By Nelson Velez at 3:48 pm, Jan 11, 2022



Review of 2020 Annual Groundwater Monitoring Report: Content satisfactory

Contractor recommendations approved by OCD and are as follows; Continue quarterly groundwater gauging and sampling according to the schedule approved by the NMOCD

Sample monitor wells MW-2 (if there is sufficient water), MW-11R, MW-16R, MW-21R, MW-24, and MW-25 for PAH during the fourth quarter of 2021. Additionally, any wells that cease to have LNAPL will be sampled for PAH compounds

Terminate sampling from monitor wells MW-4, MW-6, MW-7, MW-12R, MW-17R, MW-18R, MW-19R, MW-20R, MW-22 and recovery well RW-12 for PAH

Continue remediation of the soil profile and groundwater by operating the trailer mounted automated remediation system on targeted wells

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

2020 Annual Groundwater Monitoring Report

Darr Angell #1, SRS Darr Angell #1 NW/4, SE/4 of Section 11, T15S, R37E Lea County, New Mexico NMOCD AP-007

Incident ID #: nAPP2108851028

Plains All American Pipeline, L.P.





Table of Contents

1.	Introd	uction	. 1
	1.1	Site History	. 1
2.	Regu	latory Framework	. 2
3.	Grour	ndwater Monitoring	. 3
	3.1	Groundwater Monitoring Methodology	. 3
	3.2	Potentiometric Surface and Gradient	. 3
	3.3	Presence of Light Non-aqueous Phase Liquids (LNAPL)	. 4
	3.4	Dissolved-phase Hydrocarbons in Groundwater	. 4
4.	Corre	ctive Action	. 5
5.	Sumn	nary of Findings	. 6
6.	Reco	mmendations	. 6

Figure Index

Figure 1	Site Location Map
Figure 2	Site Details Map
Figure 3	Groundwater Gradient Map - February 11,2020
Figure 4	Groundwater Gradient Map - May 12,2020
Figure 5	Groundwater Gradient Map - September 14, 2020
Figure 6	Groundwater Gradient Map - October 29, 2020
Figure 7	LNAPL Thickness and Groundwater BTEX Concentration Map - February 14/March 26, 2020
Figure 8	LNAPL Thickness and Groundwater BTEX Concentration Map - May 14, 2020
Figure 9	LNAPL Thickness and Groundwater BTEX Concentration Map - September 17 & 18, 2020
Figure 10	LNAPL Thickness and Groundwater BTEX Concentration Map - November 2 & 5, 2020

Table Index

Tables Em	nbedded in Text	
Table 2.1	NMWQCC Human Health and Toxic Pollutant Standards	. 2
Table 2.2	NMOCD-Approved Sampling Schedule	. 2
Tables Fol	llowing Text	
Table 1	Summary of Fluid Level Measurements - 2019 and 2020	
Table 2	Summary of Dissolved BTEX in Groundwater - 2019 and 2020	
Table 3	Summary of Analytical Results of PAH Compounds in Groundwater	



Appendix Index

Appendix A Charts of LNAPL Thicknesses in Monitor and Recovery Wells vs. Time

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

Appendix C Certified Analytical Reports (not included in draft or printed reports)



1. Introduction

This 2020 *Annual Groundwater Report* is being submitted on behalf of Plains All American Pipeline, L.P. (Plains) by GHD Services Inc. (GHD) in compliance with the New Mexico Oil Conservation Division (NMOCD) correspondence dated May 1998, requiring submittal of an Annual Monitoring report by April 1 of each year. The Site falls under NMOCD Abatement Plan number AP-007. This report describes results of groundwater monitoring conducted in February, May, September, and October/November 2020. Also included are periodic remedial activities completed at the Darr Angell No.1 location (Site) in early 2020. The Site is located in Lea County, New Mexico. Latitude and longitude of the Site are 33.026600°N and 103.166600°W. A Site Location Map is provided as Figure 1 and a Site Details Map is provided as Figure 2.

1.1 Site History

The Site was formerly the responsibility of Enron Oil Trading and Transportation (EOTT) and is currently the responsibility of Plains. A pipeline release was discovered by EOTT employees and details were submitted on a Release Notification and Corrective Action Form (C-141) to the New Mexico Oil Conservation Division (NMOCD) on May 1, 1997. According to the release report, approximately 25 barrels of crude oil were released and 15 barrels were recovered during initial response actions. The release was reported to have occurred from an eight-inch EOTT pipeline and was attributed to internal corrosion.

Beginning on May 29, 2004, project management responsibilities were conducted by Nova Training and Environmental. Monitor wells MW-1 through MW-20 and recovery wells RW-1 through RW-10 were installed at the Site between 2000 and 2011.

GHD took over monitoring, remedial activities, and project management on May 2, 2011. A trailer-mounted mobile dual-phase extraction unit was installed and began operating at the Site in October 2012. The system included four AP4 bottom loading pumps, a vapor-liquid separator, an air compressor, a vacuum extraction manifold, and an above-ground tank for storage of extracted LNAPL and groundwater.

Monitoring wells MW-17, MW-19, and MW-20 were plugged and abandoned with NMOCD approval in October 2014. Replacement monitoring wells MW-17R, MW-19R, and MW-20R, and recovery wells RW-13 and RW-14 were drilled and constructed with NMOCD approval in October 2014. Wells installed in 2014 were professionally surveyed on November 11, 2014.

Monitoring wells MW-12, MW-15, MW-16 and MW-18 were plugged and abandoned with NMOCD approval in February 2017. Monitoring and recovery wells MW-12R, MW-16R, MW-18R, MW-22, MW-23, and RW-12 were installed with NMOCD approval in February 2017. Wells installed in 2017 were professionally surveyed on June 28, 2017.

In July 2019, a Work Plan for Installation of Additional Wells and Plugging Dry wells was submitted to the NMOCD. The work plan proposed to plug and abandon five monitor wells and two recovery wells and installing four new monitor wells and six new recovery wells. The work plan was proposed because fluid levels in several wells had declined making LNAPL recovery no longer feasible and delineation of the contaminant plume could no longer be demonstrated using the existing wells. On



February 19, 2020, monitor wells MW-3, MW-11, MW-13, MW-14, and MW-21 and recovery wells RW-1 and RW-2 were plugged and abandoned. From February 26 through March 3, 2020, monitoring and recovery wells MW-11R, MW-21R, MW-24, MW-25, RW-1R, and RW-15 through RW-19 were installed at the site.

Currently at the site there are twenty-one (21) monitor wells, MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11R, MW-12R, MW-16R, MW-17R, MW-18R, MW-19R, MW-20R, MW-21R, MW-22, MW-23, MW-24, and MW-25, and eighteen (18) recovery wells, RW-1R, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12, RW-13, RW-14, RW-15, RW-16, RW-17, RW-18 and RW-19. The new well locations were professionally surveyed on September 17, 2020. A Site Details Map is presented as Figure 2.

2. Regulatory Framework

The Site has been assigned Abatement Plan number AP-007 by the New Mexico Oil Conservation Division (NMOCD). The NMOCD guidelines require groundwater to be analyzed for potential contaminants as defined in the New Mexico Administrative Code 20.6.2.3103 Section A, which provides the Human Health Standards for Groundwater. The constituents of concern (COCs) in affected groundwater at the Site are benzene, toluene, ethylbenzene, and total xylenes (BTEX); benzo(a)pyrene; and combined naphthalene and monomethylnaphthalenes. NMWQCC standards as shown in Table 2.1 are used to guide assessment and remediation of the Site.

Table 2.1 NMWOCC Human Health and Toxic Pollutant Standards

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

Table 2.2 is the sampling schedule approved by the NMOCD in a correspondence dated March 26, 2020.

Table 2.2 NMOCD-Approved Sampling Schedule

Location	Schedule
MW-4	Annually
MW-7	Semi-Annually
MW-1, MW-2, MW-5, MW-6, MW-8, MW-9, MW-10, MW-12R, MW-16R, MW-17R, MW-18R, MW-19R, MW-20R, MW-22, MW-23, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12, RW-13, and RW-14	Quarterly
MW-3, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, RW-1, and RW-2	Plugged/Abandoned



Monitoring wells MW-11R, MW-21R, MW-24, MW-25 and recovery wells RW-1R, RW-15, RW-16, RW-17, RW-18, and RW-19 were installed in 2020 and are currently monitored on a quarterly basis to establish consistent historical data regarding dissolved phase COCs and LNAPL thicknesses. These wells will be added to the quarterly sampling schedule. A change in the sampling schedule was approved in an email from the NMOCD dated March 26, 2020.

3. Groundwater Monitoring

GHD conducted quarterly groundwater monitoring on February 11 and 14, May 12 and 14, September 14, 17 and 18, and October 29 and November 2 and 5, 2020. A supplemental monitoring event was conducted on March 23 and 26, 2020 to sample the newly installed wells. Wells containing measurable amounts of LNAPL (>0.01 feet) were not sampled.

3.1 Groundwater Monitoring Methodology

All well caps were removed to allow groundwater levels to stabilize prior to gauging. Static fluid levels were measured with an oil-water interface probe to the nearest hundredth of a foot. Wells not containing LNAPL were purged of three casing volumes of groundwater. Samples of groundwater were collected using clean, disposable polyvinyl chloride (PVC) bailers. Duplicate samples were collected from one to two wells during each sampling event. Laboratory-supplied sample containers were filled directly from bailers. Samples were placed on ice immediately after collection and chilled to a temperature of approximately 4°C (39°F). Proper chain-of-custody documentation accompanied samples to Pace Analytical in Mt. Juliet, Tennessee. Samples were analyzed for BTEX according to method EPA 8021B. Selected samples collected in November were analyzed for PAH compounds according to method EPA 8270C-SIM. Volumes of groundwater purged from wells monitored during the first, second, third, and fourth quarters of 2020 were 127.9 gallons, 160.7 gallons, 160.7 gallons, and 123.5 gallons. The total volume of groundwater purged from wells during monitoring events in 2020 was 572.8 gallons.

3.2 Potentiometric Surface and Gradient

All fluid level measurements were from tops of casings which were professionally surveyed. Elevations of the potentiometric surface were calculated using a specific gravity of 0.81 of LNAPL, where it is present. Fluid level measurements made by GHD during the quarterly groundwater monitoring events in 2019 and 2020 are presented in Table 1. Groundwater gradient maps for February, May, September, and October are provided as Figures 3, Figure 4, Figure 5, and Figure 6, respectively. The bottoms of LNAPL columns in MW-1, MW-5, MW-9, MW-10, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, and RW-10 were gauged at the bottoms of well casings during at least one quarterly monitoring event; therefore groundwater elevations could not be calculated on those occasions.

The groundwater flow is toward the southeast and is consistent with previous quarterly monitoring events. Gradients of the potentiometric surface during the first, second, third, and fourth quarterly monitoring events were 0.0017 feet/foot (ft./ft.), 0.0015 ft./ft., 0.0015 ft./ft., and 0.0015 ft./ft., respectively. These gradients are also consistent with gradients during previous years. Elevations of the potentiometric surface fell between October 21, 2019 and October 29, 2020 in all wells in which



fluid measurements could be made accurately. The amounts of decline were between 0.54 foot and 1.00 foot, averaging approximately 0.78 foot.

3.3 Presence of Light Non-aqueous Phase Liquids (LNAPL)

LNAPL was observed in MW-1, MW-5, MW-8, MW-9, MW-10, MW-23, RW-1R, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-13, RW-14, RW-15, RW-16, RW-17, RW-18 and RW-19 throughout 2020. The bottoms of LNAPL columns in MW-1, MW-5, MW-9, M-10, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, and RW-10 were below the bottoms of well casings during at least one quarterly monitoring event of 2020.

Charts showing thicknesses of LNAPL in all wells that have had significant impact by LNAPL are in Appendix A. The charts indicate fluctuating LNAPL thicknesses in RW-4 and RW-13, increases in MW-5, MW-8, MW-23, RW-7, RW-11, RW-14, and RW-15, and decreases in MW-1, MW-9, MW-10, RW-3, RW-8, and RW-10. All other wells exhibited a stable trend.

3.4 Dissolved-phase Hydrocarbons in Groundwater

Analytical results of groundwater monitoring conducted at the Site during 2019 and 2020 are summarized in Table 2. Results of analyses of BTEX during the first, second, third, and fourth quarterly monitoring events are shown on Figure 7, Figure 8, Figure 9, and Figure 10, respectively.

Dissolved benzene concentrations exceeding the NMWQCC Human Health Standard of 0.01 mg/L were observed in MW-2 during the first quarter, MW-6 during the first, second and third quarters, and MW-7 during the third quarter. Monitor well MW-7 has not exhibited concentrations over the NMWQCC Human Health Standard of 0.01 mg/L since December 1, 2017 while monitor well MW-6 has historically exhibited concentration exceeding standards. It is believed that samples MW-6 and MW-7 were mixed up in the field during the September 2020 sampling event because a duplicate sample in MW-7 exhibited concentrations below standards while a duplicate sample from MW-6 exhibited concentration above standards. No other wells exhibited benzene, toluene, ethylbenzene, or xylene concentrations above the NMWQCC Standards of 0.01 mg/L, 0.75 mg/L, 0.75 mg/L, and 0.62 mg/L, respectively.

Charts showing concentrations of dissolved benzene versus time in monitor and recovery wells which have shown significant impact by dissolved benzene are in Appendix B. These wells show visually declining trends of concentrations of dissolved benzene except for MW-2 which fluctuating benzene concentrations. Certified laboratory reports are in Appendix C.

On December 12, 2012, NMCOD corresponded with Plains via email regarding PAHs providing the following directive:

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



In accordance with the NMOCD requirement, samples from MW-11R, MW-16R, MW-21R, MW-24 and MW-25 were analyzed for PAH compounds. Well MW-2 is typically the only well sampled for PAHs that displays any concentrations of these compounds but had an insufficient amount of water during the 2020 event. No PAH compounds exceeded applicable regulatory standards in any of the wells sampled in 2020. Concentrations of PAH compounds that exceeded regulatory standards are also included on Figure 10. A cumulative summary of analytical results or PAH compounds is in Table 3.

4. Corrective Action

Remediation at the Site consists of recovery of LNAPL and impacted groundwater by hand-bailing (in early 2020) and recovery of soil-vapor by a trailer-mounted automated system which also operates total-fluid pumps in a number of wells. Fluids recovered by both methods are transferred to an above-ground storage tank (AST) from which fluids are periodically removed for disposal at a licensed facility per directives of Plains. Fluid levels in the AST are gauged periodically to calculate total volumes of fluids recovered at the site. Total volumes recovered less amounts removed for disposal indicate that approximately 445.04 gallons of LNAPL were recovered during 2020 by operation of the remediation system and by hand-bailing.

Hand bailing of various wells was conducted during the first quarter of 2020 to reduce thicknesses of LNAPL and concentrations of dissolved-phase contaminants. This activity was cancelled for the remainder of the year due to the pandemic. The total volume of LNAPL recovered in this manner during the year was 12.6 gallons. The total volume of groundwater recovered in this manner during the year was 16.6 gallons.

The trailer-mounted groundwater system was operated at the Site for a total of 215 days during 2020. Soil vapor and total fluids were recovered from RW-1R, RW-13, RW-14, RW-16, and RW-18 during 2020. GHD personnel conducted operation and maintenance (O&M) activities each week to maintain efficient soil vapor and fluid recovery. O&M activities included inspections of well-heads and flow lines, servicing pneumatic total fluid pumps and air compressor, adjustment of depths of total fluid pumps, and gauging of recovered fluids in the storage tank, and general housekeeping tasks.

Samples of emissions from the remediation system were collected on March 18, June 18, October 6 and November 23, 2020 and used to calculate emission rates and total emissions from the remediation system. Using a standard flow rate of 40 cubic feet per minute, the maximum rate of emissions during 2020 was 1.2688 TPH lb/hour for the second quarter. Total mass of emissions during 2020 was 3.1358 tons of TPH which is below the ten ton per year limit.

The total volume of LNAPL recovered since the start of the LNAPL abatement program in 1999 is approximately 83,622.74 gallons (1,991.02 barrels).

All liquids recovered from quarterly purging, remediation system operation, BTEX abatement by hand, and LNAPL abatement by hand were transferred to an AST at the Site and later disposed at a licensed disposal facility as directed by Plains.



5. Summary of Findings

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

- Wells MW-2, RW-5, RW-6 and RW-10 were gauged dry periodically throughout 2020.
- Groundwater flow direction is toward the southeast and is consistent with previous monitoring
 events. Gradients of the potentiometric surface during all quarterly groundwater monitoring
 events were between 0.0015 ft./ft. and 0.0017 ft./ft., inclusive.
- Elevations of the potentiometric surface declined in all wells during 2020. The average decline was 0.78 ft.
- LNAPL was observed in MW-1, MW-5, MW-8, MW-9, MW-10, MW-23, RW-1R, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-13, RW-14, RW-15, RW-16, RW-17, RW-18 and RW-19 throughout 2020. The bottoms of LNAPL columns in MW-1, MW-5, MW-9, MW-10, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, and RW-10 were gauged at the bottoms of well casings during at least one quarterly monitoring event.
- Dissolved benzene concentrations exceeding the NMWQCC Human Health Standard of 0.01 mg/L were observed in MW-2 during the first quarter, MW-6 during the first, second and third quarters, and MW-7 during the third quarter. Monitor well MW-7 has not exhibited concentrations over the NMWQCC Human Health Standard of 0.01 mg/L since December 1, 2017 while monitor well MW-6 has historically exhibited concentrations exceeding standards.
- It is believed that samples MW-6 and MW-7 were mixed up in the field during the September 2020 sampling event because a duplicate sample in MW-7 exhibited concentrations below standards while a duplicate sample from MW-6 exhibited concentration above standards. No other wells exhibited benzene, toluene, ethylbenzene, or xylene concentrations above the NMWQCC Standards of 0.01 mg/L, 0.75 mg/L, 0.75 mg/L, and 0.62 mg/L, respectively.
- None of the wells sampled for PAH compounds in 2020 exceeded applicable regulatory standards for these constituents.
- Approximately 445.04 gallons of LNAPL were recovered by the automated trailer mounted remediation system and hand bailing during 2020. The maximum rate of emissions during 2020 was 1.2688 lb. TPH/hour during the second quarter. Total mass of emissions during 2020 was 3.1358 tons TPH.
- The total volume of LNAPL recovered by hand-bailing during the year was 12.6 gallons. This
 practice was cancelled after the 1st quarter of the year due to the pandemic.
- During 2020 the system recovered 432.44 gallons of LNAPL. The total volume of LNAPL recovered since the start of the LNAPL abatement program in 1999 is approximately 83,622.74 gallons (1,991.02 barrels).

6. Recommendations

Based on data and conclusions presented in this report, GHD recommends the following for 2021:



- Continue quarterly groundwater gauging and sampling according to the schedule approved by the NMOCD and annual reporting to the NMOCD. Monitor wells MW-2 (if there is sufficient water), MW-11R, MW-16R, MW-21R, MW-24, and MW-25 will be sampled for PAH compounds during the fourth quarter of 2021. Additionally, any wells that cease to have LNAPL will be sampled for PAH compounds.
- Monitor wells MW-4, MW-6, MW-7, MW-12R, MW-17R, MW-18R, MW-19R, MW-20R, and MW-22 and recovery well RW-12 have established two consecutive years below the Human Health Standards for PAH, therefore these wells will no longer need to be analyzed for PAH unless they are re-impacted by LNAPL.
- Continue remediation of the soil profile and groundwater by operating the trailer mounted automated remediation system on targeted wells.

All of Which is Respectfully Submitted,

Rebecca Haskell

GHD

Rebecca Haskell

Senior project Manager

Tom Larson

Midland Operations Manger

Thomas Clayon

Figures

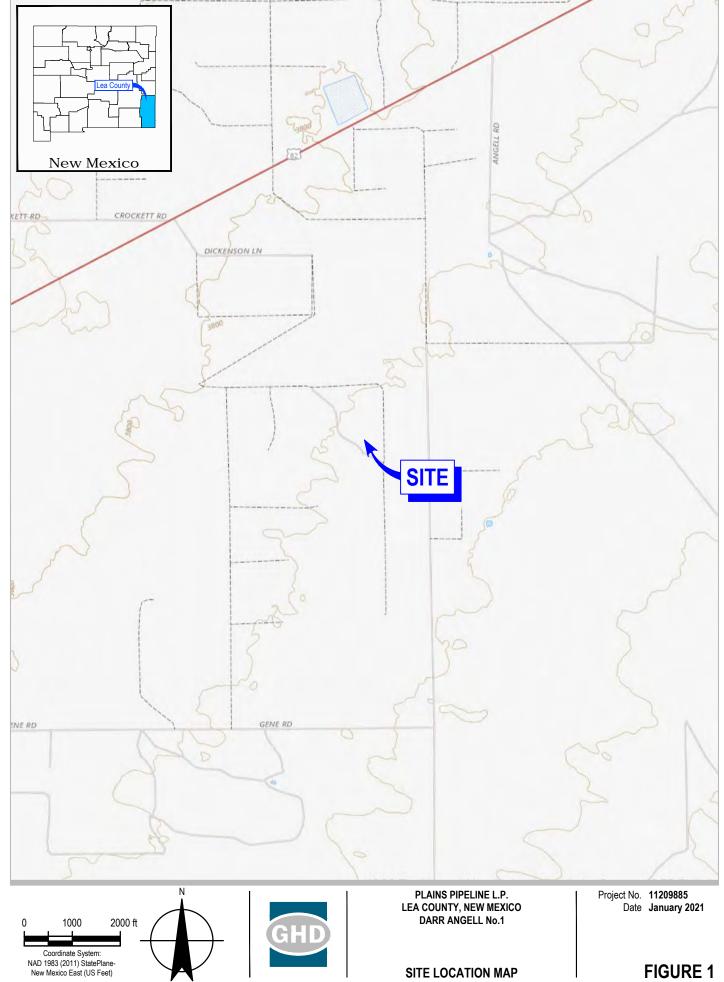
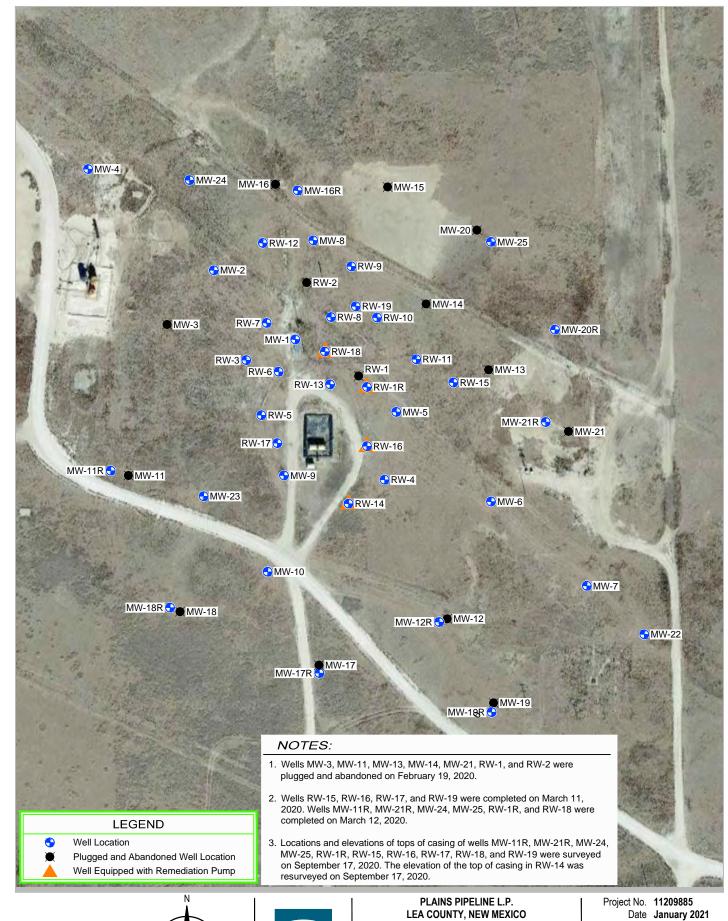


FIGURE 2



New Mexico East (US Feet) Filename: I:(CADIFiles|Eight Digit Job Numbers\1120---\11209885-Darr 1111209885(GWR 2020)\11209885(GWR 2020)GN-DL002.dwg
Plot Date: 20 January 2021 2:56 PM

150 ft

75

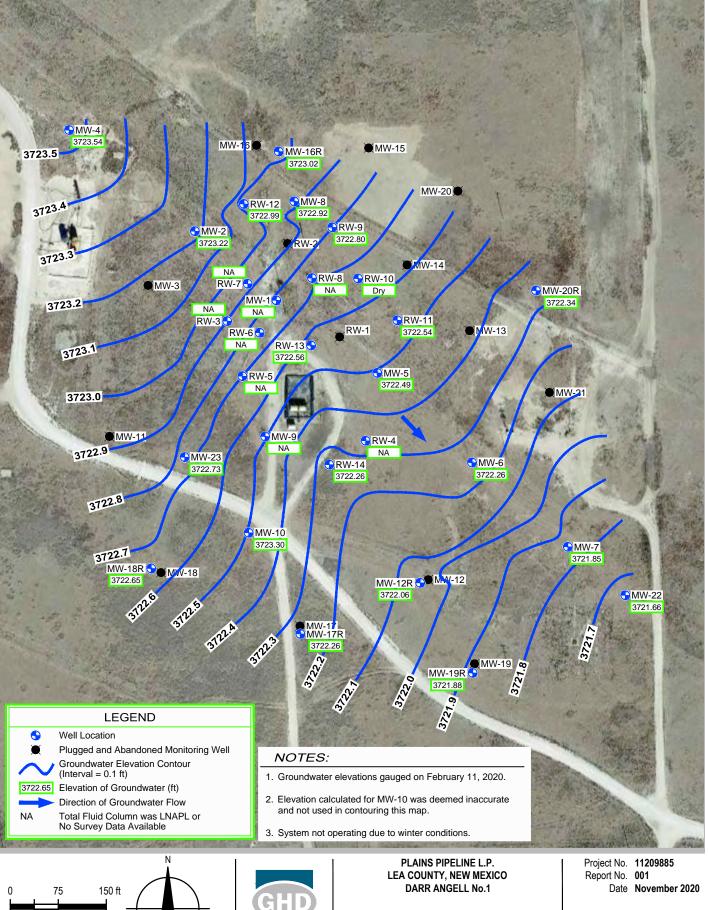
NAD 1983 (2011) StatePlane-

Data Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation Lat/Long: 33.0266° North, 103.1666° West

DARR ANGELL No.1

SITE DETAILS MAP

FIGURE 3

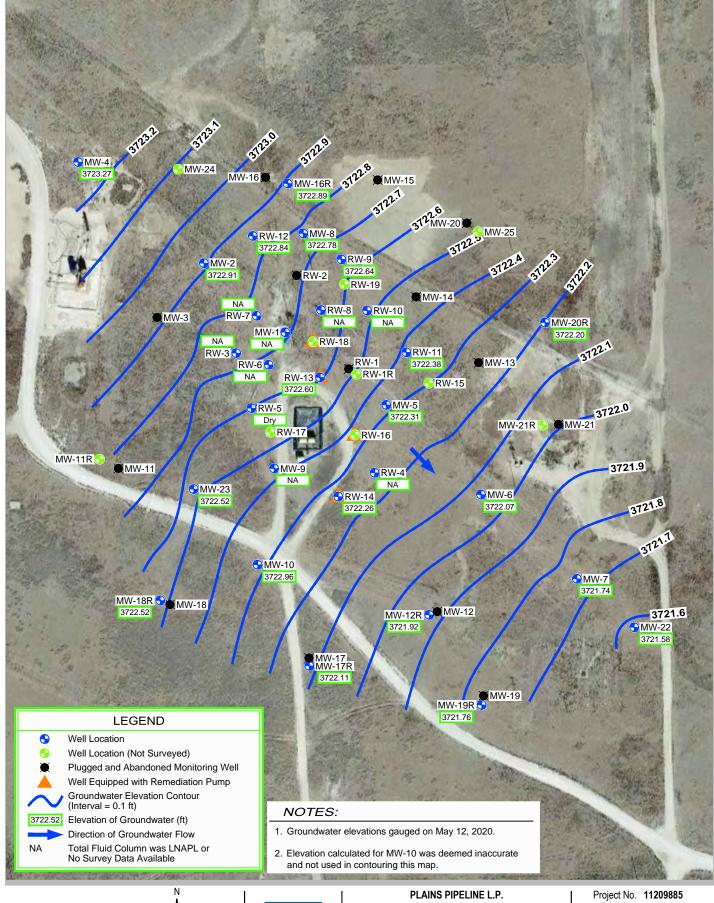


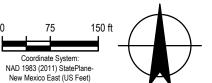
NAD 1983 (2011) StatePlane-

New Mexico East (US Feet)

GROUNDWATER GRADIENT MAP

FEBRUARY 11, 2020





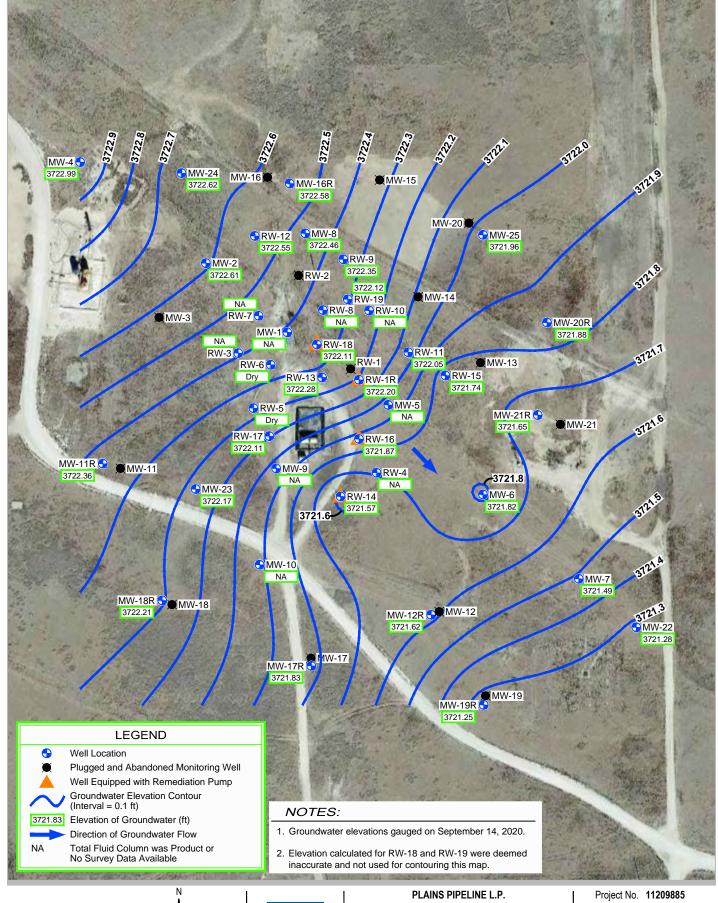


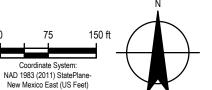
PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO DARR ANGELL No.1

GROUNDWATER GRADIENT MAP MAY 12, 2020

Project No. 11209885 Date January 2021

FIGURE 4





GHD

PLAINS PIPELINE L.P. LEA COUNTY, NEW MEXICO DARR ANGELL No.1

GROUNDWATER GRADIENT MAP SEPTEMBER 14, 2020 Project No. 11209885 Date January 2021

FIGURE 5

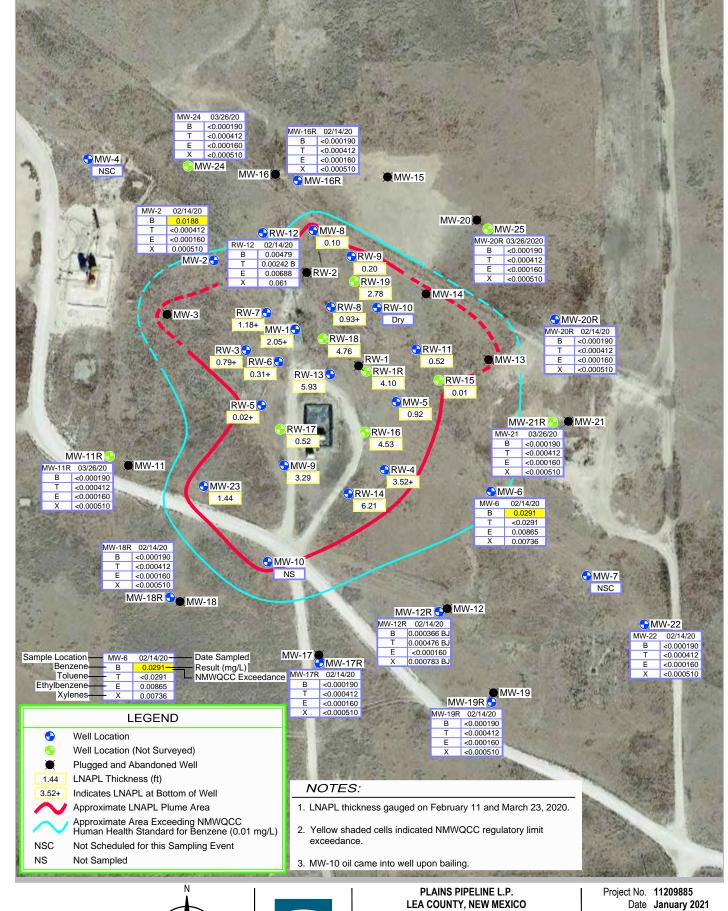
FIGURE 6

NAD 1983 (2011) StatePlane-

GROUNDWATER GRADIENT MAP

OCTOBER 29, 2020

FIGURE 7



New Mexico East (US Feet)

Filename: I:CADiFiles|Eight Digit Job Numbers\1120---\11209885-Darr 1\11209885(GWR 2020)\11209885(GWR 2020)\Cdot 1.209885(GWR 2020)\Cdot 1.209885(G

150 ft

75

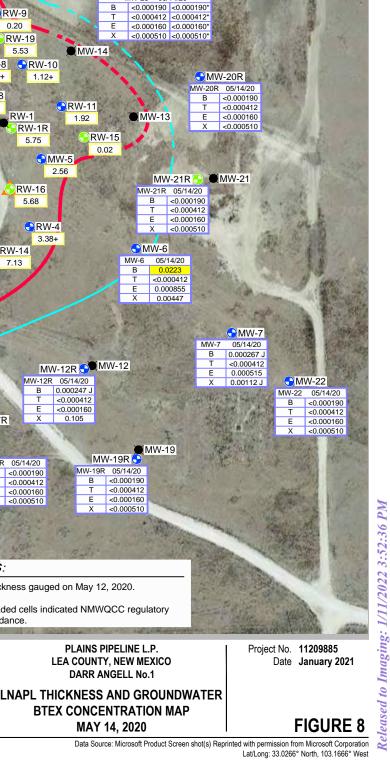
NAD 1983 (2011) StatePlane-

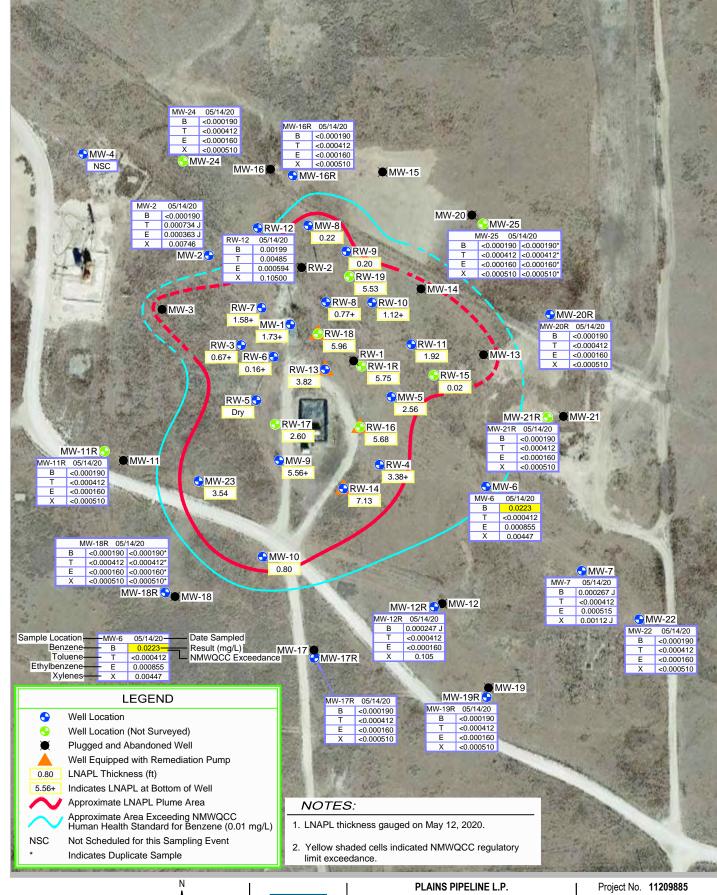
Data Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation Lat/Long: 33.0266° North, 103.1666° West

DARR ANGELL No.1

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP

FEBRUARY 14, 2020 AND MARCH 26, 2020



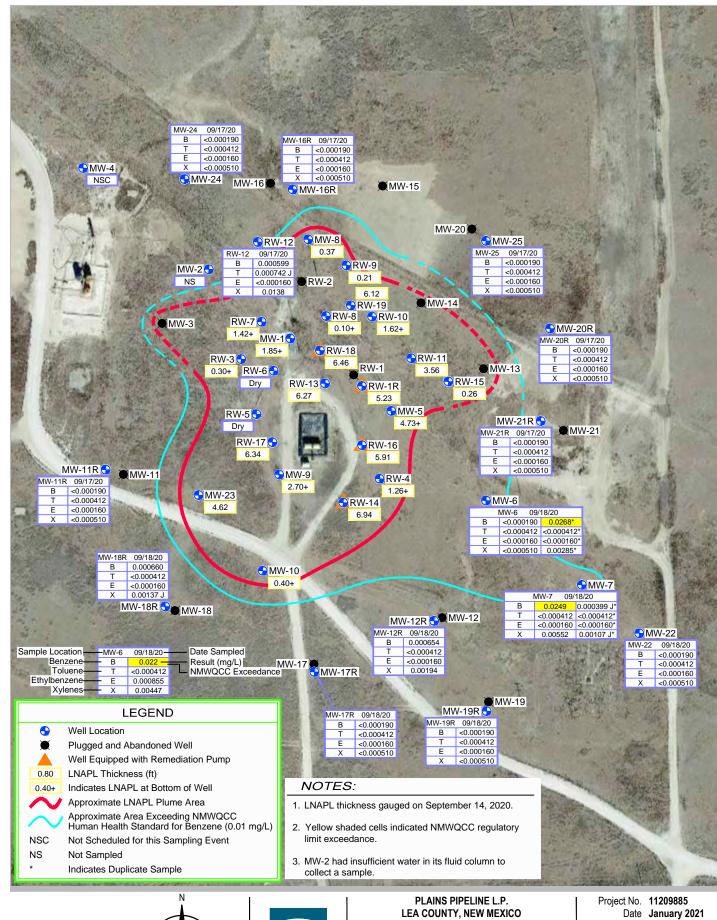


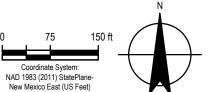
150 ft

75







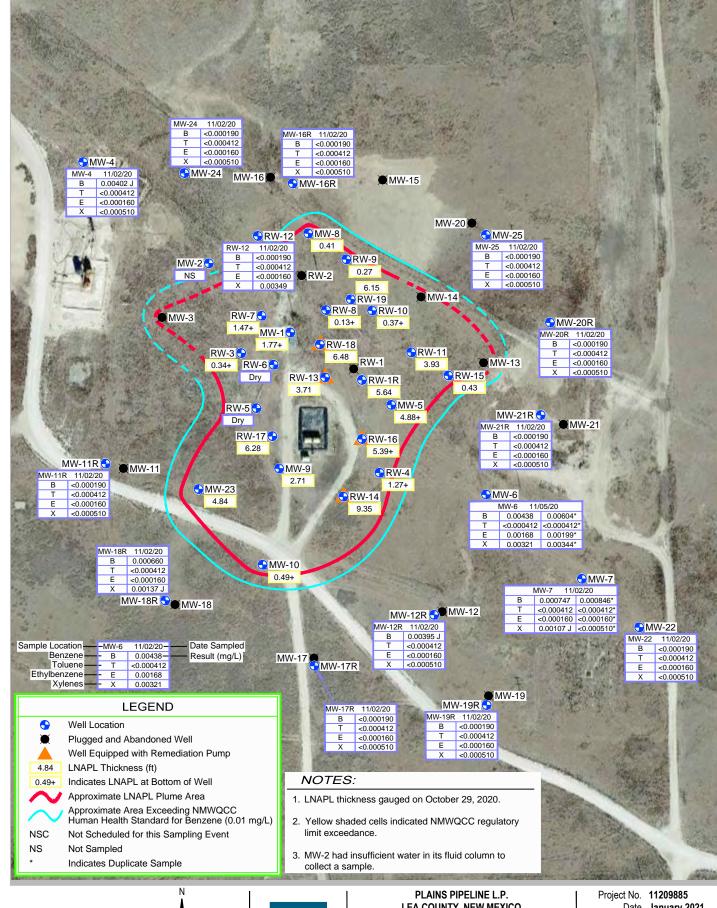


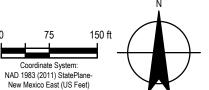


DARR ANGELL No.1

LNAPL THICKNESS AND GROUNDWATER **BTEX CONCENTRATION MAP SEPTEMBER 17 & 18, 2020**

FIGURE 9







LEA COUNTY, NEW MEXICO **DARR ANGELL No.1**

LNAPL THICKNESS AND GROUNDWATER **BTEX CONCENTRATION MAP NOVEMBER 2 AND 5, 2020**

Date January 2021

FIGURE 10

Tables

Table 1

Well ID	Elevation of Top of Casing	Dete	Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
MW-01	3790.02	1/29/19	-	-	-	-	-	-	3.5	0.2	-
MW-01	3790.02	2/5/19	-	-	-	-	-	-	0.0	-	-
MW-01 MW-01	3790.02	2/25/19	-	65.30	2.97+	LNAPL at TD	-	-	-	-	-
MW-01	3790.02 3790.02	3/6/19 4/30/19	69.33	66.39	2.94+	- LNAPL at TD	-	-	0.0 1.0	0	-
MW-01	3790.02	5/20/19			2.94+	LNAPL at TD		-		_	-
MW-01	3790.02	6/11/19	-	66.48		†	-	-	3.0	- 0	-
MW-01	3790.02		-	-	-	-	-	-	2.0		-
MW-01	3790.02	6/18/19 6/25/19	-	-	-	-	-	-	3.1	0.2	-
MW-01		7/2/19	-	-	-	-	-	-		0.0	-
MW-01	3790.02 3790.02	7/2/19	-	-	-	-	-	-	2.0 1.3	0.0	-
MW-01	3790.02	7/0/19	-	66.65	2.56+	- LNAPL at TD	69.21	-	1.3	- 0.2	-
MW-01	3790.02	8/6/19		- 00.03					1.5	0.0	-
MW-01	3790.02	8/13/19	-	-	-	-	-	-	1.9	0.0	-
MW-01	3790.02	8/20/19	-	-		-	<u> </u>	-	2.4	0.1	-
MW-01	3790.02	8/28/19	-	-	-	-	<u> </u>	-	2.4	0.1	-
MW-01	3790.02	9/10/19	1	-		-	<u> </u>		0.0	1.5	-
MW-01	3790.02	9/10/19	-	-		-	<u> </u>	-	1.8	0.0	
MW-01	3790.02	10/2/19	-	-	-	-	-		1.8	- 0.0	
MW-01	3790.02	10/2/19	68.19	65.82	2.37	3723.75	69.35	-	-	-	_
MW-01	3790.02	10/21/19	-	66.82	2.53+	LNAPL at TD	-	-	-	-	
MW-01	3790.02	11/20/19	-	- 00.02	2.55+	LINAFL at 1D	<u> </u>	-	2.0	-	
MW-01	3790.02	12/11/19	-			_		-	2.0	0.0	_
MW-01	3790.02	12/11/19	_	-		_		-	2.5	0.0	_
MW-01	3790.02	12/24/19	-	_	_	-	<u> </u>	_	0.5	0.5	_
MW-01	3790.02	1/8/20	_			_		_	1.5	0.0	_
MW-01	3790.02	1/15/20	_	_	_	_	_	_	2.0	0.0	_
MW-01	3790.02	1/29/20	-	_	_	_	-	_	1.5	0.0	_
MW-01	3790.02	2/11/20	-	66.85	2.05+	LNAPL at TD	68.90	50-70 (4 in.)	-	-	_
MW-01	3790.02	4/28/20	-	66.17	1.93+	LNAPL at TD	68.10	-	_	-	_
MW-01	3790.02	5/12/20	_	67.17	1.73+	LNAPL at TD	68.90	_	_	_	_
MW-01	3790.02	6/19/20	-	67.25	1.65+	LNAPL at TD	68.90	_	_	_	_
MW-01	3790.02	7/29/20	-	67.36	1.84+	LNAPL at TD	69.20	-	_	_	_
MW-01	3790.02	8/27/20	-	67.41	1.60+	LNAPL at TD	69.01	_	_	_	_
MW-01	3790.02	9/14/20	-	66.48	1.85+	LNAPL at TD	68.33	_	_	_	_
MW-01	3790.02	10/29/20	-	66.59	1.77+	LNAPL at TD	68.36	_	_	_	_
MW-01	3790.02	12/7/20	-	67.63	1.45+	LNAPL at TD	69.08	_	_	_	_
	0.00.02	.2,.,23		000							

