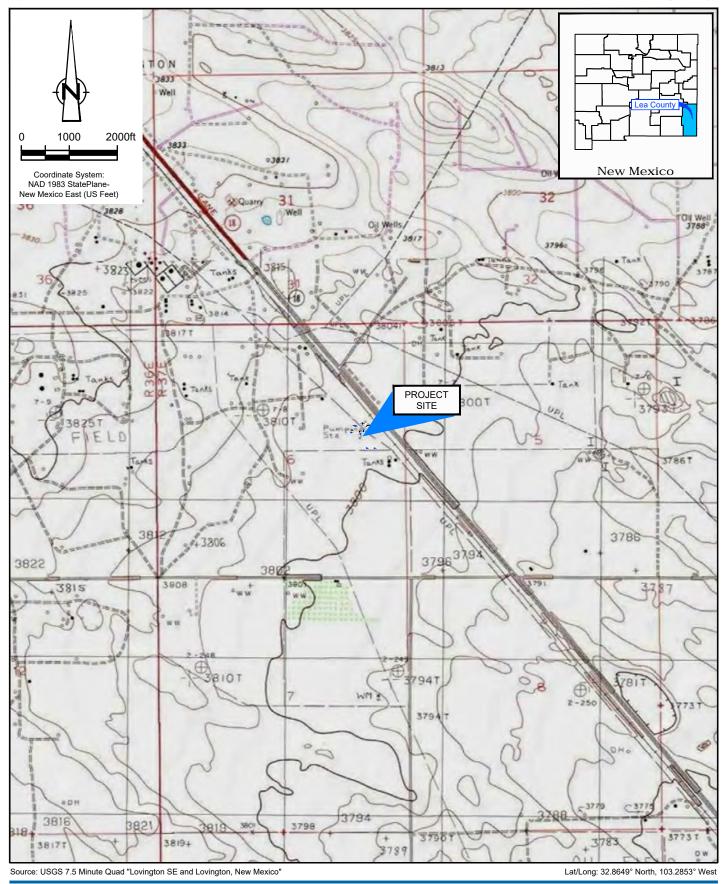
GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

Becky Haskell Becky.haskell@ghd.com 432.250.7917

Tom Larson tom.larson@ghd.com 432.553.1681

www.ghd.com

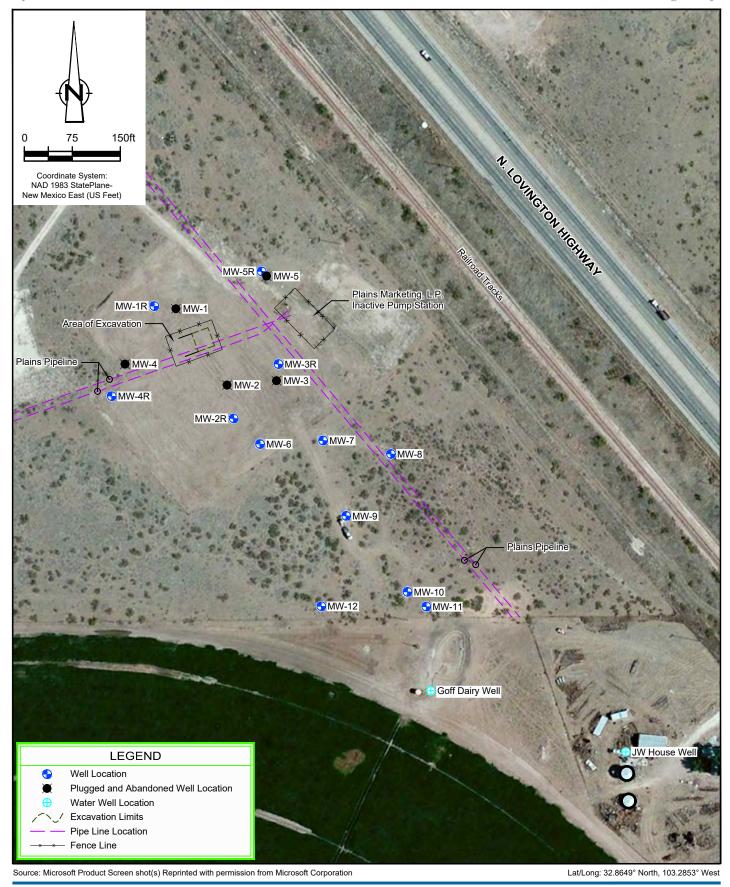
Figures





PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI 11209905-00 Oct 29, 2020

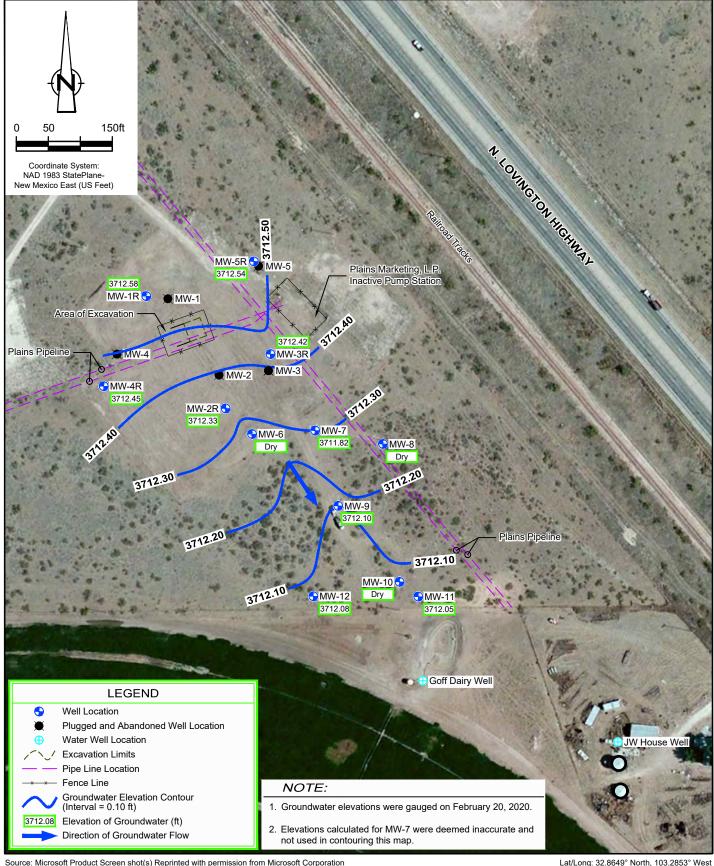
SITE LOCATION MAP





PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI 11209905-00 Oct 29, 2020

SITE DETAILS MAP



Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

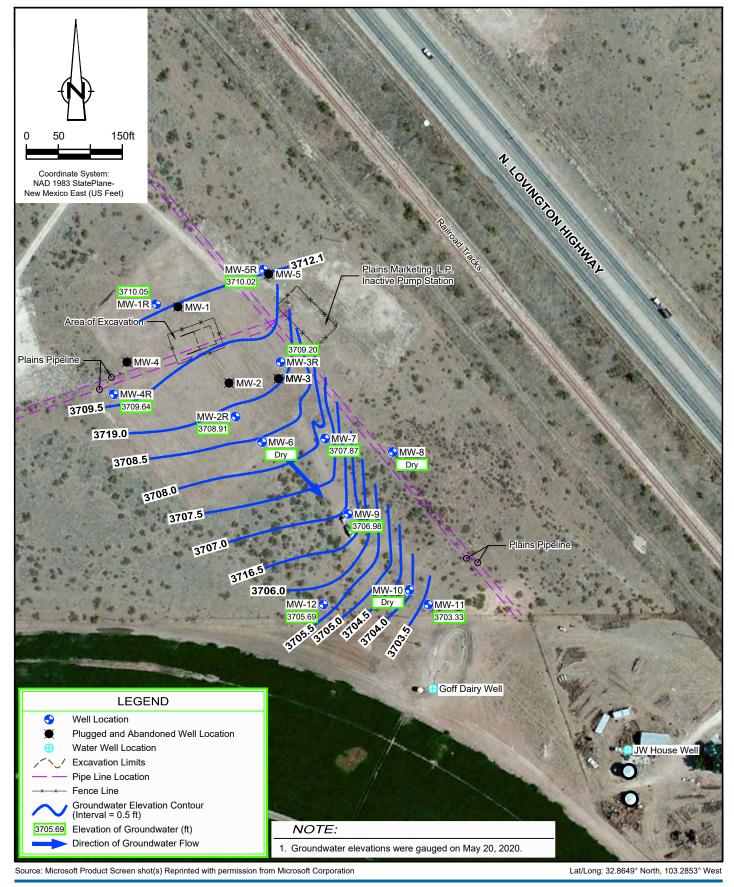
Lat/Long: 32.8649° North, 103.2853° West



PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI

11209905-00 Jan 12, 2021

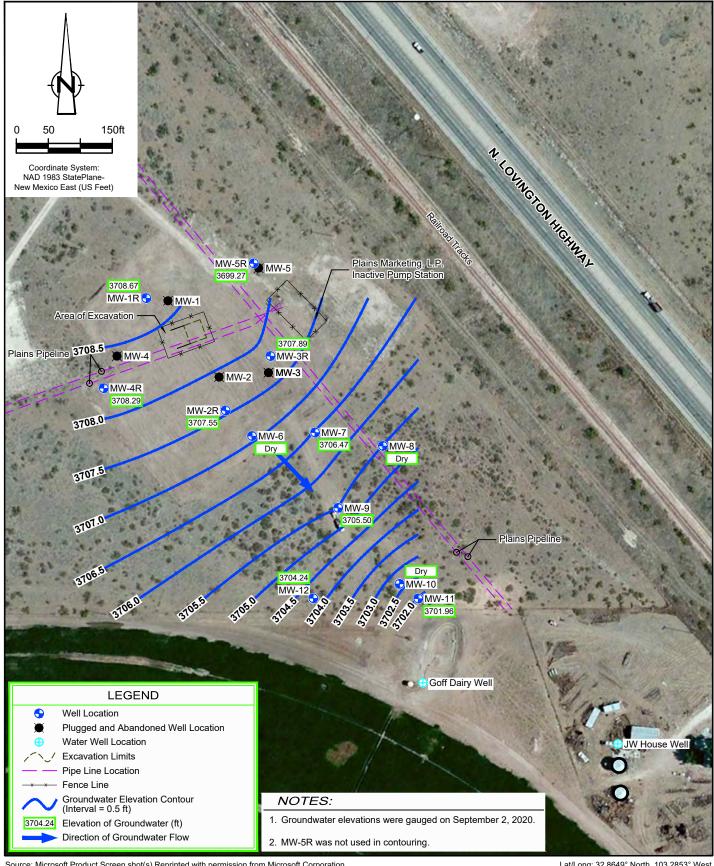
GROUNDWATER GRADIENT MAP - FEBRUARY 2020





PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI 11209905-00 Oct 29, 2020

GROUNDWATER GRADIENT MAP - MAY 20, 2020



Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

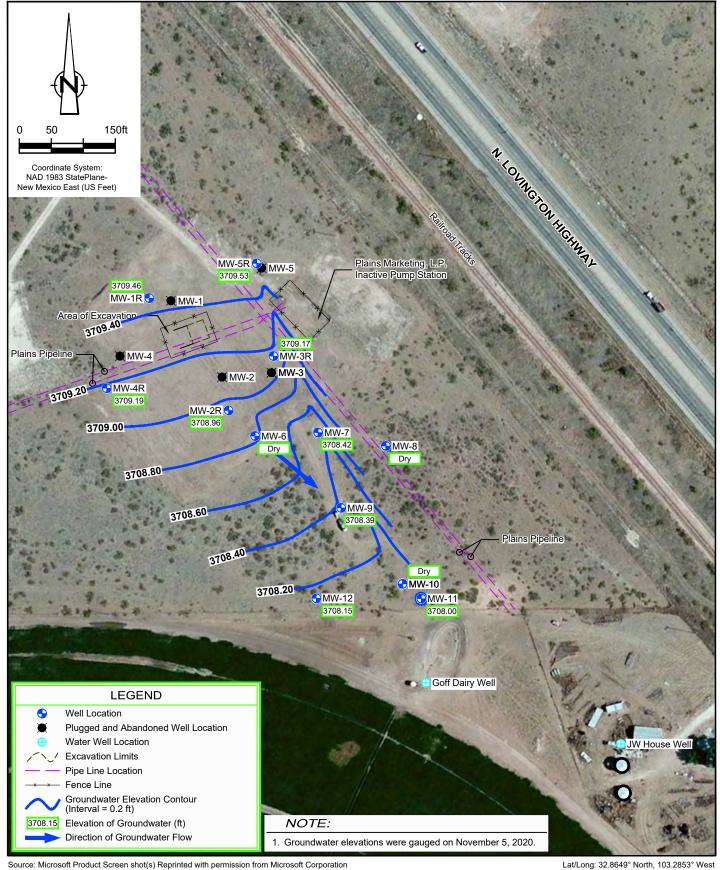
Lat/Long: 32.8649° North, 103.2853° West



PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI

Oct 29, 2020

GROUNDWATER GRADIENT MAP - SEPTEMBER 2, 2020

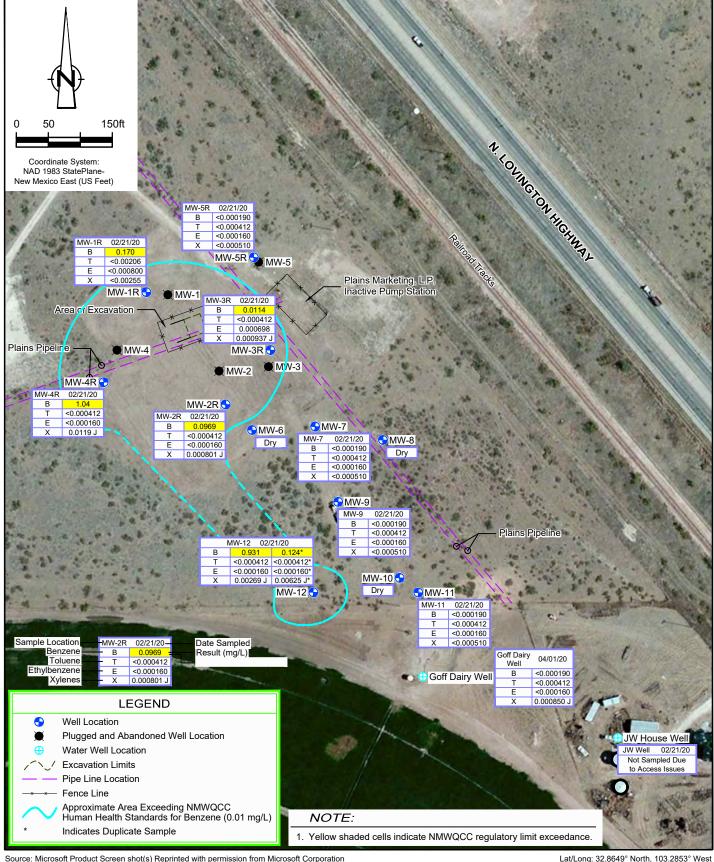


GHD

PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI 11209905-00

Jan 12, 2021

GROUNDWATER GRADIENT MAP - NOVEMBER 5, 2020



Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 32.8649° North, 103.2853° West

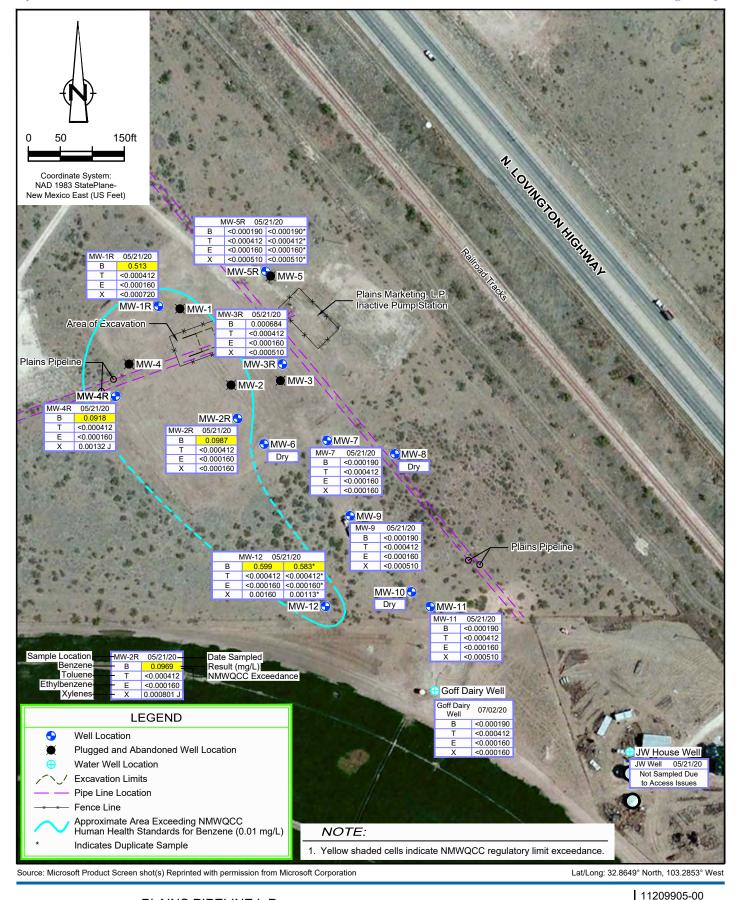


PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI

BTEX CONCENTRATIONS IN GROUNDWATER MAP - FEBRUARY 2020

FIGURE 7

11209905-00

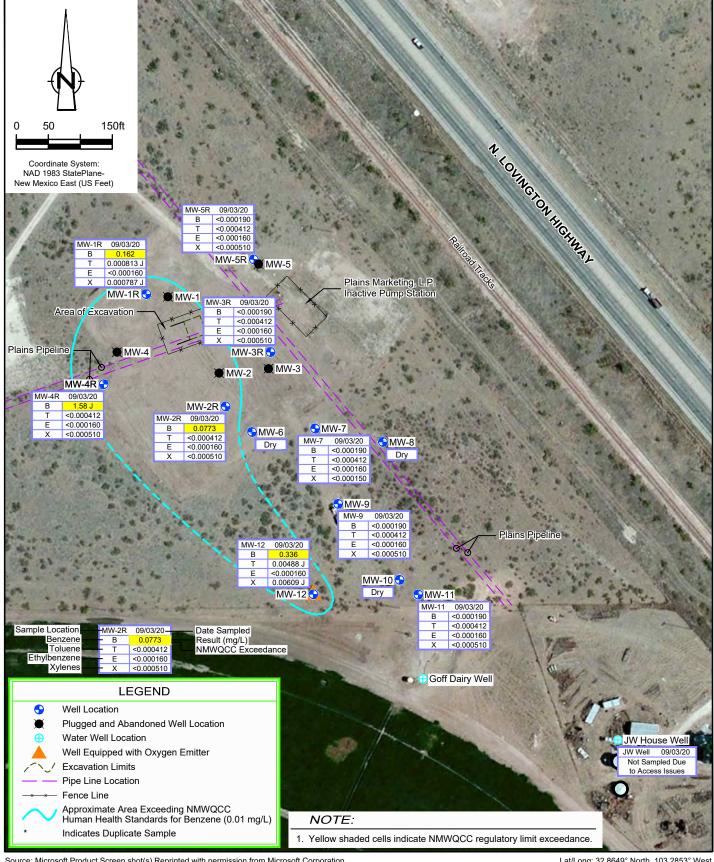




PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI

BTEX CONCENTRATIONS
IN GROUNDWATER MAP - MAY 2020

FIGURE 8



Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 32.8649° North, 103.2853° West

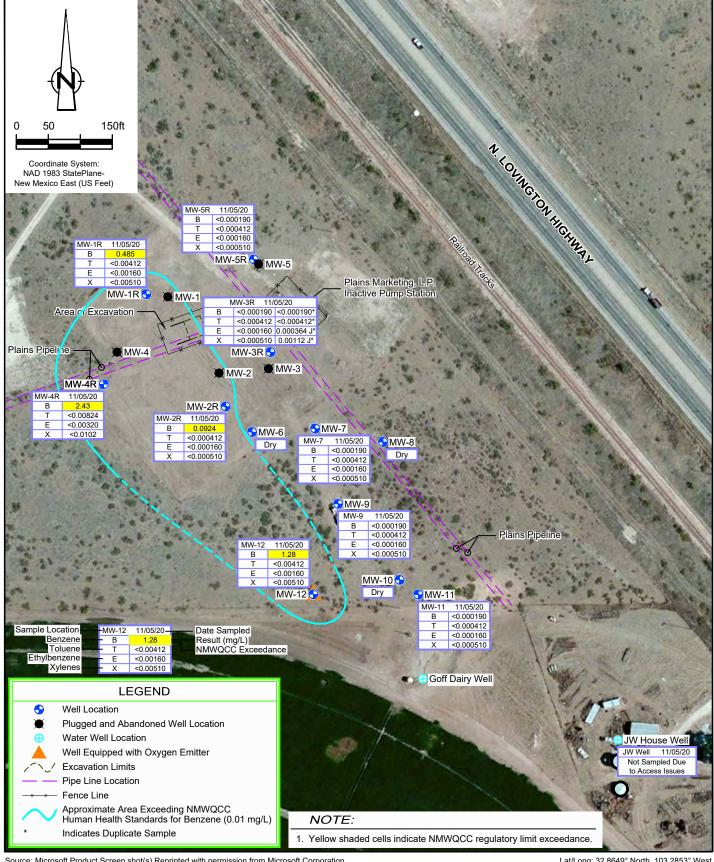


PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI

BTEX CONCENTRATIONS IN GROUNDWATER MAP - SEPTEMBER 2020

FIGURE 9

11209905-00



Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 32.8649° North, 103.2853° West



PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO LOVINGTON GATHERING WTI

BTEX CONCENTRATIONS IN GROUNDWATER MAP - NOVEMBER 2020

FIGURE 10

11209905-00

Tables

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

Table 1

	Elevation of Top of		Depth to	Depth to	LNAPL	Elevation of the	Measured	Well Screen Interval (fbgs)	Volume Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-1R	3806.62	2/18/19	94.06		0.00	3712.56	108.69			5
MW-1R	3806.62	5/21/19	94.69		0.00	3711.93				6
MW-1R	3806.62	8/23/19	96.34		0.00	3710.28				5
MW-1R	3806.62	10/17/19	95.49		0.00	3711.13				6.5
MW-1R	3806.62	2/20/20	94.04		0.00	3712.58	108.36	85-105 (2in)		7
MW-1R	3806.62	3/26/20	93.90		0.00	3712.72	108.37			3
MW-1R	3806.62	4/2/20	94.59		0.00	3712.03				4
MW-1R	3806.62	4/10/20	95.02		0.00	3711.60				3
MW-1R	3806.62	4/17/20	95.33		0.00	3711.29				5.5
MW-1R	3806.62	4/20/20	95.48		0.00	3711.14				3
MW-1R	3806.62	4/30/20	95.87		0.00	3710.75				3
MW-1R	3806.62	5/6/20	96.12		0.00	3710.50				3
MW-1R	3806.62	5/12/20	96.31		0.00	3710.31				5
MW-1R	3806.62	5/20/20	96.57		0.00	3710.05				6
MW-1R	3806.62	6/3/20	96.04		0.00	3710.58				3
MW-1R	3806.62	6/10/20	95.84		0.00	3710.78				3
MW-1R	3806.62	6/17/20	95.75		0.00	3710.87				3
MW-1R	3806.62	6/25/20	95.82		0.00	3710.80				3
MW-1R	3806.62	7/1/20	96.33		0.00	3710.29				3
MW-1R	3806.62	7/8/20	96.58		0.00	3710.04				5
MW-1R	3806.62	7/15/20	96.84		0.00	3709.78				5
MW-1R	3806.62	7/22/20	97.02		0.00	3709.60				5
MW-1R	3806.62	7/28/20	97.17		0.00	3709.45				5
MW-1R	3806.62	8/5/20	97.27		0.00	3709.35				5
MW-1R	3806.62	8/11/20	97.42		0.00	3709.20				3
MW-1R	3806.62	8/20/20	97.55		0.00	3709.07				5
MW-1R	3806.62	8/26/20	97.69		0.00	3708.93				5
MW-1R	3806.62	9/2/20	97.95		0.00	3708.67	108.36			5
MW-1R	3806.62	9/8/20	97.94		0.00	3708.68				3
MW-1R	3806.62	9/24/20	98.26		0.00	3708.36				3
MW-1R	3806.62	9/30/20	98.40		0.00	3708.22				3
MW-1R	3806.62	10/14/20	97.73		0.00	3708.89				3

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Table 1

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Elevation			Depth				Well Screen	Volume	
	of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-1R	3806.62	10/21/20	97.48		0.00	3709.14				3
MW-1R	3806.62	10/26/20	97.30		0.00	3709.32				3
MW-1R	3806.62	11/5/20	97.16		0.00	3709.46	108.36			6
MW-1R	3806.62	11/17/20	96.94		0.00	3709.68				3
MW-1R	3806.62	11/24/20	97.39		0.00	3709.23				3
MW-1R	3806.62	12/1/20	97.79		0.00	3708.83				3
MW-1R	3806.62	12/8/20	97.55		0.00	3709.07				3
MW-1R	3806.62	12/16/20	97.52		0.00	3709.10				3
MW-1R	3806.62	12/23/20	97.29		0.00	3709.33				3
MW-2R	3806.38	2/18/19	94.38		0.00	3712.00	109.74			5
MW-2R	3806.38	5/21/19	95.05		0.00	3711.33				4
MW-2R	3806.38	8/23/19	97.30		0.00	3709.08				5
MW-2R	3806.38	10/17/19	95.61		0.00	3710.77				7
MW-2R	3806.38	2/20/20	94.05		0.00	3712.33	109.79	85-105 (2in)		8
MW-2R	3806.38	3/26/20	94.02		0.00	3712.36	109.86			3
MW-2R	3806.38	4/2/20	94.95		0.00	3711.43				4
MW-2R	3806.38	4/10/20	95.55		0.00	3710.83				3
MW-2R	3806.38	4/17/20	96.09		0.00	3710.29				5
MW-2R	3806.38	4/20/20	96.20		0.00	3710.18				3
MW-2R	3806.38	4/30/20	96.68		0.00	3709.70				3
MW-2R	3806.38	5/6/20	97.06		0.00	3709.32				3
MW-2R	3806.38	5/12/20	97.21		0.00	3709.17				5
MW-2R	3806.38	5/20/20	97.47		0.00	3708.91				6
MW-2R	3806.38	6/3/20	96.40		0.00	3709.98				3
MW-2R	3806.38	6/10/20	96.30		0.00	3710.08				3
MW-2R	3806.38	6/17/20	96.08		0.00	3710.30				3
MW-2R	3806.38	6/25/20	96.25		0.00	3710.13				3
MW-2R	3806.38	7/1/20	96.87		0.00	3709.51				3
MW-2R	3806.38	7/8/20	97.29		0.00	3709.09				5
MW-2R	3806.38	7/15/20	97.67		0.00	3708.71				5
MW-2R	3806.38	7/22/20	97.93		0.00	3708.45				5
MW-2R	3806.38	7/28/20	98.10		0.00	3708.28				5

