

Annual Report of Groundwater Monitoring and Remediation in 2019

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

Plains All American Pipeline, L.P.





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

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### 1. Introduction

This Annual Report of Groundwater Monitoring and Remediation in 2019 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, July, and October 2019. Also included are periodic remedial activities completed at the Darr Angell No.1 location (Site) in 2019. 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. A map of details of the Site is shown in 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 8-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 professional 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 professional surveyed on June 28, 2017.

# 2. Regulatory Framework

The Site was assigned an Abatement Plan number AP-007 by the NMOCD, whose regulations require groundwater to be analyzed for potential contaminants as defined by New Mexico



Administrative Code (NMAC) 20.6.2.3103 Section A. This regulation provides the Human Health Standards and toxic pollutant standards for groundwater. They are listed for each chemical of concern in Table 2.1. These standards are used to guide assessment and remediation at the Site.

Table 2.1 NMWQCC 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 correspondence dated April 28, 2004 and amended in NMOCD correspondences dated June 20, 2005 and April 11, 2006.

Table 2.2 NMOCD-Approved Sampling Schedule

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

Monitoring and recovery wells MW-12R, MW-16R, MW-17R, MW-18R, MW-19R, MW-20R, MW-22, MW-23, and RW-12 are being sampled on a quarterly basis to establish consistent historical data regarding dissolved phase COCs and LNAPL thicknesses. These wells will be added to the approved Site sample schedule subsequent to approval by the NMOCD. A letter to the NMOCD requesting groundwater monitoring activity changes was submitted along with the 2016 Annual Groundwater Monitoring Report in April 2017.



# 3. Groundwater Monitoring

GHD conducted quarterly groundwater monitoring on February 25-27, May 20-22, July 23-24, and October 21-24, 2019. Wells containing measureable 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 of groundwater were collected from the tenth well and last well to be sampled. 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 October 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 2019 were 55.6 gallons, 94.5 gallons, 64.8 gallons, and 80.8 gallons. The total volume of groundwater purged from wells during monitoring events in 2019 was 296 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 2018 and 2019 are presented in Table 1. Maps of the potentiometric surface in February, May, July, and October are provided as Figures 3, Figure 4, Figure 5, and Figure 6, respectively. The bottoms of LNAPL columns in MW-1, MW-9, MW-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; so elevations of the potentiometric surface 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 0.0018 ft./ft., 0.0016 ft./ft., 0.0017 ft./ft., and 0.0016 ft./ft., respectively. These gradients are also consistent with gradients during previous years. Elevations of the potentiometric surface fell between November 27, 2018 and October 21, 2019 in all wells in which fluid measurements could be made accurately. The maximum decline was 0.99 feet. The smallest decline was 0.44 foot. The average decline was 0.68 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-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-13, and RW-14 throughout 2019. The bottoms of LNAPL



columns in MW-1, 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 2019.

Charts showing thicknesses of LNAPL in all wells that have had significant impact by LNAPL are in Appendix A. All charts indicate visually declining trends of LNAPL thicknesses, except for MW-23. The trend in MW-23 is visually stable.

#### 3.4 Dissolved-phase Hydrocarbons in Groundwater

Wells MW-3, MW-11, MW-13, MW-14, RW-1 and RW-2 were gauged dry during throughout 2019.

Analytical results of groundwater monitoring conducted at the Site during 2018 and 2019 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 in wells MW-6 exceeded the NMWQCC Human Health Standard of 0.01 mg/L during all four quarterly monitoring events. Benzene concentrations in MW-2 exceeded the standard during the first, second, and fourth quarterly monitoring events. All samples collected from recovery well RW-12 during 2019 had detections of dissolved benzene; however, all were below the NWQCC Human Health Standard. All other BTEX constituents were below their respective NWQCC Human Health Standards in all samples collected during 2019. 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 the chart for MW-2. It shows a visually increasing trend. 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 request, samples from MW-2, MW-6, MW-7, MW-12R, MW-22, and RW-12 were analyzed for PAH compounds. The sample collected from MW-2 contained concentrations of anthracene, dibenzofuran, fluorene, and phenanthrene which exceeded the standard of 0.001 mg/L for PAH compounds required in correspondence from NMOCD referenced above. No other PAH compounds exceeded applicable regulatory standards. 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 recovery of LNAPL and impacted groundwater by hand-bailing and recovery of soil-vapor, LNAPL, and impacted groundwater by a trailer-mounted, automated system



which 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 fluids recovered at the site. Total volumes recovered less amounts removed for disposal indicate that approximately 364 gallons of LNAPL were recovered during 2019 by operation of the remediation system and by hand-bailing. Approximately 21,233 gallons of groundwater were recovered by the remediation system and hand-bailing. The total volume of liquids recovered at the Site during 2019 was approximately 21,597 gallons.