Table 1

W- # ID	Elevation of Top of Casing	Date	Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
Well ID MW-02	(famsl) 3790.83	<i>Date</i> 2/25/19	(fbtoc) 67.06	(fbtoc)	(ft.) 0.00	Surface (famsl) 3723.77	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
MW-02	3790.83	2/25/19	67.06		0.00	3123.11	-		-	1.0	
MW-02	3790.83	5/20/19		-	0.00	3723.63	-	-	-		-
MW-02	3790.83	5/20/19	67.20	-	0.00	3/23.03	-	-	- 0	8.0	-
MW-02	3790.83	7/23/19	67.29	_	0.00	3723.54	-	-	-	- 0.0	-
MW-02	3790.83	7/23/19	-	-	-	-	<u> </u>	-	0.0	3.0	-
MW-02	3790.83	8/28/19	-	-	-	-	<u> </u>	-	0.0	0.5	-
MW-02	3790.83	9/10/19	-	-	-	-	<u> </u>	-	-	0.5	-
MW-02	3790.83	10/2/19	-	-	-	-	<u> </u>	-	-	1.0	-
MW-02	3790.83	10/2/19	67.51	-	0.00	3723.32	71.58	-	-	1.0	-
MW-02	3790.83	10/21/19		-	0.00	3123.32	71.30	-	-	6.0	-
MW-02	3790.83	2/11/20	67.61	-	0.00	3723.22	74.01	50-70 (4 in.)	-	- 0.0	-
MW-02	3790.83	3/17/20	- 67.01	-	0.00	3123.22	74.01	50-70 (4 III.)	-	3.0	_
MW-02	3790.83	4/28/20	68.06	-	0.00	3722.77		-	-	3.0	-
MW-02	3790.83	5/12/20	67.92	-	0.00	3722.77	<u> </u>	-	-	0.2	-
MW-02	3790.83	6/19/20	67.83	-	0.00	3723.00	<u> </u>			- 0.2	_
MW-02	3790.83	7/29/20	68.12	-	0.00	3723.00		-	-		
MW-02	3790.83	8/27/20	68.18	-	0.00	3722.65	-	-	-	-	-
MW-02	3790.83	9/14/20	68.22	-	0.00	3722.61	<u> </u>	-	-	0.2	-
MW-02	3790.83	10/29/20	68.30	-	0.00	3722.53	<u>-</u>	-	-	-	-
MW-02	3790.83	12/7/20	68.21	-	0.00	3722.62	<u> </u>	-	-	-	-
10100-02	3790.03	12/1/20	00.21	-	0.00	3122.02	<u>-</u>	-	-	-	-
MW-03	3791.44	2/25/19	-	-	-	Dry	-	-	-	-	-
MW-03	3791.44	5/20/19	-	-	-	Dry	-	-	-	-	-
MW-03	3791.44	7/23/19	-	-	-	Dry	-	-	-	-	-
MW-03	3791.44	10/21/19	-	-	-	Dry	67.33	-	-	-	-
MW-03	P&A	2/19/20	-	-	-	-	-	-	-	-	-
MW-04	3792.51	2/25/19	68.03	-	0.00	3724.48	-	-	-		-
MW-04	3792.51	5/20/19	68.50	-	0.00	3724.01	-	-	-		-
MW-04	3792.51	7/23/19	68.59	-	0.00	3723.92	-	-	-		-
MW-04	3792.51	10/21/19	68.84	-	0.00	3723.67	70.24	-	-		-
MW-04	3792.51	10/24/19	-	-	-	-	-	-	-	0.5	-
MW-04	3792.51	2/11/20	69.06		0.00	3723.45	74.09	50-70 (4 in.)	-	-	-
MW-04	3792.51	4/28/20	69.21	-	0.00	3723.30	-	-	-	-	-
MW-04	3792.51	5/12/20	69.24		0.00	3723.27	-	-	-	-	-
MW-04	3792.51	6/19/20	69.34	-	0.00	3723.17	-	-	-	-	-
MW-04	3792.51	7/29/20	69.40	-	0.00	3723.11	-	-	-	-	-

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
MW-04	3792.51	8/27/20	69.48	(IDIOC)	0.00	3723.03	(<i>IDIOC)</i>	Diameter (iii.)	(gai.) -	Balleu (gal.)	EFK (gal.)
MW-04	3792.51	9/14/20	69.52	-	0.00	3722.99	-	-	-	-	_
MW-04	3792.51	10/29/20	69.61		0.00	3722.90	69.94		-	Pull sample	-
MW-04	3792.51	12/7/20	69.70	_	0.00	3722.81	-			i uli sample	-
10100-04	3/92.31	12/1/20	09.70	-	0.00	3722.01	-	-	-	-	-
MW-05	3789.50	2/25/19	67.17	66.31	0.86	3723.03	_	-	-	-	_
MW-05	3789.50	4/30/19	-	-	-	-			0.5	0.0	<u> </u>
MW-05	3789.50	5/20/19	68.93	65.91	3.02	3723.02			-	-	_
MW-05	3789.50	6/11/19	-	-	-	-		-	3.0	1.0	-
MW-05	3789.50	6/18/19	_	_	_	_			1.0	1.0	
MW-05	3789.50	6/25/19	-	_		_			0.4	1.6	
MW-05	3789.50	7/8/19	-	_		_		-	0.4	1.8	
MW-05	3789.50	7/23/19	67.33	66.42	0.91	3722.91	-	-	-	-	
MW-05	3789.50	10/21/19	67.00	66.68	0.31	3722.76	<u> </u>	-	-	-	-
MW-05	3789.50	11/20/19	-		-	-			0.4	1.6	
MW-05	3789.50	12/11/19	-	_	_	_	-	-	0.9	0.6	
MW-05	3789.50	12/24/19	-	_		_	_	-	0.3	0.8	_
MW-05	3789.50	1/29/20	-	_		_			1	1.2	<u> </u>
MW-05	3789.50	2/11/20	67.76	66.84	0.92	3722.49	73.85	50-70 (4 in.)	<u> </u>	-	_
MW-05	3789.50	4/28/20	69.07	66.74	2.33	3722.32	-	-	_	_	_
MW-05	3789.50	5/12/20	69.26	66.70	2.56	3722.31	_	-	_	_	_
MW-05	3789.50	6/19/20	69.94	66.66	3.28	3722.22	_	_	_	_	_
MW-05	3789.50	7/29/20	70.70	66.62	4.08	3722.10	_	_	_	_	_
MW-05	3789.50	8/27/20	71.16	66.59	4.57	3722.04	_	-	_	_	_
MW-05	3789.50	9/14/20	-	66.58	4.73+	LNAPL at TD	71.31	-	_	_	_
MW-05	3789.50	10/29/20	-	66.47	4.88+	LNAPL at TD	71.35	_	_	_	_
MW-05	3789.50	12/7/20	-	66.49	4.98+	LNAPL at TD	71.47	-	_	_	_
	0.00.00										
MW-06	3789.27	2/25/19	66.33	-	0.00	3722.94	-	-	-	-	-
MW-06	3789.27	2/26/19	-	-	-	-	-	-	_	10.0	-
MW-06	3789.27	4/30/19	66.59	66.58	0.01	3722.69	_	_	_	-	_
MW-06	3789.27	5/20/19	66.50	-	0.00	3722.77	-	_	_	-	_
MW-06	3789.27	5/22/19	-	-	-	-	_	_	0	8.0	_
MW-06	3789.27	6/11/19	-	-	_	_	-	_	0.3	0.0	_
MW-06	3789.27	7/23/19	66.56	-	0.00	3722.71	_	_	-	-	_
MW-06	3789.27	7/24/19	-	_	-	-	_	-	0.0	5.0	_
MW-06	3789.27	8/21/19	-	-	_	_	_	-	0.2	0.0	_
MW-06	3789.27	8/28/19	_	_	_	_	_	-	0.0	3.0	_

Table 1

Summary of Fluid Level Measurements 2019 & 2020 Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
MW-06	3789.27	9/10/19	/		, ,	Surface (famsi)	, ,	Diameter (III.)	(gal.) 0.0	3.0	EFR (yal.)
MW-06	3789.27	9/10/19	-	-	-	-	-	-	0.0	3.0	-
MW-06	3789.27	10/21/19	66.79	-	0.00	3722.48	71.24	-	0.0	3.0	-
MW-06	3789.27	10/21/19	-	-		- 3/22.40		-	-	5.0	-
MW-06	3789.27	2/11/20	67.01	-	- 0.00	3722.26	74.3	- 50-70 (4 in.)	-	14.0	-
MW-06	3789.27	3/17/20	67.01		0.00		74.3	` ′	-	3.0	
MW-06		4/28/20		-		- 3722.08		-	-	3.0	-
	3789.27	5/12/20	67.19 67.20	-	0.00		-	-	-		-
MW-06	3789.27		67.28	-	0.00	3722.07	-	-	-	10.0	-
MW-06	3789.27	6/19/20		-	0.00	3721.99	-	-	-	-	-
MW-06	3789.27	7/29/20	67.43	-	0.00	3721.84	-	-	-	-	-
MW-06	3789.27	8/27/20	67.42	-	0.00	3721.85	-	-	-	-	-
MW-06	3789.27	9/14/20	67.45	-	0.00	3721.82	-	-	-	10.0	-
MW-06	3789.27	10/29/20	67.55	-	0.00	3721.72	-	-	-	2.5	-
MW-06	3789.27	12/7/20	67.63	-	0.00	3721.64	-	-	-	-	-
MW-07	3789.26	2/25/19	66.65	-	0.00	3722.61	-	-	-	-	-
MW-07	3789.26	5/20/19	66.81	-	0.00	3722.45	-	-	-	-	-
MW-07	3789.26	7/23/19	67.05	-	0.00	3722.21	-	-	-	-	-
MW-07	3789.26	10/21/19	67.20	-	0.00	3722.06	73.33	-	-	-	-
MW-07	3789.26	10/24/19	-	-	-	-	-	-	-	7	-
MW-07	3789.26	2/11/20	67.41	-	0.00	3721.85	75.36	50-70 (4 in.)	-	-	-
MW-07	3789.26	4/28/20	67.51	-	0.00	3721.75	-	-	-	-	-
MW-07	3789.26	5/12/20	67.52	-	0.00	3721.74	-	-	-	14	-
MW-07	3789.26	6/19/20	67.61	-	0.00	3721.65	-	-	-	-	-
MW-07	3789.26	7/29/20	67.70	-	0.00	3721.56	-	-	-	-	-
MW-07	3789.26	8/27/20	67.75	-	0.00	3721.51	-	-	-	-	-
MW-07	3789.26	9/14/20	67.77	-	0.00	3721.49	-	-	-	14	-
MW-07	3789.26	10/29/20	67.89	-	0.00	3721.37	-	-	-	3.5	-
MW-07	3789.26	12/7/20	67.96	-	0.00	3721.30	-	-	-	-	-
MW-08	3790.66	2/25/19	67.10	66.99	0.11	3723.65	-	-	-	-	-
MW-08	3790.66	5/20/19	67.24	67.20	0.04	3723.45	-	-	-	-	-
MW-08	3790.66	7/23/19	67.39	67.32	0.07	3723.33	-	-	-	-	-
MW-08	3790.66	10/21/19	67.54	67.48	0.06	3723.17	-	-	-	-	-
MW-08	3790.66	2/11/20	67.82	67.72	0.10	3722.92	74.35	50-70 (4 in)	-	-	-
MW-08	3790.66	4/28/20	68.04	67.86	0.18	3722.77	-	-	-	-	-
MW-08	3790.66	5/12/20	68.06	67.84	0.22	3722.78	-	-	-	-	-
MW-08	3790.66	6/19/20	68.19	67.94	0.25	3722.67	-	-	-	-	-
80-WM	3790.66	7/29/20	68.34	68.04	0.30	3722.56	-	-		-	-

11209885

Table 1

Summary of Fluid Level Measurements 2019 & 2020 Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Well ID	Elevation of Top of Casing	Dota	Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
MW-08	(famsl) 3790.66	<i>Date</i> 8/27/20	(fbtoc) 68.43	(fbtoc) 68.07	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
MW-08	3790.66	9/14/20	68.50	68.13	0.36 0.37	3722.52 3722.46	-	-	-	-	-
MW-08	3790.66	10/29/20	68.62	68.21	0.37	3722.46	-	-	-	-	-
MW-08	3790.66	12/7/20	68.74	68.27	0.41	3722.30	-		-	-	-
10100-00	3790.00	12/1/20	00.74	00.27	0.47	3122.30	-	-	-	-	-
MW-09	3790.94	2/25/19	70.49	66.94	3.55	3723.33	_	_	_	_	_
MW-09	3790.94	5/20/19	70.49	66.85	3.22+	LNAPL at TD	-	-	-	-	-
MW-09	3790.94	7/23/19	-	67.60	3.55+	LNAPL at TD	-	-	-	-	-
MW-09	3790.94	10/21/19	-	67.06	3.14+	LNAPL at TD	70.21	-	-	-	
MW-09	3790.94	12/11/19	-	-	J. 14 ⁺	-	-	-	1	0	-
MW-09	3790.94	12/24/19	_			-		-	0.3	1.2	-
MW-09	3790.94	1/29/20	-		_	_	-		0.3	0	-
MW-09	3790.94	2/11/20	-	67.51	3.29+	LNAPL at TD	70.80	50-70 (4 in.)	-	-	-
MW-09	3790.94	3/11/20	_	67.58	3.22+	LNAPL at TD	70.80		-	-	_
MW-09	3790.94	4/8/20	-	67.66	3.14+	LNAPL at TD	70.80	-			
MW-09	3790.94	4/28/20	-	67.26	3.09+	LNAPL at TD	70.35	-	-	-	-
MW-09	3790.94	5/12/20	_	67.21	5.56+	LNAPL at TD	72.77	_	_	_	_
MW-09	3790.94	6/19/20	-	67.36	5.41+	LNAPL at TD	72.77	_	_	_	_
MW-09	3790.94	7/29/20	_	67.25	3.15+	LNAPL at TD	70.40	-	_	_	_
MW-09	3790.94	8/27/20	70.32	67.53	2.79	3722.88	-	-	_	_	_
MW-09	3790.94	9/14/20	-	67.56	2.70+	LNAPL at TD	70.26	-	_	_	_
MW-09	3790.94	10/29/20	70.39	67.68	2.71	3722.75	-	-	_	_	_
MW-09	3790.94	12/7/20	-	67.77	2.63+	LNAPL at TD	70.40	-	_	_	_
	0.00.0.	,.,		0	2.00	2.0.1.2.1.2					
MW-10	3790.94	2/25/19	67.90	67.42	0.48	3723.43	-	-	-	-	-
MW-10	3790.94	5/20/19	-	67.40	1.20+	LNAPL at TD	-	_	-	-	_
MW-10	3790.94	6/11/19	-	_	_	_	-	-	0.1	0.0	_
MW-10	3790.94	7/23/19	-	67.51	0.97+	LNAPL at TD	-	-	-	-	-
MW-10	3790.94	8/28/19	-	-	-	-	-	-	0.3	0	-
MW-10	3790.94	10/21/19	-	67.54	0.96+	LNAPL at TD	68.5	-	-	-	-
MW-10	3790.94	2/11/20	67.64	-	0.00	3723.30	69.77	40-65 (2 in.)	-	-	-
MW-10	3790.94	4/28/20	-	67.82	0.90+	LNAPL at TD	68.72	-	_	-	_
MW-10	3790.94	5/12/20	68.63	67.83	0.80	3722.96	68.72	_	-	-	-
MW-10	3790.94	6/19/20	-	67.93	0.79+	LNAPL at TD	68.72	-	_	_	_
MW-10	3790.94	7/29/20	68.76	68.01	0.75	LNAPL at TD	68.72	_	-	-	-
MW-10	3790.94	8/27/20	68.72	68.08	0.64	3722.74	-	-	_	_	_
MW-10	3790.94	9/14/20	-	68.23	0.40+	LNAPL at TD	68.63	_	_	-	_
MW-10	3790.94	10/29/20	-	68.26	0.49+	LNAPL at TD	68.75	_	_	-	_
MW-10	3790.94	12/7/20	-	68.33	0.41+	LNAPL at TD	68.74	-	_	_	_

11209885

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
MW-11	3792.02	2/25/19	-	-	•	Dry	ı	•	-	-	-
MW-11	3792.02	5/20/19	-	-	-	Dry	-	-	-	-	-
MW-11	3792.02	7/23/19	-	-	-	Dry	-	-	-	-	-
MW-11	3792.02	10/21/19	-	-	-	Dry	63.45	-	-	-	-
MW-11	P&A	2/19/20	-	-	-	-		-	-	-	-
MW-11R	3790.62	2/26/20	-	-	-	-	-	-	-	15	-
MW-11R	3790.62	3/12/20	67.76	-	0.00	3722.86	90.02	-	-	-	-
MW-11R	3790.62	3/23/20	67.88	-	0.00	3722.74	90.02	-	-	-	-
MW-11R	3790.62	4/28/20	67.95	-	0.00	3722.67	-	-	-	-	-
MW-11R	3790.62	5/12/20	67.96	-	0.00	3722.66		-	-	12	-
MW-11R	3790.62	6/19/20	68.03	-	0.00	3722.59		-	-	-	-
MW-11R	3790.62	7/29/20	69.14	-	0.00	3721.48		-	-	-	-
MW-11R	3790.62	8/27/20	68.19	-	0.00	3722.43	-	-	-	-	-
MW-11R	3790.62	9/14/20	68.26	-	0.00	3722.36		-	-	12	-
MW-11R	3790.62	10/29/20	68.34	-	0.00	3722.28		-	-	10	-
MW-11R	3790.62	12/7/20	68.42	-	0.00	3722.20		-	-	-	-
MW-12R	3789.55	2/25/19	66.53	-	0.00	3723.02	-	-	-	-	-
MW-12R	3789.55	2/26/19	-	-	-	-		-	-	9.6	-
MW-12R	3789.55	5/20/19	66.95	-	0.00	3722.60		-	-	-	-
MW-12R	3789.55	5/22/19	-	-	-	-	-	-	0	9.0	-
MW-12R	3789.55	7/23/19	67.02	-	0.00	3722.53	-	-	-	-	-
MW-12R	3789.55	7/24/19	-	-	-	-	-	-	0.0	6.0	-
MW-12R	3789.55	10/21/19	67.26	-	0.00	3722.29	85.13	-	-	-	-
MW-12R	3789.55	10/23/19	-	-	-	-	-	-	-	7.0	-
MW-12R	3789.55	2/11/20	67.49	-	0.00	3722.06	87.65	-	-	10.0	-
MW-12R	3789.55	4/28/20	67.65	-	0.00	3721.90	-	-	-	-	-
MW-12R	3789.55	5/12/20	67.63	-	0.00	3721.92	-	-	-	10.0	-
MW-12R	3789.55	6/19/20	67.72	-	0.00	3721.83	-	-	-	-	-
MW-12R	3789.55	7/29/20	67.80	-	0.00	3721.75	ı	•	-	-	-
MW-12R	3789.55	8/27/20	67.88	-	0.00	3721.67		-	-	-	-
MW-12R	3789.55	9/14/20	67.93		0.00	3721.62	1	-	-	10.0	-
MW-12R	3789.55	10/29/20	68.03	-	0.00	3721.52	1	-	-	5.0	-
MW-12R	3789.55	12/7/20	68.08	-	0.00	3721.47	-	-	-	-	-
MW-13	3790.98	2/25/19	-	-	-	Dry	1	-		-	-

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
MW-13	3790.98	5/20/19	-	(IDIOC)	-	Dry	-	-	(gai.)	Danea (gal.)	- Li K (gai.)
MW-13	3790.98	7/23/19	-	_	_	Dry		-	_	-	_
MW-13	3790.98	10/21/19	-	_	-	Dry	63.31	_	_	_	_
MW-13	P&A	2/19/20	-	_	_		-	_	_	_	_
	1 65 1	2,10,20									
MW-14	3791.16	2/25/19	-	-	-	Drv	-	-	_	-	-
MW-14	3791.16	5/20/19	-	-	-	Dry	-	_	-	-	_
MW-14	3791.16	7/23/19	-	-	-	Dry	-	_	-	-	_
MW-14	3791.16	10/21/19	-	-	-	Dry	63.41	_	-	-	_
MW-14	P&A	2/19/20	-	-	-	-	-	-	-	-	-
MW-16R	3791.21	2/25/19	67.44	-	0.00	3723.77	-	-	-	-	-
MW-16R	3791.21	2/26/19	-	-	-	-	-	-	-	8.6	-
MW-16R	3791.21	5/20/19	67.60	-	0.00	3723.61	-	-	-	-	-
MW-16R	3791.21	5/22/19	-	-	-	-	-	-	0	8.5	-
MW-16R	3791.21	7/23/19	67.71	-	0.00	3723.50	-	-	-	-	-
MW-16R	3791.21	7/24/19	-	-	-	-	-	-	0.0	6.0	-
MW-16R	3791.21	10/21/19	67.93	-	0.00	3723.28	84.78	-	-	-	-
MW-16R	3791.21	10/24/19	-	-	-	-	-	-	-	6.0	-
MW-16R	3791.21	2/11/20	68.19	-	0.00	3723.02	85.51	-	-	8.3	-
MW-16R	3791.21	4/28/20	68.32	-	0.00	3722.89	-	-	-	-	-
MW-16R	3791.21	5/12/20	68.32	-	0.00	3722.89	-	-	-	9.0	-
MW-16R	3791.21	6/19/20	68.45	-	0.00	3722.76	-	-	-	-	-
MW-16R	3791.21	7/29/20	68.50	-	0.00	3722.71	-	-	-	-	-
MW-16R	3791.21	8/27/20	68.63	-	0.00	3722.58	-	-	-	-	-
MW-16R	3791.21	9/14/20	68.63	-	0.00	3722.58	-	-	-	9.0	-
MW-16R	3791.21	10/29/20	68.71	-	0.00	3722.50	-	-	-	8.0	-
MW-16R	3791.21	12/7/20	68.79	-	0.00	3722.42	-	-	-	-	-
MW-17R	3790.20	2/25/19	67.21	-	0.00	3722.99	-	-	-	-	-
MW-17R	3790.20	2/26/19	-	-	-	-	-	-	-	5.6	-
MW-17R	3790.20	5/20/19	67.42	-	0.00	3722.78	-		-	-	-
MW-17R	3790.20	5/22/19	-	-	-	-	-	-	0	5.5	-
MW-17R	3790.20	7/23/19	67.50	-	0.00	3722.70	-	-	-	-	-
MW-17R	3790.20	7/24/19	-	-	-	-	-		0.0	4.0	-
MW-17R	3790.20	10/21/19	67.70	-	0.00	3722.50	78.69	-	-	-	-
MW-17R	3790.20	10/23/19	-	-	-	-	-	-	-	4.0	-
MW-17R	3790.20	2/11/20	67.94	-	0.00	3722.26	79.15	-	-	5.3	-

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
MW-17R	3790.20	4/28/20	68.06	(10:00)	0.00	3722.14	-	- Diameter (III.)	(gai.)	- Builed (guil)	Li it (gai.)
MW-17R	3790.20	5/12/20	68.09		0.00	3722.11	_	_	_	6.0	_
MW-17R	3790.20	6/19/20	68.17	_	0.00	3722.03	_	_	_	-	_
MW-17R	3790.20	7/29/20	68.26	_	0.00	3721.94	_	-	_	-	_
MW-17R	3790.20	8/27/20	68.33		0.00	3721.87	_	-	-	-	-
MW-17R	3790.20	9/14/20	68.37		0.00	3721.83	_	-	_	6.0	
MW-17R	3790.20	10/29/20	68.47		0.00	3721.73	_	-		5.0	
MW-17R	3790.20	12/7/20	68.55		0.00	3721.65	_	-	_	-	
10100-1713	3790.20	12/1/20	00.00	-	0.00	3721.03	-	-	-	-	-
MW-18R	3791.04	2/25/19	67.67	_	0.00	3723.37	_	-	_	-	_
MW-18R	3791.04	2/26/19	-		-	5125.51	_	-		7.0	-
MW-18R	3791.04	5/20/19	67.88		0.00	3723.16	_	-	-	-	-
MW-18R	3791.04	5/22/19	-		-		_	-	0	6.5	-
MW-18R	3791.04	7/23/19	67.91		0.00	3723.13	_	-	-	-	-
MW-18R	3791.04	7/23/19	-	_	-	-	_	-	0.0	5.0	-
MW-18R	3791.04	10/21/19	68.13		0.00	3722.91	81.48	-	-	-	-
MW-18R	3791.04	10/21/19	-		-	-		-	_	5.0	-
MW-18R	3791.04	2/11/20	68.39	-	0.00	3722.65	81.94	-	_	6.0	-
MW-18R	3791.04	4/28/20	68.52		0.00	3722.52	-	-	-	-	-
MW-18R	3791.04	5/12/20	68.52		0.00	3722.52	-	-	-	7.0	-
MW-18R	3791.04	6/19/20	68.62	-	0.00	3722.42	_	-	-	-	-
MW-18R	3791.04	7/29/20	68.70	-	0.00	3722.34	-	-	-	-	-
MW-18R	3791.04	8/27/20	68.77		0.00	3722.27	-	-	-	-	-
MW-18R	3791.04	9/14/20	68.83		0.00	3722.21		-	-	7.0	-
MW-18R	3791.04	10/29/20	68.91		0.00	3722.13	-	-	-	6.0	-
MW-18R	3791.04	12/7/20	69.00	-	0.00	3722.13	_	-	-	-	-
10100 - 1010	3731.04	12/1/20	09.00	-	0.00	3722.04	-	-	-	-	-
MW-19R	3789.67	2/25/19	67.06	_	0.00	3722.61	_	-	_	-	_
MW-19R	3789.67	2/25/19	07.00	-	0.00	5122.01	-	-	-	2.0	-
MW-19R	3789.67	5/20/19	67.23	-	0.00	3722.44		-	-	-	-
MW-19R	3789.67	5/22/19	-		-	5122.44	_	-	0	1.5	-
MW-19R	3789.67	7/23/19	67.30	-	0.00	3722.37	-	-	U	1.5	-
MW-19R	3789.67	7/23/19	-	-	-	- 3122.31	-	-	0.0	1.0	-
MW-19R	3789.67	10/21/19	67.51	-	0.00	3722.16	71.11			1.0	-
MW-19R	3789.67	10/21/19	-	_	- 0.00	3/22.10		-	-	0.8	-
MW-19R	3789.67	2/11/20	67.79		0.00	3721.88	- 78.79	61.5-81.5 (2 in)	-	-	-
MW-19R	3789.67	4/28/20	67.90	-	0.00	3721.00	76.79		-	-	-
MW-19R	3789.67	5/12/20	67.91		0.00	3721.77			-	6.0	
IVIVV-19R	3/89.6/	5/12/20	67.91	-	0.00	3/21./0	-	-	-	0.0	-

Table 1

	Elevation of Top of Casing		Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
MW-19R	3789.67	6/19/20	68.00	-	0.00	3721.67	-	-	-	-	-
MW-19R	3789.67	7/29/20	68.08	-	0.00	3721.59	-	-	-	-	-
MW-19R	3789.67	8/27/20	68.15	-	0.00	3721.52	-	-	-	-	-
MW-19R	3789.67	9/14/20	68.42	-	0.00	3721.25	-	-	-	6.0	-
MW-19R	3789.67	10/29/20	68.29	-	0.00	3721.38	-	-	-	4.5	-
MW-19R	3789.67	12/7/20	68.35		0.00	3721.32	-	-	-	-	-
MW-20R	3789.73	2/25/19	66.67	-	0.00	3723.06	-	-	-	-	-
MW-20R	3789.73	2/26/19	-	-	-	-	-	-	-	2.5	-
MW-20R	3789.73	5/20/19	66.90	-	0.00	3722.83	-	-	-	-	-
MW-20R	3789.73	5/22/19	-	-	-	-	-	-	0	2.5	-
MW-20R	3789.73	7/23/19	66.95	-	0.00	3722.78	-	-	-	-	-
MW-20R	3789.73	7/24/19	-	-	-	-	-	-	0.0	1.5	-
MW-20R	3789.73	10/21/19	67.15	-	0.00	3722.58	72.06	-	-	-	-
MW-20R	3789.73	10/24/19	-	-	-	-	-	-	-	0.5	-
MW-20R	3789.73	2/11/20	67.39	-	0.00	3722.34	72.51	61.5-81.5 (2 in)	-	2.3	-
MW-20R	3789.73	4/28/20	67.55	-	0.00	3722.18	-	-	-	-	-
MW-20R	3789.73	5/12/20	67.53	-	0.00	3722.20	-	-	-	2.5	-
MW-20R	3789.73	6/19/20	67.64	-	0.00	3722.09	-	-	-	-	-
MW-20R	3789.73	7/29/20	67.71	-	0.00	3722.02	-	-	-	-	-
MW-20R	3789.73	8/27/20	67.77	-	0.00	3721.96	-	-	-	-	-
MW-20R	3789.73	9/14/20	67.85	-	0.00	3721.88	-	-	-	2.5	-
MW-20R	3789.73	10/29/20	67.91	-	0.00	3721.82	-	-	-	1.5	-
MW-20R	3789.73	12/7/20	67.98	-	0.00	3721.75	-	-	-	-	-
MW-21	3790.26	2/25/19	67.38	-	0.00	3722.88	-	-	-	-	-
MW-21	3790.26	2/26/19	-	-	-	-	-	-	-	0.3	-
MW-21	3790.26	5/20/19	67.61	-	0.00	3722.65	-	-	-	-	-
MW-21	3790.26	5/22/19	-	-	-	-	-	-	0	0.5	-
MW-21	3790.26	7/23/19	67.63	-	0.00	3722.63	-	-	-	-	-
MW-21	3790.26	7/24/19	-	-	-	-	-	-	0.0	0.25	-
MW-21	3790.26	10/21/19	67.87	-	0.00	3722.39	68.4	-	-	-	-
MW-21	3790.26	10/24/19	-	-	-	-	-	-	-	0.00	-
MW-21	P&A	2/19/20	-	-	-	-	-	-	-	-	-
MW-21R	3789.71	3/12/20	67.60	-	0.00	3722.11	89.94	-	-	-	-
MW-21R	3789.71	3/23/20	67.71	-	0.00	3722.00	89.93	-	-	11.00	-
MW-21R	3789.71	4/28/20	67.80	-	0.00	3721.91	-	-	_	-	-

Summary of Fluid Level Measurements 2019 & 2020 Plains Pipeline, L.P.

Darr Angell No. 1 Lea County, New Mexico

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
MW-21R	3789.71	5/12/20	67.79	(IDIOC)	0.00	3721.92	(IDIOC) -	Diameter (III.)	(gai.) -	12.00	EFR (gal.)
MW-21R	3789.71	6/19/20	67.91	-	0.00	3721.80	-	-	-	12.00	-
MW-21R	3789.71	7/29/20	67.95	-	0.00	3721.76	_		-	-	-
MW-21R	3789.71	8/27/20	68.04	-	0.00	3721.70		-	-	-	-
MW-21R	3789.71	9/14/20	68.06	-	0.00	3721.65	-	-	_	12.00	-
MW-21R	3789.71	10/29/20	68.17		0.00	3721.54	-	-	_	10.00	_
MW-21R	3789.71	12/7/20	68.25	_	0.00	3721.46			-	-	
10100-2110	3709.71	12/1/20	00.23	-	0.00	3721.40	_	-	-	-	-
MW-22	3788.97	2/25/19	66.53	_	0.00	3722.44	_	-	_	-	_
MW-22	3788.97	2/26/19	-	_	-	-	_	_	_	9.0	_
MW-22	3788.97	5/20/19	66.70	_	0.00	3722.27	_	_	_	-	_
MW-22	3788.97	5/22/19	-	_	-	-	_	_	0	8.5	_
MW-22	3788.97	7/23/19	66.79	_	0.00	3722.18	_	_	-	-	_
MW-22	3788.97	7/24/19	-	_	-	-	_	-	0.0	6.0	_
MW-22	3788.97	10/21/19	67.02	_	0.00	3721.95	84.56	-	-	-	-
MW-22	3788.97	10/24/19	-	-	-	-	-	-	_	6.0	-
MW-22	3788.97	2/11/20	67.31	-	0.00	3721.66	85.22	-	-	9.0	-
MW-22	3788.97	4/28/20	67.40	-	0.00	3721.57	-	-	-	-	-
MW-22	3788.97	5/12/20	67.39	-	0.00	3721.58	-	-	-	9.0	-
MW-22	3788.97	6/19/20	67.47	-	0.00	3721.50	-	-	-	-	-
MW-22	3788.97	7/29/20	67.58	-	0.00	3721.39	-	-	-	-	-
MW-22	3788.97	8/27/20	67.63	-	0.00	3721.34	-	-	-	-	-
MW-22	3788.97	9/14/20	67.69	-	0.00	3721.28	-	-	-	9.0	-
MW-22	3788.97	10/29/20	67.78	-	0.00	3721.19	-	-	-	8.5	-
MW-22	3788.97	12/7/20	67.83	-	0.00	3721.14	-	-	-	-	-
MW-23	3790.93	2/25/19	70.98	66.53	4.45	3723.55	-	-	-	-	-
MW-23	3790.93	4/30/19	72.64	66.52	6.12	3723.25	-	-	4.7	0.3	-
MW-23	3790.93	5/20/19	69.30	67.40	1.90	3723.17	-	-	-	-	-
MW-23	3790.93	6/11/19	-	-	-	-	-	-	3	1	-
MW-23	3790.93	6/18/19	-		-	-	-	-	1.5	0.5	-
MW-23	3790.93	6/25/19	-	-	-	-	-	-	1.1	0.4	-
MW-23	3790.93	7/2/19	-	-	-	-	-	-	0.3	0.4	-
MW-23	3790.93	7/8/19	-	-	-	-	-	-	0.5	1.2	-
MW-23	3790.93	7/23/19	69.31	67.50	1.81	3723.09	-	-	-	-	-
MW-23	3790.93	8/6/19	-	-	-	-	-	-	0.8	0.5	-
MW-23	3790.93	8/13/19	-	-	-	-	-	-	0.9	0.1	-
MW-23	3790.93	8/20/19	-	-	-	-	-	-	2.0	0.5	-

Table 1

	Elevation of Top of Casing		Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
MW-23	3790.93	8/28/19	-	(10100)	-	-	(10100)	- Diameter (III.)	1.4	1.4	- Li K (gai.)
MW-23	3790.93	9/10/19	_	_	_	_	_	_	0.9	0.1	_
MW-23	3790.93	9/25/19	_	_	_	_	_	_	0.0	3.0	_
MW-23	3790.93	10/2/19	_	_	_	_	-	-	0.8	0.2	_
MW-23	3790.93	10/21/19	69.69	67.61	2.08	3722.92	-	_	-	-	_
MW-23	3790.93	11/20/19	-	-	-	-	-	-	1.5	0.5	_
MW-23	3790.93	12/11/19	-	-	-	_	-	_	2.5	-	_
MW-23	3790.93	12/18/19	-	-	-	_	-	_	1.5	3.0	-
MW-23	3790.93	12/24/19	-	-	-	-	-	-	0.25	0.75	-
MW-23	3790.93	1/8/20	-	-	-	-	-	-	1.0	2.0	-
MW-23	3790.93	1/15/20	-	-	-	-	-	-	0.5	0.2	-
MW-23	3790.93	1/29/20	-	-	-	-	-	-	0.4	1.0	-
MW-23	3790.93	2/11/20	69.37	67.93	1.44	3722.73	84.92	-	-	-	-
MW-23	3790.93	4/28/20	70.98	67.80	3.18	3722.53	-	-	-	-	-
MW-23	3790.93	5/12/20	71.28	67.74	3.54	3722.52	-	-	-	-	-
MW-23	3790.93	6/19/20	71.81	67.74	4.07	3722.42	-	-	-	-	-
MW-23	3790.93	7/29/20	72.04	67.75	4.29	3722.36	-	-	-	-	-
MW-23	3790.93	8/27/20	72.37	67.78	4.59	3722.28	-	-	-	-	-
MW-23	3790.93	9/14/20	72.50	67.88	4.62	3722.17	-	-	-	-	-
MW-23	3790.93	10/29/20	72.74	67.90	4.84	3722.11	1	•	-	-	-
MW-23	3790.93	12/7/20	72.92	67.95	4.97	3722.04	-	-	-	-	-
MW-24	3791.40	2/27/20	-	-	-	-		•	-	15.0	-
MW-24	3791.40	3/12/20	68.30	-	0.00	3723.10	89.97	-	-	-	-
MW-24	3791.40	3/23/20	68.40	-	0.00	3723.00	90.02	-	-	11.0	-
MW-24	3791.40	4/28/20	68.47	-	0.00	3722.93	-	-	-	-	-
MW-24	3791.40	5/12/20	68.47	-	0.00	3722.93	-	-	-	11.0	-
MW-24	3791.40	6/19/20	68.58	-	0.00	3722.82	-	-	-	-	-
MW-24	3791.40	7/29/20	68.56	-	0.00	3722.84	-	-	-	-	-
MW-24	3791.40	8/27/20	68.74	-	0.00	3722.66	-	-	-	-	-
MW-24	3791.40	9/14/20	68.78		0.00	3722.62	-	-	-	11.0	-
MW-24	3791.40	10/29/20	68.68	-	0.00	3722.72	-	-	-	11.0	-
MW-24	3791.40	12/7/20	68.94	-	0.00	3722.46	-	-	-	-	-
MW-25	3790.01	2/27/20	-	-	-	-	-	-	-	15.0	-
MW-25	3790.01	3/12/20	67.57	-	0.00	3722.44	89.95	-	-	-	-
MW-25	3790.01	3/23/20	67.69	-	0.00	3722.32	90.09	-	-	11.0	-
MW-25	3790.01	4/28/20	67.76	-	0.00	3722.25	-	-	-	-	-

Table 1

Summary of Fluid Level Measurements 2019 & 2020 Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
MW-25	3790.01	5/12/20	67.74	-	0.00	3722.27	(<i>IDIOC)</i>	Diameter (III.)	(gai.)	12.0	- Li K (gal.)
MW-25	3790.01	6/19/20	67.87	-	0.00	3722.14	-	<u> </u>	-	-	-
MW-25	3790.01	7/29/20	67.93	-	0.00	3722.14	-	<u> </u>	-	-	-
MW-25	3790.01	8/27/20	68.00		0.00	3722.06					
MW-25	3790.01	9/14/20	68.05	-	0.00	3722.01	-	-	-	12.0	-
MW-25	3790.01	10/29/20	68.14	ļ	0.00	3721.96		-		10.0	
MW-25	3790.01	12/7/20		-	0.00	3721.87	-	-	-	10.0	-
IVIVV-25	3790.01	12///20	68.20	-	0.00	3/21.81	-	-	-	-	-
RW-01	3790.75	2/25/19	-	-	-	Dry	-	-	-	-	-
RW-01	3790.75	5/20/19	-	-	-	Dry	-	-	-	-	-
RW-01	3790.75	7/23/19	-	-	-	Dry	-	-	-	-	-
RW-01	3790.75	10/21/19	-	-	-	Dry	60.63	-	-	-	-
RW-01	P&A	2/19/20	-	-	-	-	-	-	-	-	-
RW-1R	3790.43	3/3/20	-	-	-	-	-	-	-	45	-
RW-1R	3790.43	3/12/20	68.77	67.49	1.28	3722.70	90.8	-	-	-	-
RW-1R	3790.43	3/23/20	71.19	67.09	4.10	3722.56	90.96	-	-	-	-
RW-1R	3790.43	4/28/20	72.60	66.85	5.75	3722.49	-	-	-	-	-
RW-1R	3790.43	5/12/20	72.60	66.85	5.75	3722.49	-	-	-	-	-
RW-1R	3790.43	6/19/20	-	-	-	-	-	-	-	-	-
RW-1R	3790.43	7/29/20	73.18	67.09	6.09	3722.18	-	-	-	-	-
RW-1R	3790.43	8/27/20	-	-	-	-	-	-	-	-	-
RW-1R	3790.43	9/14/20	72.47	67.24	5.23	3722.20	-	-	-	-	-
RW-1R	3790.43	10/29/20	72.85	67.21	5.64	3722.15	-	-	-	-	-
RW-1R	3790.43	12/7/20	73.02	67.32	5.70	3722.03		-	-	-	-
RW-02	3791.66	2/25/19	-	-	-	Dry	-	-	-	-	-
RW-02	3791.66	5/20/19	-	-	-	Dry	-	-	-	-	-
RW-02	3791.66	7/23/19	-	-	-	Dry	-	-	-	-	-
RW-02	3791.66	10/21/19	-	-	-	Dry	66.35	-	-	-	-
RW-02	P&A	2/19/20	-	-	-	-	-	-	-	-	-
RW-03	3791.34	2/25/19	67.66	66.48	1.18	3724.64	-	-	-	-	-
RW-03	3791.34	4/30/19	67.58	66.57	1.01	3724.58	-	-	0.3	0.3	-
RW-03	3791.34	5/20/19	67.80	66.65	1.15	3724.47	-	-	-	-	-
RW-03	3791.34	6/11/19	-	-	-	-	-	-	0.8	0	-
RW-03	3791.34	6/18/19	-	-	-	-	-	-	1.2	0.0	-
RW-03	3791.34	6/25/19	-	-	-	-	-	-	0.9	0.0	-
RW-03	3791.34	7/2/19	-	-	-	-	-	-	0.8	0	-

11209885

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
RW-03	3791.34	7/8/19	-	(10:00)	-	-	-	- Diameter (III.)	0.8	0.1	Li it (gai.)
RW-03	3791.34	7/23/19	_	63.77	4.13+	LNAPL at TD	_	_	-	-	_
RW-03	3791.34	8/6/19	_	-		-	_	_	0.5	0.0	_
RW-03	3791.34	8/20/19	_	_	_	_	-	_	0.2	0.0	_
RW-03	3791.34	8/28/19	_	_	_	_	_	_	0.5	0.0	_
RW-03	3791.34	10/21/19	_	66.96	1.19+	LNAPL at TD	68.15	_	-	-	_
RW-03	3791.34	12/11/19	_	-	-	-	-	_	0.4	0.1	_
RW-03	3791.34	12/18/19	_	_	_	_	-	_	0.5	0.0	_
RW-03	3791.34	12/24/19	_	_	_	_	_	_	0.25	0.25	_
RW-03	3791.34	1/8/20	_	_	_	_	_	-	0.5	0.0	_
RW-03	3791.34	2/11/20	_	67.22	0.79+	LNAPL at TD	68.01	-	-	-	_
RW-03	3791.34	4/28/20	_	67.35	0.61+	LNAPL at TD	67.96	_	_	_	_
RW-03	3791.34	5/12/20	_	67.34	0.67+	LNAPL at TD	68.01	_	_	_	_
RW-03	3791.34	6/19/20	_	67.42	0.59+	LNAPL at TD	68.01	-	_	_	_
RW-03	3791.34	7/29/20	67.61	67.05	0.56	3724.18	-	_	_	_	_
RW-03	3791.34	8/27/20	-	67.55	0.40+	LNAPL at TD	67.95	-	_	_	_
RW-03	3791.34	9/14/20	_	67.60	0.30+	LNAPL at TD	67.90	-	_	_	_
RW-03	3791.34	10/29/20	_	67.61	0.34+	LNAPL at TD	67.95	-	_	_	_
RW-03	3791.34	12/7/20	_	67.61	0.34+	LNAPL at TD	67.95	-	_	_	_
		,.,.					01100				
RW-04	3790.76	2/25/19	69.02	66.44	2.58	LNAPL at TD	69.02	-	-	-	-
RW-04	3790.76	4/30/19	68.98	66.53	2.45	LNAPL at TD	68.98	-	1.2	0.0	-
RW-04	3790.76	5/20/19	-	66.70	2.28+	LNAPL at TD	-	-	_	-	-
RW-04	3790.76	6/11/19	-	-	_	_	_	-	-	0	-
RW-04	3790.76	6/25/19	-	-	_	_	_	-	1.0	0.0	-
RW-04	3790.76	7/23/19	-	66.80	2.10+	LNAPL at TD	-	-	-	-	-
RW-04	3790.76	8/13/19	-	-	-	-	-	-	0.4	0.0	-
RW-04	3790.76	8/20/19	-	-	-	-	-	-	0.2	0.2	-
RW-04	3790.76	8/28/19	-	-	-	-	-	-	0.3	0.0	-
RW-04	3790.76	10/21/19	-	66.93	2.03+	LNAPL at TD	68.96	-	-	-	-
RW-04	3790.76	12/11/19	-	-	-	-	-	-	0.5	0.1	-
RW-04	3790.76	12/24/19	-	-	-	-	-	-	0.5	0.5	-
RW-04	3790.76	2/11/20	-	67.01	3.52+	LNAPL at TD	70.53	50-70 (4 in.)	-	-	-
RW-04	3790.76	4/8/20	68.80	67.12	1.68	-	68.81	-	-	-	-
RW-04	3790.76	4/28/20	-	67.14	1.66+	LNAPL at TD	68.80	-	-	-	-
RW-04	3790.76	5/12/20	-	67.15	3.38+	LNAPL at TD	70.53	-	-	-	-
RW-04	3790.76	6/19/20	-	67.24	3.29+	LNAPL at TD	70.53	-	-	-	-
RW-04	3790.76	7/29/20	68.96	67.52	1.44	3722.97	-	-	-	-	-

Page 14 of 21

Summary of Fluid Level Measurements 2019 & 2020
Plains Pipeline, L.P.
Darr Angell No. 1
Lea County, New Mexico

Table 1

	Elevation of Top of Casing		Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
RW-04	3790.76	8/27/20	68.84	67.38	1.46	3723.10	-	-	-	-	-
RW-04	3790.76	9/14/20	-	67.46	1.26+	LNAPL at TD	68.72	-	-	-	-
RW-04	3790.76	10/29/20	-	67.55	1.27+	LNAPL at TD	68.82	-	-	-	-
RW-04	3790.76	12/7/20	-	67.62	2.88+	LNAPL at TD	70.50	-	-	-	-
D) 1/ 0.5	0704.45	4/00/40							0.0		
RW-05	3791.45	1/29/19	-	-	-	-	-	-	0.3	-	-
RW-05	3791.45	2/25/19	-	66.33	0.83+	LNAPL at TD	-	-	-	-	-
RW-05	3791.45	4/30/19	-	66.46	0.70+	LNAPL at TD	67.16	-	0.2	0.0	-
RW-05	3791.45	5/20/19	-	66.50	0.66+	LNAPL at TD	-	-	-	-	-
RW-05	3791.45	6/11/19	-	-	-	-	-	-	0.1	0	-
RW-05	3791.45	7/2/19	-	-	-	-	-	-	1.0	1.0	-
RW-05	3791.45	7/8/19	-	-	-	-	-	-	0.0	0.0	-
RW-05	3791.45	7/23/19	-	66.65	0.51+	LNAPL at TD	-	-	-	-	-
RW-05	3791.45	8/20/19	-	-	-	-	-	-	0	0	-
RW-05	3791.45	8/28/19	-	-	-	-		•	0.2	0	-
RW-05	3791.45	10/21/19	-	66.86	0.43+	LNAPL at TD	67.29	-	-	-	-
RW-05	3791.45	12/18/19	-	-	-	-		•	0	Dry	-
RW-05	3791.45	12/24/19	-	-	-	-	-	-	0.2	0.8	-
RW-05	3791.45	1/8/20	-	-	-	Dry	-	-	-	-	-
RW-05	3791.45	1/15/20	-	-	-	-	-	-	0	0	-
RW-05	3791.45	2/11/20	-	67.11	0.02+	LNAPL at TD	67.13	-	-	-	-
RW-05	3791.45	3/11/20	-	-	-	-	-	-	-	-	-
RW-05	3791.45	4/28/20	-	-	-	Dry	67.12	-	-	-	-
RW-05	3791.45	5/12/20	-	-	-	Dry	67.13	-	-	-	-
RW-05	3791.45	6/19/20	-	-	-	-	-	-	-	-	-
RW-05	3791.45	7/29/20	-	-	-	Dry	-	-	-	-	-
RW-05	3791.45	8/27/20	-	-	-	Dry	67.16	-	-	-	-
RW-05	3791.45	9/14/20	-	-	-	Dry	67.10	-	-	-	-
RW-05	3791.45	10/29/20	-	-	-	Dry	67.19	-	-	-	-
RW-05	3791.45	12/7/20	-	-	-	Dry	67.20	-	-	-	-
RW-06	3791.39	1/29/19	-	-	-	-	•	-	0.3	-	-
RW-06	3791.39	2/25/19	67.54	66.48	1.06	3724.71	67.45	•	-	-	-
RW-06	3791.39	4/30/19	-	-	-	-	1	•	0.2	0.0	-
RW-06	3791.39	5/20/19	-	66.70	0.75+	LNAPL at TD	67.45	-	-	-	-
RW-06	3791.39	6/11/19	-	-	-	-	1	•	0.3	0	-
RW-06	3791.39	6/25/19	-	-	-	-	1	-	0.2	0.0	-
RW-06	3791.39	7/8/19	-	-	-	-	-	-	0.3	0.0	-