Table 1

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Elevation			Depth				Well Screen	Volume	
	of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsI)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-2R	3806.38	8/5/20	98.02		0.00	3708.36				5
MW-2R	3806.38	8/11/20	97.89		0.00	3708.49				5
MW-2R	3806.38	8/20/20	98.48		0.00	3707.90				5
MW-2R	3806.38	8/26/20	98.65		0.00	3707.73				5
MW-2R	3806.38	9/2/20	98.83		0.00	3707.55	109.79			5
MW-2R	3806.38	9/8/20	98.94		0.00	3707.44				3
MW-2R	3806.38	9/24/20	99.28		0.00	3707.10				2.5
MW-2R	3806.38	9/30/20	99.45		0.00	3706.93				3
MW-2R	3806.38	10/14/20	98.26		0.00	3708.12				3
MW-2R	3806.38	10/21/20	92.86		0.00	3713.52				3
MW-2R	3806.38	10/26/20	97.60		0.00	3708.78				3
MW-2R	3806.38	11/5/20	97.42		0.00	3708.96	109.79			7
MW-2R	3806.38	11/17/20	97.20		0.00	3709.18				3
MW-2R	3806.38	11/24/20	97.96		0.00	3708.42				3
MW-2R	3806.38	12/1/20	98.43		0.00	3707.95				3
MW-2R	3806.38	12/8/20	98.02		0.00	3708.36				3
MW-2R	3806.38	12/16/20	97.94		0.00	3708.44				3
MW-2R	3806.38	12/23/20	97.59		0.00	3708.79				3
MW-3R	3806.15	2/18/19	94.03		0.00	3712.12	109.82			5
MW-3R	3806.15	5/21/19	94.67		0.00	3711.48		85-105 (2in)		6
MW-3R	3806.15	8/23/19	96.79		0.00	3709.36				5
MW-3R	3806.15	10/17/19	95.23		0.00	3710.92				7
MW-3R	3806.15	2/20/20	93.73		0.00	3712.42	110.05	85-105 (2in)		8
MW-3R	3806.15	3/26/20	93.70		0.00	3712.45	109.91			3
MW-3R	3806.15	4/2/20	94.58		0.00	3711.57				4
MW-3R	3806.15	4/10/20	95.15		0.00	3711.00				3
MW-3R	3806.15	4/17/20	95.58		0.00	3710.57				5
MW-3R	3806.15	4/20/20	95.75		0.00	3710.40				3
MW-3R	3806.15	4/30/20	96.20		0.00	3709.95				3
MW-3R	3806.15	5/6/20	97.48		0.00	3708.67				3
MW-3R	3806.15	5/12/20	96.70		0.00	3709.45				5
MW-3R	3806.15	5/20/20	96.95		0.00	3709.20				7

Table 1

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Elevation			Depth				Well Screen	Volume	
	of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-3R	3806.15	6/3/20	95.95		0.00	3710.20				3
MW-3R	3806.15	6/10/20	95.67		0.00	3710.48				3
MW-3R	3806.15	6/17/20	95.68		0.00	3710.47				3
MW-3R	3806.15	6/25/20	95.84		0.00	3710.31				3
MW-3R	3806.15	7/1/20	96.43		0.00	3709.72				3
MW-3R	3806.15	7/8/20	96.82		0.00	3709.33				5
MW-3R	3806.15	7/15/20	97.16		0.00	3708.99				5
MW-3R	3806.15	7/22/20	97.41		0.00	3708.74				5
MW-3R	3806.15	7/28/20	97.55		0.00	3708.60				5
MW-3R	3806.15	8/5/20	97.51		0.00	3708.64				5
MW-3R	3806.15	8/11/20	97.79		0.00	3708.36				3
MW-3R	3806.15	8/20/20	97.96		0.00	3708.19				5
MW-3R	3806.15	8/26/20	98.09		0.00	3708.06				5
MW-3R	3806.15	9/2/20	98.26		0.00	3707.89	110.05			6
MW-3R	3806.15	9/8/20	98.36		0.00	3707.79				3
MW-3R	3806.15	9/24/20	98.69		0.00	3707.46				2.5
MW-3R	3806.15	9/30/20	98.88		0.00	3707.27				3
MW-3R	3806.15	10/14/20	97.77		0.00	3708.38				3
MW-3R	3806.15	10/21/20	97.38		0.00	3708.77				3
MW-3R	3806.15	10/26/20	97.17		0.00	3708.98				3
MW-3R	3806.15	11/5/20	96.98		0.00	3709.17	110.05			7
MW-3R	3806.15	11/17/20	96.79		0.00	3709.36				3
MW-3R	3806.15	11/24/20	97.53		0.00	3708.62				3
MW-3R	3806.15	12/1/20	98.01		0.00	3708.14				3
MW-3R	3806.15	12/8/20	97.55		0.00	3708.60				3
MW-3R	3806.15	12/16/20	97.48		0.00	3708.67				3
MW-3R	3806.15	12/23/20	97.17		0.00	3708.98				3
MW-4R	3806.67	2/18/19	94.30		0.00	3712.37	110.00			5
MW-4R	3806.67	5/21/19	94.99		0.00	3711.68		85-105 (2in)		6
MW-4R	3806.67	8/23/19	96.99		0.00	3709.68		1		5
MW-4R	3806.67	10/17/19	95.75		0.00	3710.92				7.5
MW-4R	3806.67	2/20/20	94.22		0.00	3712.45	110.00	85-105 (2in)		8

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Elevation			Depth				Well Screen	Volume	
	of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-4R	3806.67	3/26/20	94.10		0.00	3712.57	110.03			3
MW-4R	3806.67	4/2/20	94.84		0.00	3711.83				20
MW-4R	3806.67	4/10/20	95.31		0.00	3711.36				10
MW-4R	3806.67	4/17/20	95.67		0.00	3711.00				10
MW-4R	3806.67	4/20/20	95.84		0.00	3710.83				
MW-4R	3806.67	4/30/20	96.27		0.00	3710.40				15
MW-4R	3806.67	5/6/20	96.54		0.00	3710.13				5
MW-4R	3806.67	5/20/20	97.03		0.00	3709.64				7
MW-4R	3806.67	6/3/20	96.38		0.00	3710.29				10
MW-4R	3806.67	6/10/20	96.13		0.00	3710.54				10
MW-4R	3806.67	6/17/20	96.06		0.00	3710.61				10
MW-4R	3806.67	6/25/20	96.14		0.00	3710.53				10
MW-4R	3806.67	7/1/20	96.67		0.00	3710.00				6
MW-4R	3806.67	7/8/20	96.97		0.00	3709.70				10
MW-4R	3806.67	7/15/20	96.97		0.00	3709.70				10
MW-4R	3806.67	7/22/20	97.49		0.00	3709.18				10
MW-4R	3806.67	7/28/20	97.65		0.00	3709.02				10
MW-4R	3806.67	8/5/20	97.73		0.00	3708.94				10
MW-4R	3806.67	8/11/20	98.31		0.00	3708.36				3
MW-4R	3806.67	8/20/20	98.06		0.00	3708.61				10
MW-4R	3806.67	8/26/20	98.20		0.00	3708.47				10
MW-4R	3806.67	9/2/20	98.38		0.00	3708.29	110.00			6
MW-4R	3806.67	9/8/20	98.47		0.00	3708.20				5
MW-4R	3806.67	9/24/20	98.81		0.00	3707.86				3
MW-4R	3806.67	9/30/20	98.95		0.00	3707.72				3
MW-4R	3806.67	10/14/20	98.18		0.00	3708.49				3
MW-4R	3806.67	10/21/20	97.81		0.00	3708.86				3
MW-4R	3806.67	10/26/20	97.69		0.00	3708.98				5
MW-4R	3806.67	11/5/20	97.48		0.00	3709.19	110.00			7
MW-4R	3806.67	11/17/20	97.27		0.00	3709.40				5
MW-4R	3806.67	11/24/20	97.78		0.00	3708.89				5
MW-4R	3806.67	12/1/20	98.20		0.00	3708.47				5
MW-4R	3806.67	12/8/20	97.93		0.00	3708.74				3

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Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Elevation			Depth				Well Screen	Volume	
	of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-4R	3806.67	12/16/20	97.87		0.00	3708.80				3
MW-4R	3806.67	12/23/20	97.62		0.00	3709.05				3
		0//0//0								_
MW-5R	3806.46	2/18/19	93.96		0.00	3712.50	107.42			5
MW-5R	3806.46	5/21/19	94.57		0.00	3711.89				6
MW-5R	3806.46	8/23/19	96.40		0.00	3710.06				4
MW-5R	3806.46	10/17/19	95.26		0.00	3711.20				6
MW-5R	3806.46	2/20/20	93.92		0.00	3712.54	107.40	85-105 (2in)		6.5
MW-5R	3806.46	4/30/20	95.79		0.00	3710.67				
MW-5R	3806.46	5/20/20	96.44		0.00	3710.02				6
MW-5R	3806.46	6/17/20	95.60		0.00	3710.86				
MW-5R	3806.46	7/28/20	97.05		0.00	3709.41				
MW-5R	3806.46	8/26/20	97.56		0.00	3708.90				
MW-5R	3806.46	9/2/20	107.19		0.00	3699.27	107.40			
MW-5R	3806.46	9/16/20	97.97		0.00	3708.49	107.59			
MW-5R	3806.46	10/21/20	97.25		0.00	3709.21				
MW-5R	3806.46	11/5/20	96.93		0.00	3709.53	107.40			6
MW-5R	3806.46	12/8/20	97.43		0.00	3709.03	107.40			
MW-6	3806.08	2/18/19	Dry		0.00	Dry	92.64			
MW-6	3806.08	5/21/19	Dry		0.00	Dry				
MW-6	3806.08	8/23/19	Dry		0.00	Dry				
MW-6	3806.08	10/17/19	Dry		0.00	Dry	92.78			
MW-6	3806.08	2/20/20	Dry		0.00	Dry	92.72			
MW-6	3806.08	4/30/20	Dry		0.00	Dry	92.72			
MW-6	3806.08	5/20/20	Dry		0.00	Dry	92.72			
MW-6	3806.08	6/17/20	Dry		0.00	Dry	92.76			
MW-6	3806.08	7/28/20	Dry		0.00	Dry	92.76			
MW-6	3806.08	8/26/20	Dry		0.00	Dry	92.75			
MW-6	3806.08	9/2/20	Dry		0.00	Dry	92.69			
MW-6	3806.08	10/21/20	Dry		0.00	Dry				
MW-6	3806.08	11/5/20	Dry		0.00	Dry	92.75			
MW-6	3806.08	12/8/20	Dry		0.00	Dry	97.78			

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Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

Table 1

	Elevation of Top of		Depth to	Depth to	LNAPL	Elevation of the	Measured	Well Screen Interval (fbgs)	Volume Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
100/ =	2222.25	0/40/40	0.4.05		0.00	0744.00	100.00			0.1
MW-7	3806.05	2/18/19	94.85		0.00	3711.20	109.22			21
MW-7	3806.05	5/21/19	95.48		0.00	3710.57				6
MW-7	3806.05	8/23/19	97.90		0.00	3708.15				17
MW-7	3806.05	10/17/19	95.81		0.00	3710.24				28
MW-7	3806.05	2/20/20	94.23		0.00	3711.82	109.35	65 - 90 ft bgs (4 in.)		29
MW-7	3806.05	4/30/20	97.41		0.00	3708.64				
MW-7	3806.05	5/20/20	98.18		0.00	3707.87				22
MW-7	3806.05	6/17/20	96.46		0.00	3709.59				
MW-7	3806.05	7/28/20	98.84		0.00	3707.21				
MW-7	3806.05	8/26/20	99.37		0.00	3706.68				
MW-7	3806.05	9/2/20	99.58		0.00	3706.47	110.44			21
MW-7	3806.05	10/21/20	98.08		0.00	3707.97				
MW-7	3806.05	11/5/20	97.63		0.00	3708.42	110.44			26
MW-7	3806.05	12/8/20	98.42		0.00	3707.63				
MW-8	3805.89	2/18/19	Dry			Dry	94.87			
MW-8	3805.89	5/21/19	Dry			Dry				
MW-8	3805.89	8/23/19	Dry			Dry				
MW-8	3805.89	10/17/19	Dry			Dry	94.86			
MW-8	3805.89	2/20/20	Dry			Dry	93.71	61 - 91 ft bgs (2 in.)		
MW-8	3805.89	4/30/20	Dry			Dry	94.95			
MW-8	3805.89	5/20/20	Dry			Dry	94.95			
MW-8	3805.89	6/17/20	Dry			Dry	94.93			
MW-8	3805.89	7/28/20	Dry			Dry	94.94			
MW-8	3805.89	8/26/20	Dry			Dry	94.94			
MW-8	3805.89	9/2/20	Dry			Dry	94.88			
MW-8	3805.89	10/21/20	Dry			Dry				
MW-8	3805.89	11/5/20	Dry			Dry	94.94			
MW-8	3805.89	12/8/20	Dry			Dry	94.96			
	5555.55	12, 0, 20	,							
MW-9	3806.02	2/18/19	95.13		0.00	3710.89	108.45			23
MW-9	3806.02	5/21/19	95.70		0.00	3710.32				6

Table 1

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Elevation			Depth				Well Screen	Volume	
	of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
147 11 15	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-9	3806.02	8/23/19	98.50		0.00	3707.52				16
MW-9	3806.02	10/17/19	95.59		0.00	3710.43				26
MW-9	3806.022	2/20/20	93.92		0.00	3712.10	108.55	4 in.		29
MW-9	3806.022	4/30/20	98.25		0.00	3707.77				
MW-9	3806.022	5/20/20	99.04		0.00	3706.98				20
MW-9	3806.022	6/17/20	96.59		0.00	3709.43				
MW-9	3806.022	7/28/20	99.75		0.00	3706.27				
MW-9	3806.022	8/26/20	100.28		0.00	3705.74				
MW-9	3806.022	9/2/20	100.52		0.00	3705.50	110.13			19
MW-9	3806.022	10/21/20	98.05		0.00	3707.97				
MW-9	3806.022	11/5/20	97.63		0.00	3708.39	110.13			26
MW-9	3806.022	12/8/20	98.62		0.00	3707.40				
MW-10	3806.08	2/18/19	Dry			Dry	95.71			
MW-10	3806.08	5/21/19	Dry			Dry				
MW-10	3806.08	8/23/19	Dry			Dry				
MW-10	3806.08	10/17/19	Dry			Dry	95.70			
MW-10	3806.08	2/20/20	Dry			Dry	95.80			
MW-10	3806.08	4/30/20	Dry			Dry	95.76			
MW-10	3806.08	5/20/20	Dry			Dry	95.80			
MW-10	3806.08	6/17/20	Dry			Dry	95.76			
MW-10	3806.08	7/28/20	Dry			Dry	95.76			
MW-10	3806.08	8/26/20	Dry			Dry	95.76			
MW-10	3806.08	9/2/20	Dry			Dry	95.72			
MW-10	3806.08	10/21/20	Dry			Dry				
MW-10	3806.08	11/5/20	Dry			Dry	95.80		1	
MW-10	3806.08	12/8/20	Dry			Dry	95.80			
	2000.00	12, 0, 20	,			,	33.33			
MW-11	3805.88	2/18/19	97.72		0.00	3708.16	110.15			5
MW-11	3805.88	5/21/19	97.20		0.00	3708.68				6
MW-11	3805.88	8/23/19	101.02		0.00	3704.86				4
MW-11	3805.88	10/17/19	95.53		0.00	3710.35				7.5
MW-11	3805.88	2/20/20	93.83		0.00	3712.05	109.85			8

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Table 1

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Elevation			Depth				Well Screen	Volume	
	of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
	Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
Well ID	(famsI)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)
MW-11	3805.88	4/30/20	101.61		0.00	3704.27				
MW-11	3805.88	5/20/20	102.55		0.00	3703.33				5
MW-11	3805.88	6/17/20	97.71		0.00	3708.17				
MW-11	3805.88	7/28/20	103.21		0.00	3702.67				
MW-11	3805.88	8/26/20	103.67		0.00	3702.21				
MW-11	3805.88	9/2/20	103.92		0.00	3701.96	110.05			4
MW-11	3805.88	10/21/20	98.05		0.00	3707.83				
MW-11	3805.88	11/5/20	97.88		0.00	3708.00	110.05			7
MW-11	3805.88	12/8/20	99.00		0.00	3706.88				
MW-12	3806.04	2/18/19	95.93		0.00	3710.11	110.04			5.00
MW-12	3806.04	5/21/19	96.23		0.00	3709.81				7
MW-12	3806.04	8/23/19	99.53		0.00	3706.51				5
MW-12	3806.04	10/17/19	95.73		0.00	3710.31				7
MW-12	3806.04	2/20/20	93.96		0.00	3712.08	110.01			8
MW-12	3806.04	3/26/20	94.67		0.00	3711.37	110.07			5
MW-12	3806.04	4/2/20	96.80		0.00	3709.24				20
MW-12	3806.04	4/10/20	97.92		0.00	3708.12				10
MW-12	3806.04	4/17/20	98.60		0.00	3707.44				20
MW-12	3806.04	4/20/20	98.82		0.00	3707.22				
MW-12	3806.04	4/30/20	99.46		0.00	3706.58				15
MW-12	3806.04	5/6/20	99.80		0.00	3706.24				10
MW-12	3806.04	5/12/20	100.10		0.00	3705.94				20
MW-12	3806.04	5/20/20	100.35		0.00	3705.69				5
MW-12	3806.04	6/17/20	Bubbler							
MW-12	3806.04	7/28/20	Bubbler							
MW-12	3806.04	8/26/20	101.62		0.00	3704.42				
MW-12	3806.04	9/2/20	101.80		0.00	3704.24	110.01			4
MW-12	3806.04	10/21/20	Bubbler							
MW-12	3806.04	11/5/20	97.89		0.00	3708.15	110.01			7
MW-12	3806.04	12/8/20	Bubbler		0.00		110.01			

Summary of Fluid Level Measurements Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

Ī		Elevation			Depth				Well Screen	Volume	
		of Top of		Depth to	to	LNAPL	Elevation of the	Measured	Interval (fbgs)	Product	Volume
		Casing		Groundwater	LNAPL	Thickness	Potentiometric	Well Depth	Well Diameter	Bailed	Groundwater
	Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	(in.)	(gal.)	Bailed (gal.)

Notes:

- 1. famsl Feet above mean sea level
- 2. fbgs Feet below ground surface
- 3. LNAPL Light non-aqueous phase liquid
- 4. MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-8 & MW-10 are 2" Diameter Wells MW-7 & MW-9 are 4" Diameter Wells
- 5. Data collected before October 2016, when GHD began conducting site activities, were collected by Basin Environmental Service Technologies, LLC.

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Table 2

Summary of Analytical Results of BTEX in Groundwater Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

Sample ID	Sample Date	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Total Xylenes (mg/l)
				nan Health Standa	
		0.01	0.75	0.75	0.62
MW-1R	2/19/19	0.243	<0.000412	<0.000160	<0.000510
MW-1R	5/22/19	0.0594	<0.000412	<0.000160	<0.000510
MW-1R	8/23/19	0.709	<0.000412	<0.000160	0.000640 B J
MW-1R	10/18/19	0.530	<0.00206	<0.000800	<0.00255
MW-1R	2/21/20	0.170	<0.00206	<0.000800	<0.00255
MW-1R	5/21/20	0.513	<0.00200	<0.000160	<0.00200
MW-1R	9/3/20	0.162	0.000813 J	<0.000160	0.000787 J
MW-1R	11/5/20	0.458	<0.00412	<0.00160	<0.00510
IVIVV-IR	11/3/20	0.430	10.00412	40.00100	\0.00310
MW-2R	2/19/19	0.0044	<0.000412	<0.000160	0.00402 B J
		0.0944	<0.000412	<0.000160	0.00102 B J 0.00104 B J
MW-2R	5/22/19	0.0124 0.212	<0.000412	<0.000160	
MW-2R	8/23/19				0.00102 B J
MW-2R	10/18/19	0.223	<0.000412	<0.000160	0.000602 J
MW-2R	2/21/20	0.0969	<0.000412	<0.000160	0.000801 J
MW-2R	5/21/20	0.0987	<0.000412	<0.000160	<0.000510
MW-2R	9/3/20	0.0773	<0.000412	<0.000160	<0.000510
MW-2R	11/5/20	0.0924	<0.000412	<0.000160	<0.000510
MAY OD	0/40/40	0.00400	10.000.440	-0.000400	10.000540
MW-3R	2/19/19	0.00102	<0.000412	<0.000160	<0.000510
MW-3R MW-3R	5/22/19 8/23/19	0.0208	<0.000412	0.000553 B	0.000713 B J
MW-3R	10/18/19	0.0223 0.0303	0.000645 J 0.00199	0.00326 0.00290 B	0.00295 B 0.00280
MW-3R (Dup-1)	10/18/19	0.0303	<0.00199	0.00290 B 0.00204 B	0.00280
MW-3R	2/21/20	0.0220	<0.000412	0.00204 B	0.00217 0.000937 J
MW-3R	5/21/20	0.000684	<0.000412	<0.000160	<0.000510
MW-3R	9/3/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-3R	11/5/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-3R (DUP-1)	11/5/20	<0.000190	<0.000412	0.000364 J	0.00112 J
MW-4R	2/19/19	1.49	<0.000412	<0.000160	0.00903
MW-4R	5/22/19	0.537	<0.00206	<0.000800	0.00569 B J
MW-4R	8/23/19	1.15	<0.00824	<0.00320	<0.0102
MW-4R (Dup1)	8/23/19	1.27	<0.000412	<0.000160	0.00547
MW-4R MW-4R	10/18/19	1.29	<0.00412	<0.00160	<0.00510
MW-4R	2/21/20 5/21/20	1.04 0.918	<0.00412 <0.000412	<0.00160 <0.000160	0.0119 J 0.00132 J
MW-4R	9/3/20	1.58 J6	<0.000412	<0.000160	<0.00132 3
MW-4R	11/5/20	2.43	<0.000412	<0.00320	<0.000310
10100 -711	11/0/20	2.70	-0.00024	-0.00020	-0.0102
MW-5R	2/19/19	0.000239 J	<0.000412	<0.000160	<0.000510
MW-5R	5/22/19	0.000239 J 0.000313 J	<0.000412	<0.000160	<0.000510
AC-AAIAI	5/22/18	0.0003133	VU.UUU4 12	~0.000 TOO	·0.000310

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Summary of Analytical Results of BTEX in Groundwater Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

Sample ID	Sample Date	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Total Xylenes (mg/l)
				nan Health Standa	
		0.01	0.75	0.75	0.62
MW-5R	8/23/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-5R	10/18/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-5R	2/21/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-5R	5/21/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-5R (DUP-1)	5/21/20	<0.000190	<0.000412	<0.000160	<0.000510
,			<0.000412	<0.000160	<0.000510
MW-5R	9/3/20	<0.000190		<0.000160	
MW-5R	11/5/20	<0.000190	<0.000412	<0.000160	<0.000510
	24242				
MW-6	2/19/19		Dry		
MW-6	5/22/19		Dry		
MW-6	8/23/19		Dry		
MW-6	10/18/19		Dry		
MW-6	2/21/20		Dry		
MW-6	5/21/20 9/3/20		Dry		
MW-6 MW-6	11/5/20		Dry Dry		
IVIVV-O	11/5/20		Dry		
MW-7	2/19/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	5/22/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	8/23/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	10/18/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	2/21/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	5/21/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	9/3/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	11/5/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-8	2/19/19		Dry		
MW-8	5/22/19		Dry		
MW-8	8/23/19		Dry		
MW-8	10/18/19		Dry		
MW-8	2/21/20		Dry		
MW-8	5/21/20		•		
			Dry		
MW-8	9/3/20		Dry		
MW-8	11/5/20		Dry		
100/0	0/40/40	10.000.100	10.000.110	10.000400	.0.000540
MW-9	2/19/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-9	5/22/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-9	8/23/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-9	10/18/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-9 MW-9	2/21/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-9	5/21/20 9/3/20	<0.000190 <0.000190	<0.000412 <0.000412	<0.000160 <0.000160	<0.000510 <0.000510
MW-9	11/5/20	<0.000190	<0.000412	<0.000160	<0.000510
IVIVV-9	1 1/3/20	~0.000190	<u> </u>	<u> </u>	~U.UUU01U
MW-10	5/22/19		Dry		
10100 - 10	3/22/18		אוט		

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Summary of Analytical Results of BTEX in Groundwater Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	Sample	Benzene	Toluene	Ethylbenzene	Total Xylenes
Sample ID	Date	(mg/l)	(mg/l)	(mg/l)	(mg/l)
•				nan Health Standa	
		0.01	0.75	0.75	0.62
MW-10	8/23/19		Dry		
MW-10	10/18/19		Dry		
MW-10	2/21/20		Dry		
MW-10	5/21/20		Dry		
MW-10	9/3/20		Dry		
MW-10	11/5/20		Dry		
	11,01=0		,		
MW-11	2/19/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-11	5/22/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-11	8/23/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-11	10/18/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-11	2/21/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-11	5/21/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-11	9/3/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-11	11/5/20			<0.000160	<0.000510
IVIVV-II	11/5/20	<0.000190	<0.000412	<0.000160	<0.000510
NAVA 40	0/40/40	0.0040	* 0.000440	<0.000460	0 00444 D. I
MW-12	2/19/19	0.0649	<0.000412	<0.000160	0.00144 B J
MW-12	5/22/19	0.0445	<0.000412	<0.000160	0.00350 B
MW-12 (Dup1)	5/22/19	0.0374	<0.000412	<0.000160	0.00351 B
MW-12	8/23/19	0.309	<0.00206	<0.00800	0.00727 B J
MW-12	10/18/19	0.869	<0.00206	<0.000800	0.00445 J
MW-12 (Dup-2)	10/18/19	0.714	<0.000412	<0.000160	0.00535
MW-12	2/21/20	0.931	<0.000412	<0.000160	0.00269 J
MW-12 (Dup1)	2/21/20	0.124	<0.000412	<0.000160	0.000625 J
MW-12	5/21/20	0.599	<0.000412	<0.000160	0.00160
MW-12 (DUP-2)	5/21/20	0.583	<0.000412	<0.000160	0.00113
MW-12	9/3/20	0.336	0.00488 J	<0.000160	0.00609 J
MW-12	11/5/20	1.28	<0.00412	<0.00160	<0.00510
Goff Dairy Well	2/19/19	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Well	5/22/19		Off		
Goff Dairy Well	8/23/19	0.000260 J	<0.000412	<0.000160	<0.000510
Goff Dairy Well	10/18/19		Off		
Goff Dairy Well	4/1/20	<0.000190	<0.000412	<0.000160	0.000850 J
Goff Dairy Well	7/2/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Well	9/3/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Well	11/5/20		Off		
- ,					
Goff Dairy - Ctr. Pivot Well	2/19/19	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy - Ctr. Pivot Well (Dup)	2/19/19	0.000299 J	<0.000412	<0.000160	<0.000510
Goff Dairy - Ctr. Pivot Well	5/22/19	3.200200	Off	3.555755	2.000010
Goff Dairy - Ctr. Pivot Well	8/23/19	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy - Ctr. Pivot Well	10/18/19	-0.000190	Off	-0.000100	-0.000010
Goff Dairy - Ctr. Pivot Well	3/26/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy - Ctr. Pivot Well	7/2/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy - Ctr. Pivot Well	9/24/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy - Ctr. Pivot Well		~0.000190		~U.UUU 10U	<u>\0.000310</u>
Golf Dairy - Ctr. Pivot Well	11/5/20		Off		

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Summary of Analytical Results of BTEX in Groundwater Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

Cample ID	Sample	Benzene (ma/l)	Toluene (mg/l)	Ethylbenzene	Total Xylenes
Sample ID	Date	(mg/l)	(mg/l)	(mg/l) man Health Standa	(mg/l)
		0.01	0.75	0.75	0.62
Coff Doing Ctr. Divot Bog	2/10/10	<0.000100	<0.000412	<0.000160	<0.000E10
Goff Dairy Ctr. Pivot Beg.	2/19/19 5/22/19	<0.000190	0.000412 Off	<0.000160	<0.000510
Goff Dairy Ctr. Pivot Beg.		10.000400		40.0004.00	10.000540
Goff Dairy Ctr. Pivot Beg.	8/23/19	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot Beg.	10/18/19	.0.000400	Off	.0.000400	.0.000540
Goff Dairy Ctr. Pivot Beg.	3/26/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot Beg.	7/2/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot Beg.	9/24/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot Beg.	11/5/20		Off		
Goff Dairy Ctr. Pivot End	2/19/19	0.000228 J	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot End	5/22/19		Off		
Goff Dairy Ctr. Pivot End	8/23/19	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot End	10/18/19		Off		
Goff Dairy Ctr. Pivot End	3/26/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot End	7/2/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot End	9/3/20	<0.000190	<0.000412	<0.000160	<0.000510
Goff Dairy Ctr. Pivot End	11/5/20		Off		
·					
JW House Well	2/19/19		No Access		
JW House Well	5/22/19		No Access		
JW House Well	8/23/19	0.000242 J	<0.000412	<0.000160	<0.000510
JW House Well	12/3/19	<0.000190	<0.000412	<0.000160	<0.000510
JW House Well	2/21/20	Not sampled -	Couldn't get ac	cess	
JW House Well	5/21/20	Not sampled -			
JW House Well	9/3/20	Not sampled -			
JW House Well	11/5/20	Not sampled -			
-					
Trip Blank	5/22/19	<0.000190	<0.000412	0.000286 B J	0.000920 B J
Trip Blank	5/21/20	<0.000190	<0.000412	<0.000160	<0.000510
'					,