Semimonthly hand bailing of MW-1, MW-2, MW-5, MW-6, MW-9, MW-10, MW-23, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, and RW-11 continued throughout 2019 to reduce thicknesses of LNAPL and concentrations of dissolved-phase contaminants. The total volume of LNAPL recovered in this manner during the year was 95 gallons. The total volume of groundwater recovered in this manner during the year was 61 gallons.

The trailer-mounted groundwater system was operated at the Site for a total of 167 days during 2019. Soil vapor and total fluids were recovered from MW-9, RW-11, RW-13, and RW-14 during 2019. 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. Approximately 269 gallons (364 gallons total recovery less 95 gallons recovery by hand-bailing) of LNAPL and 20,876 gallons (21,233 gallons total recovery less 296 gallons recovered by quarterly purging, less 61 gallons recovered during LNPAL bailing) of groundwater were recovered by the automated trailer mounted remediation system during 2019.

Samples of emissions from the remediation system were collected on June 19, August 14, and November 12, 2019 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 2019 was 3.413 lb. TPH/hour. Total mass of emissions during 2019 was 5.3544 tons of TPH.

The total volume of LNAPL recovered since the start of the LNAPL abatement program in 1999 is approximately 83,177.7 gallons.

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 2019, the following summary of findings is presented:

Wells MW-3, MW-11, MW-13, MW-14, RW-1 and RW-2 were gauged dry throughout 2019. The
bottoms of LNAPL columns in MW-1, 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; so thicknesses of LNAPL could not be accurately measured on those occasions.



- 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 0.0016 ft./ft. and 0.0018 ft./ft., inclusive.
- Elevations of the potentiometric surface declined in all wells during 2019. The average decline was 0.68 ft.
- LNAPL was observed in MW-1, MW-5, MW-8, MW-9, MW-10, MW-23, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-13, and RW-14 during all quarterly groundwater monitoring events in 2019. LNAPL was present in MW-6 only during a gauging event in April. The bottoms of LNAPL columns in MW-1, MW-9, M-10, RW-3, RW-4, RW-5, RW6, RW-7, RW-8, and RW-10 were below the bottoms of well casings during at least one quarterly monitoring event.
- Dissolved benzene concentrations in wells MW-6 exceeded the NMWQCC Human Health
  Standard of 0.01 mg/L during all four quarterly monitoring events. Benzene concentrations in
  MW-2 exceeded the standard during the first, second, and fourth quarterly monitoring events. All
  other BTEX constituents were below their respective NMWQCC Human Health Standards in all
  samples collected during 2019.
- The sample collected from MW-2 contained concentrations of anthracene, dibenzofuran, fluorene, and phenanthrene which exceeded the standard of 0.001 mg/L for PAH compounds required in correspondence of 2012 from NMOCD. No other PAH compounds exceeded applicable regulatory standards.
- Approximately 269 gallons of LNAPL and 20,876 gallons of groundwater were recovered by the automated trailer mounted remediation system during 2019. The maximum rate of emissions during 2019 was 3.413 lb. TPH/hour. Total mass of emissions during 2019 was 5.3544 tons TPH.
- The total volume of LNAPL recovered by hand-bailing during the year was 95 gallons.
- Semimonthly hand bailing from selected wells to reduce BTEX concentrations recovered 61 gallons of groundwater.
- Approximately 364 gallons of LNAPL were recovered during 2019 by hand-bailing and the trailer-mounted system. Total LNAPL recovered by all methods since the start of the LNAPL abatement program in 1999 is 83,177.7 gallons.

## 6. Recommendations

Based on data and conclusions presented in this report, GHD recommends the following for 2020:

- Continue quarterly groundwater gauging and sampling according to the schedule approved by the NMOCD and annual reporting to the NMOCD. Analyses of groundwater for PAH compounds should be conducted during the fourth quarterly monitoring event according to the NMOCD directive.
- Continue remediation of the soil profile and groundwater by operating the trailer mounted automated remediation system on targeted wells: MW-5, MW-9, RW-13, and RW-14.