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
RW-06	3791.39	7/23/19	-	66.84	0.61+	LNAPL at TD	-	-	(gui.)	- Builed (guil)	Li it (gui.)
RW-06	3791.39	8/21/19	_	-	-	-	_	_	0.2	0	_
RW-06	3791.39	8/28/19	_	_	_	_	_	-	0.3	0	_
RW-06	3791.39	10/21/19	-	66.98	1.58+	LNAPL at TD	68.56	_	-	-	_
RW-06	3791.39	12/11/19	-	-	-	-	-	_	0.1	0	_
RW-06	3791.39	12/18/19	-	_	_	_	-	-	0	Dry	_
RW-06	3791.39	12/24/19	-	_	_	_	-	_	-	0.1	_
RW-06	3791.39	1/8/20	-	_	_	Drv	-	-	_	-	_
RW-06	3791.39	2/11/20	-	67.22	0.31+	LNAPL at TD	67.53	-	_	-	_
RW-06	3791.39	4/8/20	67.44	67.34	0.10	3724.03	67.58	_	_	-	_
RW-06	3791.39	4/28/20	67.45	67.35	0.10	3724.02	-	_	_	-	_
RW-06	3791.39	5/12/20	_	67.37	0.16+	LNAPL at TD	67.53	-	_	-	_
RW-06	3791.39	6/19/20	-	67.46	0.07+	LNAPL at TD	67.53	-	_	-	_
RW-06	3791.39	7/29/20	67.60	-	0.00	3723.79	-	-	_	-	_
RW-06	3791.39	8/27/20	-	_	-	Dry	67.50	-	_	-	_
RW-06	3791.39	9/14/20	-	_	_	Dry	67.45	-	_	-	_
RW-06	3791.39	10/29/20	-	-	-	Drv	67.56	_	_	-	-
RW-06	3791.39	12/7/20	-	-	-	Dry	67.62	-	-	-	-
						,					
RW-07	3791.51	1/29/19	-	-	-	-	-	-	1.2	-	-
RW-07	3791.51	2/25/19	68.80	67.69	1.11	3723.61	-	-	-	-	-
RW-07	3791.51	4/30/19	69.32	66.50	2.82	LNAPL at TD	69.32	-	1.0	0.0	-
RW-07	3791.51	5/20/19	-	67.90	1.42+	LNAPL at TD	-	-	-	-	-
RW-07	3791.51	6/11/19	-	-	-	-	-	-	0.6	0	-
RW-07	3791.51	6/25/19	-	-	-	-	-	-	0.2	0.1	-
RW-07	3791.51	7/8/19	-	-	-	-	-	-	0.2	0.2	-
RW-07	3791.51	7/23/19	68.70	68.13	0.57	3723.27	-	-	-	-	-
RW-07	3791.51	8/20/19	-	-	-	-	-	-	0.3	0.2	-
RW-07	3791.51	8/28/19	-	-	-	-	-	-	0.5	0.5	-
RW-07	3791.51	10/21/19	69.03	68.24	0.79	3723.12	-	-	-	-	-
RW-07	3791.51	12/18/19	-	-	-	-	-	-	0.4	0	-
RW-07	3791.51	2/11/20	-	68.30	1.18+	LNAPL at TD	69.48	-	-	-	-
RW-07	3791.51	4/28/20	-	67.94	1.51+	LNAPL at TD	69.45	-	-	-	-
RW-07	3791.51	5/12/20	-	67.90	1.58+	LNAPL at TD	69.48	-	-	-	-
RW-07	3791.51	6/19/20	-	67.83	1.65+	LNAPL at TD	69.48	-	-	-	-
RW-07	3791.51	7/29/20	-	67.86	1.74+	LNAPL at TD	69.60	-	-	-	-
RW-07	3791.51	8/27/20	-	67.87	1.55+	LNAPL at TD	69.42	-	-	-	-
RW-07	3791.51	9/14/20	-	67.95	1.42+	LNAPL at TD	69.37	-	-	-	-

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
RW-07	3791.51	10/29/20	-	68.03	1.47+	LNAPL at TD	69.5	-	-	-	-
RW-07	3791.51	12/7/20	-	68.03	1.47+	LNAPL at TD	69.5	-	-	-	-
RW-08	3790.90	2/25/19	-	66.28	1.14+	LNAPL at TD	-	-	-	-	-
RW-08	3790.90	5/20/19	-	Dry	-	Dry	-	-	-	-	-
RW-08	3790.90	6/25/19	-	-	-	-	-	-	0.1	0.0	-
RW-08	3790.90	7/8/19	-	-	-	-	-	-	0.1	0.0	-
RW-08	3790.90	7/23/19	-	66.60	0.82+	LNAPL at TD	-	-	-	-	-
RW-08	3790.90	8/20/19	-	-	-	-	-	-	0.2	0.3	-
RW-08	3790.90	8/28/19	-	-	-	-	-	-	0.1	0	-
RW-08	3790.90	10/21/19	-	66.75	1.25+	LNAPL at TD	68	-	-	-	-
RW-08	3790.90	2/11/20	-	66.93	0.93+	LNAPL at TD	67.86	47-67 (4 in.)	-	-	-
RW-08	3790.90	3/11/20	-	67.00	0.86+	LNAPL at TD	67.86	-	-	-	-
RW-08	3790.90	3/23/20	-	67.00	0.86+	LNAPL at TD	67.86	-	-	-	-
RW-08	3790.90	4/28/20	-	67.06	0.76+	LNAPL at TD	67.82	-	-	-	-
RW-08	3790.90	5/12/20	-	67.09	0.77+	LNAPL at TD	67.86	-	-	-	-
RW-08	3790.90	6/19/20	-	67.17	0.69+	LNAPL at TD	67.86	-	-	-	-
RW-08	3790.90	7/29/20	-	67.32	0.38+	LNAPL at TD	67.70	-	-	-	-
RW-08	3790.90	8/27/20	-	67.29	0.34+	LNAPL at TD	67.63	-	-	-	-
RW-08	3790.90	9/14/20	-	67.37	0.10+	LNAPL at TD	67.47	-	-	-	-
RW-08	3790.90	10/29/20	-	67.45	0.13+	LNAPL at TD	67.58	-	-	-	-
RW-08	3790.90	12/7/20	67.66	67.52	0.14	3723.35	-	-	-	-	-
RW-09	3791.33	2/25/19	68.04	67.76	0.28	3723.52	-	-	-	-	-
RW-09	3791.33	5/20/19	68.18	68.01	0.17	3723.29	-	-	-	-	-
RW-09	3791.33	7/23/19	68.33	68.10	0.23	3723.19	-	-	-	-	-
RW-09	3791.33	8/28/19	-	-	-	-	1	-	0.1	1	-
RW-09	3791.33	9/10/19	-	-	-	-	-	-	0.1	0.9	-
RW-09	3791.33	10/2/19	-	-	-	-	-	-	0.1	0.9	-
RW-09	3791.33	10/21/19	68.37	68.23	0.14	3723.07	-	-	-	-	-
RW-09	3791.33	11/20/19	-	-	-	-	-	-	0.1	0.9	-
RW-09	3791.33	1/15/20	-	-	-	-		-	0.3	0	-
RW-09	3791.33	2/11/20	68.69	68.49	0.20	3722.80	73.29	-	-	-	-
RW-09	3791.33	4/28/20	68.81	68.60	0.21	3722.69	-	-	-	-	-
RW-09	3791.33	5/12/20	68.85	68.65	0.20	3722.64	-	-	-	-	-
RW-09	3791.33	6/19/20	68.93	68.71	0.22	3722.58	-	-	-	-	-
RW-09	3791.33	7/29/20	69.05	68.81	0.24	3722.47	-	-	-	-	-
RW-09	3791.33	8/27/20	69.07	68.85	0.22	3722.44	-	-	-	-	-

Table 1

	Elevation of Top of Casing		Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
RW-09	3791.33	9/14/20	69.15	68.94	0.21	3722.35	-	-	-	-	-
RW-09	3791.33	10/29/20	69.30	69.03	0.27	3722.25	-	-	-	-	-
RW-09	3791.33	12/7/20	69.32	69.06	0.26	3722.22	-	-	-	-	-
RW-10	3791.16	2/25/19	-	66.68	2.02+	LNAPL at TD	-				_
RW-10	3791.16	5/20/19		66.98	1.62+	LNAPL at TD	68.70	-	-	-	
			-						-	-	-
RW-10 RW-10	3791.16 3791.16	7/23/19 10/21/19	-	67.00 67.18	1.70+ 1.64+	LNAPL at TD LNAPL at TD	68.82	-	-	-	-
RW-10	3791.16	2/11/20	-				68.68	-	-	-	-
RW-10	3791.16			- 67.55	1.19	Dry 3723.38	08.08	-	-	-	-
		4/28/20	68.74				-	-	-	-	-
RW-10	3791.16	5/12/20	-	67.56	1.12+	LNAPL at TD	68.68	-	-	-	-
RW-10	3791.16	6/19/20	-	67.62	1.06+	LNAPL at TD	68.68	-	-	-	-
RW-10	3791.16	7/29/20	-	67.74	0.46+	LNAPL at TD	68.20	-	-	-	-
RW-10	3791.16	8/27/20	-	67.74	0.94+	LNAPL at TD	68.68	-	-		-
RW-10	3791.16	9/14/20	-	67.07	1.62+	LNAPL at TD	68.69	-	-	-	-
RW-10	3791.16	10/29/20	-	67.93	0.37+	LNAPL at TD	68.30	-	-	-	-
RW-10	3791.16	12/7/20	68.70	67.97	0.73	3723.05	-	-	-	-	-
RW-11	3790.82	2/25/19	70.56	66.88	3.68	3723.24	-	-	-	-	-
RW-11	3790.82	5/20/19	69.05	67.45	1.60	3723.07	-	-	-	-	-
RW-11	3790.82	7/23/19	68.15	67.80	0.35	3722.95	-	-	-	-	-
RW-11	3790.82	8/13/19	-	-	-	-	-	-	0.3	0.7	-
RW-11	3790.82	8/20/19	-	-	-	-	-	-	0.2	0.5	-
RW-11	3790.82	8/28/19	-	-	-	-	-	-	0.5	2.0	-
RW-11	3790.82	9/10/19	-	-	-	-	-	-	0.5	1.5	-
RW-11	3790.82	9/25/19	-	-	-	-	-	-	0.2	1.3	-
RW-11	3790.82	10/2/19	-	-	-	-	-	-	0.4	-	-
RW-11	3790.82	10/21/19	69.06	67.78	1.28	3722.80	-	-	-	-	-
RW-11	3790.82	12/11/19	-	-	-	-	-	-	2.0	0.1	-
RW-11	3790.82	12/24/19	-	-	-	-	-	-	0.4	1.0	-
RW-11	3790.82	1/15/20	-	-	-	-	1	•	0.4	1.6	-
RW-11	3790.82	1/29/20	-	-	-	-	-	-	1.5	1.0	-
RW-11	3790.82	2/11/20	68.70	68.18	0.52	3722.54	74.93	•	-	-	-
RW-11	3790.82	2/25/20	-	-	-	-	ī	•	1.0	0.2	-
RW-11	3790.82	4/28/20	69.81	68.10	1.71	3722.40	-	-	-	-	-

Table 1

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
RW-11	3790.82	5/12/20	70.00	68.08	1.92	3722.38	-	-	-	-	-
RW-11	3790.82	6/19/20	70.56	68.07	2.49	3722.28	-	-	-	-	-
RW-11	3790.82	7/29/20	71.10	68.05	3.05	3722.19	-	-	_	_	_
RW-11	3790.82	8/27/20	71.42	68.04	3.38	3722.14	_	_	_	_	_
RW-11	3790.82	9/14/20	71.65	68.09	3.56	3722.05	_	_	_	_	_
RW-11	3790.82	10/29/20	72.03	68.10	3.93	3721.97	_	_	_	_	_
RW-11	3790.82	12/7/20	72.35	68.09	4.26	3721.92			_	_	_
1200-11	37 90.02	12/1/20	12.55	00.03	4.20	3721.92	-	-	-	-	-
RW-12	3791.20	2/25/19	67.47	_	0.00	3723.73	-	-	_	-	_
RW-12	3791.20	4/30/19	67.59	-	0.00	3723.61	-	-	0	3	-
RW-12	3791.20	5/20/19	67.65	_	0.00	3723.55	_	_	, , , , , , , , , , , , , , , , , , ,	-	_
RW-12	3791.20	5/22/19	-	_	-	-	_	-	0	36.0	_
RW-12	3791.20	7/23/19	67.74	-	0.00	3723.46	-	_	-	-	_
RW-12	3791.20	7/24/19	-	-	-	-	-	-	0.0	27.0	-
RW-12	3791.20	8/28/19	-	-	-	-	-	-	0.0	3.0	-
RW-12	3791.20	9/10/19	-	-	-	-	-	-	0.0	0.5	-
RW-12	3791.20	9/25/19	-	-	-	-	-	-	0.0	3.0	-
RW-12	3791.20	10/2/19	-	-	-	-	-	-	-	1.0	-
RW-12	3791.20	10/21/19	67.95	-	0.00	3723.25	85.81	-	-	-	-
RW-12	3791.20	10/24/19	-	-	-	-	-	-	-	33.0	-
RW-12	3791.20	2/11/20	68.21	-	0.00	3722.99	88.59	-	-	40.0	-
RW-12	3791.20	2/25/20	-	-	-	-	-	-	0.8	0.4	-
RW-12	3791.20	3/17/20	-	-	1	-	-	-	-	3.0	-
RW-12	3791.20	4/28/20	68.38	-	0.00	3722.82	1	•	-	-	-
RW-12	3791.20	5/12/20	68.36	-	0.00	3722.84		•	-	40.0	-
RW-12	3791.20	6/19/20	68.45	-	0.00	3722.75	-	-	-	-	-
RW-12	3791.20	7/29/20	67.53	-	0.00	3723.67	-	-	-	-	-
RW-12	3791.20	8/27/20	68.61	-	0.00	3722.59	-	-	-	-	-
RW-12	3791.20	9/14/20	68.65	-	0.00	3722.55	-	-	-	40.0	-
RW-12	3791.20	10/29/20	68.74	-	0.00	3722.46	-	-	-	38.0	-
RW-12	3791.20	12/7/20	68.83	-	0.00	3722.37	-	-	-	38.0	-
RW-13	3791.08	2/25/19	71.71	66.64	5.07	3723.48	-	-	-	-	-
RW-13	3791.08	5/20/19	70.11	67.20	2.91	3723.33	-	-	-	-	-
RW-13	3791.08	7/23/19	71.40	67.30	4.10	3723.00	-	-	-	-	-
RW-13	3791.08	10/21/19	72.86	67.17	5.69	3722.83	-	-	-	-	-
RW-13	3791.08	2/11/20	73.32	67.39	5.93	3722.56	84.33	-	-	-	-

Table 1

W- # 15	elevation of Top of Casing	Data	Depth to Groundwater	Depth to LNAPL	Thickness of LNAPL	Elevation of Potentiometric	Measured Well Depth	Screen Interval (fbgs) Well	Volume Product Removed	Volume Groundwater	Volume Groundwater Removed by
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)
RW-13	3791.08	4/28/20		-	-	-	-	-	-	-	-
RW-13	3791.08	5/12/20	71.57	67.75	3.82	3722.60	-	-	-	-	-
RW-13	3791.08	6/19/20	73.31	67.43	5.88	3722.53	-	-	-	-	-
RW-13	3791.08	7/29/20	74.04	67.74	6.30	3722.14	-	-	-	-	-
RW-13	3791.08	8/27/20	73.56	67.57	5.99	3722.37	-	-	-	-	-
RW-13	3791.08	9/14/20	73.88	67.61	6.27	3722.28	-	-	-	-	-
RW-13	3791.08	10/29/20	71.80	68.09	3.71	3722.29		-	-	-	-
RW-13	3791.08	12/7/20	-	-	-	-		-	-	-	-
RW-14	3790.92	2/25/19	70.65	66.95	3.70	3723.27	-	-	-	-	-
RW-14	3790.92	5/20/19	69.55	67.65	1.90	3722.91	-	-	-	-	-
RW-14	3790.92	7/23/19	73.21	67.13	6.08	3722.63	-	-	-	-	-
RW-14	3790.92	7/30/19	73.41	67.05	6.36	3722.66	-	-	-	-	-
RW-14	3790.92	10/21/19	73.28	67.29	5.99	3722.49	-	-	-	-	-
RW-14	3790.92	2/11/20	73.69	67.48	6.21	3722.26	81.46	-	-	-	-
RW-14	3790.92	4/21/20	77.16	66.94	10.22	3722.04	-	-	-	-	-
RW-14	3790.92	4/28/20	-	-	-	-	-	-	-	-	-
RW-14	3790.92	5/12/20	74.44	67.31	7.13	3722.26	-	-	-	-	-
RW-14	3790.92	6/19/20	-	-	-	-	-	-	-	-	-
RW-14	3790.92	7/29/20	-	-	-	-	-	-	-	-	-
RW-14	3790.92	8/27/20	-	-	-	-	-	-	-	-	-
RW-14	3790.69	9/14/20	74.74	67.80	6.94	3721.57	-	-	-	-	-
RW-14	3790.69	10/29/20	76.77	67.42	9.35	3721.49	-	-	-	-	-
RW-14	3791.08	12/7/20	-	-	-	-	-	-	-	-	-
RW-15	3789.74	2/28/20	-	-	-	-	-	-	-	45	-
RW-15	3789.74	3/12/20	67.53		0.00	3722.21	90.89	-	-	-	-
RW-15	3789.74	3/23/20	67.65	67.64	0.01	3722.10	90.96	-	-	-	-
RW-15	3789.74	4/28/20	67.71	-	0.00	3722.03	-	-	-	-	-
RW-15	3789.74	5/12/20	67.72	67.70	0.02	3722.04	-	-	-	-	-
RW-15	3789.74	6/19/20	67.84	67.79	0.05	3721.94	-	-	-	-	-
RW-15	3789.74	7/29/20	68.00	67.75	0.25	3721.94	-	-	-	-	-
RW-15	3789.74	8/27/20	68.11	67.89	0.22	3721.81	-	-	-	-	-
RW-15	3789.74	9/14/20	68.21	67.95	0.26	3721.74	-	-	-	-	-
RW-15	3789.74	10/29/20	68.43	68.00	0.43	3721.66	-	-	-	-	-
RW-15	3789.74	12/7/20	68.59	68.07	0.52	3721.57	-	-	-	-	-

Table 1

	Elevation of Top of		Depth to	Depth to	Thickness	Elevation of	Measured	Screen Interval	Volume Product	Volume	Volume Groundwater
Well ID	Casing (famsl)	Date	Groundwater (fbtoc)	LNAPL	of LNAPL (ft.)	Potentiometric Surface (famsl)	Well Depth (fbtoc)	(fbgs) Well Diameter (in.)	Removed (gal.)	Groundwater Bailed (gal.)	Removed by EFR (gal.)
RW-16	3789.70	3/2/20	67.28	(fbtoc)	0.00		91.15	Diameter (in.)	(gai.)	(3 /	EFR (gal.)
RW-16	3789.70	3/12/20	69.54	67.70	1.84	3722.42 3721.65	90.9	-	-	45	_
RW-16	3789.70	3/23/20	71.85	67.70	4.53	3721.52	91	-	-	-	
RW-16	3789.70	4/28/20	73.10	67.11	5.99	3721.45	-	-	-	-	-
RW-16	3789.70	5/12/20	72.88	67.20	5.68	3721.42	-		_		-
RW-16	3789.70	6/19/20	-	01.20	3.00		-		_		
RW-16	3789.70	7/29/20	-	_	_	-	-	-	_	-	
RW-16	3789.70	8/27/20	-	_	_	_	-	-	_	_	_
RW-16	3789.70	9/14/20	72.62	66.71	5.91	3721.87	_		_	_	_
RW-16	3789.70	10/29/20	73.03	67.64	5.39	3721.04	_	_	_	_	_
RW-16	3789.70	12/7/20	-	-	-	-	-	_	_	_	_
1444 10	0700.70	12/1/20									
RW-17	3790.62	3/2/20	67.94	_	0.00	3722.68	90.85	-	-	45	-
RW-17	3790.62	3/12/20	68.18	67.93	0.25	3722.64	90.85	-	_	-	_
RW-17	3790.62	3/23/20	68.52	68.00	0.52	3722.52	90.97	_	_	-	_
RW-17	3790.62	4/28/20	69.61	67.84	1.77	3722.44	-	_	-	-	_
RW-17	3790.62	5/12/20	70.30	67.70	2.60	3722.43	-	-	-	-	-
RW-17	3790.62	6/19/20	72.75	67.27	5.48	3722.31	-	-	-	-	-
RW-17	3790.62	7/29/20	73.55	67.20	6.35	3722.21	-	-	-	-	-
RW-17	3790.62	8/27/20	73.63	67.25	6.38	3722.16	-	-	-	-	-
RW-17	3790.62	9/14/20	73.65	67.31	6.34	3722.11	-	-	-	-	-
RW-17	3790.62	10/29/20	73.70	67.42	6.28	3722.01	-	-	-	-	-
RW-17	3790.62	12/7/20	73.75	67.51	6.24	3721.92	-	-	-	-	-
RW-18	3790.85	3/3/20	-	-	-	-	-	-	-	45	-
RW-18	3790.85	3/12/20	69.02	67.45	1.57	3723.10	90.75	•	-	-	-
RW-18	3790.85	3/23/20	71.76	67.00	4.76	3722.95	90.84	-	-	-	-
RW-18	3790.85	4/28/20	73.25	66.75	6.50	3722.87	-	-	-	-	-
RW-18	3790.85	5/12/20	72.80	66.84	5.96	3722.88	-	-	-	-	-
RW-18	3790.85	6/19/20	-	-	-	-	-	-	-	-	-
RW-18	3790.85	7/29/20	-	-	-	-	-	-	-	-	-
RW-18	3790.85	8/27/20	-	-	-	-	-	-	-	-	-
RW-18	3790.85	9/14/20	73.97	67.51	6.46	3722.11	-	-	-	-	-
RW-18	3790.85	10/29/20	74.06	67.58	6.48	3722.04	-	-	-	-	-
RW-18	3790.85	12/7/20	-	-	-	-	-	-	-	-	-
RW-19	3790.46	2/27/20	-	-	-	-	-	-	-	45	-
RW-19	3790.46	3/12/20	69.20	67.45	1.75	3722.68	90.75	-	-	-	-

Table 1

Summary of Fluid Level Measurements 2019 & 2020 Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Well ID	Elevation of Top of Casing (famsl)	Date	Depth to Groundwater (fbtoc)	Depth to LNAPL (fbtoc)	Thickness of LNAPL (ft.)	Elevation of Potentiometric Surface (famsl)	Measured Well Depth (fbtoc)	Screen Interval (fbgs) Well Diameter (in.)	Volume Product Removed (gal.)	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by EFR (gal.)
RW-19	3790.46	3/23/20	70.18	67.40	2.78	3722.53	90.98	-	-	-	-
RW-19	3790.46	4/28/20	72.08	67.05	5.03	3722.45	-	-	-	-	-
RW-19	3790.46	5/12/20	72.51	66.98	5.53	3722.43	-	-	-	-	-
RW-19	3790.46	6/19/20	72.98	67.00	5.98	3722.32	-	-	-	-	-
RW-19	3790.46	7/29/20	73.15	67.06	6.09	3722.24	-	-	-	-	-
RW-19	3790.46	8/27/20	73.24	67.10	6.14	3722.19	-	-	-	-	-
RW-19	3790.46	9/14/20	73.30	67.18	6.12	3722.12	-	-	-	-	-
RW-19	3790.46	10/29/20	73.40	67.25	6.15	3722.04	-	-	-	-	-
RW-19	3790.46	12/7/20	73.52	67.33	6.19	3721.95	-	-	-	-	-

Notes:

- 1. famsl Feet above mean sea level
- 2. fbtoc Feet below top of casing
- 3. LNAPL Light non-aqueous phase liquid.
- 4. fbgs below ground surface.
- 5. Factor of 0.81 was used for density of LNAPL to calculate elevation of potentiometric surface where measureable thickness of LNAPL was present.
- 6. 0.37+ LNAPL was present at bottom of well; therefore full thickness of LNAPL could not be determined.

Table 2

Summary of Dissolved Hydrocarbons in Groundwater 2019 & 2020
Plains Pipeline, L.P.
Darr Angell No. 1
Lea County, New Mexico

		Benzene	Toluene	Ethylbenzene	
Sample ID	Sample Date	(mg/L)	(mg/L)	(mg/L)	Total Xylenes
				an Health Standar	
		0.01	0.75	0.75	0.62
MW-2	2/27/19	0.0166	<0.000412	<0.000160	0.0124
MW-2 (DUP-2)	2/27/19	0.0177	<0.000412	<0.000160	0.0130
MW-2	5/22/19	0.0118	0.000966 J	0.00286	0.00667
MW-2	7/24/19	0.00339	<0.000412	<0.000160	0.00161
MW-2	10/24/19	0.00860	<0.000412	0.00187	0.0190
MW-2 (Dup-1)	10/24/19	0.0137	<0.000412	0.00377	0.0437
MW-2	2/14/20	0.0188	<0.000412	<0.000160	0.000510
MW-2	5/14/20	<0.000190	0.000734 J	0.000363 J	0.00746
MW-2	9/17/20	Insufficient wa	ter to sample		
MW-2	11/2/20	Insufficient wa	ter to sample		
MW-4	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	11/2/20	0.00402 J	<0.000412	<0.000160	<0.000510
MW-6	2/27/19	0.0994	0.00146	0.0115	0.0115
MW-6	5/22/19	0.0724	0.000675 J	0.00415	0.00905
MW-6	7/24/19	0.0746	<0.000412	0.000864	0.00431
MW-6 (DUP-1)	7/24/19	0.0691	<0.000412	0.000755	0.00394 B
MW-6	10/24/19	0.0590	0.000554 J	0.00156	0.00631
MW-6 (Dup-2)	10/24/19	0.0649	0.000664 J	0.00157	0.00622
MW-6	2/14/20	0.0291	<0.0291	0.00865	0.00736
MW-6	5/14/20	0.0223	<0.000412	0.000855	0.00447
MW-6	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-6 (DUP-2)	9/18/20	0.0268	<0.000412	<0.000160	0.00285
MW-6	11/5/20	0.00438	<0.000412	0.00168	0.00321
MW-6 (DUP-2)	11/5/20	0.00604	<0.00412	0.00199	0.00344
MW-7	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-7	5/14/20	0.000267 J	<0.000412	0.000515	0.00112 J
MW-7	9/18/20	0.0249	<0.000412	<0.000160	0.00552
MW-7 (DUP-1)	9/18/20	0.000399 J	<0.000412	<0.000160	0.00107 J
MW-7	11/2/20	0.000747	<0.000412	<0.000160	0.00107 J
MW-7 (DUP-1)	11/2/20	0.000846	<0.000412	<0.000160	<0.000510
NAVA 4.4	2/25/40	D=:			
MW-11	2/25/19	Dry			
MW-11	5/20/19	Dry			
MW-11	7/23/19	Dry			
MW-11	10/21/19	Dry			
MW-11	2/19/20	P&A			
MW-11R	3/26/20	<0.000190	<0.000412	<0.000160	<0.000510

Table 2

Summary of Dissolved Hydrocarbons in Groundwater 2019 & 2020
Plains Pipeline, L.P.
Darr Angell No. 1
Lea County, New Mexico

		Benzene	Toluene	Ethylbenzene	
Sample ID	Sample Date	(mg/L)	(mg/L)	(mg/L)	Total Xylenes
			VMWQCC Hum	an Health Standar	ds
		0.01	0.75	0.75	0.62
MW-11R	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-11R	9/17/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-11R	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-12	2/10/17	P&A			
NAVA (12D	0/07/40	0.000500	10.000440	40,000400	10.000540
MW-12R	2/27/19	0.000563	<0.000412	<0.000160	<0.000510
MW-12R	5/22/19	<0.000190	<0.000412	0.000507	0.00108 B J
MW-12R	7/24/19	0.000300 J	<0.000412	<0.000160	<0.000510
MW-12R	10/24/19	0.000236 J	<0.000412	<0.000160	0.000537 J
MW-12R	2/14/20	0.000366 B J	0.000476 B J	<0.000160	0.000783 B J
MW-12R	5/14/20	0.000247 J	<0.000412	<0.000160	<0.000510
MW-12R	9/18/20	0.000654	<0.000412	<0.000160	0.00194
MW-12R	11/2/20	0.00395 J	<0.000412	<0.000160	<0.000510
MW-15	2/10/17	P&A			
MW-16	2/10/17	P&A			
10100 - 10	2/10/17	ΓαΑ			
MW-16R	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-16R (DUP-1)	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-16R	5/22/19	0.000480 J	<0.000412	0.000200 J	<0.000510
MW-16R	7/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-16R	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-16R	2/13/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-16R	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-16R	9/17/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-16R	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-17	10/8/14	P&A			
MW-17R	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R	5/22/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R (DUP-1)	5/22/19	0.000250 J	<0.000412	<0.000160	<0.000510
MW-17R	7/24/19	<0.000190	<0.000412	0.000189 J	<0.000510
MW-17R	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R	2/13/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510

Page 3 of 5

Table 2

Summary of Dissolved Hydrocarbons in Groundwater 2019 & 2020
Plains Pipeline, L.P.
Darr Angell No. 1
Lea County, New Mexico

		Benzene	Toluene	Ethylbenzene	
Sample ID	Sample Date	(mg/L)	(mg/L)	(mg/L)	Total Xylenes
				an Health Standar	
		0.01	0.75	0.75	0.62
MW-18	2/10/17	P&A			
MW-18R	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-18R	5/22/19	0.000258 J	<0.000412	<0.000160	<0.000510
MW-18R	7/24/19	0.000201 J	0.000448 J	0.000365 J	0.00101 J
MW-18R	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-18R	2/13/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-18R	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-18R (DUP-1)	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-18R	9/18/20	0.000660	<0.000412	<0.000160	0.00137 J
MW-18R	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-19	10/8/14	P&A			
MW-19R	2/27/19	0.000519	<0.000412	<0.000160	<0.000510
MW-19R	5/22/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-19R	7/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-19R	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-19R	2/13/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-19R	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-19R	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-19R	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-20	10/9/14	P&A			
MW-20R	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	5/22/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	7/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	2/13/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	9/17/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-21	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-21	5/22/19	0.000279 J	<0.000412	<0.000160	<0.000510
MW-21	7/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-21	10/24/19		Insufficient Wa	ter to Sample	
MW-21	2/19/20	P&A			

Page 4 of 5

Table 2

Summary of Dissolved Hydrocarbons in Groundwater 2019 & 2020
Plains Pipeline, L.P.
Darr Angell No. 1
Lea County, New Mexico

		Benzene	Toluene	Ethylbenzene	
Sample ID	Sample Date	(mg/L)	(mg/L)	(mg/L)	Total Xylenes
				an Health Standar	
		0.01	0.75	0.75	0.62
MW-21R	3/26/20	<0.00190	<0.00412	<0.000160	<0.000510
MW-21R	5/14/20	<0.00190	<0.00412	<0.000160	<0.000510
MW-21R	9/17/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-21R	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	5/22/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	7/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	2/13/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	9/18/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-22	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-24	3/26/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-24	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-24	9/17/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-24	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-25	3/26/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-25 (DUP-1)	3/26/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-25	5/14/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-25 (DUP-2)	5/14/2020	<0.000190	<0.000412	<0.000160	<0.000510
MW-25	9/17/20	<0.000190	<0.000412	<0.000160	<0.000510
MW-25	11/2/20	<0.000190	<0.000412	<0.000160	<0.000510
RW-12	2/27/19	0.00739	0.00863	0.00722	0.0826
RW-12	5/22/19	0.00663	0.00768	0.00491	0.0564
RW-12 (DUP-2)	5/22/19	0.00782	0.0113	0.00920	0.108
RW-12	7/24/19	0.00869	0.0115	0.0223	0.162
RW-12 (DUP-2)	7/24/19	0.00807	0.0109	0.0210	0.151
RW-12	10/24/19	0.00505	0.00408	0.00361	0.104
RW-12	2/14/20	0.00479	0.00242 B	0.00688	0.061
RW-12	5/14/20	0.00199	0.00485	0.000594	0.105
RW-12	9/17/20	0.000599	0.000742 J	<0.000160	0.0138
RW-12	11/2/20	<0.000190	<0.000412	<0.000160	0.00349
Trip Plank	9/20/49	<0.000100	<0.000442	<0.000160	0.000540.1
Trip Blank	8/30/18	<0.000190	<0.000412	<0.000160	0.000510 J
Trip Blank	2/27/19	<0.000190	<0.000412	<0.000160	<0.000510
Trip Blank	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510

Page 5 of 5

Table 2

Summary of Dissolved Hydrocarbons in Groundwater 2019 & 2020 Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Sample ID	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes				
		NMWQCC Human Health Standards							
		0.01	0.75	0.75	0.62				
Trip Blank	2/14/20	<0.000190	<0.000412	<0.000160	<0.000510				

Notes:

- 1. Shaded cells indicate concentrations exceeding New Mexico Water Quality Control Commission Human Health Standards.
- 2. Bold indicates detection.
- 3. BTEX analyses by EPA Method 8021B.
- 4. Samples collected during March 2011 were collected by NOVA.
- 5. MW-12R, MW-16R, MW-18R, MW-22, MW-23, and RW-12 were installed in February 2017.
- 6. D Flag—The sample was diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- 7. Flag J indicates the identification of the analyte is acceptable and the reported result is an estimate.
- 8. Flag B indicates the same analyte is found in the associated blank.

Table 3

Summary of Analytical Results of PAH Compounds in Groundwater Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Sample ID	Sample Date	Anthracene	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,ħ)anthracene (mg/L)	Dibenzofuran (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	Indeno(1,2,3-cd)pyrene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	Naphthalene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)
		0.004	0.004	0.004	0.004	0.000	0.004	0.004	0.004		CD Regulatory Sta		0.004	0.004	0.004	0.004	0.004	1		
MW-1	11/24/08	0.001 <0.000183	0.001 <0.000183	0.001 0.00485	0.001 <0.000183	0.0002 <0.000183	0.001 <0.000183	0.001 <0.000183	0.001 <0.000183	0.001 <0.000183	0.001 <0.000183	0.001 0.0106	0.001 <0.000183	0.001 0.0167	0.001 <0.000183	0.001 0.0205	0.001 <0.000183	0.122	0.03 0.173	0.250
MW-1	12/08/09	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	0.0164	<0.000922	0.0436	<0.000922	0.0719	<0.000922	0.106	<0.000922	0.350	0.748	1.09
LNAPL																				
100/0	44/04/00	.0.00400	-0.000400	-0.000100	-0.000400	-0.000100	-0.000400	.0.000400	-0.000400	-0.000400	.0.00400	0.00474	-0.000400	0.00055	-0.000400	0.0000	.0.000400	0.0005	0.0004	0.000
MW-2 MW-2	11/24/08 12/07/09	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	<0.000183 <0.000184	0.00174 0.00314	<0.000183 <0.000184	0.00255 0.00482	<0.000183 <0.000184	0.00282 0.00625	<0.000183 <0.000184	0.0285 0.0435	0.0234 0.0536	0.0302 0.0528
MW-2	12/01/03	<0.000185	0.000644	<0.000104	<0.000104	<0.000104	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	0.000941	<0.000185	0.00133	<0.000185	0.00128	0.000236	0.00546		
MW-2	11/29/18	0.000671	0.000509	<0.0000120	<0.00000410	<0.0000116	0.0000380 J	<0.00000227	<0.0000136	0.000175	<0.00000396	0.00215	<0.0000157	0.00232	<0.0000148	0.00291	<0.0000117	0.0137	0.0257	0.0109
MW-2	10/24/19	0.00120	0.000502	<0.0000120	0.000537	0.000323	0.0000671 J	0.0000552 J	<0.0000136	0.000253	<0.00000396	0.00102	0.000181	0.00182	<0.000148	0.00290	0.000539	0.00140	0.00629	0.00159
MW-2	11/02/20	nsufficient water to	sample																	
MW-3	11/24/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00292	<0.000184	0.00377	<0.000184	0.0037	<0.000184	0.0601	0.0455	0.0625
MW-3	12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00191	<0.000184	0.00242	<0.000184	0.00262	<0.000184	0.0372	0.0396	0.0451
MW-3	11/22/10	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	0.00579	<0.000186	0.00899	<0.000186	0.0136	<0.000186	0.0673	0.0915	0.115
P&A																				
MW-4	11/24/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
MW-4	12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
NAVA / F	44/04/00	0.0404	40 00004 7	0.000	40.000047	10.000017	10.000047	10.000047	10 000047	40 00004 7	10.000047	0.0004	10.000047	0.000	40.000047	0.0407	10.000047	0.400	0.004	0.070
MW-5 MW-5	11/24/08 12/07/09	0.0424 <0.000184	<0.000917 <0.000184	0.0806 <0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 0.00262	<0.000917 <0.000184	0.0201 0.00767	<0.000917 <0.000184	0.0326 0.0122	<0.000917 <0.000184	0.0427 0.0172	<0.000917 <0.000184	0.136 0.0779	0.261 0.137	0.372 0.194
LNAPL	12/0//00	0.000101	0.000101	0.000101	0.000101	0.000101	0.000.01	0.000101	0.000101	0.00202	0.000101	0.00701	0.000101	0.0122	0.000.01	0.0172	0.000101	0.0770	0.101	0.104
MW-6	11/24/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00251	<0.000184	0.00321	<0.000184	0.00322	<0.000184	0.0217	0.0339	0.015
MW-6 MW-6	12/07/09 12/01/11	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184 <0.000186	0.00125 0.00152	<0.000184 <0.000186	0.00129 0.000962	<0.000184 <0.000186	0.00144 0.00131	<0.000184 <0.000186	0.00437 0.00345	0.0133 0.00676	0.00426 0.00328
MW-6	12/06/12	<0.000190	<0.000190	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000190	<0.000100	<0.000100	0.00398	<0.000190	0.00346	<0.000190	0.00406	<0.000100	0.0126	0.0206	0.0207
MW-6	12/04/15	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	96	<0.000196	<0.000196	<0.000196	<0.000196	0.00034	<0.000196
MW-6	11/04/16	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	0.000342	<0.000185	<0.000185	<0.000185	<0.000185	0.000273	0.00219	0.00141	0.00122
MW-6 MW-6	12/01/17 11/29/18	<0.000185 0.000306	0.000313	<0.000185 <0.0000120	<0.000185 <0.0000410	<0.000185 <0.0000116	<0.000185 0.0000189 J	<0.000185 0.0000137 J	<0.000185 <0.0000136	<0.000185 <0.0000108	<0.000185 <0.0000396	0.00047 0.000334	<0.000185 0.0000159 J	0.000277 0.000146	<0.000185 <0.0000148	0.000360 0.000293	<0.000185 0.000141	0.00208 0.00196	0.00188	0.00107
MW-6	10/24/19	0.0000833	0.000313	<0.0000120	<0.00000410	<0.0000116	<0.00001033	<0.0000137 3	<0.0000136	<0.0000108	<0.00000336	0.000332	<0.0000157	0.0000546	<0.0000148	0.000139	0.0000246 J	0.00161	0.000970	0.000783
MW-7	11/24/08	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185
MW-7 MW-7	12/07/09 11/29/18	<0.000184 <0.0000140	<0.000184 0.0000476 J	<0.000184 <0.0000120	<0.000184 <0.0000410	<0.000184 <0.0000116	<0.000184 <0.0000212	<0.000184 <0.0000227	<0.000184 <0.0000136	<0.000184 <0.0000108	<0.000184 <0.0000396	<0.000184 0.00028	<0.000184 <0.0000157	<0.000184 <0.0000850	<0.000184 <0.0000148	<0.000184 0.0000751	<0.000184 <0.0000117	<0.000184 0.000254 B	<0.000184 0.000367	<0.000184 0.0000983 J
	10/24/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000336	0.00000667 B J	<0.0000157	<0.0000085	<0.0000148	<0.0000731	<0.0000117	0.000284 B J		0.0000383 B J
MW-8	11/25/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.0861	<0.000184	0.135	<0.000184	0.188	<0.000184	0.529	1.26	1.86
MW-8 LNAPL	12/08/09	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	0.0165	<0.000917	0.0566	<0.000917	0.0789	<0.000917	0.113	<0.000917	0.359	0.839	1.14
LIV U L																				
MW-9	11/25/08	<0.000184	<0.000184	0.00163	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00172	<0.000184	0.00578	<0.000184	0.00846	<0.000184	0.0104	<0.000184	0.0641	0.0851	0.112
LNAPL																				
MW-10	11/24/08	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	0.0286	<0.000922	0.0382	<0.000922	0.0512	<0.000922	0.212	0.382	0.537
MW-10	12/08/09	<0.000917	<0.000917	<0.000917	<0.000322	<0.000917	<0.000917	<0.000322	<0.000917	0.0357	<0.000917	0.112	<0.000917	0.172	<0.000917	0.245	<0.000917	0.856	1.89	2.64
LNAPL																				
NAA	11/04/00	10.000107	10 000105	40.000405	10.000105	10.000105	*0.00040=	40.000405	10 000107	40.000405	10 000105	40.000407	40.000105	40.000405	40.000405	10.000105	40.000405	40.000405	10.000105	10.000105
MW-11 MW-11	11/24/08 12/07/09	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184	<0.000185 <0.000184
P&A	.2,31,00	0.000104	0.000101	3.550104	5.55010-7	3.550104	5.55010-1	0.000104	0.000101	5.550104	0.00010-1	0.000104	0.000104	5.550104	5.550104	5.550104	3.550104	3.550104	3.330104	3.555104
				_																
MW-11R	11/02/20	<0.0000190	<0.000190	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	<0.0000191	<0.0000270	<0.0000169	<0.0000158	<0.0000180	<0.0000169	<0.0000917	<0.0000687	<0.0000674
M\N/-12	11/24/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.00145	<0.000183	0.000696	<0.000183	<0.000183	<0.000183	0.000648	0.000372	<0.000183
14144-17	11/24/00	-0.000100	-0.000100	-0.000100	-0.000100	-0.000100	-0.000100	-0.000100	-0.000100	-0.000100	-0.000100	0.00170	-0.000100	0.00000	-0.000100	-0.000100	-0.000100	0.000070	0.000072	-0.000100

Table 3

Summary of Analytical Results of PAH Compounds in Groundwater Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Sample Sample ID Date	Anthracene	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)	Phenanthrene (mg/L)	Pyrene (mg/L)	Naphthalene (mg/L.)	1-Methylnaphthalene (mg/L)	2-Methyinaphthalene (mg/L)
			1						NMC	OCD Regulatory Sta	ndards	1	1	1	1		1		
,	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	0.001	0.001		0.03	
MW-12 12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000706	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000615	<0.000184	<0.000184
MW-12 12/01/11	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.000228	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.000302	<0.000183
P&A																			
MW-12R 12/01/17	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000368		
MW-12R 11/29/18	<0.0000140	<0.0000100	<0.0000120	<0.0000410	<0.0000116	0.00000214 J	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000847 B J	<0.000157	<0.00000850	<0.0000148	0.0000133 J	<0.0000117	0.0000307 B J	<0.0000821	<0.0000902
MW-12R 10/24/19	<0.0000140	<0.000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.000108	<0.00000396	0.00000710 B J	<0.0000157	<0.0000085	<0.0000148	0.00000922 J	<0.0000117	0.0000286 B J	0.0000150 B J	0.0000132 B J
MW-15 11/24/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
MW-15 12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
P&A																			
MW-16 11/24/08	0.000888	<0.000185	<0.000185	0.000959	0.000847	0.000814	0.00102	0.000879	0.000958	<0.000185	<0.000185	0.0013	0.000417	0.0010	0.00076	0.0012	<0.000185	0.000216	0.000313
MW-16 12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
P&A																			
MW-16R 11/02/20	<0.0000190	<0.0000190	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	<0.0000191	<0.0000270	<0.0000169	<0.0000158	<0.0000180	<0.0000169	<0.0000917	<0.0000687	<0.0000674
MW-17 11/24/08	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185
MW-17 12/07/09	<0.000183	<0.000184	<0.000183	<0.000183	<0.000184	<0.000183	<0.000183	<0.000183	<0.000184	<0.000183	<0.000183	<0.000183	<0.000183	<0.000184	<0.000184	<0.000183	<0.000183	<0.000184	<0.000184
P&A																			
MW-17R 12/11/14	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185
MW-17R 12/04/15	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198	<0.000198
MW-18 11/24/08	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	0.000216	0.000245	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187
MW-18 12/07/09	<0.000187	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000187	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
P&A																			
MW-18R 12/01/17	<0.000184	<0.000184	<0.000184	0.000257	<0.000184	0.000252	0.000298	0.000278	0.000250	0.000348	<0.000184	0.000286	<0.000184	0.000329	<0.000184	0.00029	<0.000368	<0.000184	<0.000184
MW-18R 11/29/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.0000396	0.00000623 B J	<0.0000157	<0.00000850	<0.0000148	0.00000952 J	<0.0000117	0.000134 B J	0.0000439 J	0.0000423 J
MW-19 11/24/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
MW-19 12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000104	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
P&A																			
MW-19R 12/11/14	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	0.000930	<0.000186	<0.000186	<0.000186	0.00180	<0.000186	<0.000186	0.000330	0.000326
MW-19R 12/04/15	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197	<0.000197
MW-19R 11/04/16 MW-19R 11/29/18	<0.000185 <0.0000140	<0.000185 <0.0000100	<0.000185 <0.0000120	<0.000185 <0.00000410	<0.000185 <0.0000116	<0.000185 <0.00000212	<0.000185 <0.00000227	<0.000185 <0.0000136	<0.000185 <0.0000108	<0.000185 <0.0000396	<0.000185 0.0000399 B J	<0.000185 <0.0000157	<0.000185 <0.0000850	<0.000185 <0.0000148	<0.000185 <0.0000820	0.000296 < 0.0000117	<0.000185 0.0000460 B J	<0.000185 <0.0000821	<0.000185 <0.00000902
11/20/10	-0.0000140	10.0000100	-0.0000120	-0.00000-10	-0.0000110	-0.00000212	10.00000227	-0.0000100	-0.0000100	-0.00000000	0.0000000000000000000000000000000000000	10.0000107	10.00000000	-0.0000140	-0.00000020	-0.0000111	0.0000400 2 0	-0.00000021	-0.0000002
MW-20 11/24/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
MW-20 12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
P&A																			
MW-20R 12/11/14	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186
MW-20R 12/11/14 MW-20R 12/04/15	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186
25.1		2.230.00	2.230.00	2.20.00	2.20.00	2.230.00			2.230.00	2.230.00	2.230.00	1.155.05	2.230.00	2.230.00	2.230.00	21230100	2.230.00	2.230.00	
MW-21 11/24/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
MW-21 12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
P&A																			
MW-21R 11/02/20	<0.0000190	<0.0000190	<0.0000171	<0.000203	<0.0000184	<0.000168	<0.000184	<0.0000202	<0.000179	<0.000160	<0.0000191	<0.0000270	<0.000169	<0.000158	<0.000180	<0.000169	<0.000917	<0.0000687	<0.0000674
14144-7117 11/02/20	-0.0000180	-0.0000180	-0.0000171	-0.0000203	-0.0000104	-0.0000100	-0.0000104	~0.0000202	-0.000118	-0.0000100	-0.0000181	-0.0000270	-0.0000109	-0.0000100	-0.0000100	-0.0000108	-0.0000817	-0.0000007	50.0000074
MW-22 12/01/17	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000368		
MW-22 11/29/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000399 B J	<0.0000157	<0.0000850	<0.0000148	<0.00000820	<0.0000117	0.0000537 B J	<0.00000821	<0.00000902