Notes:

- 1. Shaded cells indicate NMWQCC Regulatory Limit exceedances.
- 2. Bold indicates detection.
- 3. Samples dated before 10/11/16 were collected and their results reported by Basin Environmental Service Technologies, LLC.
- 4. Monitoring wells MW-1, 2, 3, 6, 7, 9 & 10 & Goff Dairy locations sampled quarterly.
- 5. Monitoring wells MW-4, 5, and MW-8 were sampled semi-annually.
- 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.
- 7. The identification of the analyte is acceptable; the reported value is an estimate.
- 8. The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Table 3

Summary of Analytical Results of PAH Compounds in Groundwater Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

	¥	Acenaphthene	Acenaphthylene	Benzo(a)anthr (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)anthra (mg/L)	Dibenzofuran (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	Indeno (1,2,3-cd)py. (mg/L)	Naphthalene (m	Phenanthrene (mg/L)	Pyrene (mg/L)	1-Methylnaphtha (mg/L)	2-Methyinaphthal (mg/L)
									NM	WQCC Regula	tory Standards								
	0.001	0.001	0.001	0.001	0.0002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.03	0.001	0.001	0.03	0.03
MW-1 12/2/08	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-1 12/18/0	09 <0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	18 <0.00001			<0.00000410				<0.0000136		<0.00000396	0.0000590	<0.0000157		<0.0000148	0.00169	0.0000203 J	<0.0000117	0.000828	0.000483
MW-1R 10/18/1	19 <0.00001	40 <0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.0000396	0.000234	<0.0000157	0.0000339 J	<0.0000148	0.000829	0.0000407 J	<0.0000117	0.000471	0.000254
				ļ															
MW-2 12/2/08		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-2 12/18/0	09 <0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
100 OD 44/40/4	40 .0.0004	10 10 0000100	-0.0000400	-0.00000440	-0.0000440	-0.0000010	-0.0000007	.0.000400	-0.0000400	-0.0000000	0.0000400 D.I.	-0.0000457	-0.00000000	.0.0000440	2 222247	.0.0000000	.0.0000447	2 22225	0.000404
MW-2R 11/16/1				<0.00000410			<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.0000139 B J	<0.0000157		<0.0000148	0.000817	<0.00000820	<0.0000117	0.000365	0.000131 J
MW-2R 10/18/1	19 <0.00001	40 <0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.0000332 B J	<0.0000157	0.0000120 J	<0.0000148	0.000565	0.0000250 J	<0.0000117	0.000263	0.000109 J
MW-3 12/2/08	08 < 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-3 12/18/09		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12/10/0	09 \0.000	<0.003	<0.003	<0.003	\0.003	\0.003	~ 0.003	\0.003	\0.003	<0.003	INA	\0.003	<0.003	\0.003	<0.003	<0.003	~0.003	<0.003	<0.003
MW-3R 11/16/1	18 <0.00001	40 <0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000138 B J	<0.0000157	<0.00000850	<0.0000148	0.0000671 B J	<0.00000820	<0.0000117	<0.00000821	<0.0000902
	19 < 0.00001				1		<0.00000227	<0.0000136	<0.0000108		0.00000499 B J			<0.0000148	0.000204 J	<0.00000820		<0.00000821	<0.00000902
MW-3R (Dup-	10 0.00001	10 0.0000100	0.0000120	0.00000110	0.0000110	0.00000212	0.00000227	0.0000100	0.0000100	0.00000000	0.00000 100 2 0	0.0000101	0.00000000	0.0000110	0.00020.0	0.00000020	0.0000111	0.0000021	0.00000002
1) 10/18/1	19 <0.00001	40 <0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.0000396	0.00000392 B J	<0.0000157	<0.00000850	<0.0000148	<0.000198	<0.00000820	<0.0000117	<0.00000821	<0.00000902
MW-4 12/2/08		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-4 12/18/0	09 <0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
			1																
	18 < 0.00001					<0.00000223					0.0000967			<0.0000155	0.00506	0.0000305 J	<0.0000123	0.00254	0.00189
MW-4R 10/18/1	19 <0.00001	40 0.0000102 J	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.000226	<0.0000157	0.0000407 J	<0.0000148	<0.0000198	0.000789	0.0000653	0.000986	0.000308
MAN F 40/0/00	10.005	10.005	10.005	10.005	40.005	10.005	10.005	40.005	10.005	10.005	NIA	40.005	10.005	10.005	10.005	10.005	40.005	10.005	10.005
MW-5 12/2/08 MW-5 12/18/09	_	<0.005 <0.005	<0.005	<0.005 <0.005	<0.005 <0.005	<0.005 <0.005	<0.005 <0.005	<0.005	<0.005 <0.005	<0.005 <0.005	NA NA	<0.005 <0.005	<0.005	<0.005 <0.005	<0.005 <0.005	<0.005 <0.005	<0.005 <0.005	<0.005 <0.005	<0.005 <0.005
MW-5 12/18/0	09 <0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-5R 11/16/18	18 <0.00001	40 <0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	<0.0000105	<0.0000157	<0.00000850	<0.0000148	0.0000774 B J	<0.00000820	<0.0000117	<0.00000821	<0.00000902
	19 < 0.00001		1		1						0.00000523 B J							<0.00000821	<0.00000902
10/10/13	10 10.00001	-0.0000100	NO.0000120	-0.00000410	*0.0000110	-0.00000212	-0.00000221	-0.0000130	-0.0000100	-0.00000380	0.00000023 B J	-0.0000137	-0.00000000	-0.0000140	J.0000233 J	-0.00000020	-0.0000117	-0.000000Z I	-0.00000302
MW-6 12/2/08	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-6 12/18/09		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1.2, 10,0	0.000	0.000	1.000	2.000	2.000		2.000			2.000		2.000	2.000			2.000			
MW-7 12/2/08	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-7 12/18/0		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

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Table 3

Summary of Analytical Results of PAH Compounds in Groundwater Plains Pipeline LP Lovington Gathering WTI, SRS #2006-142 Lea County, New Mexico NMOCD AP-96

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-Methyinaphthalene (mg/L)
												tory Standards		I						Ī
		0.001	0.001	0.001	0.001	0.0002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.03	0.001	0.001	0.03	0.03
MW-8	12/2/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-8	12/18/09	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-9	12/2/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-9	9/29/09	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-10	11/2/09	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-10	12/15/11	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	NA	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102
MW-10	11/27/12	<0.00017	<0.00038	<0.00035	<0.00025	<0.00020	<0.00039	<0.00052	<0.00029	<0.00024	<0.00020	NA	<0.00026	<0.00031	<0.00034	<0.00032	<0.00033	<0.00050	<0.00028	<0.00029
MW-11	11/16/18	<0.0000140	<0.000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.000136	<0.000108	<0.0000396	<0.00000105	<0.0000157	<0.0000850	<0.000148	0.0000424 B J	<0.00000820	<0.0000117	<0.00000821	<0.00000902
MW-11	10/18/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.000136	<0.000108	<0.0000396	0.00000473 B J	<0.0000157	<0.0000850	<0.0000148	0.0000237 J	<0.0000820	<0.0000117	<0.00000821	<0.00000902
MW-12	11/16/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.000136	<0.000108	<0.0000396	0.00000984 B J	<0.0000157	0.0000128 J	<0.0000148	0.000249 B J	0.00000954 J	<0.0000117	0.0000983 J	0.0000355
MW-12		<0.000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.000136	<0.000108	<0.0000396	0.0000477 B J	<0.0000157	0.0000104 J	<0.000148	0.000684	0.0000162 J	<0.000117	0.000898	0.000278
MW-12 (Du _l 2)		<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.0000399 B J	<0.0000157	<0.00000850	<0.0000148	0.000494	0.00000998 J	<0.0000117	0.000740	0.000199 J

Notes:

- Shaded cells indicate New Mexico Oil Conservation Division Regulatory Limit exceedance.
 Bold indicates detection.

- Bold indicates detection.
 PAH analyses by EPA Method 8270C.
 2008 through 2012 results collected by Basin Environmental Service Technologies, LLC.
 NMWQCC Human Health Standard for naphthalenes + monmethylnaphthalenes is 0.03 mg/l, as shown in NMAC 20.6.2.3103(A.)(1)(jj).

Appendices

Appendix A Release Notification and Corrective Action NMOCD Form C-141

District I 1 No de i Predch DO Gallus ANS 1282 Ab 2:34:16 PM

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 Formse-44 pf 217 Revised October 10, 2003

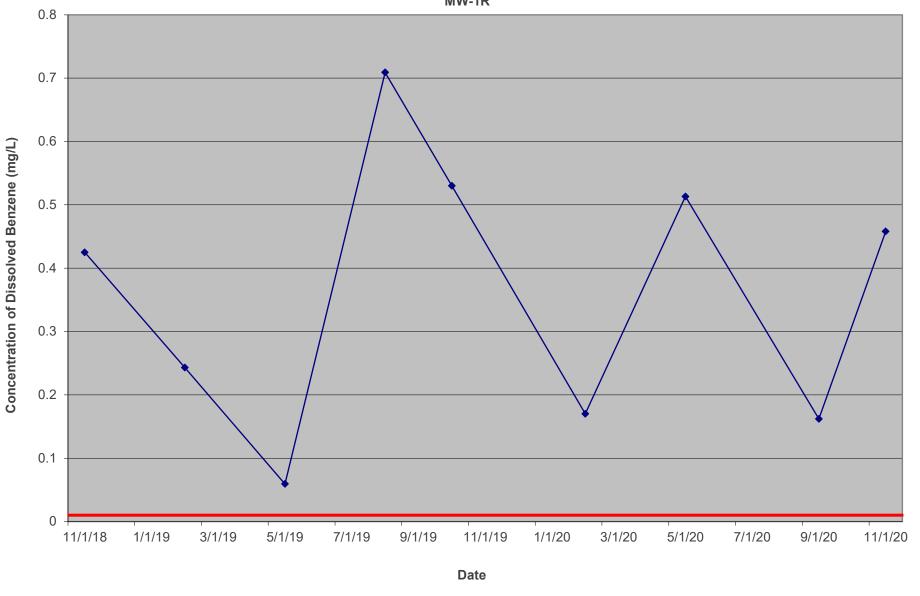
Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

						OPER!	TOR		x Initia	al Report		Final Rep	ort
		ains Pipeline			C	Contact Car	nille Reynolds			a. report		T mai reop	011
		Hwy 82, Lo		NM 88260	Т	elephone N	No. 505-441-090	65					-
Facility Nat	ne Loving	ton Gatherin	ig WTI		F	acility Typ	e 6"Steel Pipeli	ine					
Surface Ow	ner Rober	t Rice		Mineral Own	ner				Lease N	lo.			
				LOCAT	ION	OF REI	LEASE						
Unit Letter	Section	Township	Range			outh Line	Feet from the	East/W	est Line	County			_
Н	6	178	37E							Lea			
		Latitud	e_32° 51	' 56.0"		Longitude	103° 17' 07.2	"					
_				NATU	RE (OF RELI	EASE						
Type of Rele	ase Crude (Dil				Volume of	Release 12 barre	ls	Volume R	Recovered 8	barrels		-
Source of Re	lease 6" Ste	el Pipeline				Date and H	our of Occurrence	e	Date and	Hour of Dis	scovery		
Was Immedia	ate Notice (iven?				4-21-2006 If YES, To			4-21-2006	6@13:15			
		\boxtimes	Yes 🗌	No Not Requ	ired	Pat Caperto				13	2232	425262	
By Whom? C						Date and H	our 4-21-2006 (a	2) 15:35		102		- 5	2
Was a Water	course Read	ched?	Yes 🛛	No		If YES, Vo	lume Impacting t	he Water	course.	878	20	- \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	820
If a Watercou	rse was Im	pacted Descr	he Fully *							11	6		
		, Desca	oc runy.							31617 18 78	65	ve-	
The sweet cru	de has an F	I ₂ S content of	<10 ppm.	Taken Internal corr line. The pressure of The line was appro	oximate	ely 1.5 feet b	gs at the release p	i and the point.	gravity of	the sweet o	crude oil	was 34.	
Describe Area approximately	Affected at 1,500 ft ² .	and Cleanup A	ction Take	en.* The impacted so	oil was	excavated a	and stockpiled on	plastic.	Aerial ext	ent of surfa	ce impa	ct was	+
2x -													
public health of should their or	cnowledge and ur d perform correct rked as "Final Re n that pose a thre the operator of re	ive action port" doc	ns for releases not relie	ases which	may end	danger	-						
Signature	am	elet	94	nolds			OIL CONS	SERVA	TION I	DIVISIO	N		+
Printed Name:	Camille Re	ynolds	1 0		Ap	proved by D	District Supervisor	r:					
Title: Remedia	tion Coord	inator			Ap	proval Date		Ev	niration D	ate:	-		+
E-mail Address	s: cjreynold	ls@paalp.com	l.					Expiration Date:					+
Date: 4/26/200	6			Phone:505-441-	Conditions of Approval: Attached								

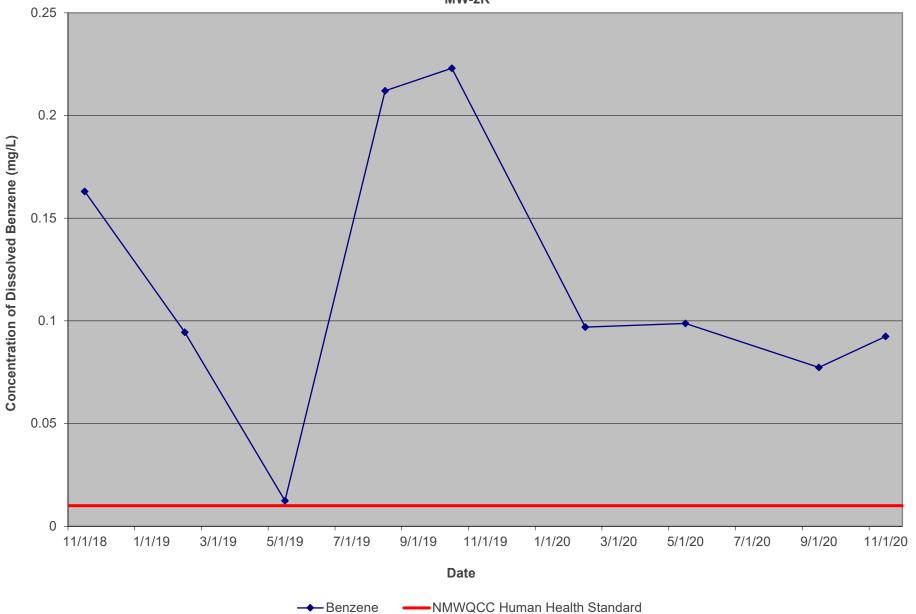
Appendix B Charts of Concentrations of Dissolved Benzene in Monitor Wells vs. Time

LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-1R

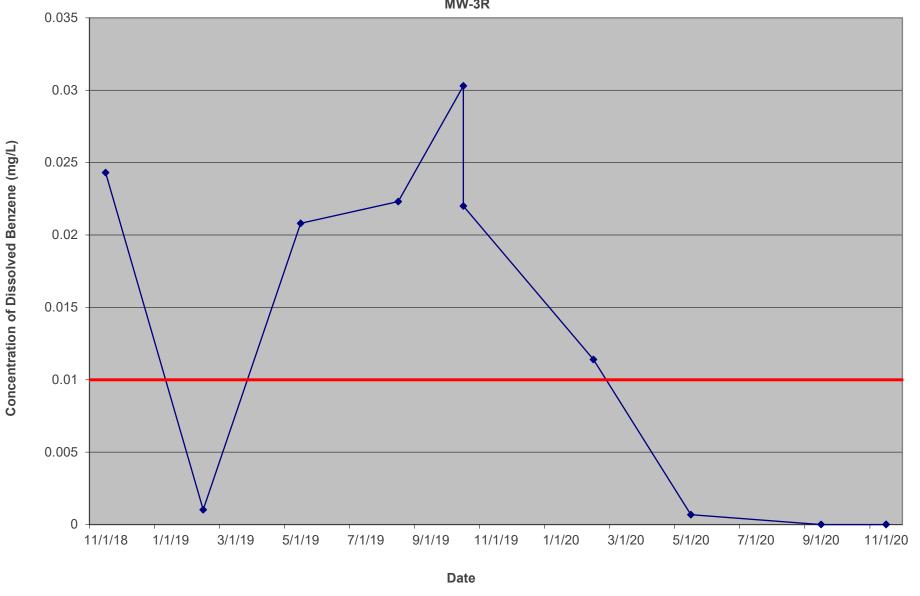


→ Benzene

LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-2R



LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-3R

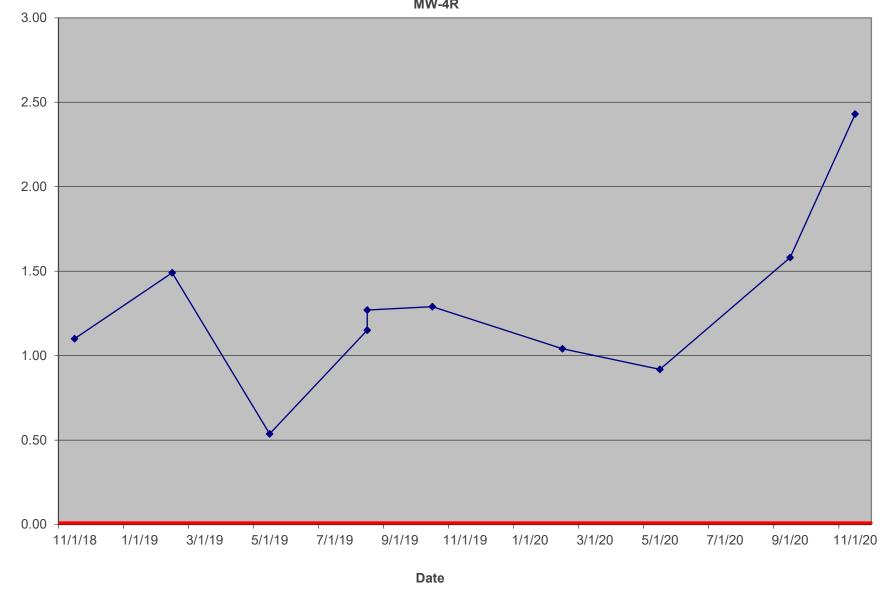


→ Benzene

Concentration of Dissolved Benzene (mg/L)

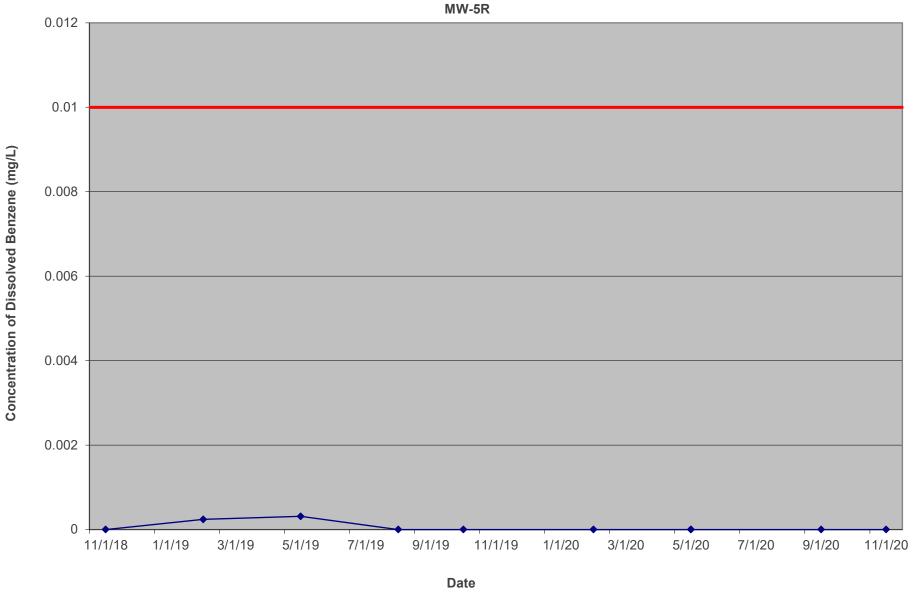
Received by OCD: 4/5/2021 2:34:16 PM

LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-4R



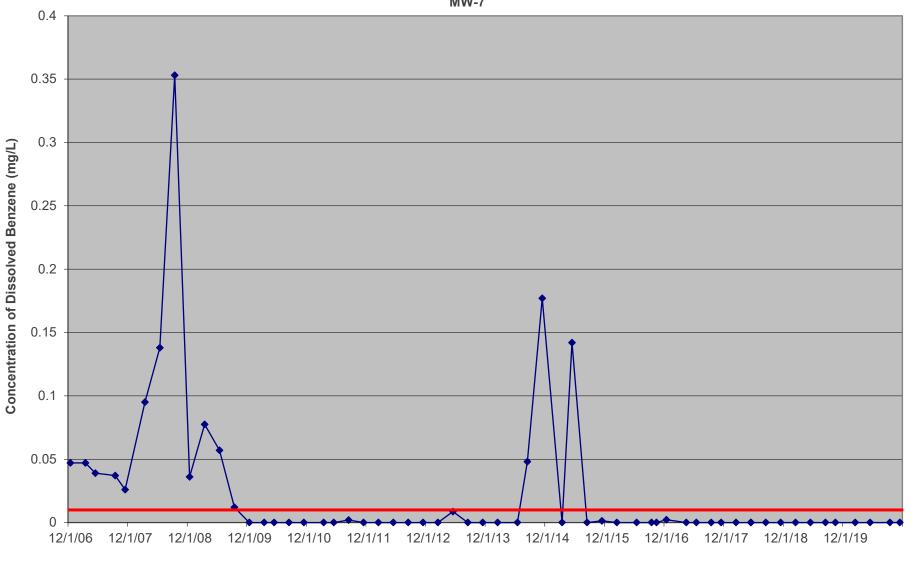
-Benzene

LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-5R



→ Benzene

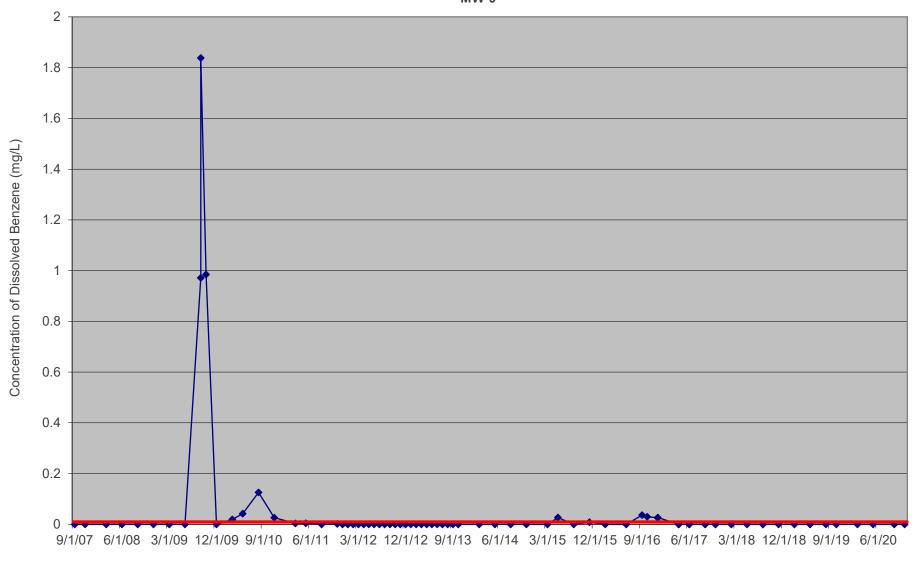
LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-7



Date

→ Benzene —NMWQCC Human Health Standard

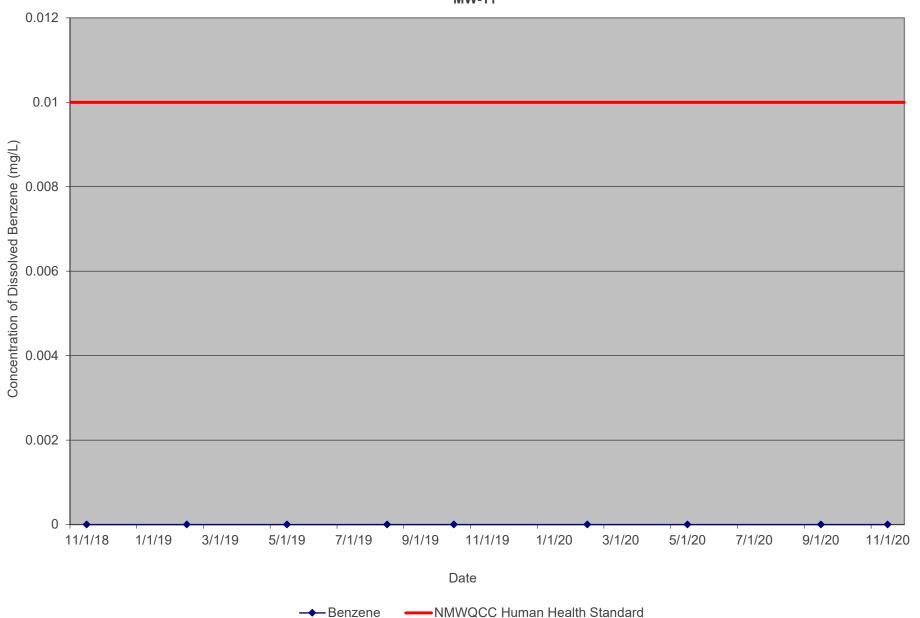
LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-9



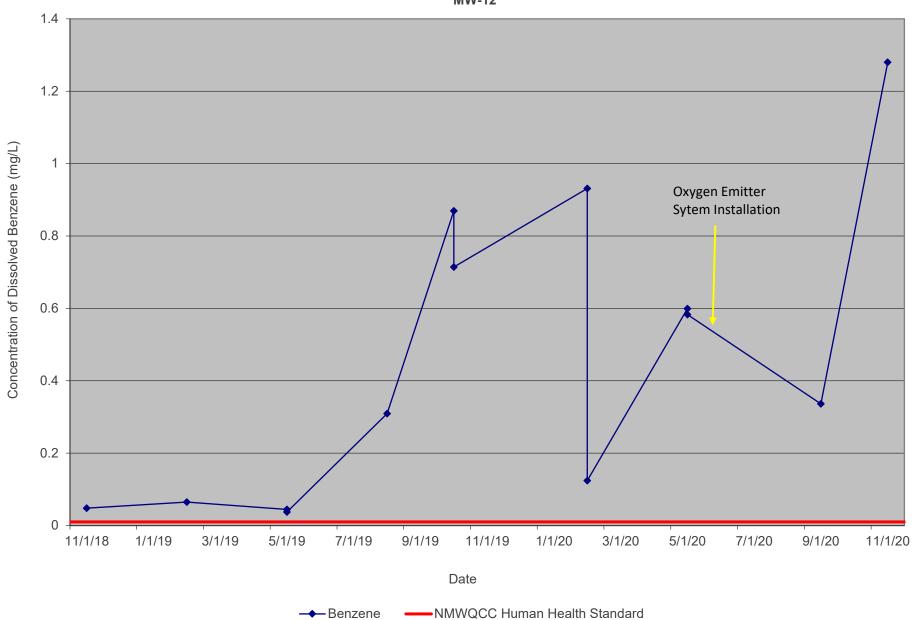
Date

→ Benzene → NMWQCC Human Health Standard

LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-11



LOVINGTON GATHERING WTI, SRS 2006-142 LEA COUNTY, NEW MEXICO NMOCD AP-96 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-12



Appendix C Certified Laboratory Reports



ANALYTICAL REPORT

March 04, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1192125

Samples Received: 02/22/2020

Project Number: 11135013

Description: Plains-Lovington Gathering WTI

Site: SRS #2006-142

Report To: Christopher Knight

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.





