- Continue manual LNAPL and BTEX abatement on select monitoring and recovery wells.
- A work plan proposing plugging and abandoning MW-3, MW-11, MW-13, MW-14, MW-21, RW-1 and RW-2 was submitted to the NMOCD on July 10, 2019. Those wells were dry or had insufficient fluid columns from which to collect samples of groundwater or recover LNAPL. The same work plan proposed installing MW-11R, MW-21R, MW-24, MW-25, RW-1R, RW-15, RW-16, RW-17, RW-18, and RW-19. The work plan will be implemented during 2020 out of necessity to maintain delineation of the contaminant plume and enhance the ability to recover LNPL. Details regarding plugging and installation of these wells will be included in the annual report for 2020.

All of Which is Respectfully Submitted,

An V Schnable

**GHD** 

John Schnable

Senior project Manager

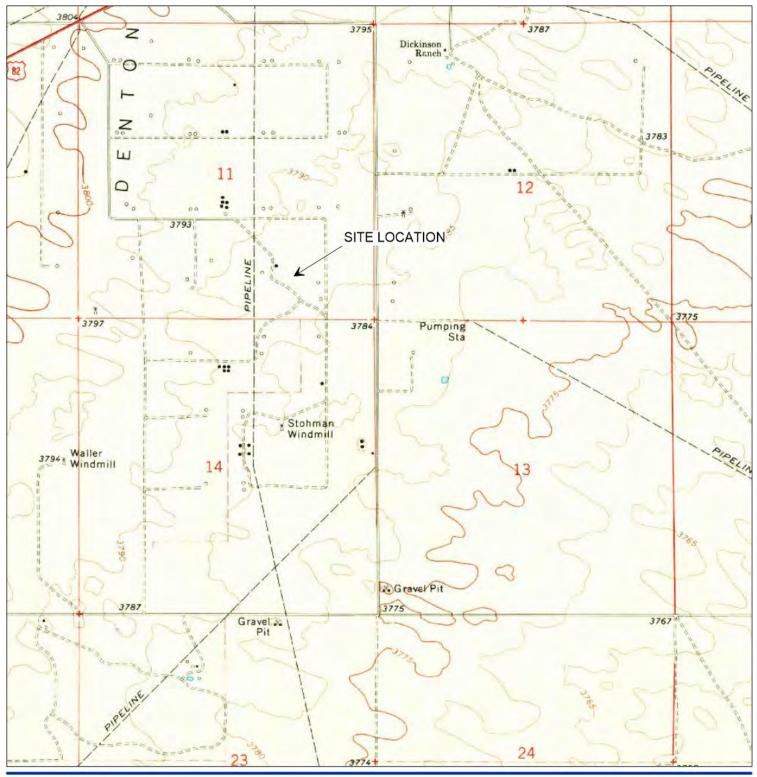
Rebecca Haskell

Senior Project Manger

Rebecca Haskell

Figures

GHD | Annual Report of Groundwater Monitoring and Remediation in 2019 | 11209885 (11)

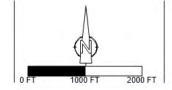


SOURCE: USGS 7.5 MINUTE QUADRANGLE PRAIRIEVIEW, NEW MEXICO

LAT/LONG: 33.0266° NORTH, 103.1666° WEST COORDINATE: NAD83 DATUM U.S. FOOT STATE PLANE ZONE - NEW MEXICO EAST

PROJECT 11209885

FEBRUARY 4, 2020

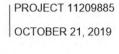


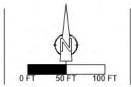


PLAINS ALL AMERICAN PIPELINE COMPANY
Darr Angell #1 SRS Darr Angell #1
NMOCD AP-007
ANNUAL REPORT OF GROUNDWATER MONITORING
AND REMEDIATION IN 2019
SITE LOCATION MAP