Table 3

Summary of Analytical Results of PAH Compounds in Groundwater Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

Sample ID	Sample Date	Anthracene	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)	Phenanthrene (mg/L)	Pyrene (mg/L)	Naphthalene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)
			1				1		1	NMC	CD Regulatory Sta	ndards	1	1			ı			
		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	0.001	0.001		0.03	
MW-22	10/24/19	<0.0000140	<0.0000100	<0.000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.000108	<0.00000396	0.00000625 B J	<0.0000157	<0.00000850	<0.0000148	<0.00000820	<0.0000117	0.0000362 B J	0.0000126 B J	0.0000132 B J
MW-24	11/02/20	<0.0000190	<0.0000190	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.000160	<0.0000191	<0.0000270	<0.0000169	<0.0000158	<0.000180	<0.000169	<0.0000917	<0.000687	<0.0000674
10100-24	11/02/20	V0.0000190	<0.0000190	VO.0000171	<0.0000203	<0.0000104	<0.0000100	V0.0000104	<0.0000202	<0.0000179	<0.0000100	VO.0000191	<0.0000210	<0.0000109	<0.0000130	<0.0000100	<0.0000109	~0.0000917	<u> </u>	<0.0000074
MW-25	11/02/20	<0.0000190	<0.000190	<0.0000171	<0.0000203	<0.0000184	<0.0000168	<0.0000184	<0.0000202	<0.0000179	<0.0000160	<0.0000191	<0.0000270	<0.0000169	<0.0000158	<0.0000180	<0.0000169	<0.0000917	<0.0000687	<0.0000674
RW-2	12/08/09	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	0.0379	<0.00184	0.0964	<0.00184	0.162	<0.00184	0.256	<0.00184	0.798	1.74	2.60
P&A																				
RW-3	11/25/08	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	0.0218	<0.000917	0.0633	<0.000917	0.0966	<0.000917	0.129	<0.000917	0.400	0.888	1.31
RW-3	12/08/09	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	0.0506	<0.00183	0.130	<0.00183	0.210	<0.00183	0.321	<0.00183	1.02	2.27	3.29
LNAPL	12/00/00	0.00100	0.001.00	0.001.00	0.001.00	0.00100	0.00100	0.00100	0.001.00	0.0000	0.001.00	0.100	0.00100	0.2.10	0.00100	0.02.	0.001.00			0.20
RW-4	12/08/09	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.00224	<0.000183	0.00772	<0.000183	0.011	<0.000183	0.0161	<0.000183	0.0801	0.134	0.184
LNAPL																				
RW-5	11/25/08	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	0.013	<0.000917	0.0218	<0.000917	0.0273	<0.000917	0.132	0.17	0.254
RW-5	12/08/09	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	0.0166	<0.000917	0.0426	<0.000917	0.0726	<0.000917	0.105	<0.000917	0.338	0.726	1.07
LNAPL										0.0.00		0.0.20		0.0.20		000		0.000	020	
RW-6	11/25/08	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	0.0286	<0.000917	0.0751	<0.000917	0.126	<0.000917	0.167	<0.000917	0.564	1.33	1.93
RW-6	12/08/09	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	0.0110	<0.000922	0.0180	<0.000922	0.0330	<0.000922	0.0456	<0.000922	0.175	0.327	0.462
LNAPL																				
RW-7	11/25/08	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	0.0254	<0.000922	0.0709	<0.000922	0.106	<0.000922	0.143	<0.000922	0.477	1.07	1.55
RW-7	12/08/09	<0.00862	<0.00862	<0.00862	<0.00862	<0.00862	<0.00862	<0.00862	<0.00862	0.191	<0.00862	0.0531	<0.00862	0.844	<0.00862	1.28	<0.00862	3.95	9.15	13.1
LNAPL																				
RW-8	11/25/08	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	0.214	<0.00459	0.342	<0.00459	0.436	<0.00459	1.17	2.87	4.15
RW-8 LNAPL	12/08/09	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	0.116	<0.00461	0.294	<0.00461	0.480	<0.00461	0.704	<0.00461	2.16	5.04	7.19
2.4/11 2																				
RW-9	11/25/08	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	0.0488	<0.000917	0.064	<0.000917	0.0838	<0.000917	0.294	0.587	0.841
RW-9	12/08/09	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	<0.00183	0.0186	<0.00183	0.0576	<0.00183	0.0795	<0.00183	0.117	<0.00183	0.402	0.890	1.24
LNAPL																				
D\// 10	12/08/09	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.00344	<0.000183	0.00496	<0.000183	0.00643	<0.000183	0.0478	0.0674	0.0898
LNAPL	12/00/09	<u> </u>	<u> </u>	<0.000103	<u> </u>	<u> </u>	<0.000103	<0.000103	<u> </u>	<0.000103	<u> </u>	0.00344	<u> </u>	0.00490	<u> </u>	0.00043	~0.000103	0.0476	0.0074	0.0030
2.2.2																				
RW-11	11/25/08	<0.000917	0.0062	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	0.0105	<0.000917	0.0269	<0.000917	0.0426	<0.000917	0.0571	<0.000917	0.145	0.322	0.441
LNAPL																				
B	40/04/47	.0.000.100	.0.000.100	.0.000.100	.0.000.100	.0.000100	-0.000100	.0.000.100	.0.000100	.0.000.100	.0.000100	-0.000.100	.0.000.100	.0.000100	.0.000100	.0.000.100	.0.000.100	.0.000001		
RW-12	12/01/17 11/29/18	<0.000182 <0.0000140	<0.000182 <0.0000100	<0.000182 <0.0000120	<0.000182 <0.00000410	<0.000182 <0.0000116	<0.000182 <0.00000212	<0.000182 <0.00000227	<0.000182 <0.0000136	<0.000182 <0.0000108	<0.000182 <0.0000396	<0.000182 0.0000538 B J	<0.000182 <0.0000157	<0.000182 <0.0000850	<0.000182 <0.0000148	<0.000182 <0.0000820	<0.000182 <0.0000117	<0.000364 0.000138 B J	0.0000167 J	<0.0000902
RW-12 RW-12	11/29/16	<0.0000140	<0.0000100	<0.0000120	0.0000120 J	<0.0000118	0.00000573 J	0.00000505 J	<0.0000136	<0.0000108	<0.00000396	0.00000538 B J	<0.0000157	<0.00000850	<0.0000148	<0.00000820	<0.0000117	0.000138 B J	<0.000187	<0.0000902
		2.2200000	5.5500100	0.00000700		5.5550100		5.55555555	0.0000200	0.000144	0.00000-0-7	J.J.J.J.J.	0.0000100	0.0000000	5.55500700	5.550010-1	5.5550100		0.0000100	3.5550100
Notes:																				-

Notes:

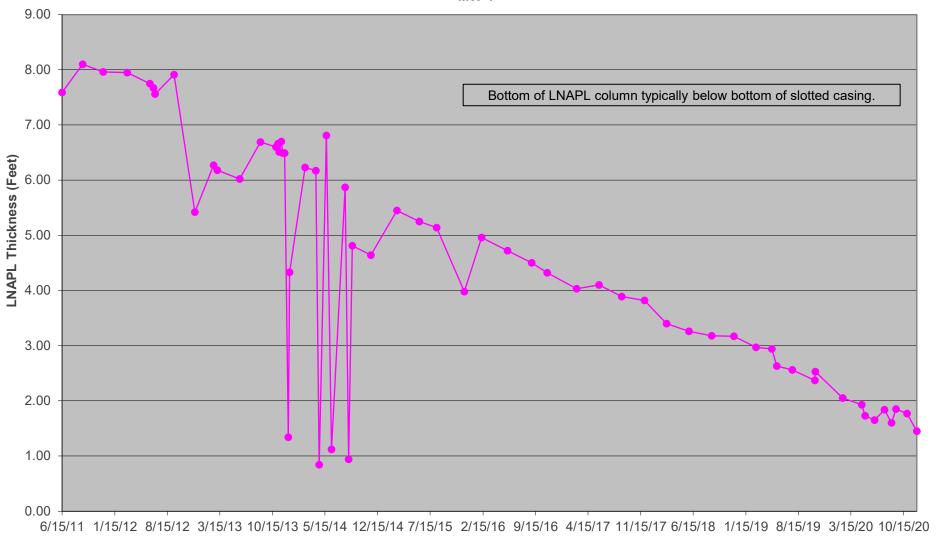
- Notes:

 1. PAH analyses by EPA Method 8270D.
 2. Shaded cells indicate NMWQCC Drinking Water Standards Section 1-101.UU and 3-103.A exceedance.
 3. Bold indicates detection.
 4. Nova Training and Environmental collected samples from 2008 through 2010.
 5. Flag J indicates the identification of the analyte is acceptable and the reported result is an estimate.
 6. Flag B indicates the same analyte is found in the associated blank.
 7. Regulaotry standards of 0.001 mg/L noted above are requirements of the NMOCD. Other standards are required by NMAC 20.6.2.3103 Section A..

Appendices

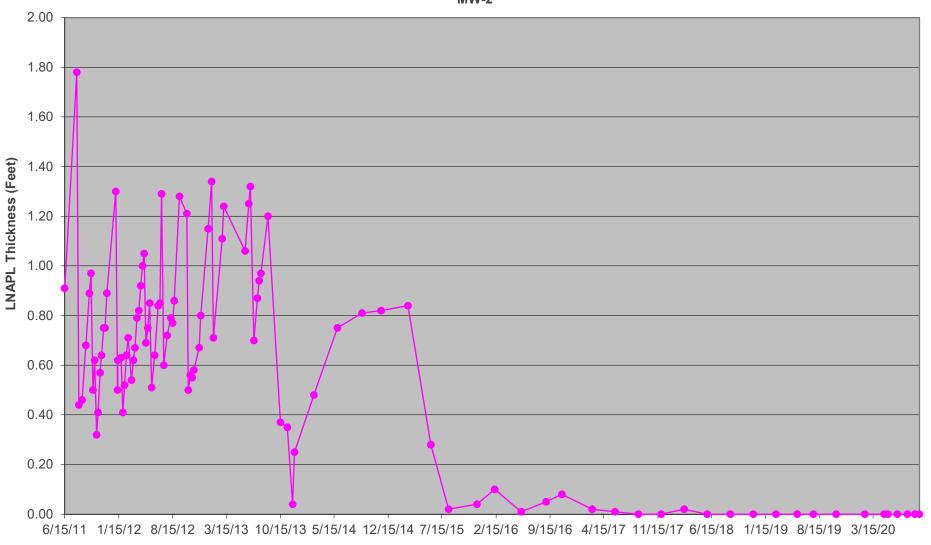
Appendix A Charts of LNAPL Thicknesses in Monitor and Recovery Wells vs. Time

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME MW-1



Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME MW-2



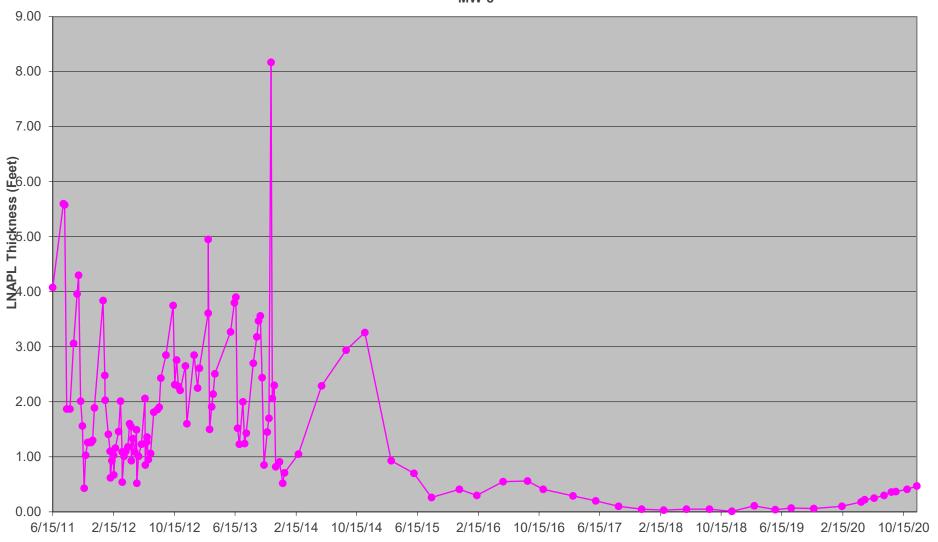
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME MW-5



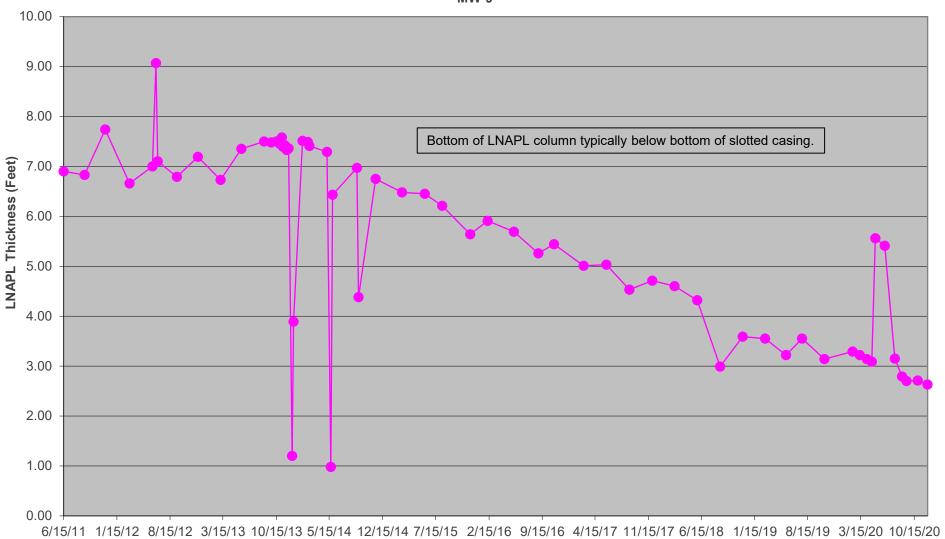
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME MW-8



Date

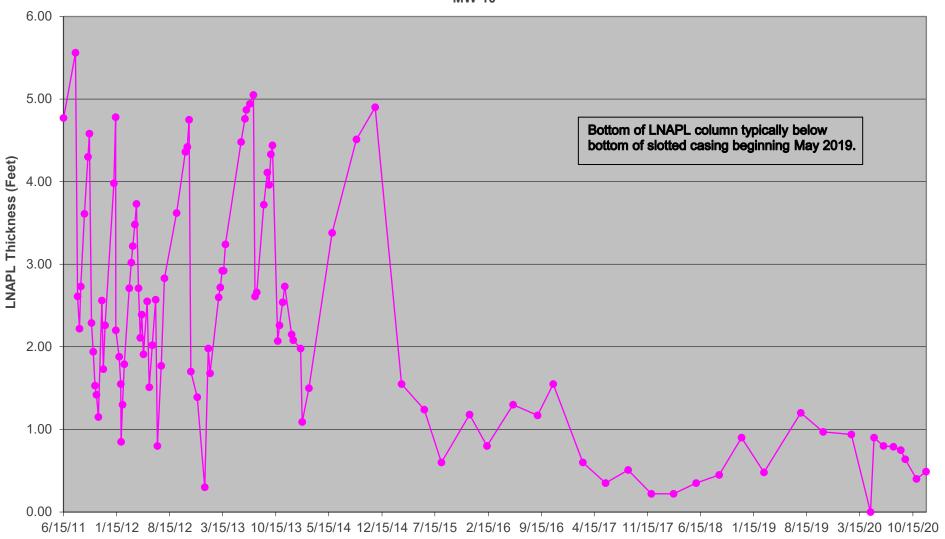
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME MW-9



Date

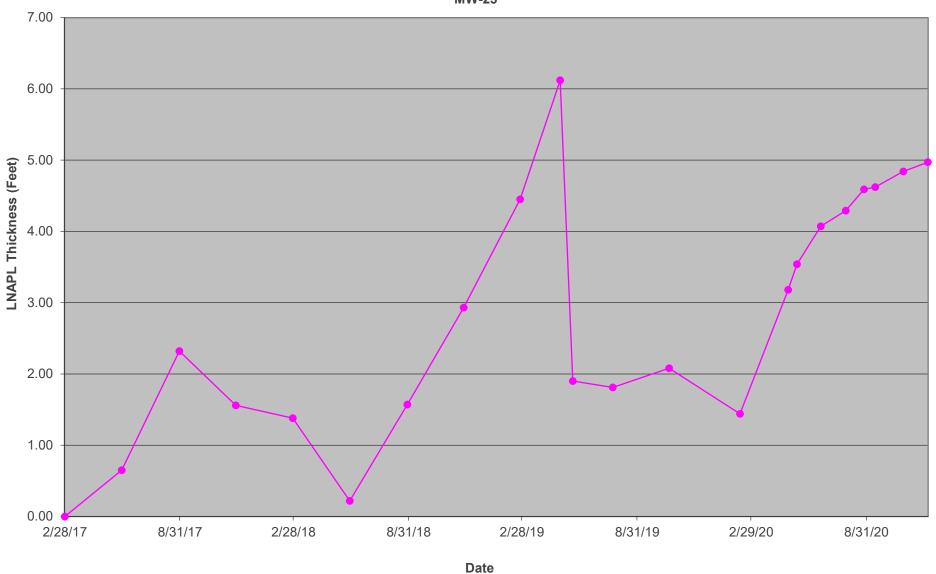
LNAPL Thickness

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME MW-10

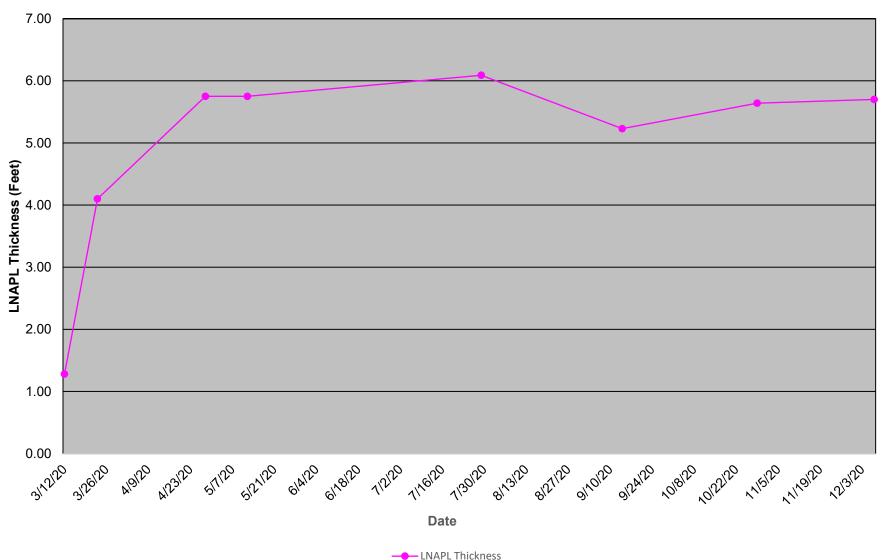


Date

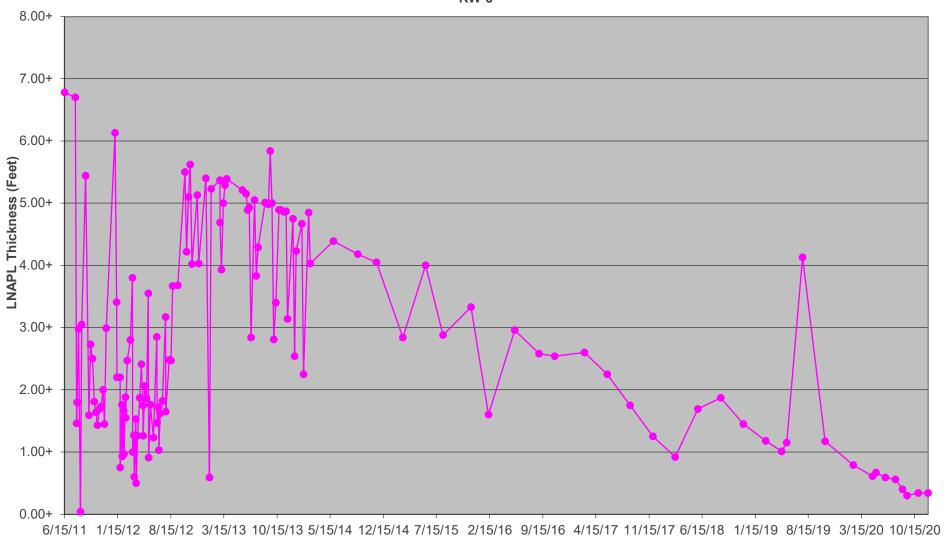
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME MW-23



DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-1R

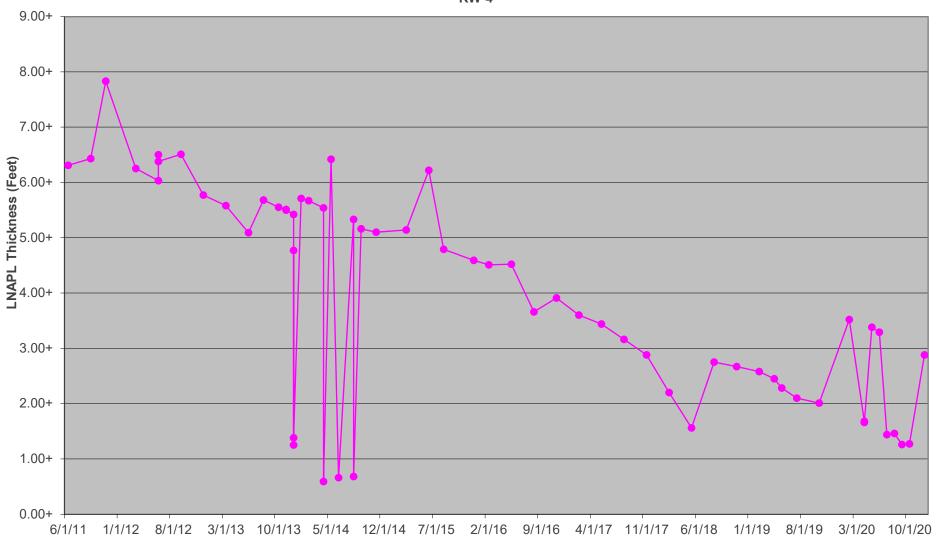


DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-3



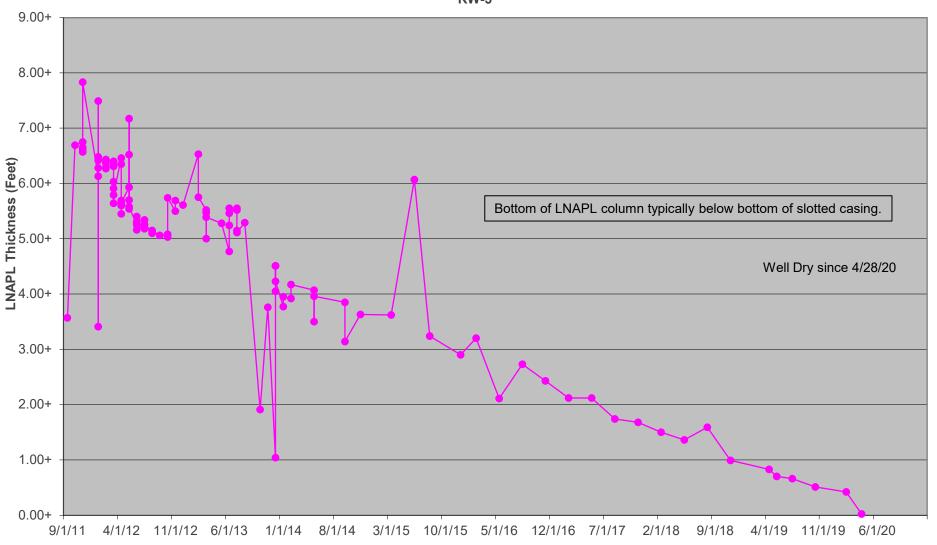
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-4



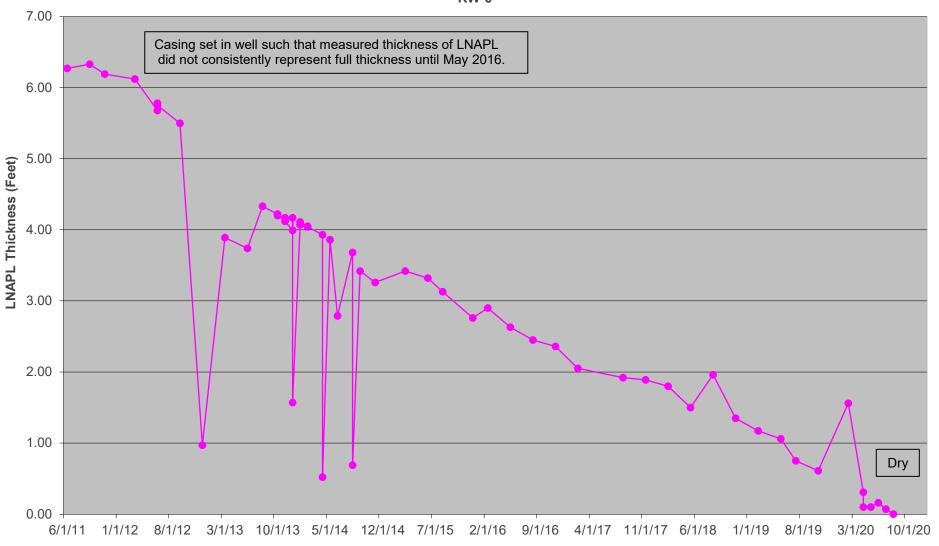
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-5



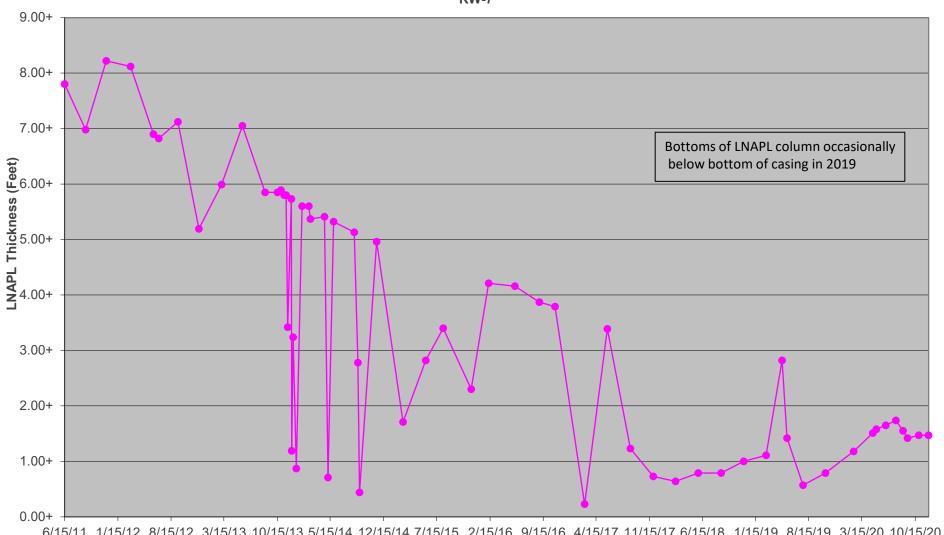
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-6



Date

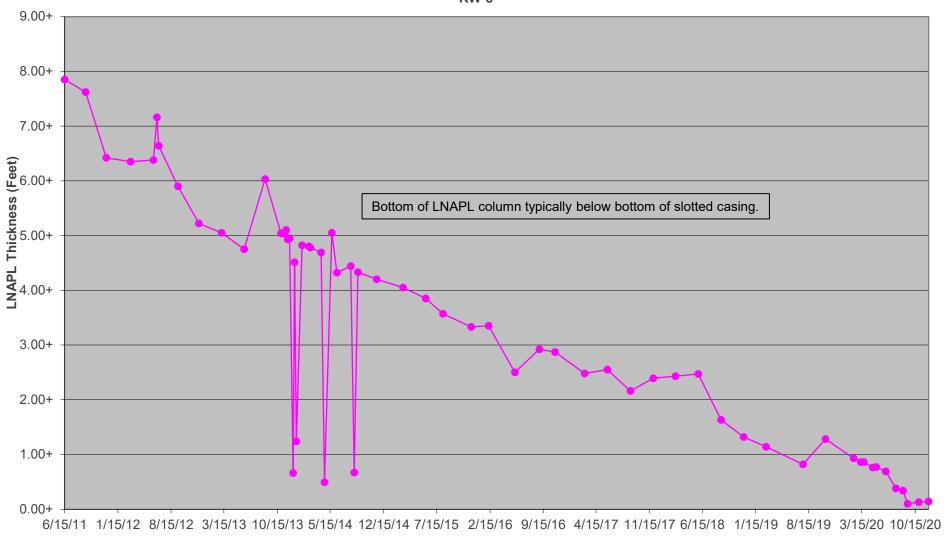
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO **NMOCD AP-007 LNAPL THICKNESS vs. TIME** RW-7



6/15/11 1/15/12 8/15/12 3/15/13 10/15/13 5/15/14 12/15/14 7/15/15 2/15/16 9/15/16 4/15/17 11/15/17 6/15/18 1/15/19 8/15/19 3/15/20 10/15/20

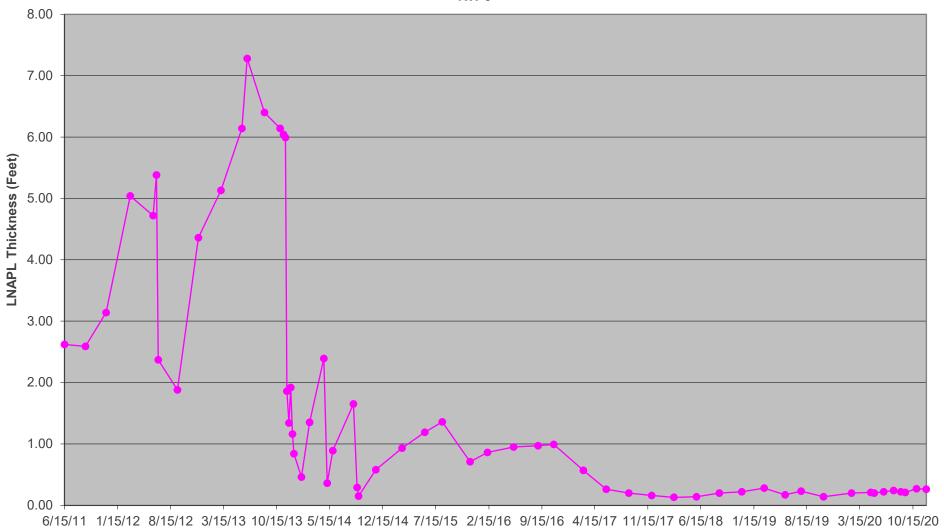
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-8



Date

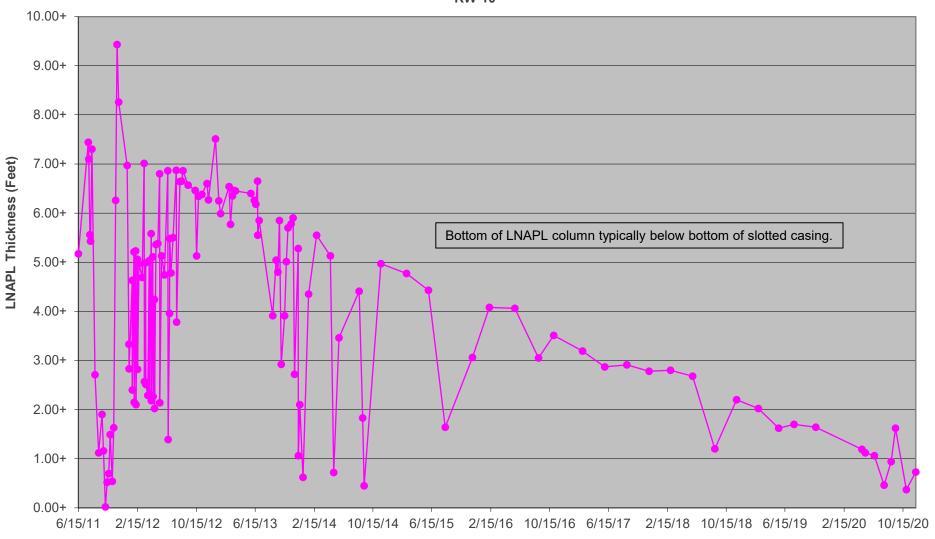
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-9



Date

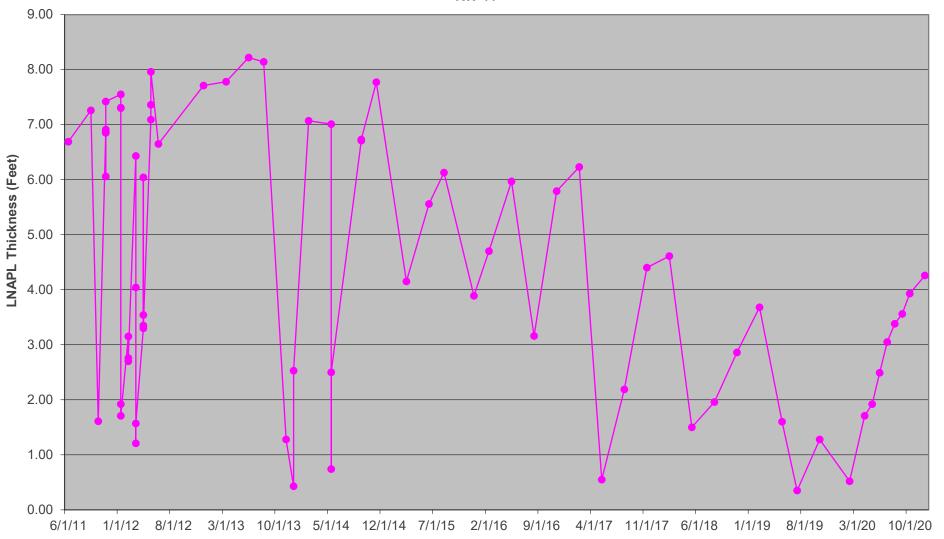
LNAPL Thickness

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-10



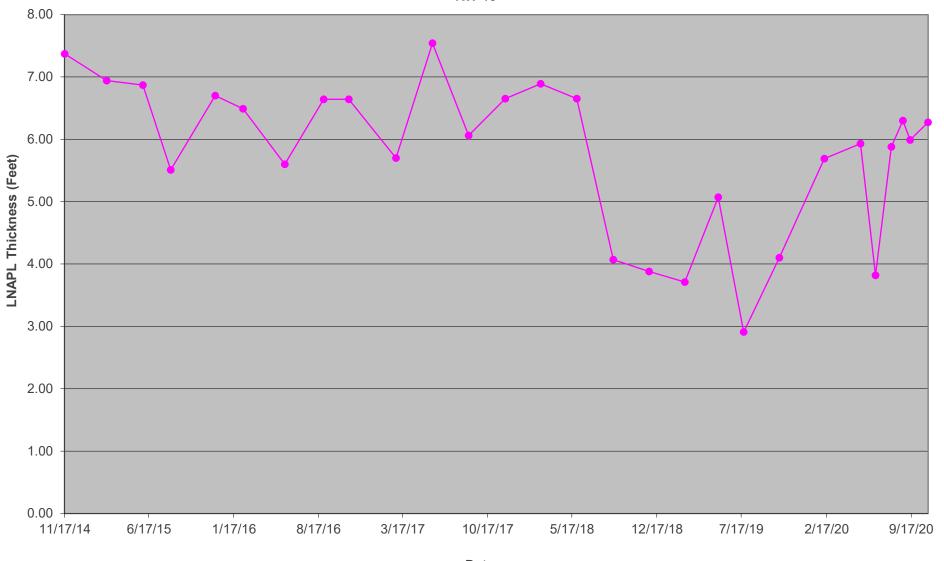
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-11



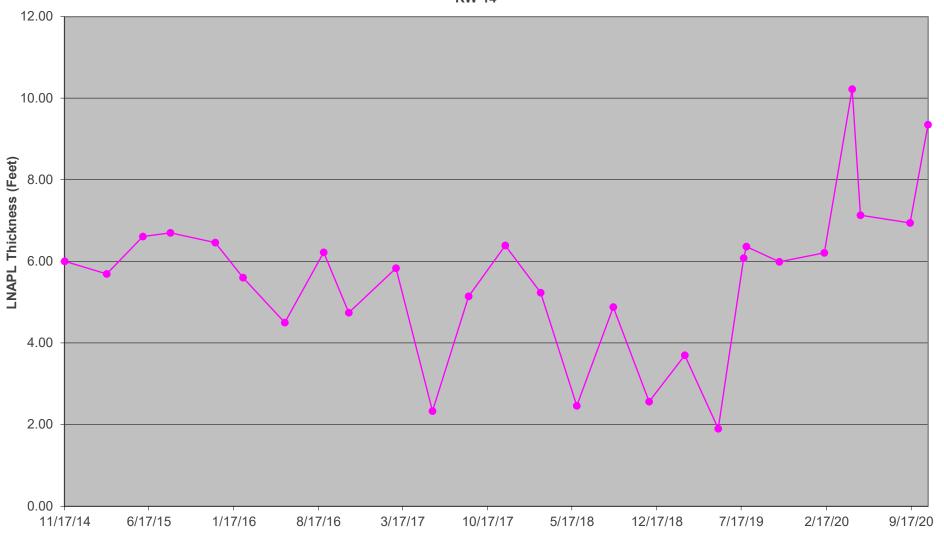
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-13



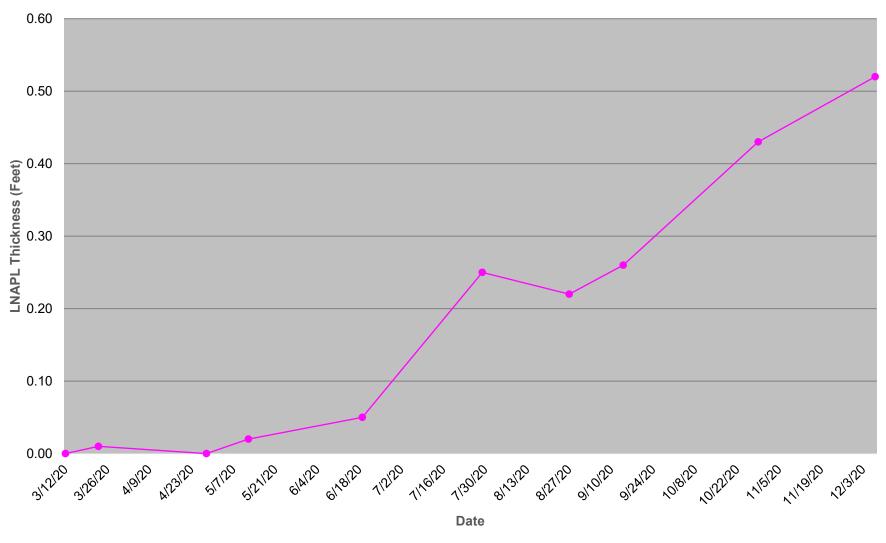
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-14



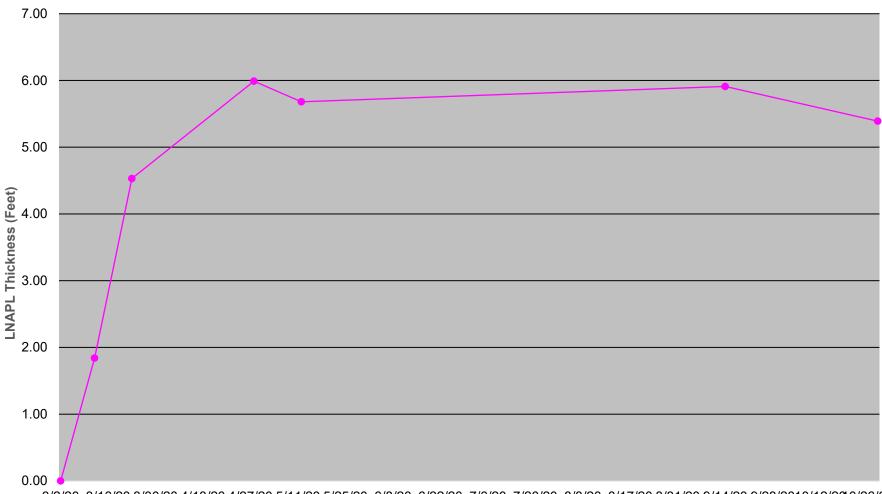
Date

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-15



--- LNAPL Thickness

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-16



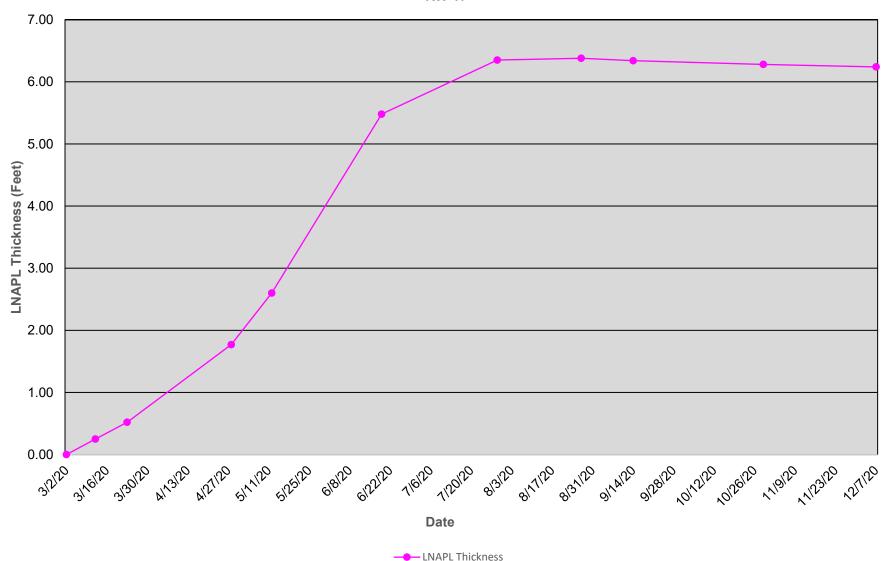
3/2/20 3/16/20 3/30/20 4/13/20 4/27/20 5/11/20 5/25/20 6/8/20 6/22/20 7/6/20 7/20/20 8/3/20 8/17/20 8/31/20 9/14/20 9/28/2010/12/20/0/26/20

Date

---- LNAPL Thickness

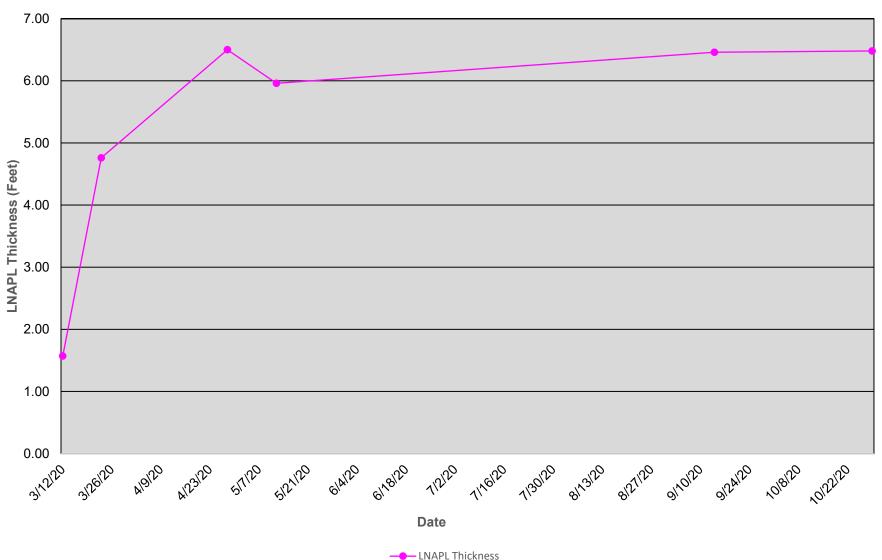
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-17