Sc: Sample Chain of Custody

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Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Tr: TRRP Summary	6
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TRRP form S	8
TRRP Exception Reports	9
Sr: Sample Results	10
MW-2R L1192125-01	10
MW-3R L1192125-02	11
MW-4R L1192125-03	12
MW-1R L1192125-04	13
MW-7 L1192125-05	14
MW-9 L1192125-06	15
MW-5R L1192125-07	16
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MW-2R L1192125-01 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 13:30	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	1	02/22/20 17:52	02/22/20 17:52	BMB	Mt. Juliet, TN
MW-3R L1192125-02 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 13:45	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	1	02/22/20 18:12	02/22/20 18:12	BMB	Mt. Juliet, TN
MW-4R L1192125-03 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 14:15	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	10	02/22/20 18:33	02/22/20 18:33	BMB	Mt. Juliet, TN
MW-1R L1192125-04 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 14:00	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	5	02/22/20 18:53	02/22/20 18:53	BMB	Mt. Juliet, TN
MW-7 L1192125-05 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 12:15	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	1	02/22/20 19:14	02/22/20 19:14	BMB	Mt. Juliet, TN
MW-9 L1192125-06 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 12:45	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	1	02/22/20 19:34	02/22/20 19:34	BMB	Mt. Juliet, TN
MW-5R L1192125-07 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 12:00	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	1	02/22/20 19:55	02/22/20 19:55	ВМВ	Mt. Juliet, TN
MW-11 L1192125-08 GW			Collected by Matthew Laughlin	Collected date/time 02/21/20 13:00	Received da 02/22/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	1	02/22/20 20:15	02/22/20 20:15	ВМВ	Mt. Juliet, TN























SAMPLE SUMMARY



MW-12 L1192125-09 GW			Matthew Laughlin	02/21/20 13:15	02/22/20 08:	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	5	02/22/20 20:36	02/22/20 20:36	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received dat	e/time
DUP-1 L1192125-10 GW			Matthew Laughlin	02/21/20 00:00	02/22/20 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1432528	1	02/22/20 20:56	02/22/20 20:56	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B	WG1436831	10	03/02/20 15:49	03/02/20 15:49	BMB	Mt. Juliet, TN





















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

¹Cp



















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



Lab	orato	ry Name: Pace Analytical National	LRC Date: 03/04/2020 08:26								
Proj	ject N	lame: Plains-Lovington Gathering WTI	Laboratory Job Number: L1192125-01, 02, 03, 04, 05,	06, 07	, 08, 0	9 and 1	10				
		Name: Mark W. Beasley	Prep Batch Number(s): WG1432528 and WG1436831								
# ¹	A ²	Description		Yes	No	NA ³	NR⁴	ER# ⁵			
R1	OI	Chain-of-custody (C-O-C)		1	1		1				
		Did samples meet the laboratory's standard conditions	• • • • • • • • • • • • • • • • • • • •	Х							
		Were all departures from standard conditions describe	d in an exception report?			Х	<u> </u>				
R2	OI	Sample and quality control (QC) identification		,							
		Are all field sample ID numbers cross-referenced to the		Х			ļ				
		Are all laboratory ID numbers cross-referenced to the o	orresponding QC data?	Х			<u> </u>				
R3	OI	Test reports					1				
		Were all samples prepared and analyzed within holding		X			ļ				
		Other than those results < MQL, were all other raw value	es bracketed by calibration standards?	Х			<u> </u>				
		Were calculations checked by a peer or supervisor?		Х		ļ					
		Were all analyte identifications checked by a peer or su		Х							
		Were sample detection limits reported for all analytes r		Х							
		Were all results for soil and sediment samples reported		Х			ļ				
		Were % moisture (or solids) reported for all soil and sec				Х					
		Were bulk soils/solids samples for volatile analysis extr	acted with methanol per SW846 Method 5035?			X					
		If required for the project, are TICs reported?				Х					
R4	0	Surrogate recovery data									
		Were surrogates added prior to extraction?		Х							
		Were surrogate percent recoveries in all samples within	n the laboratory QC limits?	Х							
R5	OI	Test reports/summary forms for blank samples									
		Were appropriate type(s) of blanks analyzed?		Х							
		Were blanks analyzed at the appropriate frequency?		Х							
		Were method blanks taken through the entire analytical cleanup procedures?	l process, including preparation and, if applicable,	Х							
		Were blank concentrations < MQL?		Х							
R6	OI	Laboratory control samples (LCS):									
		Were all COCs included in the LCS?		Χ							
		Was each LCS taken through the entire analytical proce	edure, including prep and cleanup steps?	Χ							
		Were LCSs analyzed at the required frequency?		Х							
		Were LCS (and LCSD, if applicable) %Rs within the labo	ratory QC limits?	Х							
		Does the detectability check sample data document th used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х							
		Was the LCSD RPD within QC limits?		Х							
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	3								
		Were the project/method specified analytes included in	the MS and MSD?			X					
		Were MS/MSD analyzed at the appropriate frequency?				Χ					
		Were MS (and MSD, if applicable) %Rs within the labora	atory QC limits?			Х					
		Were MS/MSD RPDs within laboratory QC limits?				X					
R8	О	Analytical duplicate data									
		Were appropriate analytical duplicates analyzed for each	ch matrix?			Х					
		Were analytical duplicates analyzed at the appropriate	frequency?			Х					
		Were RPDs or relative standard deviations within the la	boratory QC limits?			Χ					
R9	OI	Method quantitation limits (MQLs):									
		Are the MQLs for each method analyte included in the	laboratory data package?	Х							
		Do the MQLs correspond to the concentration of the lo	west non-zero calibration standard?	Х							
		Are unadjusted MQLs and DCSs included in the labora	tory data package?	Х							
R10	OI	Other problems/anomalies									
		Are all known problems/anomalies/special conditions r	oted in this LRC and ER?	Х							
		Was applicable and available technology used to lower the sample results?		Х							
		Is the laboratory NELAC-accredited under the Texas La and methods associated with this laboratory data pack	boratory Accreditation Program for the analytes, matrices age?	Х							
						•	-	_			

^{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



Lab	orato	ory Name: Pace Analytical National	LRC Date: 03/04/2020 08:26								
Proj	ject N	Name: Plains-Lovington Gathering WTI	Laboratory Job Number: L1192125-01, 02, 03, 04, 0	05, 06, 07	7, 08, 0	09 and	10				
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1432528 and WG143683	31							
# ¹	A ²	Description		Yes	No	NA ³	NR⁴	ER# ⁵			
S1	OI	Initial calibration (ICAL)									
		Were response factors and/or relative response factors	s for each analyte within QC limits?			Х					
		Were percent RSDs or correlation coefficient criteria m	net?	Х							
		Was the number of standards recommended in the me	ethod used for all analytes?	Х							
		Were all points generated between the lowest and hig	hest standard used to calculate the curve?	Х				1			
		Are ICAL data available for all instruments used?		Х							
		Has the initial calibration curve been verified using an	appropriate second source standard?	Х							
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration blank (CCB):								
		Was the CCV analyzed at the method-required frequer	ncy?	Х							
		Were percent differences for each analyte within the m	nethod-required QC limits?	Х							
		Was the ICAL curve verified for each analyte?		Х							
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?			Х					
S3	0	Mass spectral tuning	-								
		Was the appropriate compound for the method used for			Х						
		Were ion abundance data within the method-required			Х						
S4	0	Internal standards (IS)									
		Were IS area counts and retention times within the me	thod-required QC limits?	Х				T			
S5	OI	Raw data (NELAC Section 5.5.10)									
		Were the raw data (for example, chromatograms, spec	tral data) reviewed by an analyst?	X				T			
		Were data associated with manual integrations flagged		Х							
S6	0	Dual column confirmation									
		Did dual column confirmation results meet the method	-required QC?	T		X		T			
S7	0	Tentatively identified compounds (TICs)		<u> </u>			•				
		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?			X		T			
S8	1	Interference Check Sample (ICS) results	, , , , , , , , , , , , , , , , , , ,								
		Were percent recoveries within method QC limits?				X		T			
S9	1	Serial dilutions, post digestion spikes, and method of s	tandard additions								
		Were percent differences, recoveries, and the linearity				X		T			
S10	OI	Method detection limit (MDL) studies	·			•					
		Was a MDL study performed for each reported analyte	?	X				T			
		Is the MDL either adjusted or supported by the analysis	s of DCSs?	X		1		1			
S11	OI	Proficiency test reports				•					
		Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	X				T			
S12	OI	Standards documentation	, , , , , , , , , , , , , , , , , , , ,								
		Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X				T			
S13	OI	Compound/analyte identification procedures									
		Are the procedures for compound/analyte identificatio		T		T					
S14	OI										
		Was DOC conducted consistent with NELAC Chapter 5	5?	T x	I		1	T			
		Is documentation of the analyst's competency up-to-da		X	1			\top			
S15	Ol Verification/validation documentation for methods (NELAC Chapter 5)										
	Are all the methods used to generate the data documented, verified, and validated, where applicable?							Т			
S16	OI	Laboratory standard operating procedures (SOPs)	and the second s								
	1	Are laboratory SOPs current and on file for each metho	od performed	X			T	T			
					1						

^{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).

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ED #1 Description						
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1432528 and WG1436831					
Project Name: Plains-Lovington Gathering WTI	Laboratory Job Number: L1192125-01, 02, 03, 04, 05, 06, 07, 08, 09 and 10					
Laboratory Name: Pace Analytical National	LRC Date: 03/04/2020 08:26					

| Description ER#

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);
- NA = Not applicable;
 NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Collected date/time: 02/21/20 13:30

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0969		0.000190	0.000500	0.000500	1	02/22/2020 17:52	WG1432528
Toluene	U		0.000412	0.00100	0.00100	1	02/22/2020 17:52	WG1432528
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/22/2020 17:52	WG1432528
Total Xylene	0.000801	<u>J</u>	0.000510	0.00150	0.00150	1	02/22/2020 17:52	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		02/22/2020 17:52	WG1432528





















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Collected date/time: 02/21/20 13:45

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0114		0.000190	0.000500	0.000500	1	02/22/2020 18:12	WG1432528
Toluene	U		0.000412	0.00100	0.00100	1	02/22/2020 18:12	WG1432528
Ethylbenzene	0.000698		0.000160	0.000500	0.000500	1	02/22/2020 18:12	WG1432528
Total Xylene	0.000937	J	0.000510	0.00150	0.00150	1	02/22/2020 18:12	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	122				79.0-125		02/22/2020 18:12	WG1432528





















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Collected date/time: 02/21/20 14:15

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	1.04		0.00190	0.000500	0.00500	10	02/22/2020 18:33	WG1432528
Toluene	U		0.00412	0.00100	0.0100	10	02/22/2020 18:33	WG1432528
Ethylbenzene	U		0.00160	0.000500	0.00500	10	02/22/2020 18:33	WG1432528
Total Xylene	0.0119	J	0.00510	0.00150	0.0150	10	02/22/2020 18:33	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		02/22/2020 18:33	WG1432528





















Collected date/time: 02/21/20 14:00

L1192125

Volatile Organic Compounds (GC) by Method 8021B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.170		0.000950	0.000500	0.00250	5	02/22/2020 18:53	WG1432528
Toluene	U		0.00206	0.00100	0.00500	5	02/22/2020 18:53	WG1432528
Ethylbenzene	U		0.000800	0.000500	0.00250	5	02/22/2020 18:53	WG1432528
Total Xylene	U		0.00255	0.00150	0.00750	5	02/22/2020 18:53	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	110				79.0-125		02/22/2020 18:53	WG1432528



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Collected date/time: 02/21/20 12:15

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	02/22/2020 19:14	WG1432528
Toluene	U		0.000412	0.00100	0.00100	1	02/22/2020 19:14	WG1432528
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/22/2020 19:14	WG1432528
Total Xylene	U		0.000510	0.00150	0.00150	1	02/22/2020 19:14	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	123				79.0-125		02/22/2020 19:14	WG1432528





















Volatile Organic Compounds (GC) by Method 8021B

SAMPLE RESULTS - 06

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Collected date/time: 02/21/20 12:45

.45 L1

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	02/22/2020 19:34	WG1432528
Toluene	U		0.000412	0.00100	0.00100	1	02/22/2020 19:34	WG1432528
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/22/2020 19:34	WG1432528
Total Xylene	U		0.000510	0.00150	0.00150	1	02/22/2020 19:34	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	124				79.0-125		02/22/2020 19:34	WG1432528





















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Collected date/time: 02/21/20 12:00

L1192125

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	02/22/2020 19:55	WG1432528
Toluene	U		0.000412	0.00100	0.00100	1	02/22/2020 19:55	WG1432528
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/22/2020 19:55	WG1432528
Total Xylene	U		0.000510	0.00150	0.00150	1	02/22/2020 19:55	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	124				79.0-125		02/22/2020 19:55	WG1432528





















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Collected date/time: 02/21/20 13:00

L1192125

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	02/22/2020 20:15	WG1432528
Toluene	U		0.000412	0.00100	0.00100	1	02/22/2020 20:15	WG1432528
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/22/2020 20:15	WG1432528
Total Xylene	U		0.000510	0.00150	0.00150	1	02/22/2020 20:15	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	124				79.0-125		02/22/2020 20:15	WG1432528





















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Collected date/time: 02/21/20 13:15

L1192125

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.931		0.000950	0.000500	0.00250	5	02/22/2020 20:36	WG1432528
Toluene	U		0.00206	0.00100	0.00500	5	02/22/2020 20:36	WG1432528
Ethylbenzene	U		0.000800	0.000500	0.00250	5	02/22/2020 20:36	WG1432528
Total Xylene	0.00269	<u>J</u>	0.00255	0.00150	0.00750	5	02/22/2020 20:36	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	115				79.0-125		02/22/2020 20:36	WG1432528





















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Collected date/time: 02/21/20 00:00

L1192125

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.124		0.00190	0.000500	0.00500	10	03/02/2020 15:49	WG1436831
Toluene	U		0.000412	0.00100	0.00100	1	02/22/2020 20:56	WG1432528
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/22/2020 20:56	WG1432528
Total Xylene	0.000625	Ţ	0.000510	0.00150	0.00150	1	02/22/2020 20:56	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	109				79.0-125		02/22/2020 20:56	WG1432528
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		03/02/2020 15:49	WG1436831





















Reserved by 25D \$\sigma 5/2021 2:34:16 PM

QUALITY CONTROL SUMMARY

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Volatile Organic Compounds (GC) by Method 8021B

L1192125-01,02,03,04,05,06,07,08,09,10

Method Blank (MB)

(MB) R3504223-2 02/22	2/20 16:10			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	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)	123			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3504223-1 02/22	2/20 14:35				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0494	98.8	77.0-122	
Toluene	0.0500	0.0476	95.2	80.0-121	
Ethylbenzene	0.0500	0.0492	98.4	80.0-123	
Total Xylene	0.150	0.137	91.3	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			113	79.0-125	



















QUALITY CONTROL SUMMARY

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L1192125-10

Volatile Organic Compounds (GC) by Method 8021B

Method Blank (MB)

(MB) R3504661-3 03/02/20 10:26								
	MB Result	MB Qualifier	MB MDL	MB RDL				
Analyte	mg/l		mg/l	mg/l				
Benzene	U		0.000190	0.000500				
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125				

²Tc

³Ss

4 Cn

Laboratory Control Sample (LCS)

(LCS) R3504661-1 03/02/20 09:03									
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier				
Analyte	mg/l	mg/l	%	%					
Benzene	0.0500	0.0480	96.0	77.0-122					
(S) a,a,a-Trifluorotoluene(PID)			101	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

Appreviations and	a Deminions
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

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

























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T104704245-18-15
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

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

Our Locations

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





















Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703		Accounts Payable 505 N. Big Spring, Ste. 600 Midland, TX 79701						Analy	sis / Con	tainer / Pres	servative				Chain of Custod	y Page of Analytical ** Denter for Teeting & Innoval			
Report to: Christopher Knight			Email To: Christopher.Knight@ghd.com;becky.haskell@										, a M			12065 Lebanon Rd Mount Juliet, TN 3	7122		
Project Description: Plains-Lovington G	athering WT	City/State Collected:		aton, NI	Please Circ											Phone: 615-758-56 Phone: 800-767-56 Fax: 615-758-5859	359		
Phone: 432-686-0086 Fax:	Client Project 11135013		-0010	Lab Project #	D-11135013											SDG#	SDG# 4192/25 A167		
Collected by (print): Mattlew Langle 11	Site/Facility ID			P.O.#			5									Acctnum: PLA	INSGHD		
Collected by (signature):		ab MUST Be		Quote#		9	р-нс						- 1			Template:T13			
Immediately Packed on Ice NY	Same Day Two Day Three Day	10 Da			esults Needed	No.	40mlAmb-HCI								- 1	Prelogin: P75 PM: 134 - Mar PB:			
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	втех.						53	HISTORY.	18 m	Shipped Via: Remarks	Sample # (lab only		
MW-2R	Grah	GW	-	2/21	11330	12	15										1 .01		
MW-3R	Grab	GW	14.79	3/21	1345	3	3	100	V.							G. Salakaria	- 0		
MW-4R	1/2 cab	GW	-	2/21	1415	3	3			100						21 - 620 - 31 /	- 9		
MW-1R	Grab	GW	_	3/21	1400	3	3									Trade Austr	- 0		
MW-7	Grah	GW	_	2/21	1215	3	3						0-9		7 89		1		
MW-9	Grab	GW	- 828	2/21	1245	3	3							2010			1 1 1 1 1		
MW-5R	Gras	GW	-	2/21	1200	3	3			- 1				WH.	C LA PR	7 605			
MW-11	Grab	GW	~	2/21	1300	3	3	10.00					SP II						
MW-12	Grab	GW	U	2/21	13/5	3	3			10/12					44	5 /	-6		
Dun-1	brub	GW	V	2/21		3	3			-			17.5	100		1 W//W/			
Matrix: S - Soil AIR - Air F - Filter W - Groundwater B - Bioassay W - WasteWater	Remarks:		14.75							oH	Temp	e alled	E	oc si	eal Prigned/ es arr	ole Receipt Coresent/Intact/Accurate: rive intact; ttles used:	hecklist		
OT - Other	Samples return UPS X Fee	ned via: dEx Cour	ier		Tracking# 30	900	56	471	+ 20	51						volume sent: If Applical adspace:			
Relinquished by : (Signature)	- A	Date:		DECEMBER OF DESIGNATION OF THE PERSON OF THE	Received by: (Signa	-2		73	A Committee of the last	STEPHENINE.		CL/MeoH		reser	cvatio	on Correct/Cl <0.5 mR/hr:	necked:		
Relinquished by : (Signature)		Date:	1		Received by: (Signat	ture)			Temp	135		2 9	1:	prese	ervation	n required by Lo	ogin: Date/Time		
Relinquished by : (Signature) Date:		Date:	- 1	Time:	Received for lab by:	(Signat	ure)	T.	Date:	Date: Time: Hold				old:	d: Con				



ANALYTICAL REPORT

[']Cp

²Tc

³Ss

⁴Cn

⁵Tr

⁶Sr

⁷Qc

°GI

AI

¹⁰Sc

Plains All American, LP - GHD

Sample Delivery Group: L1203853

Samples Received: 03/28/2020

Project Number: 11209905

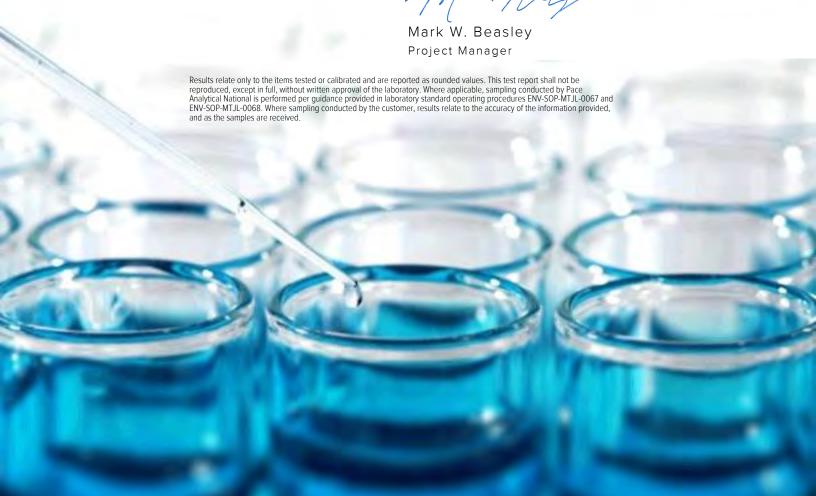
Description: Lovington Gathering WTI

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Tr: TRRP Summary	5
TRRP form R	6
TRRP form S	7
TRRP Exception Reports	8
Sr: Sample Results	9
CENTER PIVOT L1203853-01	9
MIDDLE PIVOT L1203853-02	10
END PIVOT L1203853-03	11
Qc: Quality Control Summary	12
Volatile Organic Compounds (GC) by Method 8021B	12
GI: Glossary of Terms	13
Al: Accreditations & Locations	14
Sc: Sample Chain of Custody	15





















SAMPLE SUMMARY



		Collected by	Collected date/time	Received da	te/time
		Matthew Laughlin	03/26/20 13:00	03/28/20 08	:00
Batch	Dilution	Preparation	Analysis	Analyst	Location
		date/time	date/time		
WG1453220	1	03/31/20 12:28	03/31/20 12:28	BMB	Mt. Juliet, TN
		Collected by	Collected date/time	Received da	te/time
		Matthew Laughlin	03/26/20 13:15	03/28/20 08	:00
Batch	Dilution	Preparation	Analysis	Analyst	Location
		date/time	date/time		
WG1453220	1	03/31/20 12:50	03/31/20 12:50	BMB	Mt. Juliet, TN
		Collected by	Collected date/time	Received da	te/time
		Matthew Laughlin	03/26/20 13:30	03/28/20 08	:00
Batch	Dilution	Preparation	Analysis	Analyst	Location
		date/time	date/time		
	WG1453220 Batch WG1453220	WG1453220 1 Batch Dilution WG1453220 1	Batch Dilution Preparation date/time WG1453220 1 03/31/20 12:28 Collected by Matthew Laughlin Batch Dilution Preparation date/time WG1453220 1 03/31/20 12:50 Collected by Matthew Laughlin Batch Dilution Preparation	Batch Dilution Preparation date/time Analysis date/time WG1453220 1 03/31/20 12:28 03/31/20 12:28 Collected by Matthew Laughlin Collected date/time date/time date/time WG1453220 1 03/31/20 12:28 Batch Dilution Preparation Analysis date/time WG1453220 1 03/31/20 12:50 03/31/20 12:50 Collected by Matthew Laughlin Collected date/time O3/26/20 13:30 Batch Dilution Preparation Analysis	Batch Dilution Preparation date/time Analysis Analyst WG1453220 1 03/31/20 12:28 03/31/20 12:28 BMB Collected by Matthew Laughlin Collected date/time Received date/time Batch Dilution Preparation Analysis date/time Analyst date/time WG1453220 1 03/31/20 12:50 03/31/20 12:50 BMB Collected by MG1453220 1 03/31/20 12:50 03/31/20 12:50 BMB Collected by Matthew Laughlin Collected date/time O3/26/20 13:30 Received date/time O3/26/20 13:30 03/28/20 08 Batch Dilution Preparation Analysis Analyst





















Mark W. Beasley

Project Manager

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.

¹Cp



















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

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

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

Mark W. Beasley Project Manager



Laboratory Name: Pace Analytical National			LRC Date: 04/06/2020 10:32							
Proj	ect N	lame: Lovington Gathering WTI	Laboratory Job Number: L1203853-01, 02 and 03	<u> </u>						
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1453220	Yes No NA ³ NR ⁴						
# ¹	A ²	Description	Yes No NA ³ NF							
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 describe	d in an exception report?			Х				
R2	OI	Sample and quality control (QC) identification								
		Are all field sample ID numbers cross-referenced to the	e 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	g times?	X						
		Other than those results < MQL, were all other raw value	ues bracketed by calibration standards?	X						
		Were calculations checked by a peer or supervisor?		X						
		Were all analyte identifications checked by a peer or si	upervisor?	X						
		Were sample detection limits reported for all analytes r	not detected?	X						
		Were all results for soil and sediment samples reported	d on a dry weight basis?	X						
		Were % moisture (or solids) reported for all soil and sec	diment samples?			Х				
		Were bulk soils/solids samples for volatile analysis extr	racted with methanol per SW846 Method 5035?			Х				
		If required for the project, are TICs reported?			Х					
R4	0	Surrogate recovery data								
		Were surrogates added prior to extraction?		Х						
		Were surrogate percent recoveries in all samples withi	n 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?		Х						
		Were method blanks taken through the entire analytical cleanup procedures?	al process, including preparation and, if applicable,	Х						
		Were blank concentrations < MQL?	Х							
R6	OI	Laboratory control samples (LCS):								
		Were all COCs included in the LCS?		Х						
		Was each LCS taken through the entire analytical proc	edure, including prep and cleanup steps?	X						
		Were LCSs analyzed at the required frequency?		X						
		Were LCS (and LCSD, if applicable) %Rs within the laborated within the l	oratory QC limits?	Х						
		Does the detectability check sample data document th used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х						
		Was the LCSD RPD within QC limits?		X						
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	a							
		Were the project/method specified analytes included in	n the MS and MSD?			Х				
		Were MS/MSD analyzed at the appropriate frequency?				Х				
		Were MS (and MSD, if applicable) %Rs within the labora	atory QC limits?			Х				
		Were MS/MSD RPDs within laboratory QC limits?				Х				
R8	OI	Analytical duplicate data								
		Were appropriate analytical duplicates analyzed for ea	ch matrix?			Х				
		Were analytical duplicates analyzed at the appropriate	frequency?			Х				
		Were RPDs or relative standard deviations within the la	aboratory QC limits?			Х				
R9	OI	Method quantitation limits (MQLs):								
		Are the MQLs for each method analyte included in the	laboratory data package?	Х						
		Do the MQLs correspond to the concentration of the lo	west non-zero calibration standard?	Х						
L		Are unadjusted MQLs and DCSs included in the labora	tory data package?	Х						
R10	OI	Other problems/anomalies								
		Are all known problems/anomalies/special conditions r	noted in this LRC and ER?	Х						
		Was applicable and available technology used to lowe the sample results?	r the SDL to minimize the matrix interference effects on	Х						
		Is the laboratory NELAC-accredited under the Texas La and methods associated with this laboratory data pack	aboratory Accreditation Program for the analytes, matrices age?	Х						

^{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



Lab	orato	ory Name: Pace Analytical National	LRC Date: 04/06/2020 10:32					
Pro	ject N	Name: Lovington Gathering WTI	Laboratory Job Number: L1203853-01, 02 and 03					
Rev	viewe	er Name: Mark W. Beasley	Prep Batch Number(s): WG1453220					
# ¹	A ²	Description		Yes	No	NA ³	NR⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)		•		•	•	•
		Were response factors and/or relative response factors	s for each analyte within QC limits?			Х		
		Were percent RSDs or correlation coefficient criteria m	Х					
		Was the number of standards recommended in the me	ethod used for all analytes?	Х				
		Were all points generated between the lowest and hig	hest standard used to calculate the curve?	Х				
		Are ICAL data available for all instruments used?		Х				
		Has the initial calibration curve been verified using an	appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and						
		Was the CCV analyzed at the method-required frequer	ncy?	X			<u> </u>	
		Were percent differences for each analyte within the m	e percent differences for each analyte within the method-required QC limits?					
		Was the ICAL curve verified for each analyte?		X			<u> </u>	
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?			X		
S3	0	Mass spectral tuning				_		
		Was the appropriate compound for the method used for				X	<u> </u>	
		Were ion abundance data within the method-required	QC limits?			X	<u> </u>	
S4	0	Internal standards (IS)				1		
		Were IS area counts and retention times within the me	thod-required QC limits?	X			<u> </u>	
S5	OI	Raw data (NELAC Section 5.5.10)	1		1		1	
		Were the raw data (for example, chromatograms, spec		X		_	 	
		Were data associated with manual integrations flagged	d on the raw data?	X			<u> </u>	
S6	0	Dual column confirmation			1	1 1/	т —	ı
	Ι.	Did dual column confirmation results meet the method	-required QC?			X	<u> </u>	
S7	0	Tentatively identified compounds (TICs)			1	1	1	1
60	Τ.	If TICs were requested, were the mass spectra and TIC	data subject to appropriate checks?			X		
S8	l I	Interference Check Sample (ICS) results		- 1	Т	T v	Т	1
	1.	Were percent recoveries within method QC limits?	As a selected and distance			X	<u> </u>	
S9	I	Serial dilutions, post digestion spikes, and method of s			Т	TV	Т	ı
C10		Were percent differences, recoveries, and the linearity	within the QC limits specified in the method?			X	<u> </u>	
S10	OI	Method detection limit (MDL) studies Was a MDL study performed for each reported analyte	2	l x	Т	1	T	
		Is the MDL either adjusted or supported by the analysis		\ \ \ \ x	+	+	+-	1
S11	OI	Proficiency test reports	5 01 DC35:					
311	JOI	Was the laboratory's performance acceptable on the a	nnlicable proficiency tests or evaluation studies?	l x	T	1	Т	1
S12	Τοι	Standards documentation	pplicable proficiency tests of evaluation studies:					ı
312	JOI	Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X	Т	Т	T	I
S13	OI	Compound/analyte identification procedures	or obtained from other appropriate sources:					
313	JOI	Are the procedures for compound/analyte identification	n documented?	X	Т	Т	Т	1
S14	OI	Demonstration of analyst competency (DOC)	n documented.					ı
317	J	Was DOC conducted consistent with NELAC Chapter 5	5?	X	T	Т	T	I
		Is documentation of the analyst's competency up-to-da		X	+	+	+	1
S15	OI	Verification/validation documentation for methods (NEI						
313	101	Are all the methods used to generate the data docume	/	l x			T	T
S16	OI	Laboratory standard operating procedures (SOPs)	street, remied, and validated, where applicable:				1	
0.0		Are laboratory SOPs current and on file for each metho	od performed	Τx	T	T	T	