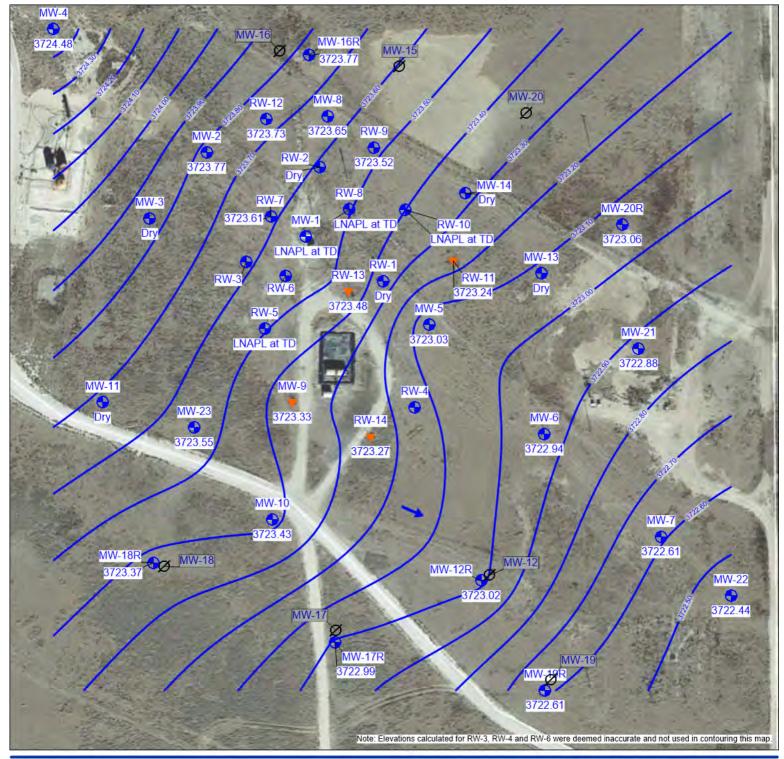
- Monitor Well
- Plugged Monitor WellWell Equipped with Pump







PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1, SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 SITE DETAILS MAP

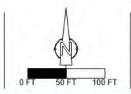


Monitor Well

Plugged Monitor Well

Well Equipped with Skimmer Pump
Elevation of Potentiometric Surface
(famsl) (C.I. = 0.10 ft.)