Released to Imaging: 1/11/2022 3:52:36 PM

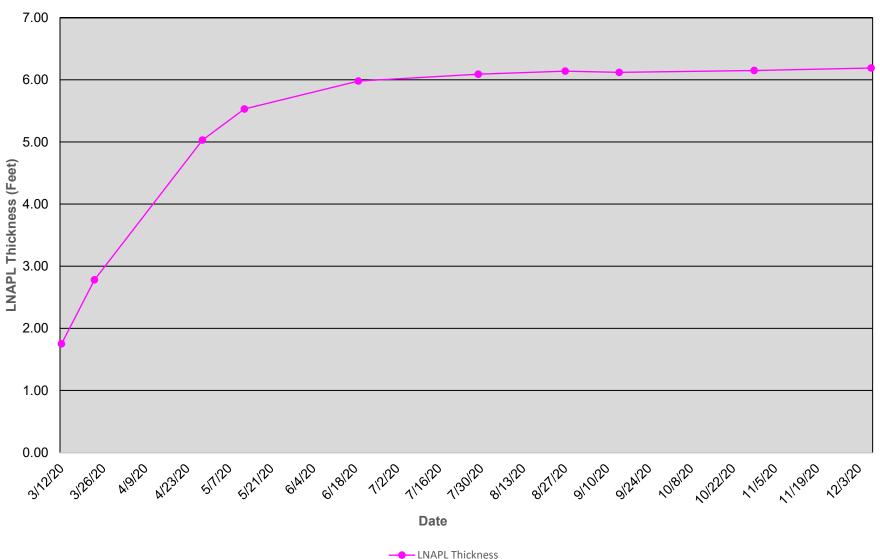


DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-18

Released to Imaging: 1/11/2022 3:52:36 PM

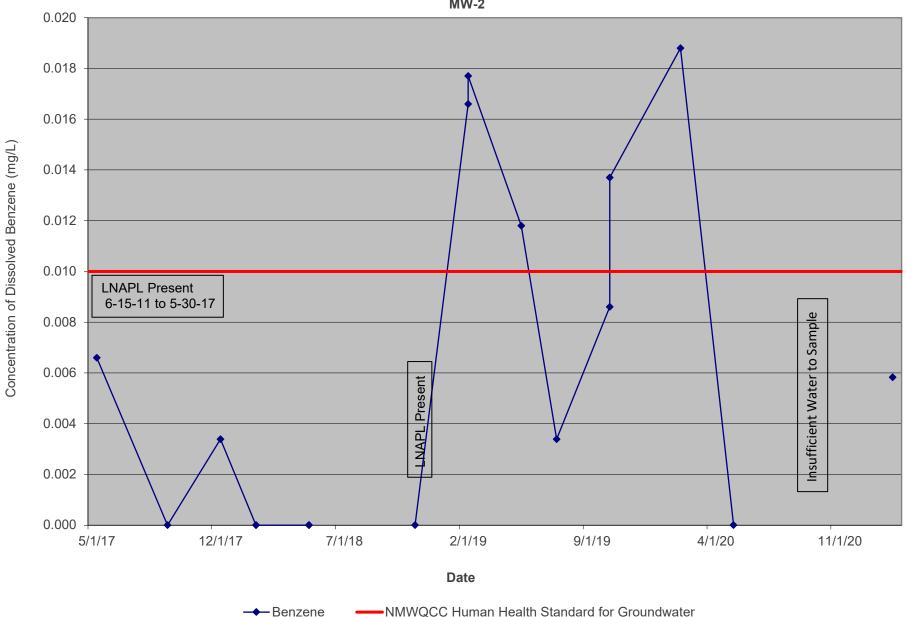


DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 LNAPL THICKNESS vs. TIME RW-19

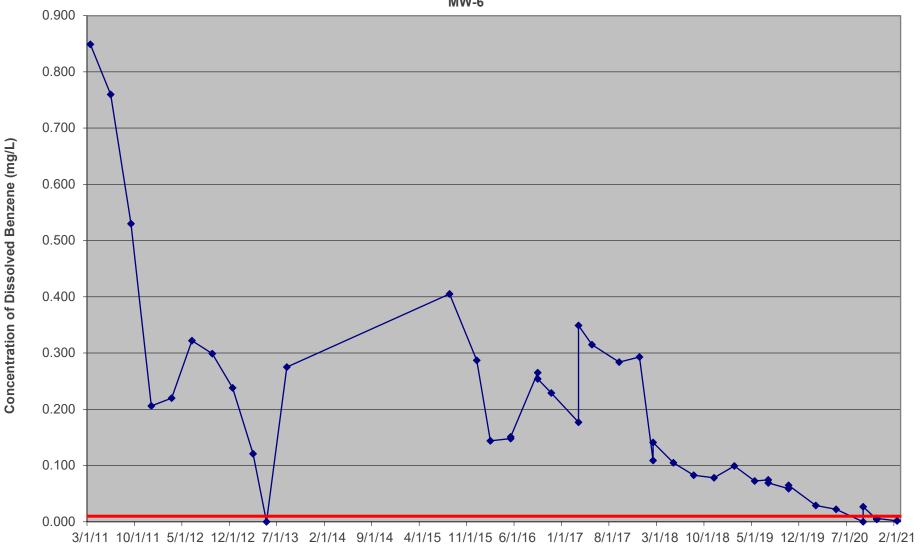


Appendix B Charts of Concentrations of Dissolved Benzene in Monitor and Recovery Wells vs. Time

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-2



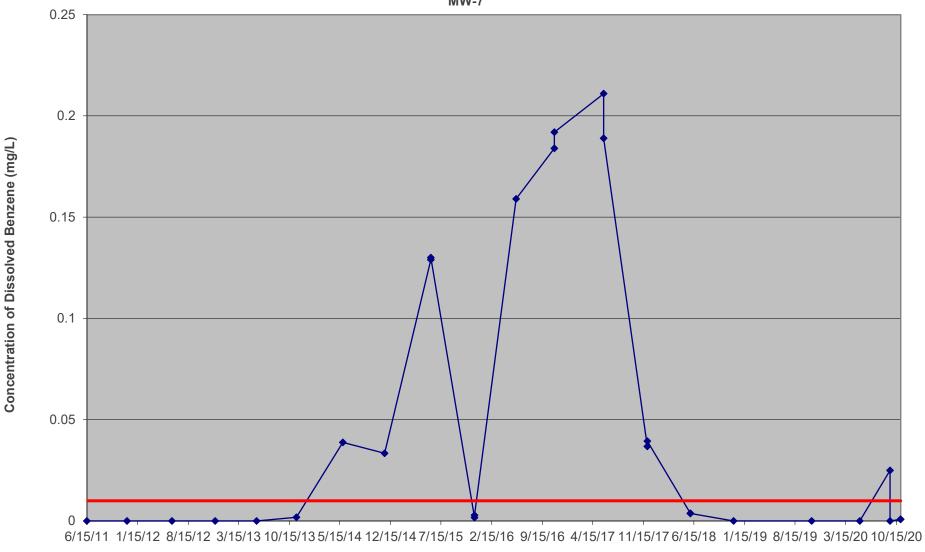
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-6



Date

→ Benzene —NMWQCC Human Health Standard for Groundwater

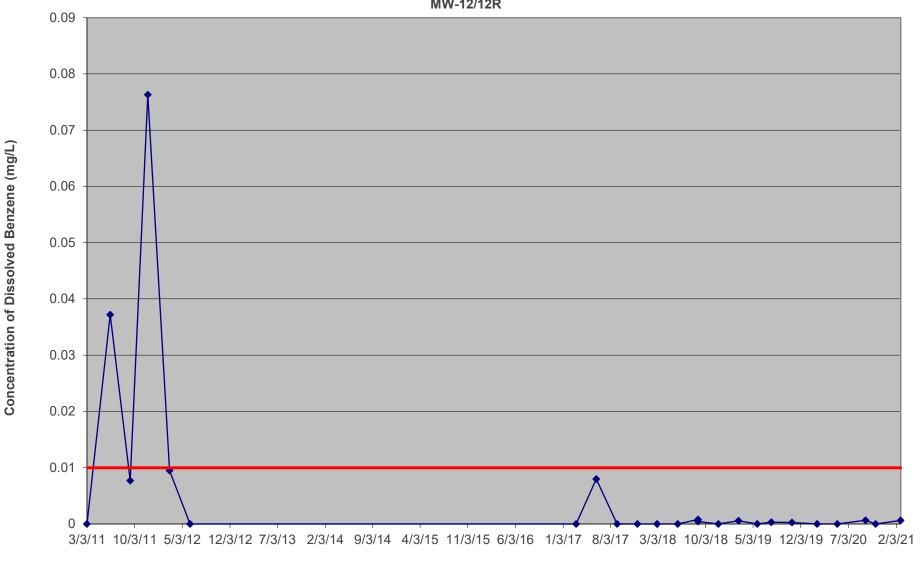
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-7



Date

→ Benzene —NMWQCC Human Health Standard for Groundwater

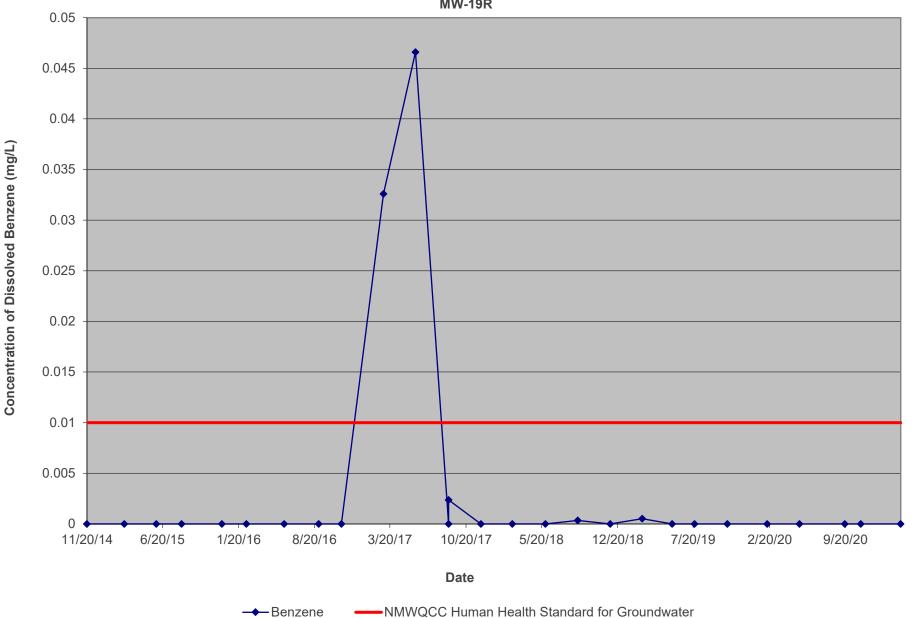
DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-12/12R



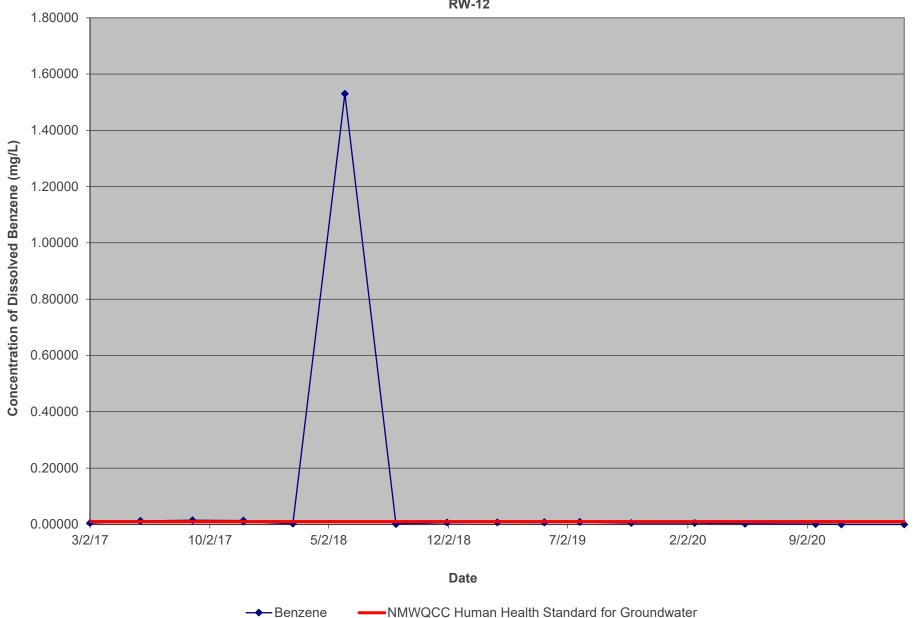
Date

→ Benzene — NMWQCC Human Health Standard for Groundwater

DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-19R



DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME RW-12



Appendix C Certified Analytical Reports (not included in draft or printed reports)



ANALYTICAL REPORT

February 25, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1189919

Samples Received: 02/15/2020

Project Number: 074683

Description: Darr Angell #1- Lea County, New Mexico

Site: SRS DARR ANGELL #1

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.

¹Cp



















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-12R L1189919-01	10
RW-12R L1189919-02	11
MW-6 L1189919-03	12
MW-2 L1189919-04	13
MW-16R L1189919-05	14
MW-20R L1189919-06	15
MW-22 L1189919-07	16
MW-19R L1189919-08	17
MW-17R L1189919-09	18
MW-18R L1189919-10	19
TRIP BLANK L1189919-11	20
Qc: Quality Control Summary	21
Volatile Organic Compounds (GC) by Method 8021B	21
GI: Glossary of Terms	23
Al: Accreditations & Locations	24



















Sc: Sample Chain of Custody

25

MW-12R L1189919-01 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 11:00	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428854	1	02/16/20 20:52	02/16/20 20:52	DWR	Mt. Juliet, TN
RW-12R L1189919-02 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 11:30	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428854	1	02/16/20 21:16	02/16/20 21:16	DWR	Mt. Juliet, TN
MW-6 L1189919-03 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 12:30	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428854	1	02/16/20 21:40	02/16/20 21:40	DWR	Mt. Juliet, TN
MW-2 L1189919-04 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 12:00	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428854	1	02/16/20 22:04	02/16/20 22:04	DWR	Mt. Juliet, TN
MW-16R L1189919-05 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 14:20	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428932	1	02/16/20 21:05	02/16/20 21:05	BMB	Mt. Juliet, TN
MW-20R L1189919-06 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 12:35	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428932	1	02/16/20 21:27	02/16/20 21:27	ВМВ	Mt. Juliet, TN
MW-22 L1189919-07 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 13:50	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428932	1	02/16/20 21:49	02/16/20 21:49	ВМВ	Mt. Juliet, TN
MW-19R L1189919-08 GW			Collected by Matthew Laughlin	Collected date/time 02/14/20 13:50	Received da: 02/15/20 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1428932	1	02/16/20 22:12	02/16/20 22:12	ВМВ	Mt. Juliet, TN























SAMPLE SUMMARY



			Collected by	Collected date/time	Received da	te/time
MW-17R L1189919-09 GW			Matthew Laughlin	02/14/20 14:50	02/15/20 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1428932	1	02/16/20 22:34	02/16/20 22:34	ВМВ	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-18R L1189919-10 GW			Matthew Laughlin	02/14/20 15:30	02/15/20 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1428932	1	02/16/20 22:56	02/16/20 22:56	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
TRIP BLANK L1189919-11 GW			Matthew Laughlin	02/14/20 00:00	02/15/20 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1428932	1	02/16/20 16:50	02/16/20 16:50	BMB	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



















Page 91 of ONE LAB. NATIONWIDE

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,
 - 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: 02/25/2020 14:46					
	ject N kico	lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1189919-01, 02, 03, 04, 05,	06, 07	7, 08, 0	9, 10 a	nd 11	
Rev	riewe	Name: Mark W. Beasley	Prep Batch Number(s): WG1428932 and WG1428854					
# 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				T
		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	T	T	Т	$\overline{}$
		Are all laboratory ID numbers cross-referenced to the co	•	X		 		+
R3	OI	Test reports	onesponding de data.				<u> </u>	
11.5	101	Were all samples prepared and analyzed within holding	times?	X	T	Т	Т	$\overline{}$
		Other than those results < MQL, were all other raw value		X	-	 	 	+
			es bracketed by Calibration Standards:	X		1	 	-
		Were calculations checked by a peer or supervisor?	naminan2		+	+	-	┼
		Were all analyte identifications checked by a peer or su	•	X	-	+	 	┼
		Were sample detection limits reported for all analytes no		X	-	+	├	+
		Were all results for soil and sediment samples reported	, ,	X	_	1	\vdash	₩
		Were % moisture (or solids) reported for all soil and sedi	•	<u> </u>		X	Ь—	—
		Were bulk soils/solids samples for volatile analysis extra	acted with methanol per SW846 Method 5035?			Х	<u> </u>	↓
		If required for the project, are TICs reported?				Х		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?		X				
		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?		X				
		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	Ι	T	Τ	Т
		Was each LCS taken through the entire analytical proce	dure including prep and cleanup steps?	X		1	1	
		Were LCSs analyzed at the required frequency?	date, melading prop and cleanap steps.	X	1	 	 	-
		Were LCS (and LCSD, if applicable) %Rs within the labor	ratory OC limits?	X		1	 	+
		Does the detectability check sample data document the used to calculate the SDLs?		X				
		Was the LCSD RPD within QC limits?		X	-	 	 	+
R7	OI					1	1	
K/	I OI	Matrix spike (MS) and matrix spike duplicate (MSD) data Were the project/method specified analytes included in		Т	1	X	Т	
			the MS and MSD:	 	-	+	 	+
		Were MS/MSD analyzed at the appropriate frequency?	ham - OC limite2		1	X	 	+
		Were MS (and MSD, if applicable) %Rs within the laborat	tory QC limits?	-	₩	X	\vdash	+
DC	Τα.	Were MS/MSD RPDs within laboratory QC limits?		L	<u> </u>	Х		
R8	OI	Analytical duplicate data				1	1	
		Were appropriate analytical duplicates analyzed for eac				X	├	—
		Were analytical duplicates analyzed at the appropriate f	. ,	<u> </u>		Х	Ь—	—
		Were RPDs or relative standard deviations within the lab	poratory QC limits?			Х		Ь
R9	OI	Method quantitation limits (MQLs):					,	
		Are the MQLs for each method analyte included in the la	aboratory data package?	X		1	<u> </u>	↓
		Do the MQLs correspond to the concentration of the lov		Х			ļ	
		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	poratory Accreditation Program for the analytes, matrices ge?	Х				
1 Ite	me ida		data package submitted in the TRRP-required report(s).	Itams i	dentific	d by th	a lattar	"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.

 ^{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: 02/25/2020 14:46									
	ject N xico	Name: Darr Angell #1- Lea County, New	Laboratory Job Number: L1189919-01, 02, 03, 04, 05, 06, 07, 08, 09, 10 and 11									
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1428932 and WG1428854									
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵				
S1	OI	Initial calibration (ICAL)										
		Were response factors and/or relative response fact	ors for each analyte within QC limits?			X						
		Were percent RSDs or correlation coefficient criteria	met?	Х								
		Was the number of standards recommended in the i	method used for all analytes?	Х			ĺ					
		Were all points generated between the lowest and h	nighest standard used to calculate the curve?	X								
		Are ICAL data available for all instruments used?		Х								
		Has the initial calibration curve been verified using a	an appropriate second source standard?	X								
S2	OI	Initial and continuing calibration verification (ICCV ar					1					
	10.	Was the CCV analyzed at the method-required frequ		X	Т	T	T	1				
		Were percent differences for each analyte within the		X	<u> </u>							
		Was the ICAL curve verified for each analyte?	t metrod required &c imits.	X		1	1					
		Was the local curve vermed for each analyte: Was the absolute value of the analyte concentration	in the inerganic CCP < MDI 2	^	 	Х	+-	 				
S3	0	Mass spectral tuning	III the morganic CCB \ MDL:			1 ^						
33	10	Was the appropriate compound for the method used	d for tuning?		1	X	Т	l .				
					 		╂					
C 1	To	Were ion abundance data within the method-require	ed QC limits:		<u> </u>	X	1					
S4	0	Internal standards (IS)		1	-	Т	1					
	Ι	Were IS area counts and retention times within the r	netnoa-requirea QC limits?	X	<u> </u>		1					
S5	OI	Raw data (NELAC Section 5.5.10)	— T .,	г		т —	1					
		Were the raw data (for example, chromatograms, sp		X	├	-	-					
	_	Were data associated with manual integrations flagg	ged on the raw data?	X	<u> </u>		<u> </u>					
S6	0	Dual column confirmation			1	1	_	1				
	-	Did dual column confirmation results meet the meth-	od-required QC?			X	<u> </u>					
S7	0	Tentatively identified compounds (TICs)					т —	1				
	_	If TICs were requested, were the mass spectra and	TIC data subject to appropriate checks?		<u> </u>	X						
S8		Interference Check Sample (ICS) results						1				
		Were percent recoveries within method QC limits?			<u> </u>	X	<u> </u>					
S9	ļ	Serial dilutions, post digestion spikes, and method o										
		Were percent differences, recoveries, and the linear	ity within the QC limits specified in the method?		<u> </u>	X						
S10	OI	Method detection limit (MDL) studies										
		Was a MDL study performed for each reported analy	/te?	X								
		Is the MDL either adjusted or supported by the analy	ysis of DCSs?	Х								
S11	OI	Proficiency test reports										
		Was the laboratory's performance acceptable on the	e applicable proficiency tests or evaluation studies?	X								
S12	OI	Standards documentation										
		Are all standards used in the analyses NIST-traceable	le or obtained from other appropriate sources?	Х								
S13	OI	Compound/analyte identification procedures										
		Are the procedures for compound/analyte identification	tion documented?	Х								
S14	OI	Demonstration of analyst competency (DOC)										
		Was DOC conducted consistent with NELAC Chapte	er 5?	Х								
		Is documentation of the analyst's competency up-to-	-date and on file?	Х								
S15	OI	Verification/validation documentation for methods (N										
	•	Are all the methods used to generate the data docu	mented, verified, and validated, where applicable?	Х								
S16	OI	Laboratory standard operating procedures (SOPs)										
		Are laboratory SOPs current and on file for each me	thod 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 Revised May



Laboratory	Name: Pace Analytical National	LRC Date: 02/25/2020 14:46							
Project Na Mexico	me: Darr Angell #1- Lea County, New	Laboratory Job Number: L1189919-01, 02, 03, 04, 05, 06, 07, 08, 09, 10 and 11							
Reviewer I	Name: Mark W. Beasley	Prep Batch Number(s): WG1428932 and WG1428854							
FR # ¹	Description								

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

- 1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
 3. NA = Not applicable;
 4. NR = Not reviewed;

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

Volatile Organic Compounds (GC) by Method 8021B

SAMPLE RESULTS - 01

ONE LAB. NATRAGE 95 of \$16

Collected date/time: 02/14/20 11:00

0 11:00 L

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000366	BJ	0.000190	0.000500	0.000500	1	02/16/2020 20:52	WG1428854
Toluene	0.000476	BJ	0.000412	0.00100	0.00100	1	02/16/2020 20:52	WG1428854
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 20:52	WG1428854
Total Xylene	0.000783	BJ	0.000510	0.00150	0.00150	1	02/16/2020 20:52	WG1428854
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		02/16/2020 20:52	WG1428854





















ONE LAB. NAT Page 96 of \$16

Collected date/time: 02/14/20 11:30

L1189919

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00479		0.000190	0.000500	0.000500	1	02/16/2020 21:16	WG1428854
Toluene	0.00242	В	0.000412	0.00100	0.00100	1	02/16/2020 21:16	WG1428854
Ethylbenzene	0.00688		0.000160	0.000500	0.000500	1	02/16/2020 21:16	WG1428854
Total Xylene	0.0605		0.000510	0.00150	0.00150	1	02/16/2020 21:16	WG1428854
(S) a,a,a-Trifluorotoluene(PID)	105				79.0-125		02/16/2020 21:16	WG1428854





















ONE LAB. NAT Page 97. of \$16

Collected date/time: 02/14/20 12:30

L1189919

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0291		0.000190	0.000500	0.000500	1	02/16/2020 21:40	WG1428854
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 21:40	WG1428854
Ethylbenzene	0.00865		0.000160	0.000500	0.000500	1	02/16/2020 21:40	WG1428854
Total Xylene	0.00736	<u>B</u>	0.000510	0.00150	0.00150	1	02/16/2020 21:40	WG1428854
(S) a,a,a-Trifluorotoluene(PID)	95.9				79.0-125		02/16/2020 21:40	WG1428854





















ONE LAB. NAT Bage 98 of \$16

Collected date/time: 02/14/20 12:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0188		0.000190	0.000500	0.000500	1	02/16/2020 22:04	WG1428854
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 22:04	WG1428854
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 22:04	WG1428854
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 22:04	WG1428854
(S) a,a,a-Trifluorotoluene(PID)	99.7				79.0-125		02/16/2020 22:04	WG1428854





















ONE LAB. NATRAGE 99 of \$16

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

L1189919

	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	02/16/2020 21:05	WG1428932
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 21:05	WG1428932
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 21:05	WG1428932
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 21:05	WG1428932
(S) a,a,a-Trifluorotoluene(PID)	99.3				79.0-125		02/16/2020 21:05	WG1428932





















ONE LAB. NA Page 100 of \$16

Collected date/time: 02/14/20 12:35

L1189919

	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	02/16/2020 21:27	WG1428932
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 21:27	WG1428932
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 21:27	WG1428932
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 21:27	WG1428932
(S) a,a,a-Trifluorotoluene(PID)	98.9				79.0-125		02/16/2020 21:27	WG1428932





















ONE LAB. NAPage 191 of \$16

Collected date/time: 02/14/20 13:50

L1189919

	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	02/16/2020 21:49	WG1428932
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 21:49	WG1428932
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 21:49	WG1428932
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 21:49	WG1428932
(S) a,a,a-Trifluorotoluene(PID)	99.4				79.0-125		02/16/2020 21:49	WG1428932





















ONE LAB. NAPagev102 of 316

Collected date/time: 02/14/20 13:50

L1189919

	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	02/16/2020 22:12	WG1428932
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 22:12	WG1428932
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 22:12	WG1428932
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 22:12	WG1428932
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		02/16/2020 22:12	WG1428932





















ONE LAB. NAPage 193 of \$16

Collected date/time: 02/14/20 14:50

L1189919

	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	02/16/2020 22:34	WG1428932
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 22:34	WG1428932
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 22:34	WG1428932
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 22:34	WG1428932
(S) a,a,a-Trifluorotoluene(PID)	99.3				79.0-125		02/16/2020 22:34	WG1428932





















ONE LAB. NAPage 194 of \$16

Collected date/time: 02/14/20 15:30

	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	02/16/2020 22:56	WG1428932
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 22:56	WG1428932
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 22:56	WG1428932
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 22:56	WG1428932
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		02/16/2020 22:56	WG1428932





















ONE LAB. NAPagev195 of \$16

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

	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	02/16/2020 16:50	WG1428932
Toluene	U		0.000412	0.00100	0.00100	1	02/16/2020 16:50	WG1428932
Ethylbenzene	U		0.000160	0.000500	0.000500	1	02/16/2020 16:50	WG1428932
Total Xylene	U		0.000510	0.00150	0.00150	1	02/16/2020 16:50	WG1428932
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		02/16/2020 16:50	WG1428932





















QUALITY CONTROL SUMMARY

ONE LAB. NA Page 106 of 306

Volatile Organic Compounds (GC) by Method 8021B

L1189919-01,02,03,04

Method Blank (MB)

(MB) R3502422-3 02/16	/20 13:03			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Benzene	0.000346	<u>J</u>	0.000190	0.000500
Toluene	0.000571	<u>J</u>	0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	0.00108	<u>J</u>	0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	98.2			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3502422-1 02/16	/20 11:16				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0501	100	77.0-122	
Toluene	0.0500	0.0491	98.2	80.0-121	
Ethylbenzene	0.0500	0.0500	100	80.0-123	
Total Xylene	0.150	0.148	98.7	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			98.3	79.0-125	



















QUALITY CONTROL SUMMARY

ONE LAB. NA Page 107 of 316

Volatile Organic Compounds (GC) by Method 8021B L1189919-05,06,07,08,09,10,11

Volutile Organic Compounds (OC) by Method 002

Method Blank (MB)

(MB) R3501672-2 02/16/2	20 15:19			
	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) R3501672-1 02/16/2	20 14:11				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0536	107	77.0-122	
Toluene	0.0500	0.0535	107	80.0-121	
Ethylbenzene	0.0500	0.0508	102	80.0-123	
Total Xylene	0.150	0.147	98.0	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			102	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 Descrip	tion	١
-------------------	------	---

В	The same analyte is found in the associated blank.
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
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.





















			Billing Inform	mation:						Analysis / Cont	ainer / Pres	ervative	1		Chain of Custody	Page of
Plains All American, LP	- GHD		Accounts 505 N. Big Midland,	Payable g Spring,	Ste. 6	500	Pres Chk								Pace A National Con	Analytical ** Iter for Testing & Inno
Midland, TX 79703															12065 Lebanon Rd	回營掘
Report to: Becky Haskell	5.0		Email To: be Christopher	ecky.haske r.Knight@	ell@ghd ghd.cor	.com; n;									Mount Juliet, TN 37 Phone: 615-758-585 Phone: 800-767-585	8
Project Description: Darr Angell #1- Lea C		City/State Collected:	-ovingt	on, NI	М	Please Circle									Fax: 615-758-5859	8991
E12 E06 9903	Client Project # 074683			PLAINS	ect#	074683									Tab J	187
Collected by (print):	Site/Facility ID SRS DARR A			P.O. #				PQ.							Acctnum: PLA Template:T13	
Collected by (signature):		ab MUST Be y Five 5 Day 10 Day		Quote #		ults Needed	No.	40mlAmb-H							Prelogin: P75 PM: 134 - Mar PB:	
Packed on Ice N Y Sample ID	Three Da		Depth	Da	ate	Time	of Cntrs	втех 4(Shipped Via: Remarks	Sample # (la
M1.1.150	Grab	GW		03/	14	1100	3	3	E/E _{LV}		1000	7.7				-0
MW-12R RW-12R	Grab	GW	-	02	114	1130	3	3	1	12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	18/18- 3/10 E					-0
MW-6	Grab	GW	1-	02	114	1230	3	3				19.0	Eg			-
MW-2	Grab	GW	3	02	14	1200	3	3		2 19	7,12	171			- 803	1-0
MW-16R	brab	GW	~	03	/13	1420	3	3			見まる				WE SEE	-0
MW-ZOR	Gras	GW	-	02	/13	1235	3	3								-0
MW-22	Grab	GW	-	02	/13	350	3									-0
MW-19R	Grab	GW		52	13	1350	3				E/A					0
MW-17R	Grab	GW	~	02	/13	1450	3							- 1151 - 1521		-/
MW-18R	Grab	GW	1-	0.5	13	1530	13	12				mn	~	Sa OC Seal	mple Receipt Present/Inta	Checklist
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:									pH _ Flow _		mp	Bo	oc Signe ottles a orrect h	ed/Accurate: arrive intact bottles used: at volume sen	
WW - WasteWater DW - Drinking Water OT - Other	Samples retui	rned via: edEx Co	ourier			Tracking # 39	-	0	333	1210	Received.	Yes / No	V	OA Zero	If Applic Headspace: ion Correct/ en <0.5 mR/hr	checked:
Relinquished by : (Signature)		Date:	4/20	Time:		Received by: (Sigr	ature)			The blank	2	HCL / Me	он		tion required by	
Relinquished by : (Signature)		Date:	7 78	Time:		Received by: (Sign	nature)	1		Temp: A		ottles Receiv	ed: If	preserva	tion required by	
Relinquished by : (Signature) used to Imaging: 1/11/2022 3		Date:	1246	Time:	7	Received for lab t	y/(Sign	nature)	1	Date: /		ime: 18!	30	lold:		Cond NCF

			Billing Infor	mation:		E.521			An	alvsis / C	ontaine	r / Prese	rvative				hain of Custod	, , , ,	se0'
Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703			Accounts Payable 505 N. Big Spring, Ste. 600 Midland, TX 79701														Pace National C	Analy Center for Te	tical* sting & Innovation
Report to: Becky Haskell		#		ecky.haskell@g er.Knight@ghd.c		ď											12065 Lebanon Ro Mount Juliet, TN 3 Phone: 615-758-5 Phone: 800-767-5	87122 858	
Project Description: Darr Angell #1- Lea		City/State Collected:	oving	my no	Please Cir PT MT C	rcle: T ET											Fax: 615-758-585		回感記憶點
Phone: 512-506-8803 Fax:	Client Project # 074683			Lab Project #	0-074683				15 to								Table #		n
Collected by (print):	Site/Facility ID	# NGELL #:		P.O.#			CI									- 17	Acctnum: PL		
Collected by (signature):	Rush? (La	ab MUST Be		Quote#			40mlAmb-HCl						3.7				Prelogin: P7	54929	
Immediately Packed on Ice N YX	Next Day Two Day Three Da	10 D	y (Rad Only) ay (Rad Only)	Date R	esults Needed	No. of							1				PB: Shipped Via:		inc 1/2
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	втех										Remarks	San	nple # (lab only)
Trip Blank	Grab	GW		*		1	1												-01
		GW																	
Programme of the second		GW						SALE OF A						-11					
10 pm2 - 1 pm		GW														91:			
The second second		GW							23-27							al.			
		GW														15		es T	1,21-17
		GW															4-62-5	Sec.	
		GW																	
TRIP BLANK THWL		GW				100	200	70 P. A.											
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:							ne de la companya de	pH Flov	v	Tem			COC S Bottl	eal Pigned, es ar	resent/Inta /Accurate: rive intac ttles used	t:	A N	
DW - Drinking Water OT - Other	Samples retu	Samples returned via:UPS Courier				Tracking # 3904 0333							If Applicable VOA Zero Headspace: Preservation Correct/Checked: N						
Relinquished by : (Signature) Date:				Time:	Received by: (Si					Trip Blank Received: Ves No HCL / MeoH TBR									
Relinquished by : (Signature) Date:				Time:	Received by: (Si	ignature)		\sim		Temp: AZ°C Bottles Received:				If preservation required by Login: Date/Time					
Relinquished by: (Signature)	The second second	Date:		Time:	Received for lat	by: (Sign	nature)	4		Date:/	1/2	Tir	ne: 1) 81:	30	Hold:				NCF / OK



ANALYTICAL REPORT

April 06, 2020

Ss

Cn

`Tr

Śr

Qc

Al

Ğl

Sc

Plains All American, LP - GHD

Sample Delivery Group: L1203857

Samples Received: 03/28/2020 Project Number: 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

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.

Sc: Sample Chain of Custody

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
MW-21R L1203857-01	9
MW-25 L1203857-02	10
MW-24 L1203857-03	11
MW-11R L1203857-04	12
DUP-1 L1203857-05	13
Qc: Quality Control Summary	14
Volatile Organic Compounds (GC) by Method 8021B	14
GI: Glossary of Terms	15
Al: Accreditations & Locations	16





















17

SAMPLE SUMMARY



			Collected by	Collected date/time	Received da	te/time
MW-21R L1203857-01 GW			Ryan Livingston	03/26/20 11:30	03/28/20 08	:00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1453220	1	03/31/20 16:47	03/31/20 16:47	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-25 L1203857-02 GW			Ryan Livingston	03/26/20 12:00	03/28/20 08	:00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1453220	1	03/31/20 17:08	03/31/20 17:08	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-24 L1203857-03 GW			Ryan Livingston	03/26/20 12:40	03/28/20 08	:00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1453220	1	03/31/20 17:30	03/31/20 17:30	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-11R L1203857-04 GW			Ryan Livingston	03/26/20 13:15	03/28/20 08	:00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1453220	1	03/31/20 17:51	03/31/20 17:51	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DUP-1 L1203857-05 GW			Ryan Livingston	03/26/20 00:00	03/28/20 08	:00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		

WG1453220





















Volatile Organic Compounds (GC) by Method 8021B

03/31/20 18:13

03/31/20 18:13

BMB

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



Lab	orato	ry Name: Pace Analytical National	LRC Date: 04/06/2020 10:33										
Proj	ect N	lame: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1203857-01, 02, 03, 04 and 05										
		r Name: Mark W. Beasley	Prep Batch Number(s): WG1453220										
# ¹	A ²	Description	Yes No NA ³ NR ⁴ ER#										
R1	OI	Chain-of-custody (C-O-C)											
		Did samples meet the laboratory's standard conditions	of sample acceptability upon receipt?	X			ļ						
		Were all departures from standard conditions describe	d in an exception report?			X							
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 s	upervisor?	X									
		Were sample detection limits reported for all analytes i	not detected?	X									
		Were all results for soil and sediment samples reported	d on a dry weight basis?	Х									
		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	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?	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 thused to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х									
		Was the LCSD RPD within QC limits?		Х			ĺ						
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) dat	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									
			r the SDL to minimize the matrix interference effects on	Х									
		·	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 10:33									
Proj	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1203857-01, 02, 03, 04	and 05								
Rev	iewe	r 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	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?	X								
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?	X				1				
		Was the ICAL curve verified for each analyte?		Х				1				
		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?			Х	1					
S4	0	Internal standards (IS)										
		Were IS area counts and retention times within the me	thod-required QC limits?	Х				1				
S5	OI	Raw data (NELAC Section 5.5.10)	·			•		-				
		Were the raw data (for example, chromatograms, spec	tral data) reviewed by an analyst?	X			I	Т				
		Were data associated with manual integrations flagged	d on the raw data?	Х				1				
S6	0	Dual column confirmation			•		•					
	•	Did dual column confirmation results meet the method-required QC?										
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	1	T				
S8	1	Interference Check Sample (ICS) results	, , , ,									
		Were percent recoveries within method QC limits?		Ì		Х	1	T				
S9	1	Serial dilutions, post digestion spikes, and method of s	standard additions									
		Were percent differences, recoveries, and the linearity				X	Τ	T				
S10	OI	Method detection limit (MDL) studies	·				•					
		Was a MDL study performed for each reported analyte	?	X			1	T				
		Is the MDL either adjusted or supported by the analysis		X			1					
S11	OI	Proficiency test reports					•					
		Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	X			1	Τ				
S12	OI	Standards documentation	, ,									
		Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X			1	T				
S13	OI	Compound/analyte identification procedures			•		•					
		Are the procedures for compound/analyte identificatio	n documented?	T X			T	T				
S14	OI	Demonstration of analyst competency (DOC)										
		Was DOC conducted consistent with NELAC Chapter 5	5?	X		T		Т				
		Is documentation of the analyst's competency up-to-da		X				1				
S15	OI	Verification/validation documentation for methods (NE										
		Are all the methods used to generate the data docume		X		I		T				
S16	OI	Laboratory standard operating procedures (SOPs)	,									
	1	Are laboratory SOPs current and on file for each metho	od performed	X		T		T				
		1			1	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.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

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

Revised May 2010 Laboratory Review Checklist: Exception Reports



ED #1 Description							
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1453220						
Project Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1203857-01, 02, 03, 04 and 05						
Laboratory Name: Pace Analytical National	LRC Date: 04/06/2020 10:33						

| 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. NAPagev120 of \$16

Collected date/time: 03/26/20 11:30

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	<u> </u>
Benzene	U		0.000190	0.000500	0.000500	1	03/31/2020 16:47	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 16:47	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 16:47	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 16:47	WG1453220
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		03/31/2020 16:47	WG1453220





















Volatile Organic Compounds (GC) by Method 8021B

SAMPLE RESULTS - 02

ONE LAB. NAPagev121 of \$16

Collected date/time: 03/26/20 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	03/31/2020 17:08	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 17:08	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 17:08	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 17:08	WG1453220
(S) a.a.a-Trifluorotoluene(PID)	102				79.0-125		03/31/2020 17:08	WG1453220





















ONE LAB. NA Page 122 of 316

Collected date/time: 03/26/20 12:40

	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 17:30	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 17:30	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 17:30	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 17:30	WG1453220
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		03/31/2020 17:30	WG1453220





















ONE LAB. NAPagev123 of \$16

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 17:51	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 17:51	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 17:51	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 17:51	WG1453220
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		03/31/2020 17:51	WG1453220





















ONE LAB. NAPagev124 of 316

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

	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	03/31/2020 18:13	WG1453220
Toluene	U		0.000412	0.00100	0.00100	1	03/31/2020 18:13	WG1453220
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/31/2020 18:13	WG1453220
Total Xylene	U		0.000510	0.00150	0.00150	1	03/31/2020 18:13	WG1453220
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		03/31/2020 18:13	WG1453220





















QUALITY CONTROL SUMMARY

ONE LAB. NA Page 125 of 316

Volatile Organic Compounds (GC) by Method 8021B

L1203857-01,02,03,04,05

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 03/31/2	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
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.





















Received by OCD: 4/5/2021	1:18:42 PM		Billing Info	rmation:					Ar	nalysis /	Contai	ner / Pr	eservat	ive			Chain of Custody Page 128 of 316		
135 S. Loop 250 W. #10 Dest Suite 550			lains All American 10 Desta Drive uite 550E Ildland, Texas 79705										a			Pace.	Analytical * Innovation		
Report to: Email To: becky.haskell@				askell@ghd.	com								-40		3		12065 Lebanon Rd Mount Juliet, TN 37	122	
Project Description: Plains Darr 1	SRS F	arr Ar	gell#1	City/State Lo Collected: Me	vington, New												Phone: 615-758-58: Phone: 800-767-58: Fax: 615-758-5859		
Phone: 432-686-0086 Fax: 432-686-0186	Client Project 11209885		Lab Project #													= /	L# / 203857		
Collected by (print): Ryan Livingston	Site/Facility II	D#		P.O. #												1	Acctnum: D'ATAS FA		
Collected by (signature): Immediately Packed on Ice N Y	Rush? (Lab MUST Be Notified) Same DayFive Day Next Day5 Day (Rad Only) Two Day10 Day (Rad Only) Three Day		Same Day Five Day Next Day 5 Day (Rad Only) Two Day 10 Day (Rad Only)		Quote # Date Results Needed		8021B										Template: Prelogin: TSR: PB:		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	of Cntrs	BTEX					-3				1	Shipped Via:	Sample # (lab only)	
nw-21r	Grab	GW	T	3-26-20	1130	3	×					-						-01	
nw-25	Grab	GW		3-26-20	1200	3	×					246						-07	
nw-24	Grab	GW		3-26-20	1240	3	×		- 19									-03	
nw-11R	Grab	GW	3002	3-26-20	1315	3	×									100		-04	
DUP-1	Grab	GW		3-26-20	DUP	3	×	-10										-cs	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:	arks: RAD SCREE				N: <0.5	mR/I	P/h r pH						_	Sample Receipt Checklist COC Seal Present/Intact: NP Y N COC Signed/Accurate: N N Bottles arrive intact: N			ecklist NP Y N N N	
DW - Drinking Water OT - Other	Samples returned via:UPSFedExCourier Tra				Tracking #					Flow		_ Othe			Suffi	cient	tles used: volume sent: If Applicab; adspace:	Le ZN	
Relinquished by : (Signature)	Date: 7:100 Time: 2:00 P			Recorded by: (Sight	etgre)	1		Т	rip Blar	/		es/No HCL/N TBR		Prese	rvatio	eadspace: on Correct/Checked: _Y _N REEN: <0.5 mR/hr			
Religioushed by: (Signature)	1				Received by: (Signal				T	emp: +	0.78	C Bott	les Recei	ved:	If preservation required by Login: Date/Time				
Relinquished by : (Signature) Released to Imaging: 1/11/2	2022 3:52:36	Date:		Time:	Received for lab by	y: (Signa	ture)			ate:	M	Tim	e: 030	20	Hold:			Condition: NCF + OK	



ANALYTICAL REPORT

March 24, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1201080

Project Number:

Samples Received: 03/20/2020

Description: Darr Angell #1 SRS Darr Angell #1

11209885/02

Site: SRS DARR ANGELL #1

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 Arialytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTI_0067, where sampling conducted by the customer, results relate to the accuracy of the Information provided, and as the samples are received.



















Cp: Cover Page	1
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
DARR 1-SYSTEM ON L1201080-01	9
DARR-1-SYSTEM OFF L1201080-02	10
Qc: Quality Control Summary	11
Volatile Organic Compounds (MS) by Method M18-Mod	11
GI: Glossary of Terms	12
Al: Accreditations & Locations	13
Sc: Sample Chain of Custody	14



















SAMPLE SUMMARY



DARR 1-SYSTEM ON L1201080-01 Air			Collected by Matthew Laughlin	Collected date/time 03/18/20 16:00	Received da 03/20/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1447649	4000	03/20/20 18:43	03/20/20 18:43	CAW	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DARR-1-SYSTEM OFF L1201080-02 Air			Matthew Laughlin	03/18/20 16:30	03/20/20 09	:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1447649	4000	03/20/20 19:28	03/20/20 19:28	CAW	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,
 - Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.