^{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. EP# = Exception Percept identification number (as Exception Report identification number (as Exception

^{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: 04/06/2020 10:32						
Project Name: Lovington Gathering WTI	Laboratory Job Number: L1203853-01, 02 and 03						
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1453220						
ED #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);
- NA = Not applicable;
 NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

ONE LAB. NAT Baga 85 of 27

Collected date/time: 03/26/20 13:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	03/31/2020 12:28	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 12:28	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 12:28	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 12:28	WG1453220
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		03/31/2020 12:28	WG1453220





















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Collected date/time: 03/26/20 13:15

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	03/31/2020 12:50	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 12:50	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 12:50	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 12:50	WG1453220
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		03/31/2020 12:50	WG1453220





















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Collected date/time: 03/26/20 13:30

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	03/31/2020 13:11	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 13:11	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 13:11	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 13:11	WG1453220
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		03/31/2020 13:11	WG1453220





















QUALITY CONTROL SUMMARY

ONE LAB. NATRAGE 88 of 27

Volatile Organic Compounds (GC) by Method 8021B

Method Blank (MB)

(MB) R3515575-3 03/31/20 11:07					
	MB Result	MB Qualifier	MB MDL	MB RDL	
Analyte	mg/l		mg/l	mg/l	
Benzene	U		0.000190	0.000500	
Toluene	U		0.000412	0.00100	
Ethylbenzene	U		0.000160	0.000500	
Total Xylene	U		0.000510	0.00150	
(S) a,a,a-Trifluorotoluene(PID)	101			79.0-125	

Laboratory Control Sample (LCS)

LCS) R3515575-1 03/31/20 09:26							
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier		
Analyte	mg/l	mg/l	%	%			
Benzene	0.0500	0.0449	89.8	77.0-122			
Toluene	0.0500	0.0474	94.8	80.0-121			
Ethylbenzene	0.0500	0.0503	101	80.0-123			
Total Xylene	0.150	0.143	95.3	47.0-154			
(S) a,a,a-Trifluorotoluene(PID)			101	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

	d 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 resul 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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana 1	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T104704245-18-15
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA
· ·	

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	
A2LA - ISO 17025 5	1461.02	
Canada	1461.01	
EPA-Crypto	TN00003	

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

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

Our Locations

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





















Received by OCD: 4/5/2021 2	;34:16 PM	16 PM Billing Information:						A	Chain of Custody Page 91 of 21					
2135 South Loo	p 250 V	V	Plain	s All Ame	sicon	Pres						0		
Midland, TX 7970	5 3		Pipeline Company 505 N. Big Spring, Ste. 60			Chk						Pace	Analytical*	
1 100000			Mc 11	10. Dig >p	11ng, 5te. 60	0						National Ce	enter for Testing & Innovation	
Report to: 6HD				and, TX -	79701							1		
Becky. Haskell @ g	ndicom		Email To: Becky	.Haskell (aghd.com							12065 Lebanon Rd Mount Juliet, TN 37 Phone: 615-758-585		
Becky. Haskell @ g Project Description: Lovington	Satheri	ng WT	T	City/State Collected:	Lovington, NI	4						Phone: 800-767-585 Fax: 615-758-5859		
Phone: 432-203-8673 Fax:	Client Project	1905		Lab Project #			_					D11	3853	
Collected by (print):	Site/Facility II	D#		P.O. #			318					Acctnum:	<u>'</u>	
Mathew Langhlia Collected by (signature):		Lab MUST Be		Quote #		-	80					Template:		
Immediately Packed on Ice N Y X	Same Do	y 10 Da	(Rad Only) y (Rad Only)		Results Needed	No.	区 区					Prelogin: TSR: PB:		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	3					Shipped Via:		
(1 0 0 1	1/	1/	1	1-1-1	10.00	+						Remarks	Sample # (lab only)	
Center Pivot Middle Pivot	Grab		_	3/26/=		3	X						-01	
Middle Pivot	Gras	6W	-	3/26/2	20 1315	3	X					5	-62	
End Pivot	Grab	6W	_	3/26/2	0 1330	3	X			F. F.			-03	
						100								
					-2.5	7		1						
									4 1					
Matrix: S - Soil AIR - Air F - Filter W - Groundwater B - Bioassay W - WasteWater					RAD SCREE	N: <0.	mR/hr		pH	Temp	Sample Receipt Checklist COC Seal Present/Intact: NP Y N COC Signed/Accurate: Bottles arrive intact: 7 N			
DW - Drinking Water DT - Other Samples returned via:UPSFedExCour		ier		Tracking #	1					Sufficie	bottles used: nt volume sent: If Applicab	le /		
Relinquished by : (Signature)	elinquished by : (Signature) Date: 32720			ime: 2:00	Received by: (Sign:	ture)	_	-	Trip Blank Re	ectived: Yes/No HCL/MeoH TBR		Headspace: tion Correct/Che	ecked: Y N	
Relinguished by : (Signature)		Date: 3-27	T	5-20	Received by: (Signa	ature)			Temp: 1.2	°C Bottles Received:	If preserva	ition required by Lo	gin: Date/Time	
Relinquished by : (Signature) Released to Imagine: 1/11/20	22 3:31:58	Date:		70	Received for lab by	: (Signat	ure		Date:	Time:	Hold:		Condition:	



ANALYTICAL REPORT

April 07, 2020

¹Cp



³Ss

⁴Cn

⁵Tr

⁶Sr

⁷Qc

°GI

AI

¹⁰Sc

Plains All American, LP - GHD

Sample Delivery Group: L1205325

Samples Received: 04/02/2020

Project Number: 11209905

Description: Lovington Gath. 2006-142

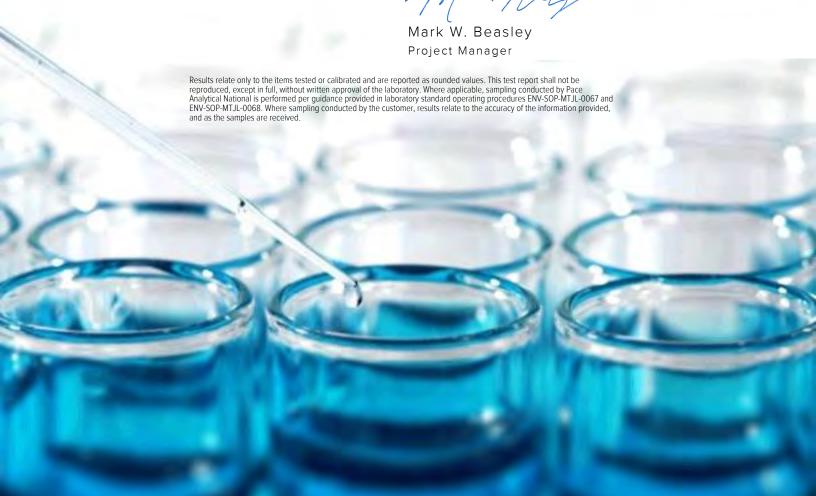
Site: SRS2006-142

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Tr: TRRP Summary	5
TRRP form R	6
TRRP form S	7
TRRP Exception Reports	8
Sr: Sample Results	9
GOFF DAIRY WELL L1205325-01	9
Qc: Quality Control Summary	10
Volatile Organic Compounds (GC) by Method 8021B	10
GI: Glossary of Terms	11
Al: Accreditations & Locations	12
Sc: Sample Chain of Custody	13





















SAMPLE SUMMARY



GOFF DAIRY WELL L1205325-01 GW			Collected by	Collected date/time 04/01/20 08:55	Received date/t 04/02/20 08:30	
Method Bate	tch Dil	lution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B WG	31455833	1	04/05/20 13:18	04/05/20 13:18	JAH	Mt. Juliet. TN





















Mark W. Beasley

Project Manager

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.

¹Cp



















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



Lab	orato	ry Name: Pace Analytical National	LRC Date: 04/07/2020 13:06							
Proj	ect N	lame: Lovington Gath. 2006-142	Laboratory Job Number: L1205325-01							
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1455833							
# 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 describe	d in an exception report?			Х				
R2	OI	Sample and quality control (QC) identification								
		Are all field sample ID numbers cross-referenced to the	e laboratory ID numbers?	X						
		Are all laboratory ID numbers cross-referenced to the o	corresponding QC data?	Х						
R3	OI	Test reports								
		Were all samples prepared and analyzed within holding	g times?	X						
		Other than those results < MQL, were all other raw value	es bracketed by calibration standards?	Х						
		Were calculations checked by a peer or supervisor?		X						
		Were all analyte identifications checked by a peer or su	upervisor?	X						
		Were sample detection limits reported for all analytes r	not detected?	Х						
		Were all results for soil and sediment samples reported	I on a dry weight basis?	X						
		Were % moisture (or solids) reported for all soil and sec	liment samples?			Х				
		Were bulk soils/solids samples for volatile analysis extr	acted with methanol per SW846 Method 5035?			Х				
		If required for the project, are TICs reported?				Х				
R4	0	Surrogate recovery data								
		Were surrogates added prior to extraction?		Х						
		Were surrogate percent recoveries in all samples within	n the laboratory QC limits?	Х						
R5	OI	Test reports/summary forms for blank samples								
		Were appropriate type(s) of blanks analyzed?		X						
		Were blanks analyzed at the appropriate frequency?		Х						
		Were method blanks taken through the entire analytical cleanup procedures?	ll process, including preparation and, if applicable,	Х						
		Were blank concentrations < MQL?		Х						
R6	OI	Laboratory control samples (LCS):								
		Were all COCs included in the LCS?		X						
		Was each LCS taken through the entire analytical process	edure, including prep and cleanup steps?	X						
		Were LCSs analyzed at the required frequency?		X						
		Were LCS (and LCSD, if applicable) %Rs within the labo		X	<u> </u>					
		Does the detectability check sample data document th used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х						
		Was the LCSD RPD within QC limits?		Х						
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	9							
		Were the project/method specified analytes included in		ļ		Х				
		Were MS/MSD analyzed at the appropriate frequency?				Х				
		Were MS (and MSD, if applicable) %Rs within the labora	atory QC limits?		ļ	Х				
		Were MS/MSD RPDs within laboratory QC limits?				X				
R8	OI	Analytical duplicate data								
		Were appropriate analytical duplicates analyzed for each		ļ		Х				
		Were analytical duplicates analyzed at the appropriate	ļ		Х					
		Were RPDs or relative standard deviations within the la			Х					
R9	OI	Method quantitation limits (MQLs):		_		1				
		Are the MQLs for each method analyte included in the		X						
		Do the MQLs correspond to the concentration of the lo		X	<u> </u>					
D46	T 0'	Are unadjusted MQLs and DCSs included in the labora	тогу аата раскаде?	X						
R10	OI	Other problems/anomalies	sated in this LDC and ED2	- V		1				
		Are all known problems/anomalies/special conditions r		X	1					
		Was applicable and available technology used to lower the sample results?		Х						
		Is the laboratory NELAC-accredited under the Texas La and methods associated with this laboratory data pack	×							

^{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



Lab	orato	ory Name: Pace Analytical National	LRC Date: 04/07/2020 13:06					
Proj	ject N	Name: Lovington Gath. 2006-142	Laboratory Job Number: L1205325-01					
Rev	viewe	er Name: Mark W. Beasley	Prep Batch Number(s): WG1455833					
# 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	s for each analyte within QC limits?			Х		
		Were percent RSDs or correlation coefficient criteria m	net?	Х				
		Was the number of standards recommended in the me	ethod used for all analytes?	Х				
		Were all points generated between the lowest and hig	hest standard used to calculate the curve?	Х				
		Are ICAL data available for all instruments used?		Х				
		Has the initial calibration curve been verified using an	appropriate second source standard?	Х				
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequen	ncy?	X				
		Were percent differences for each analyte within the m	nethod-required QC limits?	Х				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?			Х		
S3	0	Mass spectral tuning						
		Was the appropriate compound for the method used for	or tuning?			Х		
		Were ion abundance data within the method-required	QC limits?			X		
S4	0	Internal standards (IS)						
		Were IS area counts and retention times within the me	thod-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)						
		Were the raw data (for example, chromatograms, spec	tral data) reviewed by an analyst?	X			ļ	
		Were data associated with manual integrations flagged	d on the raw data?	X				
S6	0	Dual column confirmation						
		Did dual column confirmation results meet the method	-required QC?			X		
S7	0	Tentatively identified compounds (TICs)						
		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?			X	<u> </u>	
S8	I	Interference Check Sample (ICS) results					T	
		Were percent recoveries within method QC limits?				X		
S9		Serial dilutions, post digestion spikes, and method of s			1			1
		Were percent differences, recoveries, and the linearity	within the QC limits specified in the method?		<u> </u>	X	<u> </u>	
S10	OI	Method detection limit (MDL) studies		-				
		Was a MDL study performed for each reported analyte		X	-	<u> </u>	_	
		Is the MDL either adjusted or supported by the analysis	s of DCSs?	X				
S11	OI	Proficiency test reports		1			_	1
	1	Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	X			<u> </u>	
S12	OI	Standards documentation		T	1		T	
040	1	Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X			<u> </u>	
S13	OI	Compound/analyte identification procedures			1		1	
		Are the procedures for compound/analyte identification	n documented?	X				
S14	OI	Demonstration of analyst competency (DOC)		- 1				1
		Was DOC conducted consistent with NELAC Chapter 5		X	ļ	<u> </u>	╀	-
0/-		Is documentation of the analyst's competency up-to-da		X				
S15	OI	Verification/validation documentation for methods (NE	, ,	1 5	1			1
040	I c	Are all the methods used to generate the data docume	ented, 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; l = 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 Page 99 of 27 ONE LAB. NATIONWIDE.



ED #1 Description	
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1455833
Project Name: Lovington Gath. 2006-142	Laboratory Job Number: L1205325-01
Laboratory Name: Pace Analytical National	LRC Date: 04/07/2020 13:06

| Description ER#

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);
- NA = Not applicable;
 NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

ONE LAB. NAPagev190 of 217

Collected date/time: 04/01/20 08:55

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	04/05/2020 13:18	WG1455833
Toluene	U		0.000412	0.00100	0.00100	1	04/05/2020 13:18	WG1455833
Ethylbenzene	U		0.000160	0.000500	0.000500	1	04/05/2020 13:18	WG1455833
Total Xylene	0.000850	J	0.000510	0.00150	0.00150	1	04/05/2020 13:18	WG1455833
(S) a,a,a-Trifluorotoluene(PID)	105				79.0-125		04/05/2020 13:18	WG1455833





















QUALITY CONTROL SUMMARY

ONE LAB. NAPagev101 of 2)7

Volatile Organic Compounds (GC) by Method 8021B

L1205325-01

Method Blank (MB)

(MB) R3515856-3 04/05/	/20 11:14			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	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)	106			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3515856-1 04/05/20 09:09					
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0444	88.8	77.0-122	
Toluene	0.0500	0.0470	94.0	80.0-121	
Ethylbenzene	0.0500	0.0494	98.8	80.0-123	
Total Xylene	0.150	0.137	91.3	47.0-154	
(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

Abbreviations and	a Deminions
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

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

























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana 1	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T104704245-18-15
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

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

Our Locations

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



















eived by OCD: 4/5/2021 2:3	-	Billing Info	rmation:					Analysis / Cont	ainer / Preservat	ive		Chain of Custody Page 104 o				
GHD - Houston, TX 11451 Katy Freeway, Ste 400			Gina Blai 2055 Nia Niagara	Pres Chk							Pace / National Co	Analytical * Innovation & Innovation				
louston, TX 77079														(r		
Report to: Becky Haskell			Email To: Becky.Haskell@ghd.com;Glenn.Quinney@ghd.com;										12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859			
Project Description: Lovington Gal	6 2006 142	City/State Collected: L	Lovinst	on, NM	Please Circ	le: ET							Fax: 615-758-5859	10 32 G		
Phone: 432-250-7917 Fax:	Client Project # 11209905		Lab Project # CRAHTX~ 11 CO9905				7					SDG# /2(
Collected by (print):	Site/Facility ID SRS2006 ~	h? (Lab MUST Be Notified) me Day Five Day ext Day 5 Day (Rad Only) vo Day 10 Day (Rad Only)		P.O.#			HCI		200				Acctnum: CRA			
Collected by (signature): Immediately Packed on Ice N Y	Same Da			Lush? (Lab MUST Be Notified) Same Day Five Day Next Day 5 Day (Rad Only) Two Day 10 Day (Rad Only) Three Day			# ate Results Needed		sults Needed	No. of	-lAmb					
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTEX						Remarks	Sample # (lab only)		
Goff Dairy well	Grab	GW	N/A	4/1/20	855	3	X							-01		
		GW				X	X									
		GW				X	X									
		GW				1/2	X			0.20						
		GW				X	X									
		GW				A	X		Mall I							
							300									
													-			
									14.4.4							
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:							Flow Other Cc					Sample Receipt Checklist COC Seal Present/Intact: NP COC Signed/Accurate: Correct bottles used:			
DW - Drinking Water OT - Other	Samples returned via: Tracking #						VOA Zer				ent volume sent: If Applicable To Headspace: Pation Correct/Checked: _Y					
Relinquished by : (Signature) Date:		1/20	Time: Received by: (Signature)			nature)			HCL / MeoH			RAD Screen <0.5 mR/hr:				
Relinquished by : (Signature) Date:			Time:	Received by: (Signature)			Temp: A3°C Bottles Received: If pr				ation required by L					
Relinquished by : (Signature)		Date:	-	Time:	Received for lab b	y: (Sign	ature)	,	Date:	Time: 2 0 9	33t	Hold:		NCF / OX		



ANALYTICAL REPORT

June 02, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1221909

 Samples Received:
 05/23/2020

 Project Number:
 11209905/02

Description: Lovington Gathering WTI, SRS 2006-142

Site: SRS 2006-142

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley Project Manager





















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Sc: Sample Chain of Custody

28

SAMPLE SUMMARY



MW-5R L1221909-01 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 11:00	Received da 05/23/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1483724	1	05/29/20 16:35	05/29/20 16:35	JHH	Mt. Juliet, TN
MW-7 L1221909-02 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 11:30	Received da 05/23/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1483724	1	05/29/20 16:56	05/29/20 16:56	JHH	Mt. Juliet, TN
MW-9 L1221909-03 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 12:00	Received date/time 05/23/20 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1483724	1	05/29/20 17:16	05/29/20 17:16	JHH	Mt. Juliet, TN
MW-11 L1221909-04 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 12:30	Received date/time 05/23/20 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1483724	1	05/29/20 17:37	05/29/20 17:37	JHH	Mt. Juliet, TN
MW-3R L1221909-05 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 13:00	Received da 05/23/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1483724	1	05/29/20 17:58	05/29/20 17:58	JHH	Mt. Juliet, TN
MW-2R L1221909-06 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 13:30	Received da 05/23/20 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1483724	1	05/29/20 18:18	05/29/20 18:18	JHH	Mt. Juliet, TN
MW-12 L1221909-07 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 14:00	Received date/time 05/23/20 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B /olatile Organic Compounds (GC) by Method 8021B	WG1483724 WG1484993	1 10	05/29/20 18:39 05/31/20 19:29	05/29/20 18:39 05/31/20 19:29	JHH	Mt. Juliet, TN Mt. Juliet, TN
MW-1R L1221909-08 GW			Collected by Matthew Laughlin	Collected date/time 05/21/20 14:30	Received date/time 05/23/20 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B Volatile Organic Compounds (GC) by Method 8021B	WG1483724 WG1484993	1 10	05/29/20 19:00 05/31/20 20:22	05/29/20 19:00 05/31/20 20:22	JHH JHH	Mt. Juliet, TN Mt. Juliet, TN





















Volatile Organic Compounds (GC) by Method 8021B



				Collected date/time	Received date/time		
MW-4R L1221909-09 GW			Matthew Laughlin	05/21/20 15:00	05/23/20 08:45		
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (GC) by Method 8021B	WG1484651	1	05/30/20 15:49	05/30/20 15:49	BMB	Mt. Juliet, TN	
Volatile Organic Compounds (GC) by Method 8021B	WG1485346	10	06/01/20 15:58	06/01/20 15:58	BMB	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
DUP-1 L1221909-10 GW			Matthew Laughlin	05/21/20 00:00	05/23/20 08	:45	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (GC) by Method 8021B	WG1484651	1	05/30/20 16:09	05/30/20 16:09	BMB	Mt. Juliet, TN	
Volatile Organic Compounds (GC) by Method 8021B	WG1485346	1	06/01/20 16:20	06/01/20 16:20	BMB	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
DUP-2 L1221909-11 GW			Matthew Laughlin	05/21/20 00:00	05/23/20 08	:45	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (GC) by Method 8021B	WG1484651	1	05/30/20 16:30	05/30/20 16:30	BMB	Mt. Juliet, TN	
Volatile Organic Compounds (GC) by Method 8021B	WG1485346	10	06/01/20 16:42	06/01/20 16:42	BMB	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
TRIP BLANK L1221909-12 GW			Matthew Laughlin	05/21/20 00:00	05/23/20 08:45		
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			

WG1484651





















05/30/20 14:26

05/30/20 14:26

BMB

Mt. Juliet, TN

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























Sample Delivery Group (SDG) Narrative

VOC pH outside of method requirement.

Lab Sample ID L1221909-09

Mark W. Beasley

Project Manager

Project Sample ID MW-4R

Method 8021B

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



Labo	orato	ry Name: Pace Analytical National	RC Date: 06/02/2020 18:56					
	ect N 6-142	lame: Lovington Gathering WTI, SRS L	aboratory Job Number: L1221909-01, 02, 03, 04, 05	, 06, 0	7, 08, (09, 10, ⁻	11 and	12
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1483724, WG1484993, WG	148465	1 and	nd WG1485346		
# 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?	Х				
		Were all departures from standard conditions described in	n an exception report?			Х		
R2	OI	Sample and quality control (QC) identification		•	•		•	
	•	Are all field sample ID numbers cross-referenced to the la	aboratory ID numbers?	Х				
		Are all laboratory ID numbers cross-referenced to the cor	responding QC data?	Х				
R3	OI	Test reports		•			•	•
		Were all samples prepared and analyzed within holding ti	mes?	Х				
		Other than those results < MQL, were all other raw values	bracketed by calibration standards?		Х			1
		Were calculations checked by a peer or supervisor?		Х				
		Were all analyte identifications checked by a peer or supe	ervisor?	Х		Ī		
		Were sample detection limits reported for all analytes not	detected?	Х				
		Were all results for soil and sediment samples reported or	n a dry weight basis?	Х				
		Were % moisture (or solids) reported for all soil and sedim	nent samples?			Х		
		Were bulk soils/solids samples for volatile analysis extract	ted with methanol per SW846 Method 5035?			Х		
		If required for the project, are TICs reported?				Х		
R4	0	Surrogate recovery data						•
		Were surrogates added prior to extraction?		Х				
		Were surrogate percent recoveries in all samples within the	he laboratory QC limits?	Х				
R5	OI	Test reports/summary forms for blank samples	·					•
		Were appropriate type(s) of blanks analyzed?		Х				
		Were blanks analyzed at the appropriate frequency?		Х				
		Were method blanks taken through the entire analytical p cleanup procedures?	process, including preparation and, if applicable,	Х				
		Were blank concentrations < MQL?		Х				
R6	OI	Laboratory control samples (LCS):						•
		Were all COCs included in the LCS?		Х				
		Was each LCS taken through the entire analytical procedu	ure, including prep and cleanup steps?	Х				
		Were LCSs analyzed at the required frequency?		Х		Ī		
		Were LCS (and LCSD, if applicable) %Rs within the laborat	tory QC limits?	Х				
		Does the detectability check sample data document the laused to calculate the SDLs?	aboratory's capability to detect the COCs at the MDL	Х				
		Was the LCSD RPD within QC limits?		Х				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the	ne MS and MSD?	Х				
		Were MS/MSD analyzed at the appropriate frequency?		Х				
		Were MS (and MSD, if applicable) %Rs within the laborato	ry QC limits?	Х				
		Were MS/MSD RPDs within laboratory QC limits?		Х				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each	matrix?			Х		
		Were analytical duplicates analyzed at the appropriate fre	equency?			Х		
		Were RPDs or relative standard deviations within the labo	oratory QC limits?			Х		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the lab		Х	ļ			
		Do the MQLs correspond to the concentration of the lower		Х	<u> </u>			ļ
_		Are unadjusted MQLs and DCSs included in the laborator	y data package?	X	<u> </u>		L	
R10	OI	Other problems/anomalies			1			
		Are all known problems/anomalies/special conditions not			X	-		2
		Was applicable and available technology used to lower the sample results?		Х		_		
		Is the laboratory NELAC-accredited under the Texas Labo and methods associated with this laboratory data package		Х				

^{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;

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



Lab	orato	ry Name: Pace Analytical National	LRC Date: 06/02/2020 18:56					
	ject N 06-14:	lame: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1221909-01, 02, 03, 04	, 05, 06, 0	7, 08,	09, 10,	11 and	12
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1483724, WG1484993,	WG148465	1 and	WG148	5346	
# ¹	A ²	Description	1	Yes	No	NA ³	NR⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)						•
		Were response factors and/or relative response factor	ors for each analyte within QC limits?			X	1	Г
		Were percent RSDs or correlation coefficient criteria		X			1	
		Was the number of standards recommended in the n		X			1	
		Were all points generated between the lowest and h	,	X		1	1	
		Are ICAL data available for all instruments used?	.5	X			1	†
		Has the initial calibration curve been verified using a	n appropriate second source standard?	X		 	†	
S2	OI	Initial and continuing calibration verification (ICCV an						
32	J	Was the CCV analyzed at the method-required frequ	· · · · · · · · · · · · · · · · · · ·	X	Π	Т	T	
		Were percent differences for each analyte within the		X	 	1	 	
		Was the ICAL curve verified for each analyte?	metrod required de innito:	X	 	+	+	
			in the inergenic CCD < MDI 2	- ^	-	X	+	├──
C2	Ι_	Was the absolute value of the analyte concentration	III the morganic CCB < MDL:				<u> </u>	
S3	0	Mass spectral tuning	for tuning?		_	T ~	Т	
		Was the appropriate compound for the method used		_		X	+	
C 4		Were ion abundance data within the method-require	d QC limits?			<u> </u>	<u> </u>	
S4	0	Internal standards (IS)	Lv	П	Т	Т		
	Ι	Were IS area counts and retention times within the m	X	<u> </u>		<u> </u>		
S5	OI	Raw data (NELAC Section 5.5.10)		1			1	
		Were the raw data (for example, chromatograms, spe	X	_	<u> </u>	<u> </u>	 	
		Were data associated with manual integrations flagg	ed on the raw data?	X			<u> </u>	<u> </u>
S6	0	Dual column confirmation		1	_		1	
		Did dual column confirmation results meet the method	od-required QC?			X		
S7	0	Tentatively identified compounds (TICs)					<u> </u>	
		If TICs were requested, were the mass spectra and T	TC data subject to appropriate checks?			X	<u> </u>	
S8	I	Interference Check Sample (ICS) results				_		
		Were percent recoveries within method QC limits?				Х		
S9	I	Serial dilutions, post digestion spikes, and method of	f standard additions					
		Were percent differences, recoveries, and the lineari	ty within the QC limits specified in the method?			Х		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analy	te?	X			<u> </u>	
		Is the MDL either adjusted or supported by the analy	sis of DCSs?	X				
S11	OI	Proficiency test reports						
		Was the laboratory's performance acceptable on the	applicable proficiency tests or evaluation studies?	Х				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable	e or obtained from other appropriate sources?	Х				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identificat	ion documented?	Х				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapte	r 5?	Х				
		Is documentation of the analyst's competency up-to-	date and on file?	Х				
S15	OI	Verification/validation documentation for methods (N	IELAC Chapter 5)	•		•		
	•	Are all the methods used to generate the data docur		Х				
S16	OI	Laboratory standard operating procedures (SOPs)			•			
		Are laboratory SOPs current and on file for each met	hod performed	X				
		,						

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.
 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
 NA = Not applicable;
 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



1 -1	Na	LDC D-+ 05/03/2020 40:FC						
Laborat	ory Name: Pace Analytical National	LRC Date: 06/02/2020 18:56						
Project 2006-14	Name: Lovington Gathering WTI, SRS 42	Laboratory Job Number: L1221909-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 and 12						
Reviewe	er Name: Mark W. Beasley	Prep Batch Number(s): WG1483724, WG1484993, WG1484651 and WG1485346						
ER #1	Description							
1	8021B WG1484651 R3533751-4 and 5: The a instrument established by the initial calibrat	analyte concentration exceeds the upper limit of the calibration range of the ion (ICAL).						
2	8021B WG1484651 L1221909-09: VOC pH o 8021B WG1485346 L1221909-09: VOC pH o	outside of method requirement. Dutside of method requirement.						