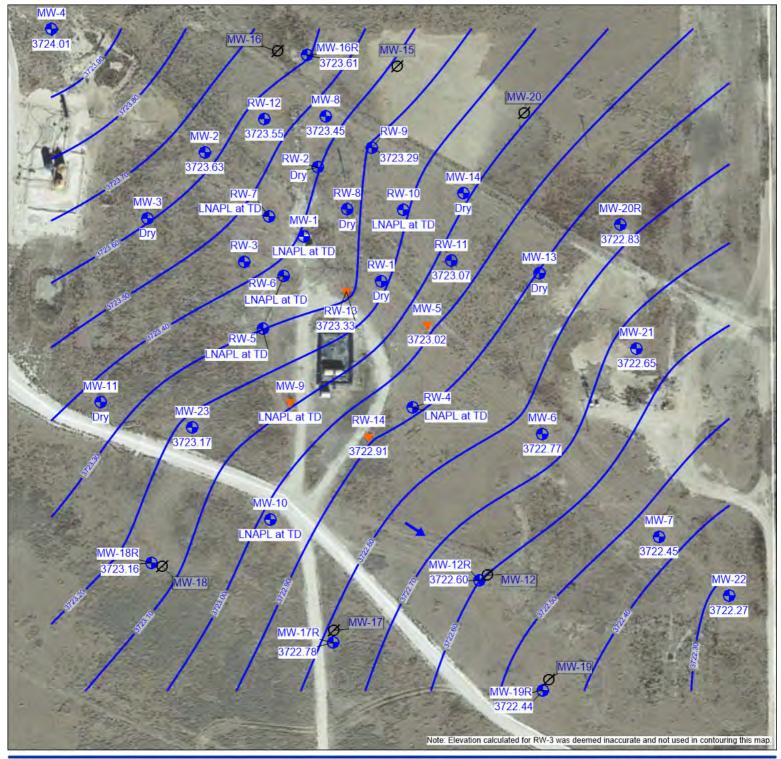
Direction of Flow of Groundwater

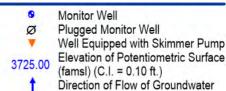


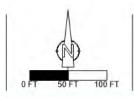


PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 MAP OF THE POTENTIOMETRIC SURFACE FEBRUARY 25, 2019

PROJECT 11209885 FEBRUARY 25, 2019



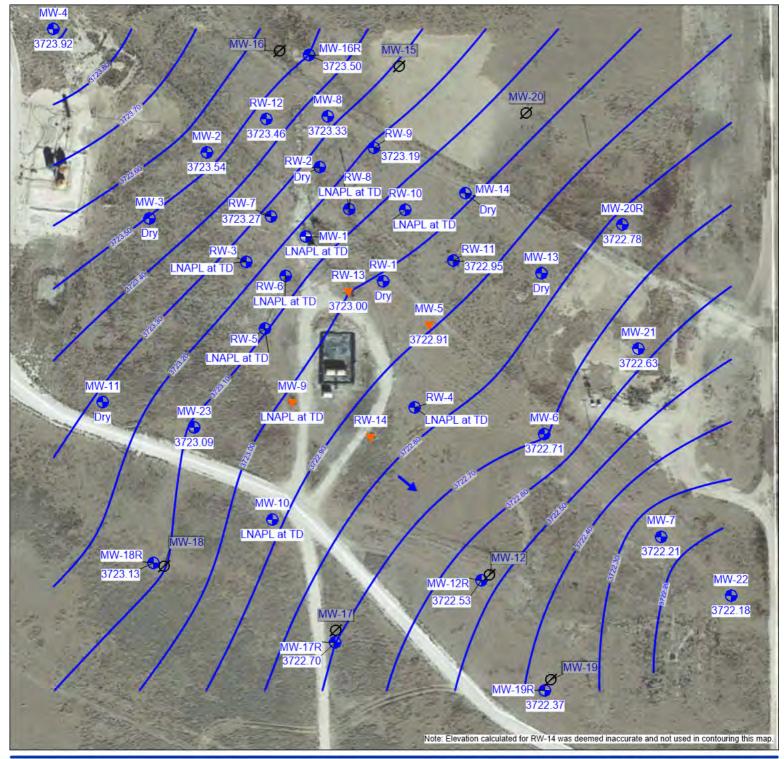






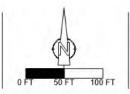
PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 MAP OF THE POTENTIOMETRIC SURFACE MAY 20, 2019

PROJECT 11209885 MAY 20, 2019



Monitor Well
Plugged Monitor Well
Well Equipped with Skimmer Pump
Blevation of Potentiometric Surface
(famsl) (C.I. = 0.10 ft.)

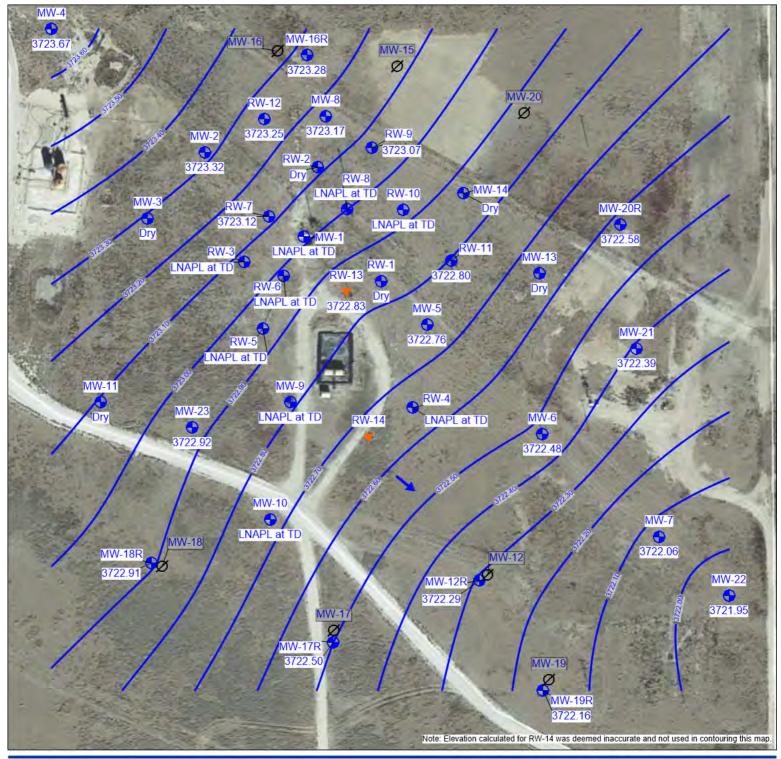
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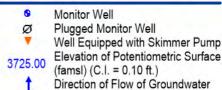