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

Mark W. Beasley Project Manager

Revised May 2010 Laboratory Review Checklist: Reportable Data



Laboratory Name: Pace Analytical National			LRC Date: 03/24/2020 15:39					
Proj	ect N	lame: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1201080-01 and 02					
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1447649					
# 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	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?	Х				
		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?	Х				
		Other than those results < MQL, were all other raw value	ies bracketed by calibration standards?	Х				
		Were calculations checked by a peer or supervisor?		Х				
		Were all analyte identifications checked by a peer or su	upervisor?	Х				
		Were sample detection limits reported for all analytes r	not detected?	Х				
		Were all results for soil and sediment samples reported	d on a dry weight basis?	Х				
		Were % moisture (or solids) reported for all soil and sec	diment 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?		Х				
		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 process	edure, including prep and cleanup steps?	Х				
		Were LCSs analyzed at the required frequency?		Х				
		Were LCS (and LCSD, if applicable) %Rs within the labor	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	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			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				
	Are unadjusted MQLs and DCSs included in the laboratory data package?							
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions r	noted in this LRC and ER?	Х				
		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	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



Laboratory Name: Pace Analytical National			LRC Date: 03/24/2020 15:39						
Proj	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1201080-01 and 02						
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1447649						
# 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?	Τx	T		I	T	
		Were percent RSDs or correlation coefficient criteria m	,	X					
		Was the number of standards recommended in the me		T X	1				
		Were all points generated between the lowest and hig		X				1	
		Are ICAL data available for all instruments used?		X					
		Has the initial calibration curve been verified using an	appropriate second source standard?	X	1			1	
S2	OI	Initial and continuing calibration verification (ICCV and			•	•	•		
		Was the CCV analyzed at the method-required frequer		Τx	T		Π		
		Were percent differences for each analyte within the m		T X	1				
		Was the ICAL curve verified for each analyte?	and the second s	X	1	1	1	1	
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?	- 	1	×	1	†	
S3	О	Mass spectral tuning							
		Was the appropriate compound for the method used for	or tuning?	T x	T	T	Ι	Т	
		Were ion abundance data within the method-required		X	1	1	1	†	
S4	О	Internal standards (IS)				•			
		Were IS area counts and retention times within the me	thod-required QC limits?	Τx	T	T	Τ	Т	
S5	OI	Raw data (NELAC Section 5.5.10)	mou roquirou do minior			1	<u> </u>		
	J 0.	Were the raw data (for example, chromatograms, spec	tral data) reviewed by an analyst?	X	Т	T	П	Т	
		Were data associated with manual integrations flagged		X	1	+	 	+	
S6	0	Dual column confirmation	a on the fam data.			1	<u> </u>		
		Did dual column confirmation results meet the method	-required QC?	\top	Τ	Τx	Т	Т	
S7	О	Tentatively identified compounds (TICs)	, , , , , , , , , , , , , , , , , , ,			1	<u> </u>		
-		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?	Т	I	X	Т	Т	
S8	lı -	Interference Check Sample (ICS) results							
		Were percent recoveries within method QC limits?		T	T	X	Ι	Т	
S9	ı	Serial dilutions, post digestion spikes, and method of s	tandard additions						
	•	Were percent differences, recoveries, and the linearity		Т	Τ	X	Т		
S10	OI	Method detection limit (MDL) studies		-		•			
		Was a MDL study performed for each reported analyte	?	Τx	T		Π		
		Is the MDL either adjusted or supported by the analysis		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	n documented?	X				T	
S14	OI	Demonstration of analyst competency (DOC)					•		
		Was DOC conducted consistent with NELAC Chapter 5	5?	X				T	
		Is documentation of the analyst's competency up-to-da		X		1			
S15	OI	Verification/validation documentation for methods (NE		•			•		
		Are all the methods used to generate the data docume		X				T	
S16	OI	Laboratory standard operating procedures (SOPs)			•	•	•	•	
Are laboratory SOPs current and on file for each method performed X								T	
1 Ite	ms ide	entified by the letter "R" must be included in the laborato			identifi	ed by th	e letter	"S"	

Items identified by the letter. It must be included in the laboratory data package submitted in the TRRP-required report(s). Items 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;
 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



EP #1 Description	<u>'</u> ''
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1447649
Project Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1201080-01 and 02
Laboratory Name: Pace Analytical National	LRC Date: 03/24/2020 15:39

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. NAPagev137. of \$16

Collected date/time: 03/18/20 16:00

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS#	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	800	2560	35400	113000		4000	WG1447649
Toluene	108-88-3	92.10	800	3010	44600	168000		4000	WG1447649
Ethylbenzene	100-41-4	106	800	3470	10400	45100		4000	WG1447649
m&p-Xylene	1330-20-7	106	1600	6940	30300	131000		4000	WG1447649
o-Xylene	95-47-6	106	800	3470	8800	38200		4000	WG1447649
Methyl tert-butyl ether	1634-04-4	88.10	800	2880	ND	ND		4000	WG1447649
TPH (GC/MS) Low Fraction	8006-61-9	101	800000	3300000	4740000	19600000		4000	WG1447649
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG1447649





















ONE LAB. NA Page 138 of 316

Collected date/time: 03/18/20 16:30

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	<u>Batch</u>
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	800	2560	36900	118000		4000	WG1447649
Toluene	108-88-3	92.10	800	3010	50900	192000		4000	WG1447649
Ethylbenzene	100-41-4	106	800	3470	10700	46400		4000	WG1447649
m&p-Xylene	1330-20-7	106	1600	6940	32400	140000		4000	WG1447649
o-Xylene	95-47-6	106	800	3470	9910	43000		4000	WG1447649
Methyl tert-butyl ether	1634-04-4	88.10	800	2880	ND	ND		4000	WG1447649
TPH (GC/MS) Low Fraction	8006-61-9	101	800000	3300000	5000000	20700000		4000	WG1447649
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG1447649





















QUALITY CONTROL SUMMARY

ONE LAB. NAPagev139 of \$16

Volatile Organic Compounds (MS) by Method M18-Mod

L1201080-01,02

Method Blank (MB)

(MB) R3511210-3 03/20/20	14:02			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
Benzene	U		0.0460	0.200
Ethylbenzene	U		0.0506	0.200
MTBE	U		0.0505	0.200
Toluene	U		0.0499	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
TPH (GC/MS) Low Fraction	20.6	<u>J</u>	6.91	200
(S) 1,4-Bromofluorobenzene	93.9			60.0-140



	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%	
MTBE	3.75	3.61	3.71	96.3	98.9	70.0-130			2.73	25	
Benzene	3.75	3.74	3.71	99.7	98.9	70.0-130			0.805	25	
Toluene	3.75	3.74	3.66	99.7	97.6	70.0-130			2.16	25	
Ethylbenzene	3.75	3.81	3.83	102	102	70.0-130			0.524	25	
m&p-Xylene	7.50	7.75	7.82	103	104	70.0-130			0.899	25	
o-Xylene	3.75	3.83	3.83	102	102	70.0-130			0.000	25	
TPH (GC/MS) Low Fraction	203	218	220	107	108	70.0-130			0.913	25	
(S) 1,4-Bromofluorobenzene	1			101	102	60.0-140					





















Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
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 resureported. 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 1:	18:42 PM _	+	Billing Infor	mation:		T		Ap	alvsis / Conta	iner / Pres	ervative	MUSE S	Chain of Custody	Page 142 c	
Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703 Report to: Becky Haskell			Attn: Camille Bryant 10 Desta Dr., Ste. 550E Midland, TX 79705 Email To: becky.haskell@ghd.com;glenn.quinney@ghd.			Pres Chk	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)						Pace A National Cer	Inalytical * ter for Testing & innovati	
						d.com;							12065 Lebanon Rd Mount Juliet, TN 371 Phone: 615-758-585 Phone: 800-767-585	99 (CH)	
Project	City/State			Please Circle: PT MT CT ET									Fax: 615-758-5859	回溯经为	
Description: Darr Angell #1 SRS Phone: 432-250-7917	Client Project	Client Project #			Lab Project # PLAINSGHD-11209885								The state of the s	20/080 H135	
ax: collected by (print):	Site/Facility ID # SRS DARR ANGELL #1			P.O. #								Acctnum: PLAI			
Matthew Langhlin	Rush? (Lab MUST Be	Notified)	Quote #			Tedlar						Prelogin: P75	7791	
Next Day 5 D Two Day 10		ay 5 Day ay 10 D	y (Rad Only)	Date Res	ults Needed	No. of	M18-MOD						PB: 2 -25- Shipped Via: Fe	2020 Gm	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	M18-						Remarks	Sample # (lab or	
Darr 2-System ON	Coras	Air	-	3/18/20	1500									-6	
Darr-2-System OF	1	Air		3/18/20	1530									- (
Dar 1 - System OA	1 brab	Air	-	3/18/20	1600	-								- 4	
Dwr 1- System OF	Florab	Air	-	3/18/20	1630										
						-									
		-	-		1									7.	
								1.1.					Sample Receipt (hecklist	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:	Remarks: pH Temp COC Sea COC Sign Flow Other Bottles Correct Correct Correct									al Present/Intac gned/Accurate: s arrive intact: t bottles used:	Present/Intact: NP Y ed/Accurate; arrive intact: bottles used:			
WW - WasteWater DW - Drinking Water OT - Other UPS		turned via: FedEx Co	Courier					7575028/3 Trip Blank Received: Yes / Ng				VOA Zer	If Applicable VOA Zero Headspace: Preservation Correct/Checked: _Y		
Relinquished by : (Signature)		Date:	3/19/2,	14:30	Regulived by: (Sig	(atyre)	1		The blank K		HCL/MeoH TBR		reen <0.5 mR/hr:	_Y	
Relitiquimed by: (Signature)	1	Date:	9-20	Time:	Received by Sig	gnature)			Temp:	°C Bo	ettles Received:		rvation required by L		
Relinquished by : (Signature)		Date:	1	Time:	Received for lab	by: (Sign	ature		Date: 7/22	In	900	Hold:		NCF /	



ANALYTICAL REPORT

May 22, 2020

Ss Cn

`Tr

Śr

Qc

Ğl

Al

Sc

Plains All American, LP - GHD

Sample Delivery Group: L1219543

Samples Received: 05/16/2020

Project Number: 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	6
Tr: TRRP Summary	7
TRRP form R	8
TRRP form S	9
TRRP Exception Reports	10
Sr: Sample Results	11
MW-7 L1219543-02	11
MW-11R L1219543-03	12
MW-16R L1219543-04	13
MW-17R L1219543-05	14
MW-18R L1219543-06	15
MW-19R L1219543-07	16
MW-20R L1219543-08	17
MW-21R L1219543-09	18
MW-22 L1219543-10	19
MW-24 L1219543-11	20
MW-25 L1219543-12	21
MW-12R L1219543-13	22
RW-12 L1219543-14	23
MW-2 L1219543-15	24
MW-6 L1219543-16	25
DUP-1 L1219543-17	26
DUP-2 L1219543-18	27
Qc: Quality Control Summary	28
Volatile Organic Compounds (GC) by Method 8021B	28
GI: Glossary of Terms	29





















Al: Accreditations & Locations

Sc: Sample Chain of Custody

30 31

MW-7 L1219543-02 GW			Collected by Heath Boyd	Collected date/time 05/14/20 11:22	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 00:19	05/20/20 00:19	ACG	Mt. Juliet, TN
MW-11R L1219543-03 GW			Collected by Heath Boyd	Collected date/time 05/14/20 11:05	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 00:41	05/20/20 00:41	ACG	Mt. Juliet, TN
MW-16R L1219543-04 GW			Collected by Heath Boyd	Collected date/time 05/14/20 12:05	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 01:02	05/20/20 01:02	ACG	Mt. Juliet, TN
MW-17R L1219543-05 GW			Collected by Heath Boyd	Collected date/time 05/14/20 10:00	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 01:24	05/20/20 01:24	ACG	Mt. Juliet, TN
MW-18R L1219543-06 GW			Collected by Heath Boyd	Collected date/time 05/14/20 10:35	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 01:45	05/20/20 01:45	ACG	Mt. Juliet, TN
MW-19R L1219543-07 GW			Collected by Heath Boyd	Collected date/time 05/14/20 10:30	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 02:40	05/20/20 02:40	ACG	Mt. Juliet, TN
MW-20R L1219543-08 GW			Collected by Heath Boyd	Collected date/time 05/14/20 12:30	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 03:02	05/20/20 03:02	ACG	Mt. Juliet, TN
MW-21R L1219543-09 GW			Collected by Heath Boyd	Collected date/time 05/14/20 12:00	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location





















Volatile Organic Compounds (GC) by Method 8021B

WG1478331

05/20/20 03:59

05/20/20 03:59

ACG

Mt. Juliet, TN

MW-22 L1219543-10 GW			Collected by Heath Boyd	Collected date/time 05/14/20 11:00	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 04:53	05/20/20 04:53	ACG	Mt. Juliet, TN
MW-24 L1219543-11 GW			Collected by Heath Boyd	Collected date/time 05/14/20 11:35	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 05:14	05/20/20 05:14	ACG	Mt. Juliet, TN
MW-25 L1219543-12 GW			Collected by Heath Boyd	Collected date/time 05/14/20 12:35	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 05:36	05/20/20 05:36	ACG	Mt. Juliet, TN
MW-12R L1219543-13 GW			Collected by Heath Boyd	Collected date/time 05/14/20 14:05	Received da 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 05:57	05/20/20 05:57	ACG	Mt. Juliet, TN
RW-12 L1219543-14 GW			Collected by Heath Boyd	Collected date/time 05/14/20 13:05	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 06:19	05/20/20 06:19	ACG	Mt. Juliet, TN
MW-2 L1219543-15 GW			Collected by Heath Boyd	Collected date/time 05/14/20 13:35	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 06:40	05/20/20 06:40	ACG	Mt. Juliet, TN
MW-6 L1219543-16 GW			Collected by Heath Boyd	Collected date/time 05/14/20 13:00	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 07:02	05/20/20 07:02	ACG	Mt. Juliet, TN
DUP-1 L1219543-17 GW			Collected by Heath Boyd	Collected date/time 05/14/20 00:00	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location





















Volatile Organic Compounds (GC) by Method 8021B

WG1478331

05/20/20 07:23

05/20/20 07:23

ACG

Mt. Juliet, TN

SAMPLE SUMMARY



DUP-2 L1219543-18 GW			Collected by Heath Boyd	Collected date/time 05/14/20 00:00	Received da: 05/16/20 09:	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1478331	1	05/20/20 08:08	05/20/20 08:08	ACG	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



Lab	orato	ry Name: Pace Analytical National	RC Date: 05/22/2020 20:02					
Pro_	ject N		aboratory Job Number: L1219543-02, 03, 04, 05, 06, 17 and 18	, 07, 08	8, 09, 1	0, 11, 1	2, 13, 1	4, 15,
Rev	riewe	r Name: Mark W. Beasley Pro	rep Batch Number(s): WG1478331					
# 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 s	sample acceptability upon receipt?	Х				
		Were all departures from standard conditions described in	an exception report?			Х		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the lab	ooratory ID numbers?	Х				
		Are all laboratory ID numbers cross-referenced to the corre	esponding QC data?	Х				
R3	OI	Test reports	-					
		Were all samples prepared and analyzed within holding tim	nes?	Х				
		Other than those results < MQL, were all other raw values b	pracketed by calibration standards?	Х				
		Were calculations checked by a peer or supervisor?	,	Х				
		Were all analyte identifications checked by a peer or super	rvisor?	Х				
		Were sample detection limits reported for all analytes not d		Х			Ì	
		Were all results for soil and sediment samples reported on		Х			İ	
		Were % moisture (or solids) reported for all soil and sedime	• •			X		
		Were bulk soils/solids samples for volatile analysis extracte	·			Х		
		If required for the project, are TICs reported?			1	Х		
R4	О	Surrogate recovery data					<u> </u>	
	1 -	Were surrogates added prior to extraction?		Х		I	Ι	
		Were surrogate percent recoveries in all samples within the	e laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples	e laboratory do limito.					
110	101	Were appropriate type(s) of blanks analyzed?		Х		Ι	T	
		Were blanks analyzed at the appropriate frequency?		X				
		Were method blanks taken through the entire analytical procleanup procedures?	ocess, including preparation and, if applicable,	X				
		Were blank concentrations < MQL?		Х				
R6	OI	Laboratory control samples (LCS):						
1.0	101	Were all COCs included in the LCS?		Х		Ι	T	
		Was each LCS taken through the entire analytical procedur	re including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	e, including prop and decanap steps.	X				
		Were LCS (and LCSD, if applicable) %Rs within the laborato	ory OC limits?	X				
		Does the detectability check sample data document the lab used to calculate the SDLs?	,	Х				
		Was the LCSD RPD within QC limits?		X	1			
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					<u> </u>	l .
11.7	I O	Were the project/method specified analytes included in the	e MS and MSD?	Π		X	Г	I
		Were MS/MSD analyzed at the appropriate frequency?	and mod.			X	\vdash	
		Were MS (and MSD, if applicable) %Rs within the laboratory	/ OC limits?			X	 	
		Were MS/MSD RPDs within laboratory QC limits?	y do mino.			X	\vdash	
R8	OI	Analytical duplicate data						
NO.	I	Were appropriate analytical duplicates analyzed for each m	natriv?	l		X	I	
		Were analytical duplicates analyzed for each from the superpopulation of the superpopulatio				X	\vdash	1
		Were RPDs or relative standard deviations within the labora		 			\vdash	1
R9	OI	Method quantitation limits (MQLs):	atory ac illinits:			X	L	
K9	IOI	, ,	pratony data packago?			Γ	Г	I
		Are the MQLs for each method analyte included in the laborate the MQLs correspond to the separatration of the laws		X	-	-	 	1
		Do the MQLs correspond to the concentration of the lowes Are unadjusted MQLs and DCSs included in the laboratory		X	 		\vdash	1
R10	OI	Other problems/anomalies	иата раскаде:		L	L	L	
KIU	IOI	'	d in this LDC and ED2			1	Г	I
		Are all known problems/anomalies/special conditions noted		X			 	
		Was applicable and available technology used to lower the the sample results?		Х	_			
		Is the laboratory NELAC-accredited under the Texas Labora and methods associated with this laboratory data package?	?	X				<u></u>
1 lt 🗅	me ida	ntified by the letter "R" must be included in the laboratory da	ata nackada submittad in the TPPP-raduirad ranort(s)	Itame i	aontifio	a by th	a lattar	

^{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: 05/22/2020 20:02										
Pro	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1219543-02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17 and 18										
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1478331										
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER#5					
S1	OI	Initial calibration (ICAL)											
		Were response factors and/or relative response factor	rs for each analyte within QC limits?			Х							
		Were percent RSDs or correlation coefficient criteria n	net?	Х			1						
		Was the number of standards recommended in the me	ethod used for all analytes?	Х			İ						
		Were all points generated between the lowest and high	ghest standard used to calculate the curve?	Х			1						
		Are ICAL data available for all instruments used?		X			1						
		Has the initial calibration curve been verified using an	appropriate second source standard?	X		1	1						
S2	OI	Initial and continuing calibration verification (ICCV and					1						
02	0.	Was the CCV analyzed at the method-required freque	· · · · · · · · · · · · · · · · · · ·	X	I	Т	T						
		Were percent differences for each analyte within the r		$\frac{\lambda}{X}$	1	1							
		Was the ICAL curve verified for each analyte?	netrod required de limits.	X		+	+	 					
		Was the absolute value of the analyte concentration in	a the inerganic CCR < MDI 2	- ^	1	X	+						
S3	0	Mass spectral tuning	Title morganic CCB \ MDL:			1 ^	<u> </u>						
33		Was the appropriate compound for the method used f	for tuning?	1	Т	Τx	Т	I					
				1	X	+	-						
C 1	10	Were ion abundance data within the method-required	QC IIIIIIS:										
S4	0	Internal standards (IS)	athered we arrive at OC line to 2	TV	Т	<u> </u>	Т	1					
6 F		Were IS area counts and retention times within the me	etnoa-requirea QC limits?	X	1								
S5	OI	Raw data (NELAC Section 5.5.10)		Lv	Т		1						
		Were the raw data (for example, chromatograms, spec		X	-	+	+						
		Were data associated with manual integrations flagge	d on the raw data?	X			<u> </u>	L					
S6	0	Dual column confirmation			Т	1							
	1_	Did dual column confirmation results meet the method	d-required QC?			X							
S7	0	Tentatively identified compounds (TICs)			_	T	т —						
		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?			X	<u> </u>						
S8		Interference Check Sample (ICS) results					1						
		Were percent recoveries within method QC limits?				X							
S9	1	Serial dilutions, post digestion spikes, and method of											
		Were percent differences, recoveries, and the linearity	within the QC limits specified in the method?			X							
S10	OI	Method detection limit (MDL) studies					<u> </u>						
		Was a MDL study performed for each reported analyte		X			<u> </u>						
		Is the MDL either adjusted or supported by the analys	is of DCSs?	X									
S11	OI	Proficiency test reports											
		Was the laboratory's performance acceptable on the a	applicable proficiency tests or evaluation studies?	X									
S12	OI	Standards documentation											
		Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X									
S13	OI	Compound/analyte identification procedures											
		Are the procedures for compound/analyte identification	on documented?	X									
S14	OI	Demonstration of analyst competency (DOC)											
		Was DOC conducted consistent with NELAC Chapter	5?	X									
		Is documentation of the analyst's competency up-to-d		Х									
S15	OI	Verification/validation documentation for methods (NE	LAC Chapter 5)										
		Are all the methods used to generate the data docum	ented, verified, and validated, where applicable?	Х									
S16	OI	Laboratory standard operating procedures (SOPs)											
		Are laboratory SOPs current and on file for each meth	od performed	X									
S16	OI	Laboratory standard operating procedures (SOPs)		•				İ					

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



Laboratory Name: Pace Analytical National	LRC Date: 05/22/2020 20:02
Project Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1219543-02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17 and 18
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1478331
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. NAPagev153 of \$16

Collected date/time: 05/14/20 11:22

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000267	<u>J</u>	0.000190	0.000500	0.000500	1	05/20/2020 00:19	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 00:19	WG1478331
Ethylbenzene	0.000515		0.000160	0.000500	0.000500	1	05/20/2020 00:19	WG1478331
Total Xylene	0.00112	<u>J</u>	0.000510	0.00150	0.00150	1	05/20/2020 00:19	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 00:19	WG1478331





















ONE LAB. NAPagev154 of 316

Collected date/time: 05/14/20 11:05

		· -						
	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	05/20/2020 00:41	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 00:41	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 00:41	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 00:41	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 00:41	WG1478331





















ONE LAB. NAPagev155 of \$16

Collected date/time: 05/14/20 12:05

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	05/20/2020 01:02	WG1478331		
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 01:02	WG1478331		
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 01:02	WG1478331		
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 01:02	WG1478331		
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 01:02	WG1478331		





















ONE LAB. NAPagev156 of 316

Collected date/time: 05/14/20 10:00

	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	05/20/2020 01:24	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 01:24	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 01:24	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 01:24	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 01:24	WG1478331





















ONE LAB. NAPagev157 of 316

Collected date/time: 05/14/20 10:35

	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	05/20/2020 01:45	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 01:45	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 01:45	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 01:45	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 01:45	WG1478331





















ONE LAB. NAPagev158 of \$16

Collected date/time: 05/14/20 10:30

	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	05/20/2020 02:40	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 02:40	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 02:40	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 02:40	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		05/20/2020 02:40	WG1478331





















ONE LAB. NAPage 159 of \$16

Collected date/time: 05/14/20 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	05/20/2020 03:02	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 03:02	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 03:02	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 03:02	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 03:02	WG1478331





















ONE LAB. NA Page 160 of 316

Collected date/time: 05/14/20 12:00

L1219543

	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	05/20/2020 03:59	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 03:59	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 03:59	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 03:59	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 03:59	WG1478331





















ONE LAB. NAPagev161 of 316

Collected date/time: 05/14/20 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	05/20/2020 04:53	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 04:53	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 04:53	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 04:53	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 04:53	WG1478331





















ONE LAB. NAPagev162 of \$16

Collected date/time: 05/14/20 11:35

L1219543

	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	05/20/2020 05:14	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 05:14	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 05:14	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 05:14	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 05:14	WG1478331





















ONE LAB. NAPagev163 of \$16

Collected date/time: 05/14/20 12:35

	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	05/20/2020 05:36	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 05:36	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 05:36	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 05:36	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 05:36	WG1478331





















ONE LAB. NAPagev164 of \$16

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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000247	<u>J</u>	0.000190	0.000500	0.000500	1	05/20/2020 05:57	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 05:57	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 05:57	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 05:57	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 05:57	WG1478331





















ONE LAB. NAPagev165 of 316

Collected date/time: 05/14/20 13:05

L1219543

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00199		0.000190	0.000500	0.000500	1	05/20/2020 06:19	WG1478331
Toluene	0.00485		0.000412	0.00100	0.00100	1	05/20/2020 06:19	WG1478331
Ethylbenzene	0.000594		0.000160	0.000500	0.000500	1	05/20/2020 06:19	WG1478331
Total Xylene	0.105		0.000510	0.00150	0.00150	1	05/20/2020 06:19	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 06:19	WG1478331





















ONE LAB. NA Page 166 of 316

Collected date/time: 05/14/20 13:35

	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	05/20/2020 06:40	WG1478331
Toluene	0.000734	<u>J</u>	0.000412	0.00100	0.00100	1	05/20/2020 06:40	WG1478331
Ethylbenzene	0.000363	<u>J</u>	0.000160	0.000500	0.000500	1	05/20/2020 06:40	WG1478331
Total Xylene	0.00746		0.000510	0.00150	0.00150	1	05/20/2020 06:40	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 06:40	WG1478331





















SAMPLE RESULTS - 16 L1219543

ONE LAB. NAPagev167 of 316

Collected date/time: 05/14/20 13:00

Volatile Organic Compounds (GC) by Method 8021B

	` '							
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0223		0.000190	0.000500	0.000500	1	05/20/2020 07:02	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 07:02	WG1478331
Ethylbenzene	0.000855		0.000160	0.000500	0.000500	1	05/20/2020 07:02	WG1478331
Total Xylene	0.00447		0.000510	0.00150	0.00150	1	05/20/2020 07:02	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		05/20/2020 07:02	WG1478331

















ĞI



ONE LAB. NAPagev168 of 316

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

	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	05/20/2020 07:23	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 07:23	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 07:23	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 07:23	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 07:23	WG1478331





















ONE LAB. NAPagev169 of 316

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

L1219543

	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	05/20/2020 08:08	WG1478331
Toluene	U		0.000412	0.00100	0.00100	1	05/20/2020 08:08	WG1478331
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/20/2020 08:08	WG1478331
Total Xylene	U		0.000510	0.00150	0.00150	1	05/20/2020 08:08	WG1478331
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/20/2020 08:08	WG1478331





















Reserved by & S.D.: 14/5/2021 1:18:42 PM

QUALITY CONTROL SUMMARY

ONE LAB. NA Page 170 of \$16

Volatile Organic Compounds (GC) by Method 8021B

L1219543-02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18

Method Blank (MB)

(MB) R3530590-2 05/19/	/20 23:36			
	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) R3530590-1 05/19	/20 22:38				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0553	111	77.0-122	
Toluene	0.0500	0.0558	112	80.0-121	
Ethylbenzene	0.0500	0.0575	115	80.0-123	
Total Xylene	0.150	0.175	117	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

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.























			Billing Info	rmation:					Analysis	s / Conta	niner / Preservative		Chain of Custod	y Page of
Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703			10 Desta	mille Bryant a Dr., Ste. 550E I, TX 79705	Pres Chk							Pace	Analytical® Penter for Testing & Innovation	
Report to:			Email To:	kell@ghd.com;gle		ahd so		4					12065 Lebanon Rd Mount Juliet, TN 3	
Becky Haskell		City/Stata		10.11	Please C	1				4397			Phone: 615-758-51	858
Project Description: Darr Angell #1 SRS Darr Angell #1			New M	lexico	PTMT								Fax: 615-758-5859	
Phone: 432-250-7917	Client Project 11209885/		4	Lab Project # PLAINSGHD-	11209885	2 - 3							SDG# //	219643
Collected by (print): Heally Board	Site/Facility II SRS DARR		1	P.O. #	o garage v		-						Acctnum: PLA	AINSGHD
Heath Boyd Collected by (signature):	Rush? (Lab MUST Be	Notified)	Quote #			H-C					10世紀	Template: T16	
Immediately Packed on Ice N Y	Same D Next Da Two Da Three D	y 10 D	Day y (Rad Only) ay (Rad Only)	Date Result	ts Needed	No.	40mlAmb-HC						Prelogin: P77 PM: 134 - Mai PB:	rk W. Beasley
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTEX						Shipped Via: F	Sample # (lab only)
mw-4	Grab	GW	Drw	5/14/20	1122	3	×							-61
MW-7		GW	11		1105		X			[版]				02
MW-IIR		GW			1705		x			The state of				03
MW-16R		GW			1000		X							04
MUS- 1712		GW	1.6 mg		1035		x							05
MW-1812		GW			1030		X							04
UW-19R		GW		Mar B	1230		×					DETAIL	700	07
MW- ZOR		GW			1200		X				New York			08
MW-21R	7	GW	V	1	1100	V	×			The second				09
		GW								the second			國人學	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:								pH Flo		Temp	COC Seal COC Signe Bottles	mple Receipt C Present/Intact ad/Accurate: arrive intact:	hecklist : _MP _Y N N N
DW - Wastewater DW - Drinking Water OT - Other	Samples returned via: UPS FedEx Courier			Tracki	ng# 39	29	0	430	Flow Other		2	Sufficier VOA Zero	oottles used: nt volume sent: If Applicat Headspace:	le A
Relinquished by : (Signature)	Da	ste: 5/15/	Zo Time	Receive	ved by: (Signat	ture)			Trip Bla	ank rese	ived: (YES No HCL/ MeoH TBR		tion Correct/Ch en <0.5 mR/hr:	ecked: _Y_N
Relinquished by : (Signature)	Da	ite:	Time	Receiv	ved by: (Signat	ture)		, K	Temple, 6	The second	PC Bottles Received:	If preservat	tion required by Lo	gin: Date/Time
Relinquished by : (Signature)		ite:	Time	Receiv	ved for lab by:	(Signati	ure)	W	Date:	16.7	Time:	Hold:		Condition: NCF / OK

			Billing Info	ormation:					Analysi	s / Conta	ainer / Pr	reservativ	9	14	Chain of (Custody Page of
2135 S Loop 250 W Midland, TX 79703			10 Desta	Attn: Camille Bryant 10 Desta Dr., Ste. 550E Midland, TX 79705												2 ace Analytical* lational Center for Tasting & Innovation
			Iviidiand													
Report to: Becky Haskell			Email To: becky.has	kell@ghd.com;gle	nn.quinney@	ghd.co										anon Rd
Project Description: Darr Angell #1 SRS Darr Angell #1		City/State Collected:			Please C	ircle:										-767-5859
Phone: 432-250-7917	Client Project 11209885			Lab Project # PLAINSGHD-												L1219543
Collected by (print): Health Boyd	Site/Facility SRS DARR	ID#	1	P.O. #			C								Table #	: PLAINSGHD
Collected by (signature):	Same	(Lab MUST Be	Day	Quote #			40mlAmb-HC								Prelogin	e:T167385 :P772362
Immediately Packed on Ice N Y		Day 5 Day ay 10 D Day		Date Result	te Results Needed No. of										PB:	- Mark W. Beasley Via: FedEX Ground
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTEX								Rema	
MW-ZZ	6126	GW	Drw	5/14/20	1100	3	X		UBER TO SERVICE STREET							-10
MU-24		GW	1)	1	1135		×									11
MW- 25		GW			1735		×									12
MW-IZR		GW			1405		عز				1				- Dead	13
71-WST		GW			1305		x			1	157					14
MW-Z		GW			1335		ما									15
MW-6	1	GW	1	Y	1300	V	X									it
Dup-1		GW				11	x				7.4		23/44			17
Dup-Z		GW	t	4	-	1	X			The state of						18
		GW	4												1	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:								pH Flov		_ Temp	r	CC Bc	C Seal C Signe ttles a	Present/In d/Accurate rrive inta ottles use	ct: Y N
DW - Drinking Water OT - Other	Samples returned via:UPSFedExCourier			Trackin	g#								Su	fficien	t volume s If Appl Headspace:	ent:N icable
Relinquished by : (Signature) Date: 5/15/2		Time:	600 Receive	ed by: (Signat	ure)			Trip Bla	ınk Recei		No HCL// Meol	Pr	eservat	ion Correct No.5 mR/	t/Checked: Y	
Relinquished by : (Signature)		ate:	Time:		ed by: (Signat	ure)		*	Temp:	nato	C Bott	es Receive	d: If i	oreservat	ion required	by Login: Date/Time
Relinquished by: (Signature)		ate:	Time:	Receive	ed for lab by:	(Signatu	ure)	100	Date:	0-20	Time	2990C	(E) (E) (F)	old:		Condition:

Matt Shacklock



	ı
	L
>	
E	ı
re	ı
Je	ı
.:	ı
Q	ı
0	ı
te	ı
la la	ı
금	ı
>	ı
-	ı
	1
	ı
	-
0	
12	1
9	
~	
5	1
e	
at	
0	
I	
Ö	ŀ
ž	ı
4	
Ä	
nt	
e.	
()	
0	
0	1
0	
0	
13 C	
543 C	
.9543 C	
219	
1219	
11219	
11219	
1219	
11219	

Non-Conformance (check applicable items)

	(compare account)	
Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding		
time	x Login Clarification Needed	If Broken Container:
Temperature not in		
range	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
pH not in range.	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Couri
Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
Broken container	Client did not "X" analysis.	Received by:
Broken container:	Chain of Custody is missing	Date/Time:
Sufficient sample remains		Temp./Cont. Rec./pH:
		Carrier:
		Tracking#

1 :01

Login Comments: Did not receive MW-4

Client informed by:	Call	Email	Voice Mail	Date: 5/1	:: 5/18/20	Time: 1315	
TSR Initials: MB	Client Con	itact: Heath Boy	p/				

MW-4 was not collected

Notice: This communication and any attached files may contain privileged or other confidential information. If you have received this in error, please contact the sender immediately via reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.



ANALYTICAL REPORT

June 26, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1231404

Samples Received: 06/20/2020 Project Number: 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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



















Cp: Cover Page	1
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
SYSTEM OFF L1231404-01	9
SYSTEM ON L1231404-02	10
Qc: Quality Control Summary	11
Volatile Organic Compounds (MS) by Method M18-Mod	11
GI: Glossary of Terms	12
Al: Accreditations & Locations	13
Sc: Sample Chain of Custody	14





















SAMPLE SUMMARY



SYSTEM OFF L1231404-01 Air			Collected by Matthew Laughlin	Collected date/time Received date/time 06/18/20 11:25 06/20/20 08:45		
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (MS) by Method M18-Mod	WG1497132	800	06/23/20 07:07	06/23/20 07:07	CAW	Mt. Juliet, TN
			Collected by	Collected date/time	Received date/time	
SYSTEM ON L1231404-02 Air			Matthew Laughlin	06/18/20 11:50	06/20/20 08:45	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (MS) by Method M18-Mod	WG1497132	800	06/23/20 07:49	06/23/20 07:49	CAW	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



Lab	orato	ory Name: Pace Analytical National	LRC Date: 06/26/2020 14:57						
Proj	ect N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1231404-01 and 02						
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1497132						
# 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 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?	Х					
		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?	Х					
		Other than those results < MQL, were all other raw value	ues bracketed by calibration standards?	Х					
		Were calculations checked by a peer or supervisor?		Х					
		Were all analyte identifications checked by a peer or su	upervisor?	Х					
		Were sample detection limits reported for all analytes r	not detected?	Х					
		Were all results for soil and sediment samples reported	d on a dry weight basis?	Х					
		Were % moisture (or solids) reported for all soil and sec	diment 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?	Х						
		Were blanks analyzed at the appropriate frequency?		Х					
		Were method blanks taken through the entire analytical cleanup procedures?	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 process	edure, including prep and cleanup steps?	Х					
		Were LCSs analyzed at the required frequency?		Х					
		Were LCS (and LCSD, if applicable) %Rs within the labor	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?		Х					
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	3						
		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?			X			
		Were RPDs or relative standard deviations within the la	boratory 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					
		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 lower 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: 06/26/2020 14:57							
Proj	ect N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1231404-01 and 02							
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1497132							
# 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	·	X						
		Was the number of standards recommended in the me	thod used for all analytes?	X						
		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?		X						
		Has the initial calibration curve been verified using an	appropriate second source standard?	X	1					
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?	X						
		Were percent differences for each analyte within the m	nethod-required QC limits?	X						
		Was the ICAL curve verified for each analyte?	·	Х						
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?	1		Х				
S3	0	Mass spectral tuning				•	•			
		Was the appropriate compound for the method used for	or tuning?	X						
		Were ion abundance data within the method-required		X						
S4	0	Internal standards (IS)								
_		Were IS area counts and retention times within the me	Ιx	T	T	Π				
S5	OI	Raw data (NELAC Section 5.5.10)				•				
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?								
		Were data associated with manual integrations flagged on the raw data?								
S6	0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								
		Did dual column confirmation results meet the method-required QC? X								
S7	0	Tentatively identified compounds (TICs)		_		1	<u> </u>	ı		
0,		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?	Т	T	X	Π	I		
S8	lı -	Interference Check Sample (ICS) results	data subject to appropriate circuit.	_		1		1		
		Were percent recoveries within method QC limits?		Т	Τ	Тх	Τ	1		
S9		Serial dilutions, post digestion spikes, and method of s	tandard additions		1	1 ~	1	1		
		Were percent differences, recoveries, and the linearity		Т	Т	Τx	Т	1		
S10	OI	Method detection limit (MDL) studies	William are de limite specifica in the metrod.	_		1 ~		l		
0.0	<u> </u>	Was a MDL study performed for each reported analyte	?	Тх	Τ	T	Ι	1		
		Is the MDL either adjusted or supported by the analysis		X	\dagger	1	<u> </u>	1		
S11	OI	Proficiency test reports						ı		
• • • • • • • • • • • • • • • • • • • •			pplicable proficiency tests or evaluation studies?	X	T	T	Π	I		
S12	OI									
_		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?								
S13	OI							1		
0.0		Are the procedures for compound/analyte identification documented?					Т	1		
S14	OI	Demonstration of analyst competency (DOC)		X				ı		
		Was DOC conducted consistent with NELAC Chapter 5	5?	X			П	I		
		Is documentation of the analyst's competency up-to-da		X	T	1		1		
S15	OI	Verification/validation documentation for methods (NEI				1				
		Are all the methods used to generate the data docume	1 7	X			П	I		
S16	OI	Laboratory standard operating procedures (SOPs)			_					
5.5		Are laboratory SOPs current and on file for each metho	od performed	Тх	T	T	П	1		
1. Iter	ms ide		ry data package submitted in the TRRP-required report(s).		identifi	ed by th	e letter	"S"		
		,	,					-		

Items identified by the letter is in the laboratory data package submitted in the TRRF-required report(s). Items 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;
 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: 06/26/2020 14:57
Project Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1231404-01 and 02
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1497132
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. NAPagev184 of \$16

Collected date/time: 06/18/20 11:25

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	160	511	7200	23000		800	WG1497132
Toluene	108-88-3	92.10	160	603	12800	48200		800	WG1497132
Ethylbenzene	100-41-4	106	160	694	2380	10300		800	WG1497132
m&p-Xylene	1330-20-7	106	320	1390	8170	35400		800	WG1497132
o-Xylene	95-47-6	106	160	694	2530	11000		800	WG1497132
Methyl tert-butyl ether	1634-04-4	88.10	160	577	ND	ND		800	WG1497132
TPH (GC/MS) Low Fraction	8006-61-9	101	160000	661000	1450000	5990000		800	WG1497132
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG1497132



















ONE LAB. NA Page 185 of 316

Collected date/time: 06/18/20 11:50

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS#	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch	
Analyte			ppbv	ug/m3	ppbv	ug/m3				
Benzene	71-43-2	78.10	160	511	11000	35100		800	WG1497132	
Toluene	108-88-3	92.10	160	603	20900	78700		800	WG1497132	
Ethylbenzene	100-41-4	106	160	694	3750	16300		800	WG1497132	
m&p-Xylene	1330-20-7	106	320	1390	12100	52500		800	WG1497132	
o-Xylene	95-47-6	106	160	694	3730	16200		800	WG1497132	
Methyl tert-butyl ether	1634-04-4	88.10	160	577	ND	ND		800	WG1497132	
TPH (GC/MS) Low Fraction	8006-61-9	101	160000	661000	2110000	8720000		800	WG1497132	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG1497132	





















QUALITY CONTROL SUMMARY

ONE LAB. NAPagev186 of 316

Volatile Organic Compounds (MS) by Method M18-Mod

L1231404-01,02

Method Blank (MB)

(MB) R3541670-3 06/23/20	0 03:35			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	98.0			60.0-140

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

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%	
MTBE	3.75	4.27	4.24	114	113	70.0-130			0.705	25	
Benzene	3.75	3.87	3.82	103	102	70.0-130			1.30	25	
Toluene	3.75	4.11	4.09	110	109	70.0-130			0.488	25	
Ethylbenzene	3.75	3.91	3.86	104	103	70.0-130			1.29	25	
m&p-Xylene	7.50	8.37	8.22	112	110	70.0-130			1.81	25	
o-Xylene	3.75	4.28	4.20	114	112	70.0-130			1.89	25	
TPH (GC/MS) Low Fraction	203	217	214	107	105	70.0-130			1.39	25	
(S) 1,4-Bromofluorobenzene	j			103	102	60.0-140					























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

Appleviations and	a Definitions
MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
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.





















ceived by OCD: 4/5/2021_1:18:4	12 PM	Billing Info	ormation:				Analysis /	Container / Preservative	Chain of Custo	Page 189 d
Plains All American, LP 2135 S Loop 250 W Midland, TX 79703	10 Desta Dr., Ste. 550E Midland, TX 79705			Pres Chk		Allaivsis	Container / Freservative	0	e Analytical * Center for Testing & Innovat	
Report to: Becky Haskell		Email To: becky.has	kell@ghd.com;gle	enn.quinney@	ghd.co				12065 Lebanon f Mount Juliet, TN Phone: 615-758-	37122
Project Description: Darr Angell #1 SRS Darr Angell #1	Angell #1 SRS Darr Angell #1 Collected: Lovington		144	Please C					Phone: 800-767- Fax: 615-758-583	5859
Phone: 432-250-7917	Client Project # 11209885/02		Lab Project # PLAINSGHD	-11209885					SDG#	L31464
Collected by (print): Morther Laughlin									Table # Acctnum: PL	A010
Collected by (signature):	Rush? (Lab MU	_ Five Day	Quote #		7	Tedlar			Template: T1 Prelogin: P7	
Immediately Packed on Ice N Y		_ 5 Day (Rad Only) _ 10 Day (Rad Only)	Date Resul	ts Needed	No. of				PB:	ark W. Beasley
Sample ID	Comp/Grab Mat	rix * Depth	Date	Time	Cntrs	M18-MOD			Shipped Via:	FedEX Ground Sample # (lab only
System OFF System ON	1	ir —	06/18/20	1125	1	X				6
System ON	GA		06/18/20	1150		X				0
	A	ir								
SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	emarks:						pH	Temp	Sample Receipt COC Seal Present/Intac COC Signed/Accurate: Bottles arrive intact:	t: NP Y
	mples returned via: UPS FedEx Co	urier	Tracki	ng # /	38	0	7991	3380	Correct bottles used: Sufficient volume sent If Applica VOA Zero Headspace:	
Relinquished by : (Signature)	Date: 06/1	9/20 12	Receive to	ed by (Signate	THE COUNTY OF THE PARTY OF THE	21	Trip Blank I	Received: Yes No HCL / MeoH TBR	Preservation Correct/C RAD Screen <0.5 mR/hr:	
Relinguished by : (Signature)			ed by: (Signate	ure)		Temp:	°C Bottles Received:	If preservation required by L	ogin: Date/Time	
Relinquished by : (Signature)	Date:	Time:	Receiv	ed for lab by:	Signatu	re)	2 6/A	Time: 8 . 45	Hold:	Condition:



ANALYTICAL REPORT

September 30, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1264756

 Samples Received:
 09/22/2020

 Project Number:
 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

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-MTJG-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



















Cp: Cover Page	1
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-11R-091720 L1264756-01	10
RW-12-091720 L1264756-02	11
MW-16R-091720 L1264756-03	12
MW-24-091720 L1264756-04	13
MW-25-091720 L1264756-05	14
MW-21R-091720 L1264756-06	15
MW-20R-091720 L1264756-07	16
MW-17R-091720 L1264756-08	17
MW-12R-091720 L1264756-09	18
MW-19R-091720 L1264756-10	19
MW-22-091820 L1264756-11	20
MW-7-091820 L1264756-12	21
MW-18R-091820 L1264756-13	22
MW-6-091820 L1264756-14	23
DUP-1-091820 L1264756-15	24
DUP-2-091820 L1264756-16	25
Qc: Quality Control Summary	26
Volatile Organic Compounds (GC) by Method 8021B	26
GI: Glossary of Terms	29
Al: Accreditations & Locations	30

















Ğl



Sc: Sample Chain of Custody

31

SAMPLE SUMMARY



MW-11R-091720 L1264756-01 GW			Collected by Matthew Laughlin	Collected date/time 09/17/20 16:00	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 10:29	09/24/20 10:29	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B	WG1548900	1	09/24/20 18:56	09/24/20 18:56	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	
RW-12-091720 L1264756-02 GW			Matthew Laughlin	09/17/20 16:30	09/22/20 09	9:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 10:54	09/24/20 10:54	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B	WG1548900	1	09/24/20 19:21	09/24/20 19:21	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	
MW-16R-091720 L1264756-03 GW			Matthew Laughlin	09/17/20 16:45	09/22/20 09	9:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 11:19	09/24/20 11:19	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-24-091720 L1264756-04 GW			Matthew Laughlin	09/17/20 17:00	09/22/20 09	9:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 11:44	09/24/20 11:44	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-25-091720 L1264756-05 GW			Matthew Laughlin	09/17/20 17:15	09/22/20 09	9:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 12:09	09/24/20 12:09	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-21R-091720 L1264756-06 GW			Matthew Laughlin	09/17/20 17:30	09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 12:34	09/24/20 12:34	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-20R-091720 L1264756-07 GW			Matthew Laughlin	09/17/20 17:45	09/22/20 09	9:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 12:59	09/24/20 12:59	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-17R-091720 L1264756-08 GW			Matthew Laughlin	09/18/20 09:00	09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1548209	1	09/24/20 13:24	09/24/20 13:24	ADM	Mt. Juliet, TN





















SAMPLE SUMMARY



			Collected by	Collected date/time	Received da	
MW-12R-091720 L1264756-09 GW			Matthew Laughlin	09/18/20 09:15	09/22/20 09	:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/26/20 23:37	09/26/20 23:37	ACG	Mt. Juliet, TN
MW-19R-091720 L1264756-10 GW			Collected by Matthew Laughlin	Collected date/time 09/18/20 09:30	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/27/20 00:02	09/27/20 00:02	ACG	Mt. Juliet, TN
MW-22-091820 L1264756-11 GW			Collected by Matthew Laughlin	Collected date/time 09/18/20 09:45	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/27/20 00:27	09/27/20 00:27	ACG	Mt. Juliet, TN
MW-7-091820 L1264756-12 GW			Collected by Matthew Laughlin	Collected date/time 09/18/20 10:00	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/27/20 00:52	09/27/20 00:52	ACG	Mt. Juliet, TN
MW-18R-091820 L1264756-13 GW			Collected by Matthew Laughlin	Collected date/time 09/18/20 10:30	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/27/20 01:17	09/27/20 01:17	ACG	Mt. Juliet, TN
MW-6-091820 L1264756-14 GW			Collected by Matthew Laughlin	Collected date/time 09/18/20 10:45	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/27/20 01:42	09/27/20 01:42	ACG	Mt. Juliet, TN
DUP-1-091820 L1264756-15 GW			Collected by Matthew Laughlin	Collected date/time 09/18/20 00:00	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/27/20 02:07	09/27/20 02:07	ACG	Mt. Juliet, TN
DUP-2-091820 L1264756-16 GW			Collected by Matthew Laughlin	Collected date/time 09/18/20 00:00	Received da 09/22/20 09	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1549888	1	09/27/20 02:33	09/27/20 02:33	ACG	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



















ONE LAB. NATIONWIDE.