^{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).

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Collected date/time: 05/21/20 11:00

L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	05/29/2020 16:35	WG1483724
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 16:35	WG1483724
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 16:35	WG1483724
Total Xylene	U		0.000510	0.00150	0.00150	1	05/29/2020 16:35	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/29/2020 16:35	WG1483724





















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Collected date/time: 05/21/20 11:30

Volatile Organic Compounds (GC) by Method 8021B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	05/29/2020 16:56	WG1483724
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 16:56	WG1483724
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 16:56	WG1483724
Total Xylene	U		0.000510	0.00150	0.00150	1	05/29/2020 16:56	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	98.3				79.0-125		05/29/2020 16:56	WG1483724

















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Collected date/time: 05/21/20 12:00

L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	05/29/2020 17:16	WG1483724
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 17:16	WG1483724
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 17:16	WG1483724
Total Xylene	U		0.000510	0.00150	0.00150	1	05/29/2020 17:16	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		05/29/2020 17:16	WG1483724





















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Collected date/time: 05/21/20 12:30

	•	-							
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>	
Analyte	mg/l		mg/l	mg/l	mg/l		date / time		
Benzene	U		0.000190	0.000500	0.000500	1	05/29/2020 17:37	WG1483724	
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 17:37	WG1483724	
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 17:37	WG1483724	
Total Xylene	U		0.000510	0.00150	0.00150	1	05/29/2020 17:37	WG1483724	
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		05/29/2020 17:37	WG1483724	





















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Collected date/time: 05/21/20 13:00

L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000684		0.000190	0.000500	0.000500	1	05/29/2020 17:58	WG1483724
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 17:58	WG1483724
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 17:58	WG1483724
Total Xylene	U		0.000510	0.00150	0.00150	1	05/29/2020 17:58	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	99.3				79.0-125		05/29/2020 17:58	WG1483724





















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Collected date/time: 05/21/20 13:30

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0987		0.000190	0.000500	0.000500	1	05/29/2020 18:18	WG1483724
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 18:18	WG1483724
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 18:18	WG1483724
Total Xylene	U		0.000510	0.00150	0.00150	1	05/29/2020 18:18	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	99.4				79.0-125		05/29/2020 18:18	WG1483724





















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Collected date/time: 05/21/20 14:00

L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.599		0.00190	0.000500	0.00500	10	05/31/2020 19:29	WG1484993
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 18:39	WG1483724
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 18:39	WG1483724
Total Xylene	0.00160		0.000510	0.00150	0.00150	1	05/29/2020 18:39	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	98.0				79.0-125		05/29/2020 18:39	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	99.5				79.0-125		05/31/2020 19:29	WG1484993





















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Collected date/time: 05/21/20 14:30

L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.513		0.00190	0.000500	0.00500	10	05/31/2020 20:22	WG1484993
Toluene	U		0.000412	0.00100	0.00100	1	05/29/2020 19:00	WG1483724
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/29/2020 19:00	WG1483724
Total Xylene	0.000720	<u>J</u>	0.000510	0.00150	0.00150	1	05/29/2020 19:00	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	96.7				79.0-125		05/29/2020 19:00	WG1483724
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		05/31/2020 20:22	WG1484993





















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Collected date/time: 05/21/20 15:00

L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.918		0.00190	0.000500	0.00500	10	06/01/2020 15:58	WG1485346
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2020 15:49	WG1484651
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2020 15:49	WG1484651
Total Xylene	0.00132	<u>J</u>	0.000510	0.00150	0.00150	1	05/30/2020 15:49	WG1484651
(S) a,a,a-Trifluorotoluene(PID)	93.2				79.0-125		05/30/2020 15:49	WG1484651
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		06/01/2020 15:58	WG1485346





















Collected date/time: 05/21/20 00:00

SAMPLE RESULTS - 10

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L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	06/01/2020 16:20	WG1485346
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2020 16:09	WG1484651
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2020 16:09	WG1484651
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2020 16:09	WG1484651
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		05/30/2020 16:09	WG1484651
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		06/01/2020 16:20	WG1485346





















Collected date/time: 05/21/20 00:00

SAMPLE RESULTS - 11

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L1221909

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.583		0.00190	0.000500	0.00500	10	06/01/2020 16:42	WG1485346
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2020 16:30	WG1484651
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2020 16:30	WG1484651
Total Xylene	0.00113	<u>J</u>	0.000510	0.00150	0.00150	1	05/30/2020 16:30	WG1484651
(S) a,a,a-Trifluorotoluene(PID)	91.6				79.0-125		05/30/2020 16:30	WG1484651
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		06/01/2020 16:42	WG1485346





















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Collected date/time: 05/21/20 00:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	05/30/2020 14:26	WG1484651
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2020 14:26	WG1484651
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2020 14:26	WG1484651
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2020 14:26	WG1484651
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		05/30/2020 14:26	WG1484651





















QUALITY CONTROL SUMMARY

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Volatile Organic Compounds (GC) by Method 8021B

L1221909-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3533522-5 05/29)/20 11:43			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	101			79.0-125

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

(LCS) R3533522-1 05/29	/20 10:00 • (LCS	SD) R3533522	2-2 05/29/201	0:21						
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Benzene	0.0500	0.0527	0.0514	105	103	77.0-122			2.50	20
Toluene	0.0500	0.0528	0.0516	106	103	80.0-121			2.30	20
Ethylbenzene	0.0500	0.0517	0.0507	103	101	80.0-123			1.95	20
Total Xylene	0.150	0.161	0.157	107	105	47.0-154			2.52	20
(S) a,a,a-Trifluorotoluene(PID)				99.9	100	79.0-125				





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

(OS) • (MS) R3533522-6	05/29/20 19:20 • (MSE) R3533522-7 C	5/29/20 19:41								
	Spike Amount Original	Result MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%		%			%	%
Benzene	0.250	0.252	0.261	101	104	5	10.0-160			3.51	21
Toluene	0.250	0.252	0.261	101	104	5	12.0-148			3.51	21
Ethylbenzene	0.250	0.244	0.255	97.6	102	5	22.0-149			4.41	21
Total Xylene	0.750	0.752	0.787	100	105	5	13.0-155			4.55	21
(S) a,a,a-Trifluorotoluene(PID)				101	101		79.0-125				

QUALITY CONTROL SUMMARY

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Volatile Organic Compounds (GC) by Method 8021B

L1221909-09,10,11,12

Method Blank (MB)

(MB) R3533751-3 05/30/	20 13:23			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	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)	104			79.0-125









Laboratory Control Sample (LCS)

(LCS) R3533751-1 05/30	/20 12:21				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0500	100	77.0-122	
Toluene	0.0500	0.0479	95.8	80.0-121	
Ethylbenzene	0.0500	0.0450	90.0	80.0-123	
Total Xylene	0.150	0.135	90.0	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			97.7	79.0-125	













	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Benzene	0.0500	0.327	0.358	0.356	62.0	58.0	1	10.0-160	<u>E</u>	<u>E</u>	0.560	21
Toluene	0.0500	0.0501	0.100	0.101	99.8	102	1	12.0-148			0.995	21
Ethylbenzene	0.0500	0.0527	0.100	0.0951	94.6	84.8	1	22.0-149			5.02	21
Total Xylene	0.150	0.528	0.618	0.611	60.0	55.3	1	13.0-155			1.14	21
(S) a,a,a-Trifluorotoluene(PID)					107	103		79.0-125				

Volatile Organic Compounds (GC) by Method 8021B

QUALITY CONTROL SUMMARY

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L1221909-07,08

Method Blank (MB)

(MB) R3533651-3 05/31/2	20 15:12				
	MB Result	MB Qualifier	MB MDL	MB RDL	
Analyte	mg/l		mg/l	mg/l	
Benzene	U		0.000190	0.000500	
(S) a,a,a-Trifluorotoluene(PID)	100			79.0-125	

²Tc

³Ss

¹Cn

Laboratory Control Sample (LCS)

(LCS) R3533651-1 05/31/2	20 13:53				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0516	103	77.0-122	
(S) a,a,a-Trifluorotoluene(PID)			100	79.0-125	











QUALITY CONTROL SUMMARY

ONE LAB. NAPagev129 of 217

Volatile Organic Compounds (GC) by Method 8021B

L1221909-09,10,11

Method Blank (MB)

(MB) R3533851-3 06/01/20 13:02
MB Result MB Qualifier MB MDL MB RDL
Analyte mg/l mg/l mg/l
Benzene U 0.000190 0.000500
(S) 79.0-125 (a,a,a-Trifluorotoluene(PID)

²Tc



[‡]Cn

Laboratory Control Sample (LCS)

(LCS) R3533851-1 06/01/2	20 11:24				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0516	103	77.0-122	
(S) a,a,a-Trifluorotoluene(PID)			100	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.

GLOSSARY OF TERMS

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

Abbreviations and	d 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.

Е	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.



























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana 1	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T104704245-18-15
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

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

Our Locations

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





















			Billing Info	rmation:	T. T. L.					Ar	nalvsis / Cor	ntainer / Pi	reservati	ve			Chain of Custoo	dy Page	of
Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703			Camille Bryant 10 Desta Dr., Ste. 550E														Pace	e Analytical	l°
			Midland, TX 79705														Rational	Center for lessing a l	nnovation
Report to: Becky Haskell	Email To: becky.haskell@ghd.com;Glenn.Quinney@g										To have	210			12065 Lebanon R Mount Juliet, TN Phone: 615-758-5	37122 8858	總		
Project Description: Lovington Gathering WTI, SRS 2006-142 City/State Collected:			Loving	vii.		Please Cir PT MT C										-1	Phone: 800-767-5 Fax: 615-758-585	9 回災	A C
Phone: 432-250-7917	Client Project 11209905			PLAIN		1209905			1								SDG# LI	59	
Collected by (print):	Site/Facility			P.O. #				כו									Acctnum: PL		
Mathew Laughlia Collected by (signature):		(Lab MUST Be		Quote	#			40mlAmb-HC									Template: T1 Prelogin: P7		
Immediately Packed on Ice N Y	Next D Two D Three	Day 5 Da	y (Rad Only) Day (Rad Only)		ite Results	Needed	No. of	40mlA	7							, £ .	PM: PB:		
Sample ID	Comp/Grab	Matrix *	Depth	D	ate	Time	Cntrs	втех	100								Shipped Via: I	Sample # (la	-
MW-5B	Grab	GW	DTL	05/	21/20	1100	3	3						11.5.2		4-7	ATT TO THE REAL PROPERTY.		01
MW-7		GW		L	10	1130	3	3										-	02
MW-9		GW				1200	3	3										THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I	23
MW-11		GW				1230		3		Maria Maria									04
MW-3R		GW				1300		3									72	AND ASSESSMENT OF THE PARTY.	59
MW-2R		GW	75.			1330		3							()				36
MW-12		GW		F. 3	200	1400		3	100									- Proposition of the last of t	07
MW-IR		GW				1430	3	3										The second second second	38
MW-4R		GW				1500		3										The second secon	39
Dup-1	1	GW	V	1	1	-	3	3		生活的						-			0
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:										pH	Tem			COC Sea COC Sign Bottles	ned/A arri	e Receipt C esent/Intact accurate: we intact: les used:		_ N _ N _ N
WW - WasteWater DW - Drinking Water OT - Other	Samples returnUPSFed	ed via: Ex Courie	er		Trackir	The second second second		316	59	7					Suffici VOA Zer	ent v	volume sent: If Applical adspace: Correct/Ch	ole /	N N
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Relinquished by (Signature)		Date: 5/22/		ne: 5:W	轻					1	15to	34.5	ttles Recei			ration i	required by Lo		
Relinquished by : (Signature)		Date:		me:	Receiv	ed for lab by	: (Signat	ture)			7-27	20 Tir	ofte	5	Hold:			NCF /	

Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703			Billing Info	rmation:				Ana	4 2 7	Chain of Custody Page of							
				Bryant a Dr., Ste. 550 I, TX 79705	Pres Chk										0	*Analytical* Center for Testing & Inno	
Report to: Becky Haskell				kell@ghd.com;G	@ghd.c									44	12065 Lebanon Rd Mount Juliet, TN 3712	7122	
Project Description: Lovington Gathering WTI, SRS 2006-142		City/State Collected:	Lovingt	. 10.11	Circle:										Phone: 615-758-58 Phone: 800-767-58 Fax: 615-758-5859	858	
Phone: 432-250-7917	Client Project # 11209905/02 Site/Facility ID # SRS 2006-142			Lab Project #	PT (MT) CT ET											SDG# L	122196
Collected by (print): Mathew Laughlin				P.O. #												Table # Acctnum: PLA	INSGHD
Collected by (signature):				Quote#			nb-HC						152.00			Template:T16	
Immediately Packed on Ice N Y	mmediately		y (Rad Only) ay (Rad Only)	Date Resu	lts Needed	No.	40mlAmb-HCI									PM:	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTEX								-	Shipped Via: F	edEX Grous
Dup-2	6	GW		05/21/2	0 -	3	3										-
Trip Blank	6	-				1	1	(C) (A)		24							
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and the second			E	77 m													
	*		14 10						57								
Matrix: SS - Soil AIR - Air F - Filter SGW - Groundwater B - Bioassay NW - WasteWater	marks:									oH	_ Temp			COC Si Bottle	al Pre gned/A s arri	e Receipt Ch sent/Intact: ccurate: ve intact:	ecklist VNP Y
	mples returned v			Tracki	ng#									Suffic	ient v	les used: olume sent: If Applicabl	
Relinquished by : (Signature)	Dat	e: 5/22	ba Q	40 Receive	yed by: (Signat	fure)	e	/	Trip	Blank Rece	1	S / No CL / Med		Preser	vation	dspace: Correct/Che 0.5 mR/hr:	cked: Y
Relinquished by (Signature)	Dat 5	/22/2	Time:	Receiv	red by: (Signat	ture)			Temp	MAS.		BR Receive	ed:	lf preser	vation r	required by Logi	in: Date/Time
Relinquished by : (Signature)	5/22/2 5:00 Date: Time:				ed for lab by:	(Signatu	re)	Ser.	Date: Time:					Hold:			Condition



ANALYTICAL REPORT

July 15, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1237500 Samples Received: 07/08/2020

Project Number: 11209905/02

Description: Lovington Gathering WTI, SRS 2006-142

Site: SRS 2006-142

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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



















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Volatile Organic Compounds (GC) by Method 8021B

SAMPLE SUMMARY



			Collected by	Collected date/time	Received da	te/time
END PIVOT L1237500-01 GW			Matthew Laughlin	07/02/20 11:00	07/08/20 08	:30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1507888	1	07/12/20 18:18	07/12/20 18:18	TPR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MIDDLE PIVOT L1237500-02 GW			Matthew Laughlin	07/02/20 11:30	07/08/20 08	:30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1507888	1	07/12/20 18:41	07/12/20 18:41	TPR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
CENTER PIVOT L1237500-03 GW			Matthew Laughlin	07/02/20 12:00	07/08/20 08	:30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1507888	1	07/12/20 19:04	07/12/20 19:04	TPR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
GOFF DAIRY WELL L1237500-04 GW			Matthew Laughlin	07/02/20 12:30	07/08/20 08	:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
			uute/tiiiie	date/time		

WG1507888

07/12/20 19:27

07/12/20 19:27

TPR

Mt. Juliet, TN





















Mark W. Beasley

Project Manager

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.

¹Cp



















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		ry Name: Pace Analytical National	LRC Date: 07/15/2020 15:57								
	ect N 6-142	lame: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1237500-01, 02, 03 and 04								
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1507888								
# 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?	Х							
		Were all departures from standard conditions described				Х					
R2	OI	Sample and quality control (QC) identification		•			•				
		Are all field sample ID numbers cross-referenced to the	laboratory ID numbers?	Х							
		Are all laboratory ID numbers cross-referenced to the co	orresponding QC data?	Х							
R3	OI	Test reports									
		Were all samples prepared and analyzed within holding	times?	X							
		Other than those results < MQL, were all other raw value	es bracketed by calibration standards?	Х							
		Were calculations checked by a peer or supervisor?		X							
		Were all analyte identifications checked by a peer or su	pervisor?	Х							
		Were sample detection limits reported for all analytes no	ot detected?	Х							
		Were all results for soil and sediment samples reported	on a dry weight basis?	X		İ					
		Were % moisture (or solids) reported for all soil and sedi		1		Х					
		Were bulk soils/solids samples for volatile analysis extra				Х					
		If required for the project, are TICs reported?	·	i –		Х					
R4	0	Surrogate recovery data		•				•			
		Were surrogates added prior to extraction?		Х							
		Were surrogate percent recoveries in all samples within	the laboratory QC limits?	Х							
R5	OI	Test reports/summary forms for blank samples	,			•					
		Were appropriate type(s) of blanks analyzed?		Х							
		Were blanks analyzed at the appropriate frequency?		Х							
		Were method blanks taken through the entire analytical cleanup procedures?	process, including preparation and, if applicable,	Х							
		Were blank concentrations < MQL?		X							
R6	OI	Laboratory control samples (LCS):		•							
		Were all COCs included in the LCS?		Х							
		Was each LCS taken through the entire analytical proce	edure, including prep and cleanup steps?	X							
		Were LCSs analyzed at the required frequency?	, 31 1	X							
		Were LCS (and LCSD, if applicable) %Rs within the labor	ratory QC limits?	Х							
		Does the detectability check sample data document the used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х							
		Was the LCSD RPD within QC limits?		Х		1					
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data		1							
		Were the project/method specified analytes included in		Ι		Х					
		Were MS/MSD analyzed at the appropriate frequency?				Х					
		Were MS (and MSD, if applicable) %Rs within the laborate	tory QC limits?			Х					
		Were MS/MSD RPDs within laboratory QC limits?	•	1		Х					
R8	OI	Analytical duplicate data		•			•	•			
		Were appropriate analytical duplicates analyzed for each	ch matrix?			Х					
		Were analytical duplicates analyzed at the appropriate f	frequency?			Х					
		Were RPDs or relative standard deviations within the lab			Х						
R9	OI	Method quantitation limits (MQLs):									
		Are the MQLs for each method analyte included in the la	aboratory data package?	Х							
		Do the MQLs correspond to the concentration of the low	west non-zero calibration standard?	Х							
		Are unadjusted MQLs and DCSs included in the laborate	ory data package?	Х							
R10	OI	Other problems/anomalies									
		Are all known problems/anomalies/special conditions no	oted in this LRC and ER?	Х							
		Was applicable and available technology used to lower the sample results?	the SDL to minimize the matrix interference effects on	Х							
		Is the laboratory NELAC-accredited under the Texas Lal and methods associated with this laboratory data packa	Х								

^{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;

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		ory Name: Pace Analytical National	LRC Date: 07/15/2020 15:57								
Project Name: Lovington Gathering WTI, SRS 2006-142			Laboratory Job Number: L1237500-01, 02, 03 and 04								
Rev	viewe	er Name: Mark W. Beasley	Prep Batch Number(s): WG1507888								
# ¹	A ²	Description	, , , , , , , , , , , , , , , , , , ,	Yes	No	NA ³	NR ⁴	ER# ⁵			
S1	OI	Initial calibration (ICAL)		1.00	1.10	1.42	1	1 = 11"			
0.	J 0.	Were response factors and/or relative response factor	s for each analyte within QC limits?	T	T	Тх	Т	1			
		Were percent RSDs or correlation coefficient criteria m	·	X		+ ^	 				
		Was the number of standards recommended in the me		X			 				
		Were all points generated between the lowest and hig	,	X	1		T				
		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									
_		Was the CCV analyzed at the method-required frequency		X	I		T				
		Were percent differences for each analyte within the n		X							
		Was the ICAL curve verified for each analyte?		X							
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDI ?			Х					
S3	0	Mass spectral tuning	. the morganic cos mss.			1 /					
		Was the appropriate compound for the method used f	or tuning?	\neg	1	T X	Τ				
		Were ion abundance data within the method-required	-	-		X					
S4	0	Internal standards (IS)	G minor			1 /					
<u> </u>		Were IS area counts and retention times within the me	Ιx	I	T	Т					
S5	OI	Raw data (NELAC Section 5.5.10)									
		Were the raw data (for example, chromatograms, spec	tral data) reviewed by an analyst?	T X	I	1	Τ				
		Were data associated with manual integrations flagged		X	1		T				
S6	О	Dual column confirmation									
		Did dual column confirmation results meet the method	I-required QC?		I	Τx	Τ				
S7	То	Tentatively identified compounds (TICs)									
0,		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?	T	I	Ιx	Τ	1			
S8	lı -	Interference Check Sample (ICS) results				1 /					
		Were percent recoveries within method QC limits?		\neg	1	Τx	Τ				
S9		Serial dilutions, post digestion spikes, and method of s	standard additions			1		L			
		Were percent differences, recoveries, and the linearity				Τx					
S10	OI	Method detection limit (MDL) studies									
		Was a MDL study performed for each reported analyte	o?	X	I		T				
		Is the MDL either adjusted or supported by the analysi		X							
S11	OI	Proficiency test reports									
		Was the laboratory's performance acceptable on the a	applicable proficiency tests or evaluation studies?	X			Τ				
S12	OI	Standards documentation	<u>, , , , , , , , , , , , , , , , , , , </u>	<u> </u>			1				
		Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	Х	1		П				
S13	OI	Compound/analyte identification procedures		!		•	•	•			
		Are the procedures for compound/analyte identification	on documented?	X							
S14	OI	Demonstration of analyst competency (DOC)				1					
		Was DOC conducted consistent with NELAC Chapter !	5?	X		T					
		Is documentation of the analyst's competency up-to-da		X	1		1				
S15	OI	Verification/validation documentation for methods (NE				1		•			
		Are all the methods used to generate the data docume		X		T					
S16	OI	Laboratory standard operating procedures (SOPs)	TALL TO THE TOTAL			1					
		Are laboratory CODe gurrant and an file for each math	TV	1	T	T					

^{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 Revised May



Laborato	ry Name: Pace Analytical National	LRC Date: 07/15/2020 15:57					
Project N 2006-142	lame: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1237500-01, 02, 03 and 04					
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1507888					
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).

ONE LAB. NAPagev142 of 217

Collected date/time: 07/02/20 11:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/12/2020 18:18	WG1507888
Toluene	U		0.000412	0.00100	0.00100	1	07/12/2020 18:18	WG1507888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/12/2020 18:18	WG1507888
Total Xylene	U		0.000510	0.00150	0.00150	1	07/12/2020 18:18	WG1507888
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		07/12/2020 18:18	WG1507888





















ONE LAB. NA Page 143 of 217

Collected date/time: 07/02/20 11:30

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/12/2020 18:41	WG1507888
Toluene	U		0.000412	0.00100	0.00100	1	07/12/2020 18:41	WG1507888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/12/2020 18:41	WG1507888
Total Xylene	U		0.000510	0.00150	0.00150	1	07/12/2020 18:41	WG1507888
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		07/12/2020 18:41	WG1507888





















ONE LAB. NA Page 144 of 217

Collected date/time: 07/02/20 12:00

		· -						
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/12/2020 19:04	WG1507888
Toluene	U		0.000412	0.00100	0.00100	1	07/12/2020 19:04	WG1507888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/12/2020 19:04	WG1507888
Total Xylene	U		0.000510	0.00150	0.00150	1	07/12/2020 19:04	WG1507888
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		07/12/2020 19:04	WG1507888





















ONE LAB. NAPagev145 of 2)7

Collected date/time: 07/02/20 12:30

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/12/2020 19:27	WG1507888
Toluene	U		0.000412	0.00100	0.00100	1	07/12/2020 19:27	WG1507888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/12/2020 19:27	WG1507888
Total Xylene	U		0.000510	0.00150	0.00150	1	07/12/2020 19:27	WG1507888
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		07/12/2020 19:27	WG1507888





















QUALITY CONTROL SUMMARY

ONE LAB. NAPagev146 of 2)7

Volatile Organic Compounds (GC) by Method 8021B

L1237500-01,02,03,04

Method Blank (MB)

(MB) R3549335-3 07/12/	20 13:38			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	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)	104			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3549335-1 07/12/20 10:28					
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0441	88.2	77.0-122	
Toluene	0.0500	0.0456	91.2	80.0-121	
Ethylbenzene	0.0500	0.0469	93.8	80.0-123	
Total Xylene	0.150	0.135	90.0	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			104	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

	d 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 resul 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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T104704245-18-15
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

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

Our Locations

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





















Received by OCD: 4/5/2021 2:34:16 PM		Billing Info	ormation:	12.70		Analysis / Container / Preservative						Chain of Custody Page 149 of 21		
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Report to:			Email To:	11	1								12065 Lebanon Rd	国城諸国
Becky Haskell			Beck	x. Haskell &	2 ghd. (81	n		100					Mount Juliet, TN 37 Phone: 615-758-585	8 6 6 6 6
Description:	1.4.			City/State Collected:	instan NA	y						2. 3	Phone: 800-767-585 Fax: 615-758-5859	
Phone: 432-250-7917	Client Project	#9		Lab Project #	7. 9.		0						L# 1237	con
ax:	11209	1005					16				1711 3		1160	
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Matthew Laught:				11.01.11			8						Acctnum:	
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Center Pivet	6	6 W	_	07/02/20	1200	3	X							-03
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267														
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W - Drinking Water	Samples return			1 3 4 P	10				Flow	Ot	ner	Correct	bottles used: nt volume sent:	-/-
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ANALYTICAL REPORT

September 17, 2020

Revised Report

Plains All American, LP - GHD

Sample Delivery Group: L1258770

Samples Received: 09/04/2020 Project Number: 11209905/02

Description: Lovington Gathering WTI, SRS 2006-142

Site: SRS 2006-142

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























Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Tr: TRRP Summary	6
TRRP form R	7
TRRP form S	8
TRRP Exception Reports	9
Sr: Sample Results	10
MW-1R L1258770-01	10
MW-2R L1258770-02	11
MW-3R L1258770-03	12
MW-4R L1258770-04	13
MW-5R L1258770-05	14
MW-7 L1258770-06	15
MW-9 L1258770-07	16
MW-11 L1258770-08	17
MW-12 L1258770-09	18
PIVOT L1258770-10	19
GOFF DAIRY WELL L1258770-11	20
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Sc: Sample Chain of Custody

27

SAMPLE SUMMARY



MW-1R L1258770-01 GW			Collected by Charles Neligh	Collected date/time 09/03/20 09:15	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1541581	1	09/12/20 01:16	09/12/20 01:16	ADM	Mt. Juliet, TN
MW-2R L1258770-02 GW			Collected by Charles Neligh	Collected date/time 09/03/20 11:20	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B Volatile Organic Compounds (GC) by Method 8021B	WG1540119 WG1541581	1	09/09/20 21:44 09/12/20 01:41	09/09/20 21:44 09/12/20 01:41	ACG ADM	Mt. Juliet, TN Mt. Juliet, TN
MW-3R L1258770-03 GW			Collected by Charles Neligh	Collected date/time 09/03/20 09:30	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1540119	1	09/09/20 22:04	09/09/20 22:04	ACG	Mt. Juliet, TN
MW-4R L1258770-04 GW			Collected by Charles Neligh	Collected date/time 09/03/20 10:50	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1540119	10	09/10/20 00:08	09/10/20 00:08	ACG	Mt. Juliet, TN
MW-5R L1258770-05 GW			Collected by Charles Neligh	Collected date/time 09/03/20 10:30	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1540406	1	09/10/20 08:12	09/10/20 08:12	DWR	Mt. Juliet, TN
MW-7 L1258770-06 GW			Collected by Charles Neligh	Collected date/time 09/03/20 09:00	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1540406	1	09/10/20 08:32	09/10/20 08:32	DWR	Mt. Juliet, TN
MW-9 L1258770-07 GW			Collected by Charles Neligh	Collected date/time 09/03/20 09:50	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1540406	1	09/10/20 08:53	09/10/20 08:53	DWR	Mt. Juliet, TN
MW-11 L1258770-08 GW			Collected by Charles Neligh	Collected date/time 09/03/20 10:10	Received da 09/04/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1540406	1	09/10/20 09:14	09/10/20 09:14	DWR	Mt. Juliet, TN





















Volatile Organic Compounds (GC) by Method 8021B

SAMPLE SUMMARY



			Collected by	Collected date/time	Received da	te/time
MW-12 L1258770-09 GW			Charles Neligh	09/03/20 08:50	09/04/20 09	:30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1540406	10	09/10/20 12:41	09/10/20 12:41	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
PIVOT L1258770-10 GW			Charles Neligh	09/03/20 11:40	09/04/20 09	:30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1540406	1	09/10/20 09:35	09/10/20 09:35	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
GOFF DAIRY WELL L1258770-11 GW			Charles Neligh	09/03/20 12:00	09/04/20 09):30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1540406	1	09/10/20 09:56	09/10/20 09:56	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DUP L1258770-12 GW			Charles Neligh	09/03/20 00:00	09/04/20 09):30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location

WG1540406

09/10/20 10:16

09/10/20 10:16

DWR

Mt. Juliet, TN





















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























· ·

Mark W. Beasley

Project Manager

Report Revision History

Level II Report - Version 1: 09/16/20 18:56

Sample Delivery Group (SDG) Narrative

VOC pH outside of method requirement.