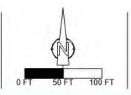


PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 MAP OF THE POTENTIOMETRIC SURFACE JULY 23, 2019

PROJECT 11209885 JULY 23, 2019



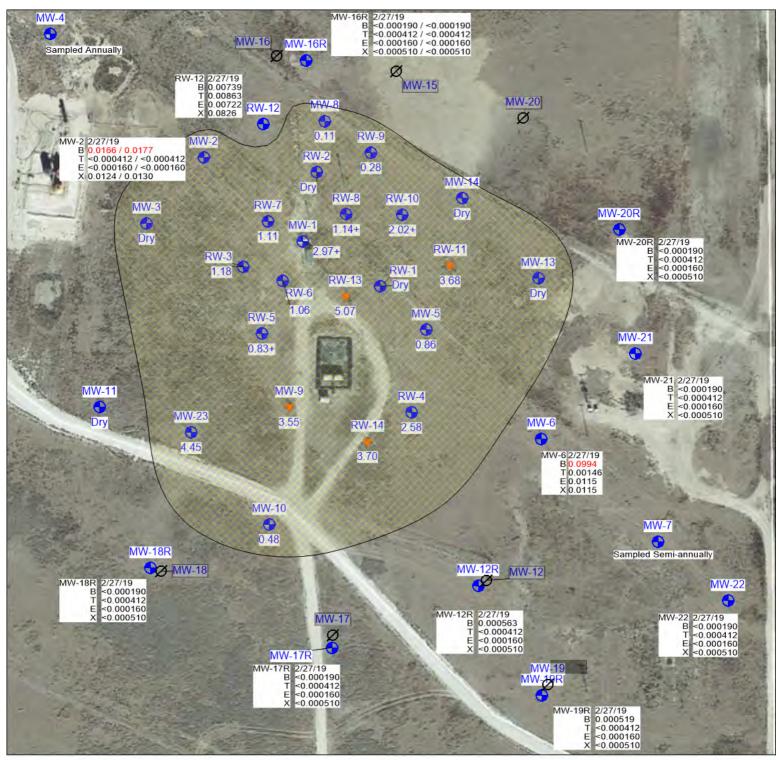


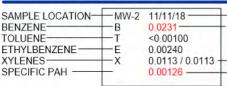




PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 MAP OF THE POTENTIOMETRIC SURFACE OCTOBER 21, 2019

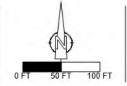
PROJECT 11209885 OCTOBER 21, 2019





DATE SAMPLED
ANALYTICAL RESULT (mg/l). RED
FONT INDICATES CONCENTRATION
EXCEEDS NMWQCC HUMAN HEALTH STD.
SECOND RESULTS ARE FIELD DUPLICATES
PAHS—ONLY EXCEEDANCES OF NMWQCC
STANDARDS ARE POSTED

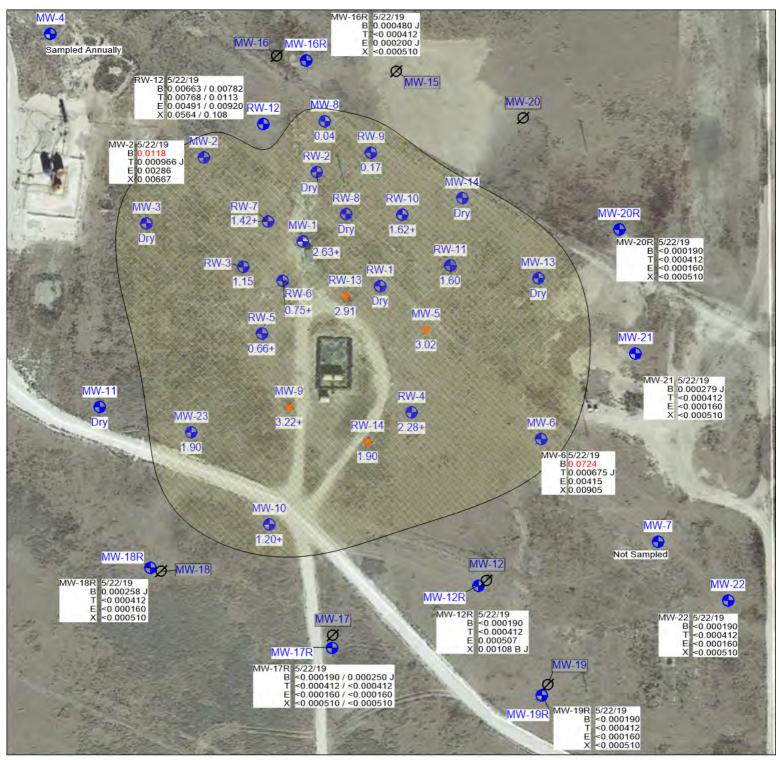
- Well Location
- Ø Plugged Well Location
- Well Equipped with Remediation Pump
- 3.25 Thickness of LNAPL (ft.)
  - Approximate Area Exceeding NMWQCC
    Human Health Standard for Benzene (0.01 mg/l)