This data package consists of this signature page, the laboratory review checklist, and the following

- 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,

reportable data as applicable:

- 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: 09/30/2020 17:04					
Proj	ect N	lame: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1264756-01, 02, 03, 04, 05 15 and 16	, 06, 0	7, 08,	09, 10,	11, 12, 1	13, 14,
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1548209, WG1548900 and	WG15	49888			
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)			1	1	1	1
		Did samples meet the laboratory's standard conditions	s of sample acceptability upon receipt?	Ιx	T	T		
		Were all departures from standard conditions describe		†		X		
R2	OI	Sample and quality control (QC) identification		_				
		Are all field sample ID numbers cross-referenced to th	e laboratory ID numbers?	Ιx	Τ	Т	Π	
		Are all laboratory ID numbers cross-referenced to the	•	X		1		
R3	OI	Test reports	our of the same of			•		
- 10		Were all samples prepared and analyzed within holdin	a times?	Ιx	Τ	Т	Π	
		Other than those results < MQL, were all other raw value		X		1		
		Were calculations checked by a peer or supervisor?	account and a system of an account	X	1			
		Were all analyte identifications checked by a peer or s	unervisor?	X	_	1		
		Were sample detection limits reported for all analytes		X				
		Were all results for soil and sediment samples reported		X	1	1	 	
		Were % moisture (or solids) reported for all soil and se		 ^		X	 	
		Were bulk soils/solids samples for volatile analysis ext		+-	-	X		
		If required for the project, are TICs reported?	racted with methanol per 5w646 Method 5055:	+		X	1	
R4	0	Surrogate recovery data				1 ^	L	
K4	U	Were surrogates added prior to extraction?		X	Т	T	T	I
		Were surrogate percent recoveries in all samples with	in the laboratory OC limits?	 			 	
R5	OI	Test reports/summary forms for blank samples	in the laboratory QC limits:					
KS	OI			TV	Т	Т	Т	I
		Were appropriate type(s) of blanks analyzed?		X	-	+	 	
		Were blanks analyzed at the appropriate frequency? Were method blanks taken through the entire analytic.	al process, including preparation and, if applicable	-		+		
		cleanup procedures?	process, moderning properties of aria, it applicable,	X				
		Were blank concentrations < MQL?		X				
R6	OI	Laboratory control samples (LCS):						,
		Were all COCs included in the LCS?		X				
		Was each LCS taken through the entire analytical 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 laboration	,	X				
		Does the detectability check sample data document the used to calculate the SDLs?	ne laboratory's capability to detect the COCs at the MDL	X				
		Was the LCSD RPD within QC limits?		Х			İ	
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) dat	a		•	•		
		Were the project/method specified analytes included i				Х		
		Were MS/MSD analyzed at the appropriate frequency?		T		Х		
		Were MS (and MSD, if applicable) %Rs within the labor	atory QC limits?	T		Х		
		Were MS/MSD RPDs within laboratory QC limits?		T		Х		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for ea	nch matrix?	1		Х		
		Were analytical duplicates analyzed at the appropriate	frequency?	T		Х		
		Were RPDs or relative standard deviations within the la	aboratory QC limits?	T		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	owest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the labora	ntory data package?	Х				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions	noted in this LRC and ER?	Х				
		Was applicable and available technology used to lowe the sample results?	er the SDL to minimize the matrix interference effects on	Х				
		Is the laboratory NELAC-accredited under the Texas L	aboratory Accreditation Program for the analytes, matrices	×				
		and methods associated with this laboratory data pack	rage:			1	1	<u> </u>

^{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: 09/30/2020 17:04									
Pro	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1264756-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15 and 16									
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1548209, WG1548900	and WG15	49888							
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵				
S1	OI	Initial calibration (ICAL)		1	1	1.5.	1	1				
<u> </u>		Were response factors and/or relative response factors	s for each analyte within QC limits?		Π	Τx	Τ	I				
		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 high	,	X	1	1	<u>† </u>					
		Are ICAL data available for all instruments used?		X		+	 					
		Has the initial calibration curve been verified using an a	appropriate second source standard?	X			 					
S2	OI	Initial and continuing calibration verification (ICCV and										
	10.	Was the CCV analyzed at the method-required frequen		X	Π	1	T					
		Were percent differences for each analyte within the m		X			<u>† </u>					
		Was the ICAL curve verified for each analyte?	ostios roganos do minio.	X	1	1	<u>† </u>					
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDI ?	- ^		Х	<u> </u>					
S3	0	Mass spectral tuning		I		1 '`						
		Was the appropriate compound for the method used for	or tunina?		1	T X	Т					
		Were ion abundance data within the method-required				X	t					
S4	0	Internal standards (IS)		I		1		L				
		Were IS area counts and retention times within the met	thod-required QC limits?	X		T	Τ	1				
S5	OI	Raw data (NELAC Section 5.5.10)				1						
		Were the raw data (for example, chromatograms, spect	tral data) reviewed by an analyst?	X	l	T	Τ					
		Were data associated with manual integrations flagged		X								
S6	0	Dual column confirmation				•	•					
		Did dual column confirmation results meet the method-	-required QC?		Ι	X	1					
S7	0	Tentatively identified compounds (TICs)				•	•					
		If TICs were requested, were the mass spectra and TIC	data subject to appropriate checks?			Х						
S8	1	Interference Check Sample (ICS) results	• • • •					•				
		Were percent recoveries within method QC limits?				X						
S9	ı	Serial dilutions, post digestion spikes, and method of si	tandard additions				•	•				
		Were percent differences, recoveries, and the linearity				Х	1					
S10	OI	Method detection limit (MDL) studies	·		•	•	•					
		Was a MDL study performed for each reported analyte	?	Х								
		Is the MDL either adjusted or supported by the analysis	s of DCSs?	Х								
S11	OI	Proficiency test reports										
		Was the laboratory's performance acceptable on the approximation	oplicable proficiency tests or evaluation studies?	Х								
S12	OI	Standards documentation		•								
		Are all standards used in the analyses NIST-traceable of	or obtained from other appropriate sources?	Х								
S13	OI	Compound/analyte identification procedures										
		Are the procedures for compound/analyte identification	n documented?	Х								
S14	OI	Demonstration of analyst competency (DOC)										
		Was DOC conducted consistent with NELAC Chapter 5	?	Х								
		Is documentation of the analyst's competency up-to-da	te and on file?	Х								
S15	OI	Verification/validation documentation for methods (NEL										
	•	Are all the methods used to generate the data docume	ented, verified, and validated, where applicable?	Х								
S16	OI	Laboratory standard operating procedures (SOPs)										
		Are laboratory SOPs current and on file for each metho	od performed	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 Revised May



ER #1	Description								
Reviewer	Name: Mark W. Beasley	Prep Batch Number(s): WG1548209, WG1548900 and WG1549888							
Project N	ame: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1264756-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15 and 16							
Laborato	ry Name: Pace Analytical National	LRC Date: 09/30/2020 17:04							

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. NAPagev199 of \$16

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

	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	09/24/2020 18:56	WG1548900
Toluene	U		0.000412	0.00100	0.00100	1	09/24/2020 10:29	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 10:29	WG1548209
Total Xylene	U		0.000510	0.00150	0.00150	1	09/24/2020 10:29	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	99.1				79.0-125		09/24/2020 10:29	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	98.3				79.0-125		09/24/2020 18:56	WG1548900





















ONE LAB. NAPage 200 of \$16

Collected date/time: 09/17/20 16:30

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000599		0.000190	0.000500	0.000500	1	09/24/2020 19:21	WG1548900
Toluene	0.000742	<u>J</u>	0.000412	0.00100	0.00100	1	09/24/2020 10:54	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 10:54	WG1548209
Total Xylene	0.0138		0.000510	0.00150	0.00150	1	09/24/2020 10:54	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	96.7				79.0-125		09/24/2020 10:54	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	97.1				79.0-125		09/24/2020 19:21	WG1548900





















ONE LAB. NAPage 201 of \$16

Collected date/time: 09/17/20 16:45

	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	09/24/2020 11:19	WG1548209
Toluene	U		0.000412	0.00100	0.00100	1	09/24/2020 11:19	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 11:19	WG1548209
Total Xylene	U		0.000510	0.00150	0.00150	1	09/24/2020 11:19	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	98.3				79.0-125		09/24/2020 11:19	WG1548209





















ONE LAB. NA Page 202 of 316

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

	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	09/24/2020 11:44	WG1548209
Toluene	U		0.000412	0.00100	0.00100	1	09/24/2020 11:44	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 11:44	WG1548209
Total Xylene	U		0.000510	0.00150	0.00150	1	09/24/2020 11:44	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	97.8				79.0-125		09/24/2020 11:44	WG1548209





















ONE LAB. NAPage 203 of 316

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

	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	09/24/2020 12:09	WG1548209
Toluene	U		0.000412	0.00100	0.00100	1	09/24/2020 12:09	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 12:09	WG1548209
Total Xylene	U		0.000510	0.00150	0.00150	1	09/24/2020 12:09	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	97.9				79.0-125		09/24/2020 12:09	WG1548209





















ONE LAB. NAPage 204 of \$16

Collected date/time: 09/17/20 17:30

	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	09/24/2020 12:34	WG1548209
Toluene	U		0.000412	0.00100	0.00100	1	09/24/2020 12:34	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 12:34	WG1548209
Total Xylene	U		0.000510	0.00150	0.00150	1	09/24/2020 12:34	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	98.2				79.0-125		09/24/2020 12:34	WG1548209





















ONE LAB. NAPage 205 of 316

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

	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	09/24/2020 12:59	WG1548209
Toluene	U		0.000412	0.00100	0.00100	1	09/24/2020 12:59	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 12:59	WG1548209
Total Xylene	U		0.000510	0.00150	0.00150	1	09/24/2020 12:59	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	97.5				79.0-125		09/24/2020 12:59	WG1548209





















ONE LAB. NAPage 206 of 316

Collected date/time: 09/18/20 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	09/24/2020 13:24	WG1548209
Toluene	U		0.000412	0.00100	0.00100	1	09/24/2020 13:24	WG1548209
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/24/2020 13:24	WG1548209
Total Xylene	U		0.000510	0.00150	0.00150	1	09/24/2020 13:24	WG1548209
(S) a,a,a-Trifluorotoluene(PID)	97.9				79.0-125		09/24/2020 13:24	WG1548209





















ONE LAB. NA Rage 207 of \$16

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

L1264756

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000654		0.000190	0.000500	0.000500	1	09/26/2020 23:37	WG1549888
Toluene	U		0.000412	0.00100	0.00100	1	09/26/2020 23:37	WG1549888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/26/2020 23:37	WG1549888
Total Xylene	0.00194		0.000510	0.00150	0.00150	1	09/26/2020 23:37	WG1549888
(S) a,a,a-Trifluorotoluene(PID)	97.7				79.0-125		09/26/2020 23:37	WG1549888





















ONE LAB. NAPagev208 of 316

Collected date/time: 09/18/20 09:30

	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	09/27/2020 00:02	WG1549888
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 00:02	WG1549888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 00:02	WG1549888
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 00:02	WG1549888
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		09/27/2020 00:02	WG1549888





















ONE LAB. NAPage 209 of \$16

Collected date/time: 09/18/20 09:45

L1264756

	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	09/27/2020 00:27	WG1549888
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 00:27	WG1549888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 00:27	WG1549888
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 00:27	WG1549888
(S) a,a,a-Trifluorotoluene(PID)	99.4				79.0-125		09/27/2020 00:27	WG1549888





















ONE LAB. NAPage 210 of 316

Collected date/time: 09/18/20 10:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0249		0.000190	0.000500	0.000500	1	09/27/2020 00:52	WG1549888
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 00:52	WG1549888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 00:52	WG1549888
Total Xylene	0.00552		0.000510	0.00150	0.00150	1	09/27/2020 00:52	WG1549888
(S) a,a,a-Trifluorotoluene(PID)	99.0				79.0-125		09/27/2020 00:52	WG1549888





















ONE LAB. NAPage 211 of 316

Collected date/time: 09/18/20 10:30

	, ,	-							
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>	
Analyte	mg/l		mg/l	mg/l	mg/l		date / time		
Benzene	0.000660		0.000190	0.000500	0.000500	1	09/27/2020 01:17	WG1549888	
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 01:17	WG1549888	
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 01:17	WG1549888	
Total Xylene	0.00137	J	0.000510	0.00150	0.00150	1	09/27/2020 01:17	WG1549888	
(S) a,a,a-Trifluorotoluene(PID)	97.7				79.0-125		09/27/2020 01:17	WG1549888	





















ONE LAB. NAPage 212 of 316

Collected date/time: 09/18/20 10:45

	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	09/27/2020 01:42	WG1549888
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 01:42	WG1549888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 01:42	WG1549888
Total Xylene	U		0.000510	0.00150	0.00150	1	09/27/2020 01:42	WG1549888
(S) a,a,a-Trifluorotoluene(PID)	99.9				79.0-125		09/27/2020 01:42	WG1549888





















ONE LAB. NA Page 23 of 316

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

L1264756

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000399	<u>J</u>	0.000190	0.000500	0.000500	1	09/27/2020 02:07	WG1549888
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 02:07	WG1549888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 02:07	WG1549888
Total Xylene	0.00107	<u>J</u>	0.000510	0.00150	0.00150	1	09/27/2020 02:07	WG1549888
(S) a,a,a-Trifluorotoluene(PID)	98.6				79.0-125		09/27/2020 02:07	WG1549888





















ONE LAB. NA Page 214 of 316

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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0268		0.000190	0.000500	0.000500	1	09/27/2020 02:33	WG1549888
Toluene	U		0.000412	0.00100	0.00100	1	09/27/2020 02:33	WG1549888
Ethylbenzene	U		0.000160	0.000500	0.000500	1	09/27/2020 02:33	WG1549888
Total Xylene	0.00285		0.000510	0.00150	0.00150	1	09/27/2020 02:33	WG1549888
(S) a,a,a-Trifluorotoluene(PID)	98.5				79.0-125		09/27/2020 02:33	WG1549888





















QUALITY CONTROL SUMMARY

ONE LAB. NA Page 215 of \$16

Volatile Organic Compounds (GC) by Method 8021B <u>L1264756-01,02,03,04,05,06,07,08</u>

Method Blank (MB)

(MB) R3574185-2 09/24/	/20 05:28			
	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)	98.2			79.0-125



(LCS) R3574185-1 09/24/20 04:39							
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier		
Analyte	mg/l	mg/l	%	%			
Benzene	0.0500	0.0427	85.4	77.0-122			
Toluene	0.0500	0.0435	87.0	80.0-121			
Ethylbenzene	0.0500	0.0456	91.2	80.0-123			
Total Xylene	0.150	0.136	90.7	47.0-154			
(S) a,a,a-Trifluorotoluene(PID)			97.8	79.0-125			





















QUALITY CONTROL SUMMARY

ONE LAB. NAPage 216 of 316

Volatile Organic Compounds (GC) by Method 8021B

L1264756-01,02

Method Blank (MB)

(MB) R3574341-3 09/24/	20 18:18				
	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)	98.4			79.0-125	



¹Cn

Laboratory Control Sample (LCS)

(LCS) R3574341-2 09/24/	/20 17:53				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0439	87.8	77.0-122	
(S) a,a,a-Trifluorotoluene(PID)			97.6	79.0-125	













Reserved by 9618 \$\ 5/2021 1:18:42 PM

QUALITY CONTROL SUMMARY

ONE LAB. NAPage 217 of 316

L1264756-09,10,11,12,13,14,15,16 Volatile Organic Compounds (GC) by Method 8021B

Method Blank (MB)

(MB) R3575831-2 09/26/	20 22:43			
	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)	100			79.0-125

Laboratory Control Sample (LCS)

(LCS) R3575831-1 09/26	/20 21:52				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0439	87.8	77.0-122	
Toluene	0.0500	0.0449	89.8	80.0-121	
Ethylbenzene	0.0500	0.0475	95.0	80.0-123	
Total Xylene	0.150	0.142	94.7	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			98.6	79.0-125	



Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier Description

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		Billing Info	rmation:	ant		Pres			A	nalvsis /	Contair	ner / Prese	ervative			Chain of Custod	Page of
2135 § Loop 250 W Midland, TX 79703 Report to: Becky Haskell			10 Desta Dr., Ste. 550E Midland, TX 79705 Email To: becky.haskell@ghd.com;glenn.quinney@ghd.co														Pace National C	Analytical® Penter for Testing & Inno
																	12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-58	7122
Project Description: Darr Angell #1 SRS Darr Angell #1		City/State Collected:	Loving			Please Ci	Please Circle: PT MT CT ET		#								Phone: 800-767-58 Fax: 615-758-5859	
Phone: 432-250-7917	Client Project 11209885/	#	- DVING	Lab Proje	ct#	1209885			Pres-W								spg# 1264756 F138	
Collected by (print): Matthew Laughlia	Site/Facility ID		1	P.O. #				-	mb-No								Acctnum: PLA	-77
Collected by (signature):		ab MUST Be		Quote #				Jm-HC									Template: T167385 Prelogin: P796004	
Immediately Packed on Ice N Y X	Same Day Two Day Three Day	10 D	y (Rad Only) ay (Rad Only)	Date	Results	Needed	No.	40mlAmb-HCI	PAHSIMLVI 40mlAmb-NoPres-WTC								PM: 134 - M ar PB:	k W. Beasley
Sample ID	Comp/Grab	Matrix *	Depth	Dat	е	Time	Cntrs	BTEX 4	AHSI								Shipped Via: For Remarks	Sample # (lab o
MW-11R-091720	(2	GW	-	09/17	150	1600	13	3	4					DOMO!				
RW-12-091730	6	GW	-	1	7/20	1630	3	3										Takk IV.
MW-16R-0917-20	6	GW	_	09/17	1/20	1645	3	3							- Verenting			
MW-24-091720	6	GW	-	09/17	/20	1700	3	3										
MW-25-091720	6	GW	-	09/17	2/20	1715	3	3										
MW-21R-091720	6	GW	-	09/17	2/20	1730	3	3										
MW-20R-091720	6	GW	-	09/17	1/20	1745	3	3										Name of the
MW-17R-091820	6	GW	-	09/18	120	0900	3	3										
MW-12R-091830	6	GW	-	09/18	120	0915	3	3									-73	
MW-19R-091820	6	GW	-	09/18	120	0930	3	3						musell musell			100	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	emarks:			,							pH _		Temp		COC Si	al Pres gned/A	Receipt Ch sent/Intact: ccurate: we intact:	ecklist ONP Y
WW - WasteWater DW - Drinking Water OT - Other	amples returned _ UPS FedEx				Trackin	s# 192	20	081	3 :	246	5				Suffic	ient v	les used: plume sent: If Applicabl dspace:	e /
Relinquished by : (Signature)	Da	te:	Time:	3:00	//	d by: (Signate	we)	2	1	Tr	ip Blank	Receive	ed: Yes/ HCL TBR	Т МеоН	Preser	vation	Correct/Che	cked: Y
Relinquished by (Jergnaturé)	Da T	te: -21-2) Time:	:55		d by: (Signati	ure)			Te O	mp: 3-1-1	0.18	THE RESERVE OF THE PARTY OF THE	Received:	If prese	rvation r	equired by Log	in: Date/Time
Refinquished by : (Signature)	Da	te:	Time:		Receive	d for lab by:	1000	(re)		Da	ate:	20	Time:	60	Hold:	14		Condition NCF / 6

Plains All American, LP 2135 S Loop 250 W Midland, TX 79703	- GHD		10 Desta	mille Bryant Dr., Ste. 5508 , TX 79705		Pres Chk			Ana	lvsis / Con	tainer / P	reservative		Chain of Custod	e Anal Center for
Report to: Becky Haskell			kell@ghd.com;gle	d.com;glenn.quinney@ghd.co			(N)						12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-58	37122	
Project Description: Darr Angell #1 SRS Darr Angell #1		City/State Collected:	1 ,	ton, NM	Please C	Circle:								Phone: 800-767-58 Fax: 615-758-5859	859
Phone: 432-250-7917	Client Project 11209885/		- ov ras	Lab Project # PLAINSGHD-				NoPres WI						SDG# N	47
Collected by (print): Mathew Laughly	Site/Facility ID		1	P.O. #			CI							Table # Acctnum: PLA	AINSC
Collected by (signature):		ab MUST Be		Quote #			mb-H	40mlAmb						Template:T16 Prelogin: P79	
Immediately Packed on Ice N Y	Next Day Two Day Three Da		y (Rad Only) ay (Rad Only)	Date Result	s Needed	No.	40mlAmb-HC	PAHSIMLVL						PM: 134 - M ar PB:	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	втех	SHAS						Shipped Via: F	Sar
MW-22-091820	6	GW	-	09/18/20	0945	3	3	-							
MW-7-091820	6	GW	-	09/18/20	1000	3	3								
MW-18R-091820	6	GW	-	09/18/20	1030	3	3								
MW-6-0918/20	6	GW	-	09/18/20	1045	- 3	3								
Dup-1-091820	6	GW	-	09/18/20	-	3	3								
Dup-1-091820 Dup-2-091820	6	GW	-	09/18/20	-	3	3								
		GW		1.7											
		GW													
		GW													
		GW							MAIL			TO SERVICE SER			
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	emarks:									pH	Tem		COC Sign	ample Receipt Ch Present/Intact: ed/Accurate: arrive intact:	eckl
DW - Drinking Water	amples returned v			Trackir	ng# 197	72	081	3 2	460	erikinganin.			Sufficie VOA Zero	bottles used: int volume sent: If Applicab Headspace:	
Relinquished by : (Signature)	Dat	e: -2/-2	Time:	Receiv Ka	ed by: (Signat	nuret	2	1	Trip	Blank Rec		es / No HCL/MeoH TBR		tion Correct/Che en <0.5 mR/hr:	ecked
Relinquished by : (Signature)) Dat		Time:	:35 Receiv	ed by: (Signat	ture)			Tem O.	p: 3-Z-0.1		les Received:	If preserva	ation required by Log	gin: Da
Relinquished by : (Signature) o Imaging: 1/11/2022 3:52:36	Dat	e:	Time:	Receiv	ed for lab by:	1	ire)	1	Date 9	122/	7im	e: 900	Hold:		N



ANALYTICAL REPORT

October 08, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1270300 Samples Received: 10/07/2020 Project Number: 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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



















Cp: Cover Page	1
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
DARR 2 PUMP ON L1270300-01	9
DARR 2 PUMP OFF L1270300-02	10
DARR 1 PUMP ON L1270300-03	11
Qc: Quality Control Summary	12
Volatile Organic Compounds (MS) by Method M18-Mod	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	
DARR 2 PUMP ON L1270300-01 Air				10/06/20 10:10	10/07/20 08:	00	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (MS) by Method M18-Mod	WG1555481	2000	10/08/20 06:38	10/08/20 06:38	MBF	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
DARR 2 PUMP OFF L1270300-02 Air		10/06/20 10:12			10/07/20 08:00		
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (MS) by Method M18-Mod	WG1555481	80	10/08/20 07:17	10/08/20 07:17	MBF	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
DARR 1 PUMP ON L1270300-03 Air				10/06/20 10:30	10/07/20 08:	00	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (MS) by Method M18-Mod	WG1555481	400	10/08/20 07:52	10/08/20 07:52	MBF	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.























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	ory Name: Pace Analytical National	LRC Date: 10/08/2020 17:12										
Pro	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1270300-01, 02 and 03										
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1555481										
# ¹	A ²	Description	L	Yes	No	NA ³	NR ⁴	ER# ⁵					
R1	OI	Chain-of-custody (C-O-C)				•							
		Did samples meet the laboratory's standard conditions	Х										
		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			1						
R3	OI	Test reports	-										
		Were all samples prepared and analyzed within holding	g times?	Х									
		Other than those results < MQL, were all other raw value	ues bracketed by calibration standards?	Х									
		Were calculations checked by a peer or supervisor?		X									
		Were all analyte identifications checked by a peer or si	upervisor?	Х									
		Were sample detection limits reported for all analytes r	not detected?	Х									
		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	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 withi	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?	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?	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?		Х									
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									
		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: 10/08/2020 17:12							
Proj	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1270300-01, 02 and 03							
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1555481							
# ¹	A ²	Description		Yes	No	NA ³	NR⁴	ER# ⁵		
S1	OI	Initial calibration (ICAL)		1						
		Were response factors and/or relative response factors	s for each analyte within QC limits?	X				T		
		Were percent RSDs or correlation coefficient criteria m	•	X						
		Was the number of standards recommended in the me		X				1		
		Were all points generated between the lowest and hig		X				1		
		Are ICAL data available for all instruments used?		X						
		Has the initial calibration curve been verified using an	appropriate second source standard?	X				1		
S2	OI	Initial and continuing calibration verification (ICCV and		•		1	•			
_		Was the CCV analyzed at the method-required frequer	, , ,	X			Π			
		Were percent differences for each analyte within the m	•	X						
		Was the ICAL curve verified for each analyte?		X		1	1	1		
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?	1		×	1	†		
S3	0	Mass spectral tuning				1				
		Was the appropriate compound for the method used for	or tuning?	X	I	T	Ι	Т		
		Were ion abundance data within the method-required		X		1	1	†		
S4	О	Internal standards (IS)								
		Were IS area counts and retention times within the me	thod-required QC limits?	X		1	Τ	Т		
S5	OI	Raw data (NELAC Section 5.5.10)	and required do initio.			1	<u> </u>			
	J 0.	Were the raw data (for example, chromatograms, spec	tral data) reviewed by an analyst?	T x	1	T	П	Т		
		Were data associated with manual integrations flagged		X			 	+		
S6	0	Dual column confirmation				1	<u> </u>			
		Did dual column confirmation results meet the method	-required QC?	Т		Тх	Т	Т		
S7	О	Tentatively identified compounds (TICs)				1	<u> </u>			
		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?	Т		Ιx	Т	Т		
S8	lı -	Interference Check Sample (ICS) results				1				
		Were percent recoveries within method QC limits?		1	I	T x	Ι	Т		
S9	ı	Serial dilutions, post digestion spikes, and method of s	standard additions			1				
	•	Were percent differences, recoveries, and the linearity		Т		Ιx	Τ			
S10	OI	Method detection limit (MDL) studies		-			•			
		Was a MDL study performed for each reported analyte	?	T X		T	Т	Т		
		Is the MDL either adjusted or supported by the analysis		X		1		\vdash		
S11	OI	Proficiency test reports		-			•			
_		Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	X			Π			
S12	OI	Standards documentation	,			1	•			
_		Are all standards used in the analyses NIST-traceable	X	I	T	Ι	Т			
S13	OI	Compound/analyte identification procedures				1				
		Are the procedures for compound/analyte identificatio	n documented?	T X	1	T	Т			
S14	OI	Demonstration of analyst competency (DOC)		-						
		Was DOC conducted consistent with NELAC Chapter 5?								
		Is documentation of the analyst's competency up-to-da		X		1		<u> </u>		
S15	OI	Verification/validation documentation for methods (NE			-			_		
	-	Are all the methods used to generate the data docume	. ,	Ιx			П	T		
S16	OI	Laboratory standard operating procedures (SOPs)						-		
		Are laboratory SOPs current and on file for each metho	od performed	Тх			Π	T		
1 Ite	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"									

Items identified by the letter. It must be included in the laboratory data package submitted in the TRRP-required report(s). Items 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;
 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



Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1555481			
Project Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1270300-01, 02 and 03			
Laboratory Name: Pace Analytical National	LRC Date: 10/08/2020 17:12			

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. NAPage 230 of \$16

Collected date/time: 10/06/20 10:10

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS#	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch	
Analyte			ppbv	ug/m3	ppbv	ug/m3				
Benzene	71-43-2	78.10	400	1280	21200	67700		2000	WG1555481	
Toluene	108-88-3	92.10	400	1510	23900	90000		2000	WG1555481	
Ethylbenzene	100-41-4	106	400	1730	3360	14600		2000	WG1555481	
m&p-Xylene	1330-20-7	106	800	3470	5680	24600		2000	WG1555481	
o-Xylene	95-47-6	106	400	1730	1540	6680		2000	WG1555481	
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1555481	
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	2050000	8470000		2000	WG1555481	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.9				WG1555481	

















Ğl





ONE LAB. NAPage 231 of \$16

Collected date/time: 10/06/20 10:12

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	<u>Batch</u>
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	16.0	51.1	2640	8430		80	WG1555481
Toluene	108-88-3	92.10	16.0	60.3	3440	13000		80	WG1555481
Ethylbenzene	100-41-4	106	16.0	69.4	473	2050		80	WG1555481
m&p-Xylene	1330-20-7	106	32.0	139	869	3770		80	WG1555481
o-Xylene	95-47-6	106	16.0	69.4	260	1130		80	WG1555481
Methyl tert-butyl ether	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1555481
TPH (GC/MS) Low Fraction	8006-61-9	101	16000	66100	292000	1210000		80	WG1555481
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.3				WG1555481





















ONE LAB. NAPage 232 of \$16

Collected date/time: 10/06/20 10:30

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	<u>Batch</u>
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	80.0	256	15300	48900		400	WG1555481
Toluene	108-88-3	92.10	80.0	301	27900	105000		400	WG1555481
Ethylbenzene	100-41-4	106	80.0	347	5750	24900		400	WG1555481
m&p-Xylene	1330-20-7	106	160	694	12000	52000		400	WG1555481
o-Xylene	95-47-6	106	80.0	347	3800	16500		400	WG1555481
Methyl tert-butyl ether	1634-04-4	88.10	80.0	288	ND	ND		400	WG1555481
TPH (GC/MS) Low Fraction	8006-61-9	101	80000	330000	1780000	7350000		400	WG1555481
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		104				WG1555481



















Volatile Organic Compounds (MS) by Method M18-Mod

QUALITY CONTROL SUMMARY

ONE LAB. NA Page 233 of 316

L1270300-01,02,03

Method Blank (MB)

(MB) R3579127-3 10/07/20	20:28			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	95.7			60.0-140

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

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%	8
MTBE	3.75	3.53	3.70	94.1	98.7	70.0-130			4.70	25	_
Benzene	3.75	3.60	3.65	96.0	97.3	70.0-130			1.38	25	
Toluene	3.75	3.60	3.64	96.0	97.1	70.0-130			1.10	25	
Ethylbenzene	3.75	3.59	3.71	95.7	98.9	70.0-130			3.29	25	▮└
m&p-Xylene	7.50	7.34	7.55	97.9	101	70.0-130			2.82	25	10
o-Xylene	3.75	3.59	3.74	95.7	99.7	70.0-130			4.09	25	
TPH (GC/MS) Low Fraction	203	204	213	100	105	70.0-130			4.32	25	
(S) 1,4-Bromofluorobenzene	2			100	100	60.0-140					























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	Definitions
MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
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.





















eived by OCD: 4/5/2021 1:18:4	ived by OCD: 4/5/2021 1:18:42 PM								Ana	lysis / Con	ainer / Pre	servative		Page 236 of 3			
Plains All American, LP - 2135 S Loop 250 W Midland, TX 79703	GHD		Attn: Camille Bryant 10 Desta Dr., Ste. 550E Midland, TX 79705											Pace A	Analytical * Inter for Testing & Innovetion		
Report to:			Email To: becky.hask	kell@ghd.com;gl	enn.quinney@	ghd.co								12065 Lebanon Rd Mount Juliet, TN 37 Phone: 615-758-58 Phone: 800-767-58	8		
Project Description: Darr Angell #1 SRS Darr Angell #1		City/State Collected:			Please Circ		Please Circ			1						Fax: 615-758-5859	回第86部
Thone: 432-250-7917	Client Project			Lab Project # PLAINSGHE	-11209885			1						C14	70300		
ollected by (print):	Site/Facility I		1	P.O. #				4-						Acctnum: PLA Template: T16			
Collected by (signature):	Same I	(Lab MUST Be Day Five Day 5 Da Day 10 D	Day y (Rad Only)		ults Needed	No.	OD Tedlar		100					Prelogin: P79 PM: 134 - Mar	5993		
Packed on Ice N Y Sample ID	Three	Day	Depth	Date	Time	of Cntrs	M18-MOD							Shipped Via: F	Sample # (lab only)		
Darr Z pump on Darr Z pump of Darr I pump on Darr I pump of		Air		10/6/21			X					5			- 0		
Derr 2 pumpoff		Air	-		1012										- 0		
Durr Pumpon		Air	-	-	10 30	13.6				- 10							
Pull Dump UT		Air		1	1035		V	- 1									
					-	T part											
					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1												
		-	-			-	100										
SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	emarks:	7/1-								pH	Tem		COC Sea COC Sig Bottles Correct	Sample Receipt C al Present/Intact gned/Accurate: s arrive intact; t bottles used:	: X N		
OT - Other	amples returne _UPS FedE		7		cking #				17.	rin Blank P	eceived: Y	es / No	VOA Zer	If Applicable VOA Zero Headspace: Preservation Correct/Checked: Y			
Relinquished by : (Signature)		10/6/		27 1	eived by: (Sign	a C	Has	rell				HCL / MeoH TBR tles Received:		reen <0.5 mR/hr:	gin: Date/Time		
Retinquished by: (Signature)		Date: 10/6/6	20 Tim	Bico E	eived by: Gign	1		/	F	mpi	. Tin	3	Hold:	Taxion requires by Ec	Condition:		
Relinquished by : (Signature)		Date:	Tim	ne: Rec	eived for lab b	y: (Signa	iture)			(6)7/	20	8:00	noiu.		NCF / OK		

Troy Dunlap



LC	Login #: L1270300	Client:	Client: PLAINSGHD	Date: 10/7/20	Evaluated by: Troy Dunlap
N	Non-Conformance (check applicable items)	neck appl	licable items)		
	Sample Integrity		Chain of Custody Clarification	ion	
	Parameter(s) past holding time	ding	Login Clarification Needed		If Broken Container:
	Temperature not in range		Chain of custody is incomplete	te	Insufficient packing material around container
	Improper container type		Please specify Metals requested.	ted.	Insufficient packing material inside cooler
	pH not in range.		Please specify TCLP requested.	d.	Improper handling by carrier (FedEx / UPS / Cou
	Insufficient sample volume.	olume.	Received additional samples not listed on coc.	not listed on coc.	Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc	not match ids on	Container lid not intact
	Vials received with headspace.	adsbace.	Trip Blank not received.		If no Chain of Custody:
×	X Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample rema	ins			Temp./Cont. Rec./pH:
					Carrier:
					77 - 72 - 62

Login Comments: Tedlar received broken for DARR 1 PUMP OFF.

Client informed by:	Call	Email	Voice Mail	Date: 10/7/20	Time: 1315
TSR Initials: MB	Client Conta	ct: Becky Has	skell		

STOTISTICTIONS

Client notified



ANALYTICAL REPORT

October 19, 2020

Plains All American, LP - GHD

L1271456 Sample Delivery Group:

Samples Received: 10/09/2020

Project Number: 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Enica Mc Neese

Erica McNeese Project Manager

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

















Cp: Cover Page	1
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
DARR 1 PUMP OFF L1271456-01	9
Qc: Quality Control Summary	10
Volatile Organic Compounds (MS) by Method M18-Mod	10
GI: Glossary of Terms	11
Al: Accreditations & Locations	12
Sc. Sample Chain of Custody	13





















SAMPLE SUMMARY



DARR 1 PUMP OFF L1271456-01 Air			Collected by Glenn Quinney	Collected date/time 10/07/20 13:40	Received date 10/09/20 09:0	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (MS) by Method M18-Mod	WG1556779	2000	10/09/20 19:35	10/09/20 19:35	DAH	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.



Erica McNeese Project Manager























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

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

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

Enica Mc Neese

Erica McNeese Project Manager

Revised May 2010 Laboratory Review Checklist: Reportable Data



Lab	orato	ry Name: Pace Analytical National	LRC Date: 10/19/2020 16:14									
Proj	ect N	lame: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1271456-01									
Rev	iewe	r Name: Erica McNeese	Prep Batch Number(s): WG1556779									
# 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?	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?	Х								
		Are all laboratory ID numbers cross-referenced to the	corresponding QC data?	Х								
R3	OI	Test reports										
		Were all samples prepared and analyzed within holdin	g times?	Х								
		Other than those results < MQL, were all other raw value	ues bracketed by calibration standards?	Х								
		Were calculations checked by a peer or supervisor?		Х								
		Were all analyte identifications checked by a peer or s	upervisor?	Х								
		Were sample detection limits reported for all analytes	not detected?	Х								
		Were all results for soil and sediment samples reported	d on a dry weight basis?	Х								
		Were % moisture (or solids) reported for all soil and see	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?		X								
		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?	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?	Х								
		Were LCSs analyzed at the required frequency?		Х								
		Were LCS (and LCSD, if applicable) %Rs within the laborated within the l	pratory QC limits?	Х								
		Does the detectability check sample data document thused 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) dat	a									
		Were the project/method specified analytes included i	n the MS and MSD?			Х						
		Were MS/MSD analyzed at the appropriate frequency?				Х						
		Were MS (and MSD, if applicable) %Rs within the labor	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	owest 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 in	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 Land methods associated with this laboratory data pack	aboratory Accreditation Program for the analytes, matrices rage?	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: 10/19/2020 16:14									
Proj	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1271456-01									
Rev	viewe	er Name: Erica McNeese	Prep Batch Number(s): WG1556779									
# ¹	A ²	Description		Yes	No	NA ³	NR⁴	ER# ⁵				
S1	OI	Initial calibration (ICAL)										
		Were response factors and/or relative response factor	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		1						
		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			1					
		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 freque	ncy?	Х								
		Were percent differences for each analyte within the n	•	X		1						
		Was the ICAL curve verified for each analyte?	·	Х			1					
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?			X	İ					
S3	0	Mass spectral tuning	ÿ			•	•					
		Was the appropriate compound for the method used f	or tuning?	Х								
		Were ion abundance data within the method-required		X								
S4	0	Internal standards (IS)				•	•					
		Were IS area counts and retention times within the me	thod-required QC limits?	X			Τ					
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								
		Were data associated with manual integrations flagged	Х									
S6	0	Dual column confirmation					•					
		Did dual column confirmation results meet the method	-required QC?	\neg		X						
S7	0	Tentatively identified compounds (TICs)	·									
		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?	\neg		X						
S8	I	Interference Check Sample (ICS) results				•	•					
		Were percent recoveries within method QC limits?				X						
S9	I	Serial dilutions, post digestion spikes, and method of s	standard additions			•		•				
		Were percent differences, recoveries, and the linearity	within the QC limits specified in the method?	\Box		X						
S10	OI	Method detection limit (MDL) studies			•	•						
		Was a MDL study performed for each reported analyte	?	Х								
		Is the MDL either adjusted or supported by the analysi	s of DCSs?	Х		1						
S11	OI	Proficiency test reports										
		Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	Х								
S12	OI	Standards documentation				•		•				
		Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	Х								
S13	OI	Compound/analyte identification procedures										
		Are the procedures for compound/analyte identification	n documented?	Х								
S14	OI	Demonstration of analyst competency (DOC)			•	•						
		Was DOC conducted consistent with NELAC Chapter !	5?	Х								
		Is documentation of the analyst's competency up-to-da	ate and on file?	X								
S15	OI	Verification/validation documentation for methods (NE										
		Are all the methods used to generate the data docume	ented, verified, and validated, where applicable?	Х								
S16	OI	Laboratory standard operating procedures (SOPs)										
		Are laboratory SOPs current and on file for each metho	od performed	Х								
4 11			·		1			"C"				

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;
 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



ED #1 Description	The Batter Hamber(o). We look 7.75
Reviewer Name: Erica McNeese	Prep Batch Number(s): WG1556779
Project Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1271456-01
Laboratory Name: Pace Analytical National	LRC Date: 10/19/2020 16:14

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. NAPage 246 of \$16

Collected date/time: 10/07/20 13:40

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	<u>Batch</u>
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	400	1280	15500	49500		2000	WG1556779
Toluene	108-88-3	92.10	400	1510	28400	107000		2000	WG1556779
Ethylbenzene	100-41-4	106	400	1730	6870	29800		2000	WG1556779
m&p-Xylene	1330-20-7	106	800	3470	14900	64600		2000	WG1556779
o-Xylene	95-47-6	106	400	1730	4780	20700		2000	WG1556779
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1556779
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1940000	8010000		2000	WG1556779
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.5				WG1556779





















Volatile Organic Compounds (MS) by Method M18-Mod

QUALITY CONTROL SUMMARY

ONE LAB. NAPage 247 of 316

L1271456-01

Method Blank (MB)

(MB) R3580018-3 10/09/2	0 09:45			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	93.9			60.0-140

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

(LCS) R3580018-1 10/09/	20 08:30 • (LCS	ID) R3580018	-2 10/09/20 09	:08							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%	
MTBE	3.75	3.72	3.81	99.2	102	70.0-130			2.39	25	
Benzene	3.75	3.80	3.82	101	102	70.0-130			0.525	25	
Toluene	3.75	3.81	3.78	102	101	70.0-130			0.791	25	
Ethylbenzene	3.75	3.84	3.84	102	102	70.0-130			0.000	25	
m&p-Xylene	7.50	7.77	7.74	104	103	70.0-130			0.387	25	
o-Xylene	3.75	3.81	3.83	102	102	70.0-130			0.524	25	
TPH (GC/MS) Low Fraction	203	224	224	110	110	70.0-130			0.000	25	
(S) 1,4-Bromofluorobenzene	1			99.0	98.8	60.0-140					























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.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
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.
0 1:6	6

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 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.





















Received by OCD: 4/5/2021	ceived by OCD: 4/5/2021 1:18:42 PM Billing Information:							Analy	sis / Cont	ainer / Pre	servative		Chain of Custody Page 250 of 3			
Plains All American, LP - GHD 2135 S Loop 250W Midland, TX 79703		Attn: Camille Bryant 10 Desta Dr., Ste. 550E Midland, TX 79705			Pres Chk									Analytical® enter for Testing & Innovation		
Report to:			Email To: becky.haskell@ghd.com											12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-58	7122	
Becky Haskell Project Description: Darr Angell #1 SRS	Darr Angell	#1	,	City/State Collected:										Phone: 800-767-58 Fax: 615-758-5859	" , 1	
Phone: 432-250-7917	Client Project # 11209885/02			Lab Project # PLAINSGHD-11209885										D167	U27145	
Collected by (print):	Site/Facility ID Darr Angel			P.O. #			L G					Acctnum:				
Collected by (signature):	Rush? (Lab MUST Be Notified)Same DayFive Day			Quote #		1	Tedlar							Template: Prelogin:		
Immediately Packed on Ice N Y			y (Rad Only)	Date Res	ults Needed	No.	M18-MOD							TSR: PB:		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	M18							Shipped Via:	Sample # (lab only)	
Darr 1 Pump Off		Air		10/7/20	1340	12	×								-01	
					2											
La nicesi		-	-													
						+										
	-					-										
						+										
						+		4								
						1										
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:					8				pH Temp				Sample Receipt Checklist COC Seal Present/Intact: NP Y N COC Signed/Accurate: Y N Bottles arrive intact: Y N Correct bottles used: Y N		
WW - WasteWater DW - Drinking Water OT - Other		Samples returned via:UPSFedExCourier			Tracking #								Sufficient volume sent: If Applicable VOA Zero Headspace: Y N			
Relinquished by: (Signature)	Date: Time:			Time:	Received by: (Sign	ature)	7 0			Trip Blank Received: Yes / No HCL / MeoH					Correct/Checked: _Y _N	
Relinquished by: (Signature) Relinquished by: (Signature) Released to Imaging: 1/11/2022 3:52:36 PM		Date:	Time: Received by: (Signa							Temp: °C Bottles Received:				If preservation required by Login: Date/Time		
				Received for lab by		Date: Time: Ho						Condition: NCF / OK				



ANALYTICAL REPORT

November 12, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1281179

Samples Received: 11/03/2020

Project Number: 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

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 VSOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



















Cp: Cover Page	1			
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-4R L1281179-01	10			
MW-11R L1281179-02	11			
MW-16R L1281179-03	12			
MW-17R L1281179-04	13			
MW-18R L1281179-05	14			
MW-19R L1281179-06	15			
MW-20R L1281179-07	16			
MW-21R L1281179-08	17			
MW-22 L1281179-09	18			
MW-24 L1281179-10	19			
MW-25 L1281179-11	20			
MW-7 L1281179-12	21			
MW-12R L1281179-13	22			
RW-12 L1281179-14	23			
DUP-1 L1281179-16	24			
Qc: Quality Control Summary	25			
Volatile Organic Compounds (GC) by Method 8021B				
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	28			
GI: Glossary of Terms				
Al: Accreditations & Locations				



















Sc: Sample Chain of Custody

32



MW-4R L1281179-01 GW			Collected by Zach Comino	Collected date/time 11/02/20 08:25	Received da 11/03/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572605	1	11/07/20 08:14	11/07/20 08:14	TPR	Mt. Juliet, TN
MW-11R L1281179-02 GW			Collected by Zach Comino	Collected date/time 11/02/20 08:50	Received da 11/03/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572605	1	11/07/20 08:36	11/07/20 08:36	TPR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1571756	1	11/05/20 22:15	11/06/20 11:32	SHG	Mt. Juliet, TN
WWW.4CD 14204470 02 CW			Collected by Zach Comino	Collected date/time 11/02/20 09:15	Received da 11/03/20 09:	
MW-16R L1281179-03 GW	0.11	D:1 ::				
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572605	1	11/07/20 08:58	11/07/20 08:58	TPR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1571756	1	11/05/20 22:15	11/06/20 11:50	SHG	Mt. Juliet, TN
			Collected by	Collected date/time		
MW-17R L1281179-04 GW			Zach Comino	11/02/20 09:30	11/03/20 09:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572643	1	date/time 11/07/20 15:13	11/07/20 15:13	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-18R L1281179-05 GW			Zach Comino	11/02/20 09:50	11/03/20 09:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572643	1	date/time 11/07/20 15:34	date/time 11/07/20 15:34	BMB	Mt. Juliet, TN
MW-19R L1281179-06 GW			Collected by Zach Comino	Collected date/time 11/02/20 10:05	Received da 11/03/20 09:	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
(4)	W04570040		date/time	date/time	5145	
/olatile Organic Compounds (GC) by Method 8021B	WG1572643	1	11/07/20 15:55	11/07/20 15:55	BMB	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-20R L1281179-07 GW			Zach Comino	11/02/20 10:30	11/03/20 09:	30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572643	1	11/07/20 16:15	11/07/20 16:15	ВМВ	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-21R L1281179-08 GW			Zach Comino	11/02/20 10:45	11/03/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572643	1	11/07/20 16:36	11/07/20 16:36	BMB	Mt. Juliet, TI





















MW-22 L1281179-09 GW			Collected by Zach Comino	Collected date/time 11/02/20 11:05	Received da: 11/03/20 09:	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1572643	1	11/07/20 16:58	11/07/20 16:58	BMB	Mt. Juliet, TN
MW-24 L1281179-10 GW			Collected by Zach Comino	Collected date/time 11/02/20 11:30	Received da 11/03/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1572643	1	11/07/20 17:19	11/07/20 17:19	BMB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1571756	1	11/05/20 22:15	11/06/20 12:24	SHG	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-25 L1281179-11 GW			Zach Comino	11/02/20 12:00	11/03/20 09:	30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1572643	1	11/07/20 17:39	11/07/20 17:39	BMB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1571756	1	11/05/20 22:15	11/06/20 12:42	SHG	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-7 L1281179-12 GW			Zach Comino	11/02/20 12:45	11/03/20 09:	30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1572643	1	11/07/20 18:00	11/07/20 18:00	BMB	Mt. Juliet, TN
MW-12R L1281179-13 GW			Collected by Zach Comino	Collected date/time 11/02/20 13:05	Received da 11/03/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1572855	1	11/07/20 18:04	11/07/20 18:04	DWR	Mt. Juliet, TN
RW-12 L1281179-14 GW			Collected by Zach Comino	Collected date/time 11/02/20 13:35	Received da 11/03/20 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1572855	1	11/07/20 18:26	11/07/20 18:26	DWR	Mt. Juliet, TN
DUD 4 1 40 044 70 46 CW			Collected by Zach Comino	Collected date/time 11/02/20 00:00	Received da 11/03/20 09:	
DUP-1 L1281179-16 GW Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time	-	





















Volatile Organic Compounds (GC) by Method 8021B

WG1572855

11/07/20 18:48

11/07/20 18:48

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.