 Lab Sample ID
 Project Sample ID
 Method

 L1258770-01
 MW-1R
 8021B

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



Labo	orato	ry Name: Pace Analytical National	LRC Date: 09/17/2020 19:46					
	ect N 6-142	lame: Lovington Gathering WTI, SRS	Laboratory Job Number: L1258770-01, 02, 03, 04, 05	, 06, 0	7, 08,	09, 10,	11 and	12
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1540119, WG1541581 and W	/G1540	406			
# 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	f sample acceptability upon receipt?	Х				
		Were all departures from standard conditions described in	n an exception report?			Х		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the la	aboratory ID numbers?	Х				
		Are all laboratory ID numbers cross-referenced to the cor	rresponding QC data?	Х				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding ti	imes?	Х				
		Other than those results < MQL, were all other raw values	s bracketed by calibration standards?	Х				
		Were calculations checked by a peer or supervisor?		Х				
		Were all analyte identifications checked by a peer or super	ervisor?	Х				
		Were sample detection limits reported for all analytes not	t detected?	Х				
		Were all results for soil and sediment samples reported or	n a dry weight basis?	Х				
		Were % moisture (or solids) reported for all soil and sedim	nent samples?			Х		
		Were bulk soils/solids samples for volatile analysis extract	ted with methanol per SW846 Method 5035?			Х		
		If required for the project, are TICs reported?				Х		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?		Х				
		Were surrogate percent recoveries in all samples within the	he laboratory QC limits?	Х				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		Х				
		Were blanks analyzed at the appropriate frequency?		Х				
		Were method blanks taken through the entire analytical p cleanup procedures?	process, including preparation and, if applicable,	Х				
		Were blank concentrations < MQL?		Х				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		Х				
		Was each LCS taken through the entire analytical procedu	ure, including prep and cleanup steps?	Х				
		Were LCSs analyzed at the required frequency?		Х				
		Were LCS (and LCSD, if applicable) %Rs within the laborate		Х				
		Does the detectability check sample data document the laused to calculate the SDLs?	aboratory's capability to detect the COCs at the MDL	Х				
		Was the LCSD RPD within QC limits?		Х				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the	he MS and MSD?	Х				
		Were MS/MSD analyzed at the appropriate frequency?		Х				
		Were MS (and MSD, if applicable) %Rs within the laborato	ory QC limits?		Х	<u> </u>		1
		Were MS/MSD RPDs within laboratory QC limits?		Х				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each			<u> </u>	X		
		Were analytical duplicates analyzed at the appropriate fre			<u> </u>	Х		
		Were RPDs or relative standard deviations within the labor	oratory QC limits?			Х		
R9	OI	Method quantitation limits (MQLs):						1
		Are the MQLs for each method analyte included in the lab		X	 	-		1
		Do the MQLs correspond to the concentration of the lower		X	-	-	-	-
D40		Are unadjusted MQLs and DCSs included in the laborator	ry аата раскаде?	X				
R10	OI	Other problems/anomalies	ted in this LDC and ED2	T		T	Г	
		Are all known problems/anomalies/special conditions not		-	X	1	_	2
		Was applicable and available technology used to lower the sample results?		Х		_		
		Is the laboratory NELAC-accredited under the Texas Laboratory methods associated with this laboratory data packag	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;

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



Lab	orato	ory Name: Pace Analytical National	LRC Date: 09/17/2020 19:46					
	ject 1 06-14	Name: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1258770-01, 02, 03, 04	1, 05, 06, 0	7, 08,	09, 10,	11 and	12
Rev	viewe	er Name: Mark W. Beasley	Prep Batch Number(s): WG1540119, WG1541581 a	nd WG1540	406			
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)		1		1	1	
		Were response factors and/or relative response factor	rs for each analyte within QC limits?	\neg	Π	Τx	Τ	Т
		Were percent RSDs or correlation coefficient criteria m	·	X		+	1	
		Was the number of standards recommended in the me		X				
		Were all points generated between the lowest and hig	,	X		1	\vdash	
		Are ICAL data available for all instruments used?	niest standard used to calculate the currer	X	 	+	 	
		Has the initial calibration curve been verified using an	appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and						
32	Į Oi	Was the CCV analyzed at the method-required frequency		T X	Π	Т	T	T
		Were percent differences for each analyte within the n		X		+	+	1
		Was the ICAL curve verified for each analyte?	metrod-required &C innits:	X	\vdash	+	+	
		Was the absolute value of the analyte concentration in	a the inerganic CCR < MDI 2	^	 	X	+-	
S3	О	Mass spectral tuning	Title morganic CCB \ MDL:		1		1	
33	10	Was the appropriate compound for the method used f	For tuning?	T	Г	Τx	Т	T
		Were ion abundance data within the method-required		-		$\frac{1}{x}$	\vdash	1
S4	0	Internal standards (IS)	QC IIIIIIIS:					
34	10	Were IS area counts and retention times within the me	athed required OC limits?	Τx	Г	Т	Т	1
S5	OI	Raw data (NELAC Section 5.5.10)	etiloa-requirea QC illinits:		<u> </u>	1	<u> </u>	
33	T OI	Were the raw data (for example, chromatograms, spec	etral data) roviowed by an analyst?	l x	I	T	I	T
		Were data associated with manual integrations flagged		$\frac{\hat{x}}{x}$		+	\vdash	+
S6	То	Dual column confirmation	d on the law data:					
30	10	Did dual column confirmation results meet the method	I-required OC?	<u> </u>	Г	Ιx	T	T
S7	То	Tentatively identified compounds (TICs)	riequiled &C:			1 ^		
37	10	If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?		П	Ιx	Т	T
S8	Ti	Interference Check Sample (ICS) results	c data subject to appropriate checks:			1 ^		
30	<u> </u>	Were percent recoveries within method QC limits?			П	Тх	Т	T
S9	Ti	Serial dilutions, post digestion spikes, and method of s	standard additions		<u> </u>	1 ^	<u> </u>	
33	1'	Were percent differences, recoveries, and the linearity				Тх	Π	
S10	OI	Method detection limit (MDL) studies	within the de limb specified in the method.			1 /		
310	Į Oi	Was a MDL study performed for each reported analyte	a?	X	Π	Т	T	T
		Is the MDL either adjusted or supported by the analysis		X				
S11	OI	Proficiency test reports	3 01 2033.					
011	0.	Was the laboratory's performance acceptable on the a	applicable proficiency tests or evaluation studies?	T X		T	T	T
S12	OI	Standards documentation	applicable proficiency tests of evaluation studies.	1 //			1	
312	101	Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	T X	Ι	T	Τ	1
S13	OI	Compound/analyte identification procedures	or obtained from other appropriate sources.		<u> </u>		<u> </u>	
313	JOI	Are the procedures for compound/analyte identification	an documented?	X		Т	Τ	T
S14	OI	Demonstration of analyst competency (DOC)	m documented.			1		
517	101	Was DOC conducted consistent with NELAC Chapter 5	5?	X		T	Т	T
		Is documentation of the analyst's competency up-to-da		X		+	+	
S15	OI	Verification/validation documentation for methods (NE		^		1		
313	J	Are all the methods used to generate the data document		X	ı	T	T	T
S16	OI	Laboratory standard operating procedures (SOPs)	entea, verillea, ana vallaatea, where applicable:			1	1	
310	I	Are laboratory SOPs current and on file for each method	od performed	Тх	Г	T	Т	1
i			ou perioriticu	1 ^	•	1	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.
 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
 NA = Not applicable;
 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



ınd 12

^{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.

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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).

ONE LAB. NAPagev159 of 217

Collected date/time: 09/03/20 09:15

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.162		0.000190	0.000500	0.000500	1	09/12/2020 01:16	WG1541581
Toluene	0.000813	<u>J</u>	0.000412	0.00100	0.00100	1	09/12/2020 01:16	WG1541581
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/12/2020 01:16	WG1541581
Total Xylene	0.000787	<u>J</u>	0.000510	0.00150	0.00150	1	09/12/2020 01:16	WG1541581
(S) a,a,a-Trifluorotoluene(PID)	98.8				79.0-125		09/12/2020 01:16	WG1541581





















ONE LAB. NA Page 160 of 217

Collected date/time: 09/03/20 11:20

		-						
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0773		0.000190	0.000500	0.000500	1	09/09/2020 21:44	WG1540119
Toluene	U		0.000412	0.00100	0.00100	1	09/09/2020 21:44	WG1540119
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/09/2020 21:44	WG1540119
Total Xylene	U		0.000510	0.00150	0.00150	1	09/12/2020 01:41	WG1541581
(S) a,a,a-Trifluorotoluene(PID)	98.3				79.0-125		09/09/2020 21:44	WG1540119
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		09/12/2020 01:41	WG1541581





















ONE LAB. NAPagev161 of 2)7

Collected date/time: 09/03/20 09:30

L1258770

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	09/09/2020 22:04	WG1540119
Toluene	U		0.000412	0.00100	0.00100	1	09/09/2020 22:04	WG1540119
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/09/2020 22:04	WG1540119
Total Xylene	U		0.000510	0.00150	0.00150	1	09/09/2020 22:04	WG1540119
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/09/2020 22:04	WG1540119





















ONE LAB. NA Rage 162 of 2)7

Collected date/time: 09/03/20 10:50

Sample Narrative:

Volatile Organic Compounds (GC) by Method 8021B

L1258770-04 WG1540119: Target compounds too high to run at a lower dilution.

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	1.58	<u>J6</u>	0.00190	0.000500	0.00500	10	09/10/2020 00:08	WG1540119
Toluene	U		0.00412	0.00100	0.0100	10	09/10/2020 00:08	WG1540119
Ethylbenzene	U		0.00160	0.000500	0.00500	10	09/10/2020 00:08	WG1540119
Total Xylene	U		0.00510	0.00150	0.0150	10	09/10/2020 00:08	WG1540119
(S) a,a,a-Trifluorotoluene(PID)	97.5				79.0-125		09/10/2020 00:08	WG1540119





















ONE LAB. NAPagev163 of 217

Collected date/time: 09/03/20 10:30

L1258

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	09/10/2020 08:12	WG1540406
Toluene	U		0.000412	0.00100	0.00100	1	09/10/2020 08:12	WG1540406
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/10/2020 08:12	WG1540406
Total Xylene	U		0.000510	0.00150	0.00150	1	09/10/2020 08:12	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/10/2020 08:12	WG1540406





















ONE LAB. NAPagev164 of 217

Collected date/time: 09/03/20 09:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	09/10/2020 08:32	WG1540406
Toluene	U		0.000412	0.00100	0.00100	1	09/10/2020 08:32	WG1540406
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/10/2020 08:32	WG1540406
Total Xylene	U		0.000510	0.00150	0.00150	1	09/10/2020 08:32	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/10/2020 08:32	WG1540406





















ONE LAB. NAPagev165 of 217

Collected date/time: 09/03/20 09:50

L1258770

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	09/10/2020 08:53	WG1540406
Toluene	U		0.000412	0.00100	0.00100	1	09/10/2020 08:53	WG1540406
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/10/2020 08:53	WG1540406
Total Xylene	U		0.000510	0.00150	0.00150	1	09/10/2020 08:53	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		09/10/2020 08:53	WG1540406





















ONE LAB. NA Page 166 of 27

Collected date/time: 09/03/20 10:10

L1258770

Volatile Organic Compounds (GC) by Method 8021B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	09/10/2020 09:14	WG1540406
Toluene	U		0.000412	0.00100	0.00100	1	09/10/2020 09:14	WG1540406
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/10/2020 09:14	WG1540406
Total Xylene	U		0.000510	0.00150	0.00150	1	09/10/2020 09:14	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	99.5				79.0-125		09/10/2020 09:14	WG1540406

















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ONE LAB. NA Page 167 of 217

Collected date/time: 09/03/20 08:50

L1258770

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.336		0.00190	0.000500	0.00500	10	09/10/2020 12:41	WG1540406
Toluene	0.00488	<u>J</u>	0.00412	0.00100	0.0100	10	09/10/2020 12:41	WG1540406
Ethylbenzene	U		0.00160	0.000500	0.00500	10	09/10/2020 12:41	WG1540406
Total Xylene	0.00609	<u>J</u>	0.00510	0.00150	0.0150	10	09/10/2020 12:41	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/10/2020 12:41	WG1540406





















ONE LAB. NAPagev168 of 217

Collected date/time: 09/03/20 11:40

Volatile Organic Compounds (GC) by Method 8021B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	09/10/2020 09:35	WG1540406
Toluene	U		0.000412	0.00100	0.00100	1	09/10/2020 09:35	WG1540406
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/10/2020 09:35	WG1540406
Total Xylene	U		0.000510	0.00150	0.00150	1	09/10/2020 09:35	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/10/2020 09:35	WG1540406

















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ONE LAB. NAPagev169 of 27

Collected date/time: 09/03/20 12:00

	•	, ,						
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	09/10/2020 09:56	WG1540406
Toluene	U		0.000412	0.00100	0.00100	1	09/10/2020 09:56	WG1540406
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/10/2020 09:56	WG1540406
Total Xylene	U		0.000510	0.00150	0.00150	1	09/10/2020 09:56	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	99.9				79.0-125		09/10/2020 09:56	WG1540406





















ONE LAB. NAPagev170 of 217

Collected date/time: 09/03/20 00:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0612		0.000190	0.000500	0.000500	1	09/10/2020 10:16	WG1540406
Toluene	U		0.000412	0.00100	0.00100	1	09/10/2020 10:16	WG1540406
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/10/2020 10:16	WG1540406
Total Xylene	U		0.000510	0.00150	0.00150	1	09/10/2020 10:16	WG1540406
(S) a,a,a-Trifluorotoluene(PID)	98.4				79.0-125		09/10/2020 10:16	WG1540406





















Volatile Organic Compounds (GC) by Method 8021B

QUALITY CONTROL SUMMARY

ONE LAB. NA Page 15-1 of 217

L1258770-02,03,04

Method Blank (MB)

(MB) R3569415-3 09/09/20 17:25 MB Result MB Qualifier MB MDL MB RDL mg/l mg/l mq/l Analyte Benzene U 0.000190 0.000500 0.000412 0.00100 Toluene Ethylbenzene U 0.000160 0.000500 U 0.000510 0.00150 Total Xylene (S) a,a,a-Trifluorotoluene(PID) 99.0 79.0-125





°Sr

Laboratory Control Sample (LCS)

0.0500

0.0500

0.0500

0.150

(LCS) R3569415-1 09/09/20 16:23 Spike Amount LCS Result LCS Rec. Rec. Limits LCS Qualifier % Analyte mg/l % mg/l

77.0-122

80.0-121

80.0-123

47.0-154

79.0-125













L1258770-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

96.8

97.6

99.0

105

99.0

(OS) L1258770-04 09/10/20 00:08 • (MS) R3569415-4 09/10/20 01:31 • (MSD) R3569415-5 09/10/20 01:52

0.0484

0.0488

0.0495

0.157

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Benzene	0.500	1.58	1.74	1.49	32.0	0.000	10	10.0-160		<u>J6</u>	15.5	21
Toluene	0.500	U	0.452	0.389	90.4	77.8	10	12.0-148			15.0	21
Ethylbenzene	0.500	U	0.465	0.402	93.0	80.4	10	22.0-149			14.5	21
Total Xylene	1.50	U	1.49	1.27	99.3	84.7	10	13.0-155			15.9	21
(S) a,a,a-Trifluorotoluene(PID)					97.0	98.7		79.0-125				

Sample Narrative:

Benzene

Toluene

Ethylbenzene

Total Xylene

a,a,a-Trifluorotoluene(PID)

OS: Target compounds too high to run at a lower dilution.

QUALITY CONTROL SUMMARY

ONE LAB. NA Page 1572 of 217

Volatile Organic Compounds (GC) by Method 8021B

L1258770-05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3570699-3 09/10	/20 06:00			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	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)	99.7			79.0-125



(LCS) R3570699-1 09/10	CS) R3570699-1 09/10/20 04:58							
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier			
Analyte	mg/l	mg/l	%	%				
Benzene	0.0500	0.0551	110	77.0-122				
Toluene	0.0500	0.0552	110	80.0-121				
Ethylbenzene	0.0500	0.0561	112	80.0-123				
Total Xylene	0.150	0.179	119	47.0-154				
(S) a,a,a-Trifluorotoluene(PID)			99.7	79.0-125				

L1258789-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1258789-04 09/10/	'20 14:04 • (MS)	R3570699-4 (09/10/20 14:45	• (MSD) R3570	0699-5 09/10/2	20 15:06						
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Benzene	10.0	0.958	8.88	7.68	79.2	67.2	200	10.0-160			14.5	21
Toluene	10.0	1.53	9.15	7.96	76.2	64.3	200	12.0-148			13.9	21
Ethylbenzene	10.0	0.821	9.12	7.96	83.0	71.4	200	22.0-149			13.6	21
Total Xylene	30.0	6.32	31.3	27.7	83.3	71.3	200	13.0-155			12.2	21
(S) a,a,a-Trifluorotoluene(PID)					97.6	97.5		79.0-125				



















QUALITY CONTROL SUMMARY

ONE LAB. NAPagev173 of 217

Volatile Organic Compounds (GC) by Method 8021B

L1258770-01,02

Method Blank (MB)

(MB) R3569697-3 09/11/2	20 22:56			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	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)	104			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3569697-1 09/11/2	LCS) R3569697-1 09/11/20 21:18								
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier				
Analyte	mg/l	mg/l	%	%					
Benzene	0.0500	0.0543	109	77.0-122					
Toluene	0.0500	0.0541	108	80.0-121					
Ethylbenzene	0.0500	0.0568	114	80.0-123					
Total Xylene	0.150	0.167	111	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

Appreviations and	a 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.

Qual	ifier	C	escri)	ption

J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.



























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky 16	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T104704245-18-15
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

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

Our Locations

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





















TALL A THE PARTY

A L SP			Billing Info	rmation:			1		3	Analysis / Cor	ntainer / Pres	ervative		Chain of Custody	Page of			
	ican, LP - GHD			10 Des			Camille Bryant 10 Desta Dr., Ste. 550E Pres Chk										87	Analytical*
Midland, TX 79703			Midland, TX 79705											National C	enter for resting & Inno			
Report to: Becky Haskell	Email To: becky.haskell@ghd.com;Glenn.Quinney@ghd.c											12065 Lebanon Rd Mount Juliet, TN 37122						
Project Description: City/State Lovington Gathering WTI, SRS 2006-142 Collected:			I H H	- 10.1	Please Circle: PT MT CT ET		Please Circle:							Phone: 800-767-58 Fax: 615-758-5859	59			
Phone: 432-250-7917	Client Project #		Lab Project # PLAINSGHD-11209905										BUEVER BUSIN	58770				
Charles Notigh	Site/Facility SRS 2006		P.O.#			- FE								Acctnum: PLA	081 INSGHD			
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MW-3R		GW				0930		X	100						-67			
MW-4R		GW		15-3		1050		X				開港 医			-w			
MW-5R		GW				1030		X			8.4				-65			
MW-Z		GW				0900		X	130	41 - 10	190				-up			
MW-9		GW	-			0950		X							-07			
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Plains All American, Ll 2135 S Loop 250 W Midland, TX 79703	A CHEST STORY			Pres Chk			An	alvsis / Cont	alner/ Pi	eservati	Ve			e Analytical Center for Testing & In					
Report to: Becky Haskell	Email To: becky.haskell@ghd.com;Glenn.Quinney@ghd.c												12065 Lebanon Mount Juliet, TN Phone: 615-758-	37122					
Project Description: Lovington Gathering WTI, SRS 2006-14	12	City/State Collected:	7.1.8		Please C										Phone: 800-767- Fax: 615-758-58				
Phone: 432-250-7917	Client Project 11209905		Lab Project # PLAINSGHD-11209905												SDG#U1	58776			
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Collected by (signature):		(Lab MUST Be		Quote #	Quote # Date Results Needed No. of		Amb-HC								Template: T167394 Prelogin: P792132				
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* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other	Remarks: 1 nvc	THE RESERVE TO SERVE THE PARTY OF THE PARTY	CALLO IL	American 10905) Ear	200 200	nou	Hn: (42e	Camil	lle E	Flow_	Tem	- 1		COC Sig Bottles Correct	Sample Receipt (1 Present/Intac ned/Accurate: arrive intact: bottles used: ent volume sent				
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Relinquished by : (Signature) Date:		ate:	Time:	Receive	Received for lab by: (Signatu				ceived for lab by: (Signature)				Da	Date: Time: 9:30			Hold:		Condition NCF /



ANALYTICAL REPORT

October 07, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1266685

Samples Received: 09/25/2020

Project Number: 11209905

Description: Lovington Gathering WTI, SRS 2006-142

Site: LOVINGTON GATHERING

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley Project Manager





















PROJECT:

11209905

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Tr: TRRP Summary	5
TRRP form R	6
TRRP form S	7
TRRP Exception Reports	8
Sr: Sample Results	9
BEGINNING L1266685-01	9
MIDDLE L1266685-02	10
Qc: Quality Control Summary	11
Volatile Organic Compounds (GC) by Method 8021B	11
GI: Glossary of Terms	12
Al: Accreditations & Locations	13
Sc: Sample Chain of Custody	14





















SAMPLE SUMMARY



BEGINNING L1266685-01 GW			Heath Boyd	09/24/20 08:20	09/25/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1553323	1	10/03/20 14:52	10/03/20 14:52	AV	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MIDDLE L1266685-02 GW			Heath Boyd	09/24/20 08:50	09/25/20 09	:00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1553323	1	10/03/20 15:17	10/03/20 15:17	AV	Mt. Juliet, TN





















Mark W. Beasley

Project Manager

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.

¹Cp



















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



Lab	orato	ry Name: Pace Analytical National	LRC Date: 10/07/2020 16:44							
	ject N 06-142	lame: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1266685-01 and 02							
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1553323							
# ¹	A ²	Description	Yes	No	NA ³	NR⁴	ER# ⁵			
R1	OI	Chain-of-custody (C-O-C)		•		•	•	•		
	•	Did samples meet the laboratory's standard conditions	of sample acceptability upon receipt?	Х						
		Were all departures from standard conditions describe			Х					
R2	OI	Sample and quality control (QC) identification				•				
		Are all field sample ID numbers cross-referenced to the	e laboratory ID numbers?	Х		I	I			
		Are all laboratory ID numbers cross-referenced to the		Х						
R3	OI	Test reports								
		Were all samples prepared and analyzed within holding	a times?	Х		Ι	Ι			
		Other than those results < MQL, were all other raw value		X						
		Were calculations checked by a peer or supervisor?	so and total ay canadation orange as	X	i e					
		Were all analyte identifications checked by a peer or si	unervisor?	X						
		Were sample detection limits reported for all analytes r		X		1	 			
		Were all results for soil and sediment samples reported		X	 					
		Were % moisture (or solids) reported for all soil and sec		 ^	 	X	_	<u> </u>		
		, , ,		-		+	-			
		Were bulk soils/solids samples for volatile analysis extr	acted with methanol per SW846 Method 5035?	-	<u> </u>	X				
D.4	I a	If required for the project, are TICs reported?				X	<u> </u>			
R4	0	Surrogate recovery data		T	1	1	r	1		
		Were surrogates added prior to extraction?		X	.					
	1	Were surrogate percent recoveries in all samples within	n the laboratory QC limits?	X			<u> </u>	<u> </u>		
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		ļ				
		Were method blanks taken through the entire analytical cleanup procedures?	al process, including preparation and, if applicable,	Х						
		Were blank concentrations < MQL?		X						
R6	OI	Laboratory control samples (LCS):								
		Were all COCs included in the LCS?		Х						
		Was each LCS taken through the entire analytical proc	edure, including prep and cleanup steps?	Х						
		Were LCSs analyzed at the required frequency?		Х						
		Were LCS (and LCSD, if applicable) %Rs within the laborated within the l	oratory QC limits?	Х						
		Does the detectability check sample data document th used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х						
		Was the LCSD RPD within QC limits?		X						
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	9			•				
		Were the project/method specified analytes included in			1	X	Г	I		
		Were MS/MSD analyzed at the appropriate frequency?				Х				
		Were MS (and MSD, if applicable) %Rs within the labora				X				
		Were MS/MSD RPDs within laboratory QC limits?	atory do minto.			X				
R8	OI	Analytical duplicate data		l .		1 ~	<u> </u>	l		
NO	01	Were appropriate analytical duplicates analyzed for ea	ch matrix?	Π	1	Ιx	Π	I		
		Were analytical duplicates analyzed at the appropriate		 	<u> </u>	X	_	1		
		Were RPDs or relative standard deviations within the la		 	 	X	-			
R9	OI	Method quantitation limits (MQLs):	iboratory QC limits:				<u> </u>			
RS	JOI		laboratory, data poplyago?	X	1	Т	г	ı		
		Are the MQLs for each method analyte included in the		_	1	1	 			
		Do the MQLs correspond to the concentration of the lo		X	-	1	-			
D40	Lo	Are unadjusted MQLs and DCSs included in the labora	илу чана раскаде:	X			L			
R10	OI	Other problems/anomalies	and in this LDC and ED2	T v/			ı	ı		
		Are all known problems/anomalies/special conditions r		X	1	-	<u> </u>	 		
		the sample results?	r the SDL to minimize the matrix interference effects on	Х						
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?								

^{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;

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



Lab	orato	ory Name: Pace Analytical National	LRC Date: 10/07/2020 16:44							
	ject 1 06-14	Name: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1266685-01 and 02							
Rev	/iewe	er Name: Mark W. Beasley	Prep Batch Number(s): WG1553323							
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵		
S1	OI	Initial calibration (ICAL)					•			
		Were response factors and/or relative response fac	ctors for each analyte within QC limits?			X				
		Were percent RSDs or correlation coefficient criteri	ia met?	Х			1			
		Was the number of standards recommended in the	method used for all analytes?	Х						
		Were all points generated between the lowest and	highest standard used to calculate the curve?	Х						
		Are ICAL data available for all instruments used?	-	Х						
		Has the initial calibration curve been verified using	an appropriate second source standard?	Х						
S2	OI	Initial and continuing calibration verification (ICCV a	and CCV) and continuing calibration blank (CCB):	•						
		Was the CCV analyzed at the method-required free	quency?	Х			1			
		Were percent differences for each analyte within the	ne method-required QC limits?	Х						
		Was the ICAL curve verified for each analyte?		Х						
		Was the absolute value of the analyte concentratio	n in the inorganic CCB < MDL?			Х	1			
S3	0	Mass spectral tuning		•				•		
	•	Was the appropriate compound for the method use	ed for tuning?			X	T T			
		Were ion abundance data within the method-requir				Х	1			
S4	0	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, s	pectral data) reviewed by an analyst?	Х			1			
		Were data associated with manual integrations flag		X		1	1			
S6	0	Dual column confirmation				•				
		Did dual column confirmation results meet the met	hod-required QC?			X				
S7	0	Tentatively identified compounds (TICs)		<u>'</u>	•			•		
	•	If TICs were requested, were the mass spectra and	TIC data subject to appropriate checks?			X				
S8	ı	Interference Check Sample (ICS) results						•		
		Were percent recoveries within method QC limits?			T	Τx	T			
S9		Serial dilutions, post digestion spikes, and method	of standard additions	<u>'</u>	•		•			
		Were percent differences, recoveries, and the linear			Π	X	T			
S10	OI	Method detection limit (MDL) studies		<u> </u>	•		•			
		Was a MDL study performed for each reported ana	lyte?	Х		I	Τ			
		Is the MDL either adjusted or supported by the ana		X			1			
S11	OI	Proficiency test reports	,				1			
			ne applicable proficiency tests or evaluation studies?	X		T	T	T		
S12	OI	Standards documentation	· · · · · · · · · · · · · · · · · · ·	<u> </u>	1		•			
		Are all standards used in the analyses NIST-traceal	ole or obtained from other appropriate sources?	X	T	T	T			
S13	OI	Compound/analyte identification procedures	and the state of t							
		Are the procedures for compound/analyte identification	ation documented?	X		T	I			
S14	OI	Demonstration of analyst competency (DOC)								
		Was DOC conducted consistent with NELAC Chapt	ter 5?	X				1		
		Is documentation of the analyst's competency up-to		X	1		1	t -		
S15	OI	Verification/validation documentation for methods								
	<u> </u>		umented, verified, and validated, where applicable?	X	T	T	T			
S16	OI	Laboratory standard operating procedures (SOPs)	, romes, and randated, milete applicable.							
	Ţ .	Are laboratory SOPs current and on file for each me	ethod performed	T X	П	T	Т	I		
			The state of the s			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.
 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
 NA = Not applicable;
 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 Page 185 of 27 ONE LAB. NATIONWIDE.



Laboratory Name: Pace Analytical National	LRC Date: 10/07/2020 16:44			
Project Name: Lovington Gathering WTI, SRS 2006-142	Laboratory Job Number: L1266685-01 and 02			
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1553323			
ER #1 Description				

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;

The Exception Report intentionally left blank, there are no exceptions applied to this SDG.

^{5.} ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

ONE LAB. NAPagev186 of 217

Collected date/time: 09/24/20 08:20

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	10/03/2020 14:52	WG1553323
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2020 14:52	WG1553323
Ethylbenzene	U		0.000160	0.000500	0.000500	1	10/03/2020 14:52	WG1553323
Total Xylene	U		0.000510	0.00150	0.00150	1	10/03/2020 14:52	WG1553323
(S) a,a,a-Trifluorotoluene(PID)	106				79.0-125		10/03/2020 14:52	WG1553323





















ONE LAB. NAPagev187 of 217

Collected date/time: 09/24/20 08:50

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	10/03/2020 15:17	WG1553323
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2020 15:17	WG1553323
Ethylbenzene	U		0.000160	0.000500	0.000500	1	10/03/2020 15:17	WG1553323
Total Xylene	U		0.000510	0.00150	0.00150	1	10/03/2020 15:17	WG1553323
(S) a,a,a-Trifluorotoluene(PID)	105				79.0-125		10/03/2020 15:17	WG1553323





















Volatile Organic Compounds (GC) by Method 8021B

QUALITY CONTROL SUMMARY

ONE LAB. NAPagev188 of 217

L1266685-01,02

Method Blank (MB)

(MB) R3578727-3 10/03/2	20 12:21			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	105			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3578727-1 10/03/20 10:28							
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier		
Analyte	mg/l	mg/l	%	%			
Benzene	0.0500	0.0574	115	77.0-122			
Toluene	0.0500	0.0559	112	80.0-121			
Ethylbenzene	0.0500	0.0571	114	80.0-123			
Total Xylene	0.150	0.171	114	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

Appreviations and	a Deminions
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana 1	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T104704245-18-15
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

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

Our Locations

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





















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						Pres Chk										Pace	Analytical*
W. R. B.							1			31							
Report to: Becky Hask	ell		Email To: Beck	y. Haskell	e GHD. Co	m	5-H									12065 Lebanon Ro Mount Juliet, TN 3 Phone: 615-758-5	7122
Becky Hask Project Description: Lowington G	ses allerin	2006-1	42	City/State Collected: Lov	ington, M	UM	1 Amb									Phone: 800-767-5 Fax: 615-758-5859	59 D. A.
Phone: Fax:	Client Project			Pla: ns(-1)	10-117099	05	5									L# 170	6685
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Collected by (print): Heath Boyd	Site/Facility II	on Gathe	ering	P.O.#			HODEN TO THE PARTY OF THE PARTY									Acctnum:	
Collected by (signature):		Lab MUST Be		Quote #			1									Template:	
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Beginsing	Grab	GW	-	19/24/20	1870	3	X									Nemarks	Sample # (lab on)
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* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:						Paris .		4	pH .		Tem		_	COC Seal	ample Receipt C Present/Intac ed/Accurate: arrive intact:	
DW - Drinking Water OT - Other	Samples retur UPS Fe	ned via: edEx Cou	rier	Tr	acking #39	71	7	85	29	Flow	71	_ Othe	-		Sufficie	bottles used: ent volume sent If Applica	
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ANALYTICAL REPORT

November 17, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1282811 Samples Received: 11/06/2020

Project Number: 11209905/02

Description: Lovington Gathering WTI, SRS 2006-142

Site: SRS 2006-142

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 quidate provided in laboratory standard operating procedures ENV-SDP-MTIL-0067 and ENV-SDP-MTIL-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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Sc: Sample Chain of Custody

25

SAMPLE SUMMARY



MW-5R L1282811-01 GW			Collected by Zach Comino	Collected date/time 11/05/20 10:30	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573895	1	11/10/20 18:52	11/10/20 18:52	ADM	Mt. Juliet, TN
MW-7 L1282811-02 GW			Collected by Zach Comino	Collected date/time 11/05/20 10:55	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573895	1	11/10/20 19:13	11/10/20 19:13	ADM	Mt. Juliet, TN
MW-9 L1282811-03 GW			Collected by Zach Comino	Collected date/time 11/05/20 11:20	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573895	1	11/10/20 19:34	11/10/20 19:34	ADM	Mt. Juliet, TN
MW-11 L1282811-04 GW			Collected by Zach Comino	Collected date/time 11/05/20 11:45	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573895	1	11/10/20 19:55	11/10/20 19:55	ADM	Mt. Juliet, TN
MW-3R L1282811-05 GW			Collected by Zach Comino	Collected date/time 11/05/20 12:10	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573895	1	11/10/20 20:16	11/10/20 20:16	ADM	Mt. Juliet, TN
MW-2R L1282811-06 GW			Collected by Zach Comino	Collected date/time 11/05/20 12:35	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1573895	1	11/10/20 20:37	11/10/20 20:37	ADM	Mt. Juliet, TN
MW-1R L1282811-07 GW			Collected by Zach Comino	Collected date/time 11/05/20 13:00	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1576664	10	11/16/20 02:50	11/16/20 02:50	ВМВ	Mt. Juliet, TN
MW-12 L1282811-08 GW			Collected by Zach Comino	Collected date/time 11/05/20 13:25	Received da 11/06/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
1/1 - 1						





















Volatile Organic Compounds (GC) by Method 8021B

WG1576664

10

11/16/20 03:13

11/16/20 03:13

BMB

Mt. Juliet, TN

MW-4 L1282811-09 GW			Collected by Zach Comino	11/05/20 13:50	11/06/20 09:0	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1576664	20	11/16/20 03:35	11/16/20 03:35	ВМВ	Mt. Juliet, TN
			Collected by	Collected date/time	Received dat	e/time
DUP-1 L1282811-10 GW			Zach Comino	11/05/20 00:00	11/06/20 09:0	00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1574584	1	11/11/20 19:01	11/11/20 19:01	DWR	Mt. Juliet, TN





















Mark W. Beasley

Project Manager

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.

[']Cp



















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



Lab	orato	ry Name: Pace Analytical National	LRC Date: 11/17/2020 13:43					
	ect N 6-142	lame: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1282811-01, 02, 03, 04, 05,	06, 07	7, 08, C)9 and '	10	
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1573895, WG1574584 and	WG157	6664			
# 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	s of sample acceptability upon receipt?	Х		I		
		Were all departures from standard conditions describe				Х		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the	e laboratory ID numbers?	Х	Π	T		
		Are all laboratory ID numbers cross-referenced to the	•	Х				
R3	OI	Test reports				•		
		Were all samples prepared and analyzed within holdin	a times?	Х	Π	T		
		Other than those results < MQL, were all other raw value		Х				
		Were calculations checked by a peer or supervisor?	· · · · · · · · · · · · · · · · · · ·	Х				
		Were all analyte identifications checked by a peer or s	upervisor?	X				
		Were sample detection limits reported for all analytes		Х		1	1	
		Were all results for soil and sediment samples reported		X				
		Were % moisture (or solids) reported for all soil and see	, ,			X		
		Were bulk soils/solids samples for volatile analysis ext				X	 	
		If required for the project, are TICs reported?	nacion mai meniano per este le menion ecce.			X		
R4	О	Surrogate recovery data				1 ~		
		Were surrogates added prior to extraction?		X	Ι	T	T	
		Were surrogate percent recoveries in all samples within	in the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples	in the laboratory we limits.			_		
INO	J 0.	Were appropriate type(s) of blanks analyzed?		X	Ι	Т	I	Ι
		Were blanks analyzed at the appropriate frequency?		X			1	
		Were method blanks taken through the entire analytical cleanup procedures?	al process, including preparation and, if applicable,	X				
		Were blank concentrations < MQL?		X		1		
R6	OI	Laboratory control samples (LCS):				_		
	1 0.	Were all COCs included in the LCS?		X	П	1	T	
		Was each LCS taken through the entire analytical proc	edure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	out of mounty prop and country stope.	X	\vdash	1		
		Were LCS (and LCSD, if applicable) %Rs within the labor	pratory QC limits?	X		+		
			e laboratory's capability to detect the COCs at the MDL	X				
		Was the LCSD RPD within QC limits?		X		+	 	
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) dat	a		1	1	l.	1
	J 0.	Were the project/method specified analytes included i				X		
		Were MS/MSD analyzed at the appropriate frequency?				X	1	
		Were MS (and MSD, if applicable) %Rs within the labor				X	1	
		Were MS/MSD RPDs within laboratory QC limits?				X		
R8	OI	Analytical duplicate data			<u> </u>	1		
	, J.	Were appropriate analytical duplicates analyzed for ea	ch matrix?			Τx	I	
		Were analytical duplicates analyzed at the appropriate				X		
		Were RPDs or relative standard deviations within the la	. ,			X		
R9	OI	Method quantitation limits (MQLs):	activities and minustration and activities activities and activities activities and activities activities and activities activities activities and activities a			1 '`	<u> </u>	
		Are the MQLs for each method analyte included in the	laboratory data package?	X		T		
		Do the MQLs correspond to the concentration of the lo		X		†		
		Are unadjusted MQLs and DCSs included in the labora		X		1		1
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions	noted in this LRC and ER?	X		T		
		Was applicable and available technology used to lowe	1		1			
		the sample results?	aboratory Accreditation Program for the analytes, matrices	X		-		
		and methods associated with this laboratory data pack		X		1		

^{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;

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



Lab	orato	ory Name: Pace Analytical National	LRC Date: 11/17/2020 13:43					
	ject N 06-14	Name: Lovington Gathering WTI, SRS 2	Laboratory Job Number: L1282811-01, 02, 03, 04	, 05, 06, 07	7, 08, 0	09 and	10	
Rev	viewe	er Name: Mark W. Beasley	Prep Batch Number(s): WG1573895, WG1574584	and WG157	6664			
# ¹	A ²	Description		Yes	No	NA ³	NR⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)			•	•		
	•	Were response factors and/or relative response factor	rs for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria m	•	Х				
		Was the number of standards recommended in the me		Х			1	
		Were all points generated between the lowest and hig	,	Х		1		
		Are ICAL data available for all instruments used?		Х				
		Has the initial calibration curve been verified using an	appropriate second source standard?	Х				
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration blank (CCB):	'		•		
		Was the CCV analyzed at the method-required frequen	ncy?	Х				
		Were percent differences for each analyte within the n		Х				
		Was the ICAL curve verified for each analyte?		Х		1		
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?			X	1	
S3	0	Mass spectral tuning				•		
		Was the appropriate compound for the method used f	or tuning?			Τx		
		Were ion abundance data within the method-required	-			X	1	
S4	0	Internal standards (IS)		<u> </u>	1	•	1	
		Were IS area counts and retention times within the me	ethod-required QC limits?	X	T	T	T	1
S5	OI	Raw data (NELAC Section 5.5.10)						
		Were the raw data (for example, chromatograms, spec	ctral data) reviewed by an analyst?	X		Т		T
		Were data associated with manual integrations flagged		X		1		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method	d-required QC?			T x		T
S7	То	Tentatively identified compounds (TICs)						
_		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?	1		T x	T	T
S8	Ti	Interference Check Sample (ICS) results						
		Were percent recoveries within method QC limits?			I	Тх	T	1
S9	lı -	Serial dilutions, post digestion spikes, and method of s	standard additions		1	1		
		Were percent differences, recoveries, and the linearity		T	T	Тх	I	T
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte	25?	X	Τ	T	T	1
		Is the MDL either adjusted or supported by the analysi		X		1		
S11	OI	Proficiency test reports						
		Was the laboratory's performance acceptable on the a	applicable proficiency tests or evaluation studies?	X	Τ	T	T	1
S12	OI	Standards documentation	ppindazio pronoienty teste er evaluation station.		<u> </u>			
0.2	<u> </u>	Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X	Т	T	Т	T
S13	OI	Compound/analyte identification procedures	or obtained from other appropriate searces.	<u> </u>	1	<u> </u>		1
0.0	10.	Are the procedures for compound/analyte identification	on documented?	T X	Т	T	Τ	1
S14	OI	Demonstration of analyst competency (DOC)	documented.					1
0		Was DOC conducted consistent with NELAC Chapter 5	5?	X	T	T	T	T
		Is documentation of the analyst's competency up-to-da		X	+		+	1
S15	OI	Verification/validation documentation for methods (NE		^				1
313	101	Are all the methods used to generate the data docume		X	T		T	T
S16	OI	Laboratory standard operating procedures (SOPs)	entea, vermea, ana vamaatea, where applicable:	^				1
310	J	Are laboratory SOPs current and on file for each method	od performed	Тх	Т		Т	T
i			ou perioriticu	1 ^		1	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.
 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
 NA = Not applicable;
 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 Revised May



ER # ¹	Description	Frep Batch Number(s). Wei373633, Wei374364 and Wei376664
Poviovo	Name: Mark W. Beasley	Prep Batch Number(s): WG1573895, WG1574584 and WG1576664
Project N 2006-142	ame: Lovington Gathering WTI, SRS	Laboratory Job Number: L1282811-01, 02, 03, 04, 05, 06, 07, 08, 09 and 10
Laborato	ry Name: Pace Analytical National	LRC Date: 11/17/2020 13:43

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).

ONE LAB. NA Rage 201 of 217

Collected date/time: 11/05/20 10:30

o i	*	, ,						
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/10/2020 18:52	WG1573895
Toluene	U		0.000412	0.00100	0.00100	1	11/10/2020 18:52	WG1573895
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/10/2020 18:52	WG1573895
Total Xylene	U		0.000510	0.00150	0.00150	1	11/10/2020 18:52	WG1573895
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/10/2020 18:52	WG1573895





















ONE LAB. NAPage 202 of 27

Collected date/time: 11/05/20 10:55

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/10/2020 19:13	WG1573895
Toluene	U		0.000412	0.00100	0.00100	1	11/10/2020 19:13	WG1573895
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/10/2020 19:13	WG1573895
Total Xylene	U		0.000510	0.00150	0.00150	1	11/10/2020 19:13	WG1573895
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		11/10/2020 19:13	WG1573895





















ONE LAB. NAPage 203 of 217

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

L1282811

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/10/2020 19:34	WG1573895
Toluene	U		0.000412	0.00100	0.00100	1	11/10/2020 19:34	WG1573895
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/10/2020 19:34	WG1573895
Total Xylene	U		0.000510	0.00150	0.00150	1	11/10/2020 19:34	WG1573895
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/10/2020 19:34	WG1573895





















ONE LAB. NAPage 204 of 2) 7

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

L1282811

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/10/2020 19:55	WG1573895
Toluene	U		0.000412	0.00100	0.00100	1	11/10/2020 19:55	WG1573895
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/10/2020 19:55	WG1573895
Total Xylene	U		0.000510	0.00150	0.00150	1	11/10/2020 19:55	WG1573895
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/10/2020 19:55	WG1573895





















ONE LAB. NAPage 205 of 2) 7

Collected date/time: 11/05/20 12:10

L1282811

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/10/2020 20:16	WG1573895
Toluene	U		0.000412	0.00100	0.00100	1	11/10/2020 20:16	WG1573895
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/10/2020 20:16	WG1573895
Total Xylene	U		0.000510	0.00150	0.00150	1	11/10/2020 20:16	WG1573895
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/10/2020 20:16	WG1573895





















ONE LAB. NAPage 206 of 2)7

Collected date/time: 11/05/20 12:35

L1282811

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0924		0.000190	0.000500	0.000500	1	11/10/2020 20:37	WG1573895
Toluene	U		0.000412	0.00100	0.00100	1	11/10/2020 20:37	WG1573895
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/10/2020 20:37	WG1573895
Total Xylene	U		0.000510	0.00150	0.00150	1	11/10/2020 20:37	WG1573895
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		11/10/2020 20:37	WG1573895





















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Collected date/time: 11/05/20 13:00

L1282811

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.458		0.00190	0.000500	0.00500	10	11/16/2020 02:50	WG1576664
Toluene	U		0.00412	0.00100	0.0100	10	11/16/2020 02:50	WG1576664
Ethylbenzene	U		0.00160	0.000500	0.00500	10	11/16/2020 02:50	WG1576664
Total Xylene	U		0.00510	0.00150	0.0150	10	11/16/2020 02:50	WG1576664
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/16/2020 02:50	WG1576664





















ONE LAB. NAPage 208 of 217

Collected date/time: 11/05/20 13:25

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	1.28		0.00190	0.000500	0.00500	10	11/16/2020 03:13	WG1576664
Toluene	U		0.00412	0.00100	0.0100	10	11/16/2020 03:13	WG1576664
Ethylbenzene	U		0.00160	0.000500	0.00500	10	11/16/2020 03:13	WG1576664
Total Xylene	U		0.00510	0.00150	0.0150	10	11/16/2020 03:13	WG1576664
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		11/16/2020 03:13	WG1576664





















ONE LAB. NA Page 209 of 2) 7

Collected date/time: 11/05/20 13:50

L1282811

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	2.43		0.00380	0.000500	0.0100	20	11/16/2020 03:35	WG1576664
Toluene	U		0.00824	0.00100	0.0200	20	11/16/2020 03:35	WG1576664
Ethylbenzene	U		0.00320	0.000500	0.0100	20	11/16/2020 03:35	WG1576664
Total Xylene	U		0.0102	0.00150	0.0300	20	11/16/2020 03:35	WG1576664
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		11/16/2020 03:35	WG1576664





















ONE LAB. NAPage 210 of 217

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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/11/2020 19:01	WG1574584
Toluene	U		0.000412	0.00100	0.00100	1	11/11/2020 19:01	WG1574584
Ethylbenzene	0.000364	<u>J</u>	0.000160	0.000500	0.000500	1	11/11/2020 19:01	WG1574584
Total Xylene	0.00112	<u>J</u>	0.000510	0.00150	0.00150	1	11/11/2020 19:01	WG1574584
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/11/2020 19:01	WG1574584





















QUALITY CONTROL SUMMARY

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Volatile Organic Compounds (GC) by Method 8021B

L1282811-01,02,03,04,05,06

Method Blank (MB)

(MB) R3591942-3 11/10/20	0 12:13			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	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) R3591942-1 11/10/2	LCS) R3591942-1 11/10/20 09:37								
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier				
Analyte	mg/I	mg/l	%	%					
Benzene	0.0500	0.0490	98.0	77.0-122					
Toluene	0.0500	0.0488	97.6	80.0-121					
Ethylbenzene	0.0500	0.0498	99.6	80.0-123					
Total Xylene	0.150	0.158	105	47.0-154					
(S) a,a,a-Trifluorotoluene(PID)			103	79.0-125					



QUALITY CONTROL SUMMARY

ONE LAB. NA Page 212 of 217

L1282811-10

Volatile Organic Compounds (GC) by Method 8021B

Method Blank (MB)

(MB) R3592049-3 11/11/20	0 12:40			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	101			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3592049-2 11/11/2	LCS) R3592049-2 11/11/20 11:44							
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier			
Analyte	mg/l	mg/l	%	%				
Benzene	0.0500	0.0435	87.0	77.0-122				
Toluene	0.0500	0.0465	93.0	80.0-121				
Ethylbenzene	0.0500	0.0500	100	80.0-123				
Total Xylene	0.150	0.151	101	47.0-154				
(S) a.a.a-Trifluorotoluene(PID)			101	79.0-125				

















Volatile Organic Compounds (GC) by Method 8021B

QUALITY CONTROL SUMMARY

ONE LAB. NA Page 23 of 217

L1282811-07,08,09

Method Blank (MB)

(MB) R3593668-3 11/16/20 01:01 MB RDL MB Result MB Qualifier MB MDL Analyte mg/l mg/l mg/l Benzene U 0.000190 0.000500 Toluene 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) R3593668-1 11/15/2	20 23:54				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0504	101	77.0-122	
Toluene	0.0500	0.0544	109	80.0-121	
Ethylbenzene	0.0500	0.0566	113	80.0-123	
Total Xylene	0.150	0.170	113	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			103	79.0-125	







[†]Cn















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

t.
ce.
ndard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and sed to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be ental media.
ple Detection Limit.
ntitation Limit.
ar compound or analysis performed. Some Analyses and Methods will have multiple analytes
ains an interfering material, the sample preparation volume or weight values differ from the ions of analytes in the sample are higher than the highest limit of concentration that the report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the dy been corrected for this factor.
ecovery ranges or % difference value that the laboratory has historically determined as normal te being reported. Successful QC Sample analysis will target all analytes recovered or anges.
etter and/or number designation that corresponds to additional information concerning the result oresent, a definition per Qualifier is provided within the Glossary and Definitions page and f possible implications of the Qualifier in the Case Narrative if applicable.
result (corrected for any sample specific characteristics) reported for your sample. If there was urned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" s). The information in the results column should always be accompanied by either an MDL or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect
ma.
the included sample results, including a discussion of any non-conformances to protocol e receipt by the laboratory from the field or during the analytical process. If present, there will Narrative to discuss the meaning of any data qualifiers used in the report.
includes the results of the laboratory quality control analyses required by procedure or ist in evaluating the validity of the results reported for your samples. These analyses are not samples typically, but on laboratory generated material.
ated in the field when your samples were initially collected. This is used to verify the time and rson collecting the samples, and the analyses that the laboratory is requested to perform. This cuments all persons (excluding commercial shippers) that have had control or possession of the collection until delivery to the laboratory for analysis.
rt will provide the results of all testing performed on your samples. These results are provided parated by the analyses performed on each sample. The header line of each analysis section for the name and method number for the analysis reported.
cical Report defines the specific analyses performed for each sample ID, including the dates and for analysis.

Qualifier Description

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

























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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky 16	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05		
Nevada	TN-03-2002-34		
New Hampshire	2975		
New Jersey-NELAP	TN002		
New Mexico ¹	n/a		
New York	11742		
North Carolina	Env375		
North Carolina ¹	DW21704		
North Carolina ³	41		
North Dakota	R-140		
Ohio-VAP	CL0069		
Oklahoma	9915		
Oregon	TN200002		
Pennsylvania	68-02979		
Rhode Island	LAO00356		
South Carolina	84004		
South Dakota	n/a		
Tennessee 1 4	2006		
Texas	T104704245-18-15		
Texas ⁵	LAB0152		
Utah	TN00003		
Vermont	VT2006		
Virginia	460132		
Washington	C847		
West Virginia	233		
Wisconsin	9980939910		
Wyoming	A2LA		

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

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

Our Locations

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





















		Billing Informat	ion:		1	Analysis / Container / Pr	eservative	Chain of Custody Page of
Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703 Report to: Becky Haskell		Camille Brya	Camille Bryant 10 Desta Dr., Ste. 550E Midland, TX 79705 Email To: becky.haskell@ghd.com;Glenn.Quinney@ghd.c					Pace Analytical National Center for Testing & Innovation
								12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858
Project Description:	City/Stat		Please C	Circle:				Phone: 800-767-5859 Fax: 615-758-5859
Lovington Gathering WTI, SRS 2006-14	Client Project #	WVVVIII	b Project #	CI EI				SDG# 42828 11
Phone: 432-250-7917	11209905/02	P	LAINSGHD-11209905					J126
Collected by (print):	Site/Facility ID # SRS 2006-142	P.	0.#	Ţ	1			Acctnum: PLAINSGHD
Collected by (signature)	Rush? (Lab MUS	Be Notified) Q	unte#	9				Template: T167394
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mw-j	Grab GV		1/5/20 105:	53X				-12
MW-9	- GW	I .	1120	SEA TESTAMENTO STA				-44
MW-11	GV	1	1145	3 X				-
MW-3R	GV	/	1210	X				-06
MW-2R	GV		1235	1		Losard -		
MW-IR	GV		1300	100000000000000000000000000000000000000				-0
MW-12	GV		1325					-09
MW-4R	GV		1350	1 1				70
Dup-1	GV GV	V	•	N				Sample Receipt Checks 1
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o chaler				10500	0110		Tat Taken	s - the various of the Green
DW - Drinking Water OT Other	Samoles return divib To Uru Leutin die Co	And the second						
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Each Comino /3	16 11/5/	20 153	Received by: (Sign	ature)		Toma: °C Bo	TBR	servation required by Login: Date/Time
Relinquished by : (Signature)	Date: /	Time:	neceived by. (Sign	otore)		7.4-2-2th	30	
Relinquished by : (Signature)	Date:	Time:	Received for late b	y: (Signature)		Date: // Tir	me: Hold:	Condition: NCF / OK

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

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

Action 22886

CONDITIONS

Operator:	OGRID:
PLAINS MARKETING L.P.	34053
333 Clay St, Ste 1600	Action Number:
Houston, TX 77002	22886
	Action Type:
	[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2020 Annual Groundwater Monitoring Report: Content satisfactory Contractor recommendations approved by OCD and are as follows; 1. Continue NMOCD-approved quarterly and semi-annual groundwater monitoring events 2. Continue weekly BTEX abatement events and operation of the oxygen emitter installed in MW-12 3. Submit the Annual Monitoring Report to the OCD no later than March 31, 2022.	1/11/2022