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: 11/12/2020 11:29							
Pro	ject N	lame: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1281179-01, 02, 03, 04, 05, and 16	06, 07	7, 08, 09	9, 10, 1	1, 12, 13	3, 14		
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1571756, WG1572605, WG1	G1572855 and WG1572643						
# 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	d in an exception report?			Х	İ			
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	,	Х						
R3	OI	Test reports	orresponding are detailed		1					
	-	Were all samples prepared and analyzed within holding	times?	Х	Т	I	Π			
		Other than those results < MQL, were all other raw value		Х				<u> </u>		
		Were calculations checked by a peer or supervisor?	es stacketed by calibration standards.	X						
		Were all analyte identifications checked by a peer or su	nervisor?	X						
		Were sample detection limits reported for all analytes n		X				 		
		Were all results for soil and sediment samples reported		X				 		
		Were % moisture (or solids) reported for all soil and sed	, ,	<u> </u>	1	Х		 		
		Were bulk soils/solids samples for volatile analysis extra	'		-	X		 		
		If required for the project, are TICs reported?	acted with methanor per 3wo+o method 3000:		1	X	 	 		
R4	То	Surrogate recovery data		L			L			
117	10			Х	Т	Π	T			
		Were surrogates added prior to extraction? Were surrogate percent recoveries in all samples within	a the Jaharatany OC limits?	X			 			
R5	OI	Test reports/summary forms for blank samples	Title laboratory QC limits:							
КЭ	TOI			l v	Т	T	T			
		Were appropriate type(s) of blanks analyzed?		X	1		 	\vdash		
		Were blanks analyzed at the appropriate frequency?	I process including properation and if applicable					├──		
		Were method blanks taken through the entire analytica cleanup procedures?	r process, including preparation and, it 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 proce	edure, including prep and cleanup steps?	Х						
		Were LCSs analyzed at the required frequency?	-	Х						
		Were LCS (and LCSD, if applicable) %Rs within the labor	ratory QC limits?	Х						
		Does the detectability check sample data document the	e laboratory's capability to detect the COCs at the MDL	Х						
		used to calculate the SDLs?					<u> </u>			
		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 MS and MSD?	X			<u> </u>	├		
		Were MS/MSD analyzed at the appropriate frequency?		X						
		Were MS (and MSD, if applicable) %Rs within the labora	tory QC limits?	X	-		ļ	Ь——		
		Were MS/MSD RPDs within laboratory QC limits?		Х	<u> </u>					
R8	OI	Analytical duplicate data								
		Were appropriate analytical duplicates analyzed for each				Х		<u> </u>		
		Were analytical duplicates analyzed at the appropriate	1 ,			Х				
		Were RPDs or relative standard deviations within the lal	boratory QC limits?	<u> </u>		X	<u> </u>			
R9	OI	Method quantitation limits (MQLs):					_			
		Are the MQLs for each method analyte included in the I	X							
		Do the MQLs correspond to the concentration of the lov		X			_	 		
		Are unadjusted MQLs and DCSs included in the laborat	ory data package?	X						
R10	OI	Other problems/anomalies			_	1	T			
		Are all known problems/anomalies/special conditions n		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 packa	boratory Accreditation Program for the analytes, matrices age?	Х						
4 11	mo ida	ntified by the letter "D" must be included in the laborator	-		dontific		•			

^{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: 11/12/2020 11:29							
Pro	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1281179-01, 02, 03, 04, and 16	05, 06, 07	, 08, 0	9, 10, 1	1, 12, 13	3, 14		
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1571756, WG1572605,	WG157285	5 and	WG157	2643			
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵		
S1	OI	Initial calibration (ICAL)			•			•		
	_	Were response factors and/or relative response factor	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	,	X						
		Are ICAL data available for all instruments used?		Х		1	1			
		Has the initial calibration curve been verified using an	appropriate second source standard?	X						
S2	OI	Initial and continuing calibration verification (ICCV and		1 ~						
02	01	Was the CCV analyzed at the method-required frequent	<u> </u>	X	Τ		T			
		Were percent differences for each analyte within the n		X	\vdash	1	 			
		Was the ICAL curve verified for each analyte?	nemou required do inino.	X	\vdash	+-	\vdash	 		
		Was the absolute value of the analyte concentration in	the inerganic CCR < MDI 2	^		X	 			
S3	0	Mass spectral tuning	Title morganic CCB > MDE:				<u> </u>			
33	10	Was the appropriate compound for the method used for	or tuning?	T X	Т	T	Т	1		
				$\frac{\lambda}{x}$	<u> </u>		 			
S4	0	Were ion abundance data within the method-required	QC IIIIIIS!		<u> </u>					
34	10	Internal standards (IS)	the adversariant OC limites		Т	Т	т —	Г		
CE	Tai	Were IS area counts and retention times within the me	inoa-required QC infints:	X						
S5	OI	Raw data (NELAC Section 5.5.10)	tual alata Vara dance al laccara analoga 2	T v	T .	T	Т	ı		
		Were the raw data (for example, chromatograms, spec		X	-	+	 	-		
00	Ι.	Were data associated with manual integrations flagged	on the raw data?	X			<u> </u>			
S6	0	Dual column confirmation				1 1/				
67	To	Did dual column confirmation results meet the method	-required QC?		<u> </u>	X				
S7	0	Tentatively identified compounds (TICs)				Т.,	т —			
	1.	If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?			X	<u> </u>			
S8		Interference Check Sample (ICS) results			1	1				
	1.	Were percent recoveries within method QC limits?				X	<u> </u>			
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				
S10	OI	Method detection limit (MDL) studies		T		1	т			
		Was a MDL study performed for each reported analyte		X			ļ			
		Is the MDL either adjusted or supported by the analysi	s of DCSs?	X	<u> </u>		<u> </u>			
S11	OI	Proficiency test reports					,			
		Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	X			<u> </u>			
S12	OI	Standards documentation				,				
	_	Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X						
S13	OI	Compound/analyte identification procedures								
		Are the procedures for compound/analyte identification	n documented?	X	<u> </u>	1	<u> </u>			
S14	OI	Demonstration of analyst competency (DOC)								
		Was DOC conducted consistent with NELAC Chapter 5	5?	Х		1				
		Is documentation of the analyst's competency up-to-da		Х		1				
S15	OI	Verification/validation documentation for methods (NE	LAC Chapter 5)							
		Are all the methods used to generate the data docume	ented, verified, and validated, where applicable?	Х						
S16	OI	Laboratory standard operating procedures (SOPs)								
		Are laboratory SOPs current and on file for each method	od performed	Х						

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 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010 Revised May 2010



ER #1	Description					
Reviewer	Name: Mark W. Beasley	Prep Batch Number(s): WG1571756, WG1572605, WG1572855 and WG1572643				
Project N	lame: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1281179-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 and 16				
Laborato	ry Name: Pace Analytical National	LRC Date: 11/12/2020 11:29				

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. NAPage 260 of \$16

Collected date/time: 11/02/20 08:25

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000402	<u>J</u>	0.000190	0.000500	0.000500	1	11/07/2020 08:14	WG1572605
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 08:14	WG1572605
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 08:14	WG1572605
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 08:14	WG1572605
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/07/2020 08:14	WG1572605





















ONE LAB. NAPage 261 of 316

Collected date/time: 11/02/20 08:50

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	11/07/2020 08:36	WG1572605
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 08:36	WG1572605
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 08:36	WG1572605
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 08:36	WG1572605
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/07/2020 08:36	WG1572605



3	Ss	



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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/06/2020 11:32	WG1571756
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/06/2020 11:32	WG1571756
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 11:32	WG1571756
1-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/06/2020 11:32	WG1571756
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/06/2020 11:32	WG1571756
(S) Nitrobenzene-d5	118				31.0-160		11/06/2020 11:32	WG1571756
(S) 2-Fluorobiphenyl	100				48.0-148		11/06/2020 11:32	WG1571756
(S) p-Terphenyl-d14	88.5				37.0-146		11/06/2020 11:32	WG1571756













ONE LAB. NAPage 262 of \$16

Collected date/time: 11/02/20 09:15

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	11/07/2020 08:58	WG1572605
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 08:58	WG1572605
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 08:58	WG1572605
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 08:58	WG1572605
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/07/2020 08:58	WG1572605



³ Ss



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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/06/2020 11:50	WG1571756
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
ndeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/06/2020 11:50	WG1571756
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 11:50	WG1571756
-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/06/2020 11:50	WG1571756
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/06/2020 11:50	WG1571756
(S) Nitrobenzene-d5	119				31.0-160		11/06/2020 11:50	WG1571756
(S) 2-Fluorobiphenyl	105				48.0-148		11/06/2020 11:50	WG1571756
(S) p-Terphenyl-d14	94.0				37.0-146		11/06/2020 11:50	WG1571756











ONE LAB. NA Page 263 of 316

Collected date/time: 11/02/20 09:30

L1281179

	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	11/07/2020 15:13	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 15:13	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 15:13	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 15:13	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/07/2020 15:13	WG1572643





















ONE LAB. NAPage 264 of \$16

Collected date/time: 11/02/20 09:50

L1281179

	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	11/07/2020 15:34	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 15:34	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 15:34	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 15:34	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/07/2020 15:34	WG1572643





















ONE LAB. NA Page 265 of \$16

Collected date/time: 11/02/20 10:05

L1281179

	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	11/07/2020 15:55	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 15:55	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 15:55	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 15:55	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/07/2020 15:55	WG1572643





















ONE LAB. NAPage 266 of \$16

Collected date/time: 11/02/20 10:30

	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	11/07/2020 16:15	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 16:15	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 16:15	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 16:15	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/07/2020 16:15	WG1572643





















ONE LAB. NA Page 267 of 316

Collected date/time: 11/02/20 10:45

	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	11/07/2020 16:36	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 16:36	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 16:36	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 16:36	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		11/07/2020 16:36	WG1572643



	1
3 C C	
25	

⁴Cn

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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/06/2020 12:07	WG1571756
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/06/2020 12:07	WG1571756
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 12:07	WG1571756
1-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/06/2020 12:07	WG1571756
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/06/2020 12:07	WG1571756
(S) Nitrobenzene-d5	111				31.0-160		11/06/2020 12:07	WG1571756
(S) 2-Fluorobiphenyl	91.0				48.0-148		11/06/2020 12:07	WG1571756
(S) p-Terphenyl-d14	66.0				37.0-146		11/06/2020 12:07	WG1571756











ONE LAB. NAPage 268 of \$16

Collected date/time: 11/02/20 11:05

L1281179

	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	11/07/2020 16:58	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 16:58	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 16:58	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 16:58	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/07/2020 16:58	WG1572643





















ONE LAB. NAPage 269 of \$16

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

L1281179

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	11/07/2020 17:19	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 17:19	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 17:19	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 17:19	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/07/2020 17:19	WG1572643

[']Cp



³ Ss

|--|

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

	Result	<u>Qualifier</u>	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/06/2020 12:24	WG1571756
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/06/2020 12:24	WG1571756
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 12:24	WG1571756
1-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/06/2020 12:24	WG1571756
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/06/2020 12:24	WG1571756
(S) Nitrobenzene-d5	122				31.0-160		11/06/2020 12:24	WG1571756
(S) 2-Fluorobiphenyl	108				48.0-148		11/06/2020 12:24	WG1571756
(S) p-Terphenyl-d14	100				37.0-146		11/06/2020 12:24	WG1571756













ONE LAB. NAPage 270 of \$16

Collected date/time: 11/02/20 12:00

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	11/07/2020 17:39	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 17:39	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 17:39	WG1572643
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 17:39	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/07/2020 17:39	WG1572643



55

Cn

⁵ Tr











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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Acenaphthene	U		0.0000190	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Acenaphthylene	U		0.0000171	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Benzo(a)anthracene	U		0.0000203	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Benzo(a)pyrene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Benzo(b)fluoranthene	U		0.0000168	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Benzo(k)fluoranthene	U		0.0000202	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Chrysene	U		0.0000179	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Dibenzofuran	U		0.0000191	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Fluoranthene	U		0.0000270	0.000100	0.000100	1	11/06/2020 12:42	WG1571756
Fluorene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Naphthalene	U		0.0000917	0.000250	0.000250	1	11/06/2020 12:42	WG1571756
Phenanthrene	U		0.0000180	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
Pyrene	U		0.0000169	0.0000500	0.0000500	1	11/06/2020 12:42	WG1571756
1-Methylnaphthalene	U		0.0000687	0.000250	0.000250	1	11/06/2020 12:42	WG1571756
2-Methylnaphthalene	U		0.0000674	0.000250	0.000250	1	11/06/2020 12:42	WG1571756
(S) Nitrobenzene-d5	108				31.0-160		11/06/2020 12:42	WG1571756
(S) 2-Fluorobiphenyl	96.5				48.0-148		11/06/2020 12:42	WG1571756
(S) p-Terphenyl-d14	84.5				37.0-146		11/06/2020 12:42	WG1571756

ONE LAB. NAPage 271 of 316

Collected date/time: 11/02/20 12:45

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	0.000747		0.000190	0.000500	0.000500	1	11/07/2020 18:00	WG1572643
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 18:00	WG1572643
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 18:00	WG1572643
Total Xylene	0.00107	<u>J</u>	0.000510	0.00150	0.00150	1	11/07/2020 18:00	WG1572643
(S) a,a,a-Trifluorotoluene(PID)	99.4				<i>79.0-125</i>		11/07/2020 18:00	WG1572643





















ONE LAB. NAPage 272 of \$16

Collected date/time: 11/02/20 13:05

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000395	<u>J</u>	0.000190	0.000500	0.000500	1	11/07/2020 18:04	WG1572855
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 18:04	WG1572855
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 18:04	WG1572855
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 18:04	WG1572855
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/07/2020 18:04	WG1572855





















ONE LAB. NA Page 273 of \$16

Collected date/time: 11/02/20 13:35

	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	11/07/2020 18:26	WG1572855
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 18:26	WG1572855
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 18:26	WG1572855
Total Xylene	0.00349		0.000510	0.00150	0.00150	1	11/07/2020 18:26	WG1572855
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/07/2020 18:26	WG1572855





















ONE LAB. NAPage 274 of \$16

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

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000846		0.000190	0.000500	0.000500	1	11/07/2020 18:48	WG1572855
Toluene	U		0.000412	0.00100	0.00100	1	11/07/2020 18:48	WG1572855
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/07/2020 18:48	WG1572855
Total Xylene	U		0.000510	0.00150	0.00150	1	11/07/2020 18:48	WG1572855
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/07/2020 18:48	WG1572855





















Volatile Organic Compounds (GC) by Method 8021B

QUALITY CONTROL SUMMARY

ONE LAB. NA Page 275 of 316

L1281179-01,02,03

Method Blank (MB)

(MB) R3591558-2 11/07/20 02:22 MB MDL MB RDL MB Result MB Qualifier 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) 79.0-125 101

Laboratory Control Sample (LCS)

(LCS) R3591558-1 11/07/2	20 00:54				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0426	85.2	77.0-122	
Toluene	0.0500	0.0468	93.6	80.0-121	
Ethylbenzene	0.0500	0.0515	103	80.0-123	
Total Xylene	0.150	0.147	98.0	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			100	79.0-125	





















ONE LAB. NA Page 276 of 316

Volatile Organic Compounds (GC) by Method 8021B

L1281179-04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3592005-2 11/07/2	20 10:39			
	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)	102			79.0-125

2_









(LCS) R3592005-3 11/07	/20 11:00				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0493	98.6	77.0-122	
Toluene	0.0500	0.0492	98.4	80.0-121	
Ethylbenzene	0.0500	0.0503	101	80.0-123	
Total Xylene	0.150	0.159	106	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	











L1281179-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

) L1281179-04 11/07/20 15:13 • (MS) R3592005-4 11/07/20 18:42 • (MSD) R35920	05-5 11/07/20 19:0
--	--	--------------------

, ,	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	U	0.0417	0.0469	83.4	93.8	1	10.0-160			11.7	21
Toluene	0.0500	U	0.0416	0.0462	83.2	92.4	1	12.0-148			10.5	21
Ethylbenzene	0.0500	U	0.0418	0.0468	83.6	93.6	1	22.0-149			11.3	21
Total Xylene	0.150	U	0.132	0.146	88.0	97.3	1	13.0-155			10.1	21
(S) a,a,a-Trifluorotoluene(PID)					101	101		79.0-125				

ONE LAB. NAPage 277 of 316

L1281179-13,14,16

Volatile Organic Compounds (GC) by Method 8021B

Method Blank (MB)

(MB) R3591891-3 11/07/2	0 13:46			
	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) R3591891-1 11/07/2	0 11:00				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0432	86.4	77.0-122	
Toluene	0.0500	0.0473	94.6	80.0-121	
Ethylbenzene	0.0500	0.0518	104	80.0-123	
Total Xylene	0.150	0.148	98.7	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			101	79.0-125	





















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

L1281179-02,03,08,10,11

Method Blank (MB)

(MB) R3590412-3 11/06	/20 09:14				~
	MB Result	MB Qualifier	MB MDL	MB RDL	2
Analyte	mg/l		mg/l	mg/l	² T
Anthracene	U		0.0000190	0.0000500	
Acenaphthene	U		0.0000190	0.0000500	³ S
Acenaphthylene	U		0.0000171	0.0000500	Ľ
Benzo(a)anthracene	U		0.0000203	0.0000500	4
Benzo(a)pyrene	U		0.0000184	0.0000500	⁴ C
Benzo(b)fluoranthene	U		0.0000168	0.0000500	\vdash
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	⁵ T
Benzo(k)fluoranthene	U		0.0000202	0.0000500	Ľ
Chrysene	U		0.0000179	0.0000500	6
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	⁶ S
Fluoranthene	U		0.0000270	0.000100	
Fluorene	U		0.0000169	0.0000500	⁷ G
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	Ũ
Naphthalene	U		0.0000917	0.000250	8
Phenanthrene	U		0.0000180	0.0000500	⁸ G
Pyrene	U		0.0000169	0.0000500	
1-Methylnaphthalene	U		0.0000687	0.000250	⁹ A
2-Methylnaphthalene	U		0.0000674	0.000250	
Dibenzofuran	U		0.0000191	0.0000500	10_
(S) Nitrobenzene-d5	117			31.0-160	¹⁰ S
(S) 2-Fluorobiphenyl	105			48.0-148	
(S) p-Terphenyl-d14	99.0			37.0-146	

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

(LCS) R3590412-1 11/06/2	20 08:39 • (LCSE	D) R3590412-2	2 11/06/20 08:5	57							
	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	%	%	%			%	%	
Dibenzofuran	0.00200	0.00203	0.00204	102	102	67.0-134			0.491	20	
Anthracene	0.00200	0.00206	0.00204	103	102	67.0-150			0.976	20	
Acenaphthene	0.00200	0.00202	0.00202	101	101	65.0-138			0.000	20	
Acenaphthylene	0.00200	0.00224	0.00224	112	112	66.0-140			0.000	20	
Benzo(a)anthracene	0.00200	0.00184	0.00184	92.0	92.0	61.0-140			0.000	20	
Benzo(a)pyrene	0.00200	0.00171	0.00183	85.5	91.5	60.0-143			6.78	20	
Benzo(b)fluoranthene	0.00200	0.00168	0.00185	84.0	92.5	58.0-141			9.63	20	
Benzo(g,h,i)perylene	0.00200	0.00159	0.00176	79.5	88.0	52.0-153			10.1	20	
Benzo(k)fluoranthene	0.00200	0.00177	0.00182	88.5	91.0	58.0-148			2.79	20	
Chrysene	0.00200	0.00189	0.00198	94.5	99.0	64.0-144			4.65	20	
Dibenz(a,h)anthracene	0.00200	0.00160	0.00173	80.0	86.5	52.0-155			7.81	20	



ONE LAB. NA Page 278 of 316















ONE LAB. NAPage 279 of 316

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

L1281179-02,03,08,10,11

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

(LCS) R3590412-1	11/06/20 08:39 •	(LCSD) R3590412-2 11/06/20 08:57	7

	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	%	%	%			%	%
Fluoranthene	0.00200	0.00217	0.00207	108	104	69.0-153			4.72	20
Fluorene	0.00200	0.00211	0.00224	105	112	64.0-136			5.98	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00158	0.00169	79.0	84.5	54.0-153			6.73	20
Naphthalene	0.00200	0.00206	0.00209	103	104	61.0-137			1.45	20
Phenanthrene	0.00200	0.00198	0.00191	99.0	95.5	62.0-137			3.60	20
Pyrene	0.00200	0.00187	0.00187	93.5	93.5	60.0-142			0.000	20
1-Methylnaphthalene	0.00200	0.00209	0.00207	104	104	66.0-142			0.962	20
2-Methylnaphthalene	0.00200	0.00197	0.00194	98.5	97.0	62.0-136			1.53	20
(S) Nitrobenzene-d5				130	120	31.0-160				
(S) 2-Fluorobiphenyl				105	105	48.0-148				
(S) p-Terphenyl-d14				89.0	96.0	37.0-146				





















Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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.

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, L	IP-GHD			Billing Information: Attn: Camille Bryant Pres					Analysis / Container / Preservative					Chain of Custody Page						
2135 S Loop 250 W Midland, TX 79703		10 Desta Dr., St			10 Desta Dr., Ste. 550E Midland, TX 79705										Pace					
Report to: Becky Haskell			Email To: becky.has					Email To: becky.haskell@ghd.com;glenn.quinney@ghd.co			ghd.co									ount Juliet, TN 37122
Project Description: Darr Angell #1 SRS Darr Angell #1		City/State Collected:	1011	witton	191	Please Ci			5			1 1 1 1 1 1			Phone: 615-758-58 Phone: 800-767-58 Fax: 615-758-5859					
Phone: 432-250-7917	1120988			Zab Proje	LUIV	\sim			40mlAmb-NoPres-WT						spg # /2 F09	8117				
Collected by (paint): Zach Comins	Site/Facility SRS DARI	ID# R ANGELL#	1	P.O. #		. 6			oN-dn						Acctnum: PL					
Collected by (signature):		(Lab MUST Be		Quote #				DH-0	T An						Template T 1					
SA-C	Same Next		y (Rad Only)	Date	Results Ne	eeded	1	1/Amb-	140		100				Prelogin: P.81					
Packed on Ice NY_	Three		ay((Rad Only)				of	400	N.						Par .					
MW-4R	Gral	GW	1 4 4 4 4	11/2/	-0/	0825	17	10/m	الرود ا ا	166	- Possiti	AT .		Ladina		1 15 100				
MW-IIR	Grab	GW		1/2/2				S	V											
MW-16R	1	GW	-	145/0		850		2	8				1 (6.75)							
WW-17R		GW				930		8	~		Elizabeth Communication of the				- 3/4	7				
MW-18R		GW				950	1	8			- Just 4									
MW-19R		GW			10	2005	2	V			12178101					-				
MW-20R		GW	3.5		16	930	3	D			9.61				15 H.					
MW-ZOR MW-ZIR		GW			11	245	-	8	D				4		-	-				
MW-22		GW	4.78		1/	05	3	0	20							-				
MW-24	V	GW		6			-	0	20	-					1	-				
S - Soil AIR - Air F - Filter W - Groundwater B - Bioassay /W - WasteWater	lemarks:								- Line		pH	Tem;		COC Signe Bottles-a	rtesen / / tack d/Accurate: rrive intact:	; ⊘ \ N₽				
1 - Other	amples returned UPS FedEx			1	racking#	908	50	08	594	10-	182			Suff. Disc						
elinguished by : (Signature)	D	1/2/20	Time: 155		eceived by	/: (Signatu	re)		Personal person	Τιίρ	Blank nece		HCL / MeoH	VOA Zeres O See KAD Ecree	u 80.5 km/h: .					
elinquished by : (Signature)	Da	ate:	Time:	Re	eceived by	r: (Signatur	re)			Tem	np:	Statistics of the	res Regeived:	If preservati	on required by Lo	gin: Date/				
elinquished by : (Signature)	Da	ite:	Time:	Re	eceived fo	rlab by: (S	ignatur	e)		Date	170.0	Ck Tim	920	Hold:		Cond				

Plains All American, L 2135 S Loop 250 W Midland, TX 79703	P - GHD	Attn: Camille 10 Desta Dr. Midland, TX	e Bryant , Ste. 550E	Pres Chk			Analysis / Co	ontainer /	Preservative		Chain of Custody Page Pace Analyti National Center for Teath	ical°
Report to: Becky Haskell		Email To: becky.haskell@	ghd.com;glenn.quinney	@ghd.co							12065 Lebanon Rd Mount Juliet, TN 37122	
Project Description: Darr Angell #1 SRS Darr Angell #1	City/State Collected:	Lovinton	A)M Promp	Circle: CT ET	E						Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859	
Phone: 432-250-7917	Client Project # 11209885/02	Lab	Project # AINSGHD-1120988	5	4CI						SDG# 128/1-	79
Collected by (print): Zac Compo	Site/Facility ID # SRS DARR ANGELL	#1	1.#		II III						Table # Acctnum: PLAINSGHI	D
Collected by (sign Aure):	Rush? cab MUST E	ve Day	icte #		ACC AN	14 34					Template:T167385	
Packed on Ice N Y	Next Day 5 0	lav (Rad Dnly)	pole pole No des	let 1-	9 1 5		4		(Marie)			
MW-25 MW-7 MW-12R	W GW		12/20 1200 12/20 1245	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	X X	0						1/2 /2
RW-12	GW		1334	3	0	The state of the s	19	54		- Kin	1-4	14
mw-6	GW GW	1 1	1400	1 -	0	la :			Talka	371	-1	15
Dup-1	GW			-	P	#1.55			F #4	1- 3-1		6
Jup-C	GW		•	3 1	0		-12	No.	Louisine		-1	7
The second secon	GW		7						F PROPERTY.		- Laborate	
										en en	chacklist	at Long
55 - 2010 Aug - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater							Flow_	Otl	her	COC Signed		1
GW - Groundwater B - Bioassay WW - WasteWater	Samples returned via via	The state of the s	Tracking e				Flow_			Suffice en	rrive in act:	1500
GW - Groundwater B - Bioassay WW - WasteWater	Samples returned via Via Via Via Via Via Via Via Via Via V	iome.	Tracking e							Botton	rrive intact:	1555
GW - Groundwater B - Bioassay WW - WasteWater	Samples returned via supplied to the country of the		Tracking #	14. F)					нсь Меон	Bottler and	trive intact:	VVX



ANALYTICAL REPORT

November 12, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1282813 Samples Received: 11/06/2020 Project Number: 11209885/02

Description: Darr Angell #1 SRS Darr Angell #1

Site: SRS DARR ANGELL #1

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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



















Cp: Cover Page	1
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
MW-6 L1282813-01	9
DUP-02 L1282813-02	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



MW-6 L1282813-01 GW			Collected by Heath Boyd	Collected date/time 11/05/20 11:15	Received dat 11/06/20 09:0	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1574584	1	11/11/20 19:23	11/11/20 19:23	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received dat	e/time
DUP-02 L1282813-02 GW			Heath Boyd	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 19:45	11/11/20 19:45	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.

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	ory Name: Pace Analytical National	LRC Date: 11/12/2020 16:59							
Proj	ect N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1282813-01 and 02							
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1574584							
# 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	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						
		Are all laboratory ID numbers cross-referenced to the	corresponding QC data?	Х						
R3	OI	Test reports								
		Were all samples prepared and analyzed within holdin	g times?	Х						
		Other than those results < MQL, were all other raw value	ues bracketed by calibration standards?	Х						
		Were calculations checked by a peer or supervisor?		Х						
		Were all analyte identifications checked by a peer or s	upervisor?	Х						
		Were sample detection limits reported for all analytes	not detected?	Х						
		Were all results for soil and sediment samples reported	d on a dry weight basis?	Х						
		Were % moisture (or solids) reported for all soil and see	diment samples?			Х				
		Were bulk soils/solids samples for volatile analysis ext	racted 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 withi	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?	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?	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 the used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	X						
		Was the LCSD RPD within QC limits?		Х						
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) dat	a							
		Were the project/method specified analytes included i	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						
		Are unadjusted MQLs and DCSs included in the labora	tory data package?	Х						
R10	OI	Other problems/anomalies								
	· <u>-</u>	Are all known problems/anomalies/special conditions	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 Land 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



Laboratory Name: Pace Analytical National			LRC Date: 11/12/2020 16:59							
Proj	ject N	Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1282813-01 and 02							
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1574584							
# 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?			X				
		Were percent RSDs or correlation coefficient criteria m	et?	Х			1			
		Was the number of standards recommended in the me	thod used for all analytes?	Х						
		Were all points generated between the lowest and high	hest standard used to calculate the curve?	Х			1			
		Are ICAL data available for all instruments used?		Х			1			
		Has the initial calibration curve been verified using an a	appropriate second source standard?	Х						
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration blank (CCB):	<u> </u>						
		Was the CCV analyzed at the method-required frequer	ncy?	Х						
		Were percent differences for each analyte within the m		X		1				
		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	3	•			1			
		Was the appropriate compound for the method used for	or tuning?			X				
		Were ion abundance data within the method-required				Х				
S4	0	Internal standards (IS)		•			1			
		Were IS area counts and retention times within the met	thod-required QC limits?	Х						
S5	OI	Raw data (NELAC Section 5.5.10)	•							
		Were the raw data (for example, chromatograms, speci	tral data) reviewed by an analyst?	Х						
		Were data associated with manual integrations flagged								
S6	0	Dual column confirmation								
		Did dual column confirmation results meet the method-	required QC?			X				
S7	0	Tentatively identified compounds (TICs)		•		1	•			
		If TICs were requested, were the mass spectra and TIC	data subject to appropriate checks?		I	l x				
S8	ı	Interference Check Sample (ICS) results	3 11 1	•		1	1			
		Were percent recoveries within method QC limits?				X				
S9	I	Serial dilutions, post digestion spikes, and method of s	tandard additions							
		Were percent differences, recoveries, and the linearity				X				
S10	OI	Method detection limit (MDL) studies	•	•		1	•			
		Was a MDL study performed for each reported analyte	?	X						
		Is the MDL either adjusted or supported by the analysis		X						
S11	OI	Proficiency test reports		•		1	•			
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?								
S12	OI	Standards documentation								
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?								
S13	OI									
		Are the procedures for compound/analyte identification	n documented?	Х						
S14	OI	Demonstration of analyst competency (DOC)		•		1	•			
		Was DOC conducted consistent with NELAC Chapter 5?								
		Is documentation of the analyst's competency up-to-date and on file?								
S15	OI									
		Are all the methods used to generate the data docume	. ,	X						
S16	OI	Laboratory standard operating procedures (SOPs)	, , , , , , , , , , , , , , , , , , ,							
		Are laboratory SOPs current and on file for each metho	od performed	X			T			
1. Itei	ms ide	entified by the letter "R" must be included in the laborator	1		dentifie	ed by th	e letter	"S"		
1						•				

should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

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

Revised May 2010 Laboratory Review Checklist: Exception Reports



ED #1 Description	•
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1574584
Project Name: Darr Angell #1 SRS Darr Angell #1	Laboratory Job Number: L1282813-01 and 02
Laboratory Name: Pace Analytical National	LRC Date: 11/12/2020 16:59

| 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. NAPage 292 of \$16

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

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	0.00438		0.000190	0.000500	0.000500	1	11/11/2020 19:23	WG1574584
Toluene	U		0.000412	0.00100	0.00100	1	11/11/2020 19:23	WG1574584
Ethylbenzene	0.00168		0.000160	0.000500	0.000500	1	11/11/2020 19:23	WG1574584
Total Xylene	0.00321		0.000510	0.00150	0.00150	1	11/11/2020 19:23	WG1574584
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		11/11/2020 19:23	WG1574584

















Ğl





ONE LAB. NAPage 293 of \$16

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

Volatile Organic Compounds (GC) by Method 8021B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00604		0.000190	0.000500	0.000500	1	11/11/2020 19:45	WG1574584
Toluene	U		0.000412	0.00100	0.00100	1	11/11/2020 19:45	WG1574584
Ethylbenzene	0.00199		0.000160	0.000500	0.000500	1	11/11/2020 19:45	WG1574584
Total Xylene	0.00344		0.000510	0.00150	0.00150	1	11/11/2020 19:45	WG1574584
(S) a,a,a-Trifluorotoluene(PID)	99.3				79.0-125		11/11/2020 19:45	WG1574584





















QUALITY CONTROL SUMMARY

ONE LAB. NAPage 294 of 316

Volatile Organic Compounds (GC) by Method 8021B

L1282813-01,02

Method Blank (MB)

(MB) R3592049-3 11/11/20 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		



(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			





















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
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.























ANALYTICAL REPORT

November 30, 2020

Plains All American, LP - GHD

Sample Delivery Group: L1289351 Samples Received: 11/24/2020 Project Number: 11209891/01

Plains Darr 2 SRS-LF 1999-62 Description:

Site: DARR ANGELL 1/2

Report To: Becky Haskell

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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



















Cp: Cover Page	1
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
DARR #2-SYSTEM OFF L1289351-01	9
DARR #2-SYSTEM ON L1289351-02	10
DARR #1-SYSTEM OFF L1289351-03	11
DARR #1-SYSTEM ON L1289351-04	12
Qc: Quality Control Summary	13
Volatile Organic Compounds (MS) by Method M18-Mod	13
GI: Glossary of Terms	15
Al: Accreditations & Locations	16
Sc: Sample Chain of Custody	17



















Volatile Organic Compounds (MS) by Method M18-Mod



			Collected by	Collected date/time	Received date/time		
DARR #2-SYSTEM OFF L1289351-01 Air			Zach Comino	11/23/20 09:00	11/24/20 09:	30	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (MS) by Method M18-Mod	WG1582368	20	11/25/20 13:44	11/25/20 13:44	CAW	Mt. Juliet, TN	
Volatile Organic Compounds (MS) by Method M18-Mod	WG1583193	100	11/27/20 19:54	11/27/20 19:54	MBF	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
DARR #2-SYSTEM ON L1289351-02 Air			Zach Comino	11/23/20 09:15	11/24/20 09:	30	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (MS) by Method M18-Mod	WG1582368	100	11/25/20 14:22	11/25/20 14:22	CAW	Mt. Juliet, TN	
Volatile Organic Compounds (MS) by Method M18-Mod	WG1583193	2000	11/27/20 20:34	11/27/20 20:34	MBF	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
DARR #1-SYSTEM OFF L1289351-03 Air			Zach Comino	11/23/20 10:00	11/24/20 09:	30	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (MS) by Method M18-Mod	WG1583193	80	11/27/20 21:14	11/27/20 21:14	MBF	Mt. Juliet, TN	
			Collected by	Collected date/time	Received da	te/time	
DARR #1-SYSTEM ON L1289351-04 Air			Zach Comino	11/23/20 10:15	11/24/20 09:	30	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location	
			date/time	date/time			
Volatile Organic Compounds (MS) by Method M18-Mod	WG1582368	20	11/25/20 15:43	11/25/20 15:43	MBF	Mt. Juliet, TN	

200

11/27/20 21:54

WG1583193























MBF

Mt. Juliet, TN

11/27/20 21:54

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



















ONE LAB. NATIONWIDE.

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: 11/30/2020 20:18								
Proj	ect N	lame: Plains Darr 2 SRS-LF 1999-62	Laboratory Job Number: L1289351-01, 02, 03 and 04								
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1582368 and WG1583193								
# 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	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?	Х							
		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?	Х							
		Other than those results < MQL, were all other raw value	ues bracketed by calibration standards?	Х							
		Were calculations checked by a peer or supervisor?		Х							
		Were all analyte identifications checked by a peer or su	upervisor?	Х							
		Were sample detection limits reported for all analytes r		Х							
		Were all results for soil and sediment samples reported		Х							
		Were % moisture (or solids) reported for all soil and sec	diment samples?			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	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?	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 process	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?		Χ							
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	etory QC limits?			Х					
		Were MS/MSD RPDs within laboratory QC limits?				X					
R8	OI	Analytical duplicate data									
		Were appropriate analytical duplicates analyzed for ea	ch matrix?			X					
		Were analytical duplicates analyzed at the appropriate	frequency?			Х					
		Were RPDs or relative standard deviations within the la	aboratory QC limits?			X					
R9	OI	Method quantitation limits (MQLs):									
		Are the MQLs for each method analyte included in the		Х							
		Do the MQLs correspond to the concentration of the lo		Х	<u> </u>		<u> </u>	ļ			
		Are unadjusted MQLs and DCSs included in the labora	X	<u> </u>	L	L	L				
R10	OI	Other problems/anomalies				1					
		Are all known problems/anomalies/special conditions r		X	<u> </u>						
		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	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: 11/30/2020 20:18								
Proj	ject N	Name: Plains Darr 2 SRS-LF 1999-62	Laboratory Job Number: L1289351-01, 02, 03 and 04								
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1582368 and WG1583193								
# 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?	X							
		Were percent RSDs or correlation coefficient criteria m	et?	X							
		Was the number of standards recommended in the me	ethod used for all analytes?	X							
		Were all points generated between the lowest and hig	hest standard used to calculate the curve?	X							
		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	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 m	nethod-required QC limits?	X							
		Was the ICAL curve verified for each analyte?	Х								
		Was the absolute value of the analyte concentration in			Х						
S3	0	Mass spectral tuning									
		Was the appropriate compound for the method used for	X								
		Were ion abundance data within the method-required	Х								
S4	0	Internal standards (IS)									
		Were IS area counts and retention times within the me	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							
		Were data associated with manual integrations flagged	X								
S6	0	Dual column confirmation									
		Did dual column confirmation results meet the method	-required QC?			Х					
S7	0	Tentatively identified compounds (TICs)									
		If TICs were requested, were the mass spectra and TIC	data subject to appropriate checks?			Х					
S8	ı	Interference Check Sample (ICS) results									
		Were percent recoveries within method QC limits?				X					
S9	1	Serial dilutions, post digestion spikes, and method of s	tandard additions								
		Were percent differences, recoveries, and the linearity	within the QC limits specified in the method?			Х					
S10	OI	Method detection limit (MDL) studies									
		Was a MDL study performed for each reported analyte		X							
		Is the MDL either adjusted or supported by the analysis	s of DCSs?	X							
S11	OI	Proficiency test reports					,				
		Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	X							
S12	OI	Standards documentation						,			
		Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X							
S13	OI	Compound/analyte identification procedures									
		Are the procedures for compound/analyte identification	n documented?	X							
S14	OI	Demonstration of analyst competency (DOC)		_		1	_				
		Was DOC conducted consistent with NELAC Chapter 5		X	<u> </u>						
		Is documentation of the analyst's competency up-to-da		X							
S15	OI	Verification/validation documentation for methods (NE	,								
		Are all the methods used to generate the data documented, verified, and validated, where applicable?									
S16	OI	Laboratory standard operating procedures (SOPs)		,			_				
		Are laboratory SOPs current and on file for each method performed X									

^{1.} Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. 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



EP #1 Description	Trop Batter Number (a). We look and We look loo					
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1582368 and WG1583193					
Project Name: Plains Darr 2 SRS-LF 1999-62	Laboratory Job Number: L1289351-01, 02, 03 and 04					
Laboratory Name: Pace Analytical National	LRC Date: 11/30/2020 20:18					

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. NAPage 306 of 316

Collected date/time: 11/23/20 09:00

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	20.0	63.9	2060	6580		100	WG1583193
Toluene	108-88-3	92.10	50.0	188	2300	8660		100	WG1583193
Ethylbenzene	100-41-4	106	4.00	17.3	596	2580		20	WG1582368
m&p-Xylene	1330-20-7	106	8.00	34.7	1200	5200		20	WG1582368
o-Xylene	95-47-6	106	4.00	17.3	379	1640		20	WG1582368
Methyl tert-butyl ether	1634-04-4	88.10	4.00	14.4	ND	ND		20	WG1582368
TPH (GC/MS) Low Fraction	8006-61-9	101	20000	82600	186000	768000		100	WG1583193
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG1582368
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.7				WG1583193





















ONE LAB. NAPage 307 of 316

Collected date/time: 11/23/20 09:15

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	<u>Batch</u>
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	400	1280	24400	77900		2000	WG1583193
Toluene	108-88-3	92.10	1000	3770	23500	88500		2000	WG1583193
Ethylbenzene	100-41-4	106	20.0	86.7	2890	12500		100	WG1582368
m&p-Xylene	1330-20-7	106	40.0	173	4820	20900		100	WG1582368
o-Xylene	95-47-6	106	20.0	86.7	1320	5720		100	WG1582368
Methyl tert-butyl ether	1634-04-4	88.10	20.0	72.1	ND	ND		100	WG1582368
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	2230000	9210000		2000	WG1583193
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG1582368
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.2				WG1583193

















Ğl





ONE LAB. NA Page 308 of 316

Collected date/time: 11/23/20 10:00

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	16.0	51.1	603	1930		80	WG1583193
Toluene	108-88-3	92.10	40.0	151	1000	3770		80	WG1583193
Ethylbenzene	100-41-4	106	16.0	69.4	234	1010		80	WG1583193
m&p-Xylene	1330-20-7	106	32.0	139	492	2130		80	WG1583193
o-Xylene	95-47-6	106	16.0	69.4	154	668		80	WG1583193
Methyl tert-butyl ether	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1583193
TPH (GC/MS) Low Fraction	8006-61-9	101	16000	66100	72400	299000		80	WG1583193
(S) 1.4-Bromofluorobenzene	460-00-4	175	60.0-140		95.8				WG1583193





















ONE LAB. NAPage 309 of \$16

Collected date/time: 11/23/20 10:15

Volatile Organic Compounds (MS) by Method M18-Mod

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Benzene	71-43-2	78.10	4.00	12.8	1480	4730		20	WG1582368
Toluene	108-88-3	92.10	100	377	2440	9190		200	WG1583193
Ethylbenzene	100-41-4	106	4.00	17.3	599	2600		20	WG1582368
m&p-Xylene	1330-20-7	106	8.00	34.7	1240	5380		20	WG1582368
o-Xylene	95-47-6	106	4.00	17.3	401	1740		20	WG1582368
Methyl tert-butyl ether	1634-04-4	88.10	4.00	14.4	ND	ND		20	WG1582368
TPH (GC/MS) Low Fraction	8006-61-9	101	40000	165000	176000	727000		200	WG1583193
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG1582368
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.3				WG1583193





















Volatile Organic Compounds (MS) by Method M18-Mod

QUALITY CONTROL SUMMARY

ONE LAB. NA Page 310 of 316

L1289351-01,02,04

Method Blank (MB)

(MB) R3597506-3 11/25/2	0 10:09			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
(S) 1,4-Bromofluorobenzene	94.7			60.0-140

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

(LCS) R3597506-1 11/25/20 08:46 • (LCSD) R3597506-2 11/25/20 09:29												
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits		
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%		
MTBE	3.75	4.18	4.35	111	116	70.0-130			3.99	25		
Benzene	3.75	4.39	4.34	117	116	70.0-130			1.15	25		
Ethylbenzene	3.75	4.41	4.39	118	117	70.0-130			0.455	25		
m&p-Xylene	7.50	9.22	9.11	123	121	70.0-130			1.20	25		
o-Xylene	3.75	4.56	4.57	122	122	70.0-130			0.219	25		
(S) 1.4-Bromofluorobenzene				96.7	95.6	60.0-140						























QUALITY CONTROL SUMMARY

ONE LAB. NA Page 311 of 316

Volatile Organic Compounds (MS) by Method M18-Mod L1289351-01,02,03,04

Method Blank (MB)

(MB) R3598490-3	11/27/20	10:22
		MR Resi

(S) 1,4-Bromofluorobenzene 91.4

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200



2__







⁶Sr



60.0-140

(LCS) R3598490-1 11/27/20 08:57 • (LCSD) R3598490-2 11/27/20 09:41

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%
ITBE	3.75	4.31	4.28	115	114	70.0-130			0.698	25
enzene	3.75	4.11	4.09	110	109	70.0-130			0.488	25
Toluene	3.75	4.25	4.22	113	113	70.0-130			0.708	25
thylbenzene	3.75	4.18	4.09	111	109	70.0-130			2.18	25
&p-Xylene	7.50	8.71	8.62	116	115	70.0-130			1.04	25
Xylene	3.75	4.27	4.29	114	114	70.0-130			0.467	25
H (GC/MS) Low Fraction	203	212	212	104	104	70.0-130			0.000	25
(S) 1,4-Bromofluorobenzene				93.0	92.7	60.0-140				









Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
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 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.























eived by OCD: 4/5/2021 1:18:42 PM		Billing Information:					. 1	Analysis / Container / Preservative					Chain of Custody Page 314 of .			
Plains All American, LP - GHD 2135 S Loop 250 W Midland, TX 79703		Callille Di yalit			Pres Chk									Pace National Ce	Analytical* Interfer Testing & Innovation	
													ľ		and Villagian	
Report to: Becky Haskell			Email To: becky.haskell@ghd.com;glenn.quinney@gl.d.											N Pi	2065 Lebanon Rd Mount Juliet, TN 37 hone: 615-758-585 hone: 800-767-585	8
Project Description: Plains Darr 2 SRS-LF 1999-62		City/State Collected:			Please Circle: PT MT CT ET										ax: 615-758-5859	回路後繼
Phone: 432-250-7917	Client Project 11209891/			Lab Project # PLAINSGHD-11209891										S	C11	1
Collected by (print):	Site/Facility IC		117	P.O. #		Ė									cctnum: PLA	
Collected by (signature):	Rush? (L	abMUST Be	Notified)	Quote #	#		Tedlar							P	emplate:T17 relogin: P79	5997
Immediately Packed on Ice N Y		y 5 Da y 10 D		Date Res	ults Needed	No.	M18-MOD T							F		k W. Beasley edEX Ground
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	M18-I							5	Remarks	Sample # (lab only)
Par #2. System of	0	Air		112320	0900	2	y									61
		Air	112	120 09	15 1888	2	8									82
Daru #1. Sistem of	?	Air		11232	1000	2	N	100								3
Dar #1 - System or Dar #1 - System of Dar #1 - System or		Air		11232	0 1015	2	X									94
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:								pH Flow		Temp_Other_		COC Si Bottle Correc	eal Presigned/Ades arrivet bottl	Receipt Chent/Intact courate: we intact: les used:	NP Z
DW - Drinking Water OT - Other	Samples returned via:UPSFedExCourier			Tracking # 9186			2496	2	0846			Sufficient volume sent: If Applicable VOA Zero Headspace: Preservation Correct/Checked: Y N				
Relinquished by : (Signature)	111	nte:	Time	e: Red	eived by: (Signa	ture)			Trip Blar		HC TB	/ NO CL/ MeoH).5 mR/hr;	ZY _N
Relinquished by : (Signature)		ate:	Time		eived by: (Signa	ture)			Temp:	B °C	Bottles	Received:	If prese	ervation r	equired by Lo	gin: Date/Time
Relinquished by : (Signature)	Di	ate:	Time	Rec	eived for lab by	(Signat	ture)		Date: 1/2	19/2	Time:	7:30	Hold:			Condition:



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

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 22846

CONDITIONS

Operator:	OGRID:
PLAINS MARKETING L.P.	34053
333 Clay St, Ste 1600	Action Number:
Houston, TX 77002	22846
	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 quarterly groundwater gauging and sampling according to the schedule approved by the NMOCD 2. Sample monitor wells MW-2 (if there is sufficient water), MW-11R, MW-16R, MW-21R, MW-24, and MW-25 for PAH during the fourth quarter of 2021. Additionally, any wells that cease to have LNAPL will be sampled for PAH compounds 3. Terminate sampling from monitor wells MW-4, MW-6, MW-7, MW-12R, MW-17R, MW-18R, MW-19R, MW-20R, MW-22 and recovery well RW-12 for PAH 4. Continue remediation of the soil profile and groundwater by operating the trailer mounted automated remediation system on targeted wells 5. Submit the Annual Monitoring Report to the OCD no later than March 31, 2022.	1/11/2022