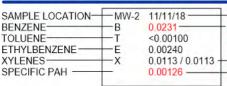




PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 DISSOLVED BTEX IN GROUNDWATER FEBRUARY 27, 2019

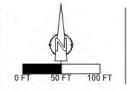
PROJECT 11209885 FEBRUARY 27, 2019





DATE SAMPLED
ANALYTICAL RESULT (mg/l). RED
FONT INDICATES CONCENTRATION
EXCEEDS NMWQCC HUMAN HEALTH STD.
SECOND RESULTS ARE FIELD DUPLICATES
PAHS--ONLY EXCEEDANCES OF NMWQCC
STANDARDS ARE POSTED

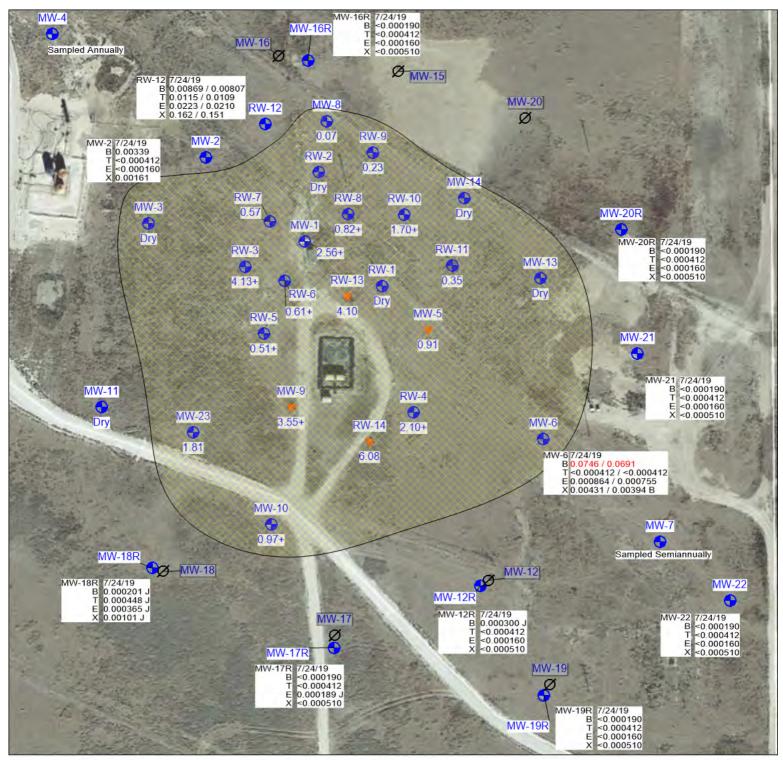
- Well Location
- Ø Plugged Well Location
- Well Equipped with Remediation Pump
- 3.25 Thickness of LNAPL (ft.)
  - Approximate Area Exceeding NMWQCC
    Human Health Standard for Benzene (0.01 mg/l)

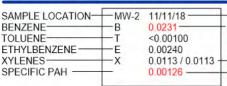




PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 DISSOLVED BTEX IN GROUNDWATER MAY 22, 2019

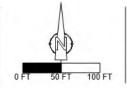
PROJECT 11209885 MAY 22, 2019





DATE SAMPLED
ANALYTICAL RESULT (mg/l). RED
FONT INDICATES CONCENTRATION
EXCEEDS NMWQCC HUMAN HEALTH STD.
SECOND RESULTS ARE FIELD DUPLICATES
PAHS—ONLY EXCEEDANCES OF NMWQCC
STANDARDS ARE POSTED

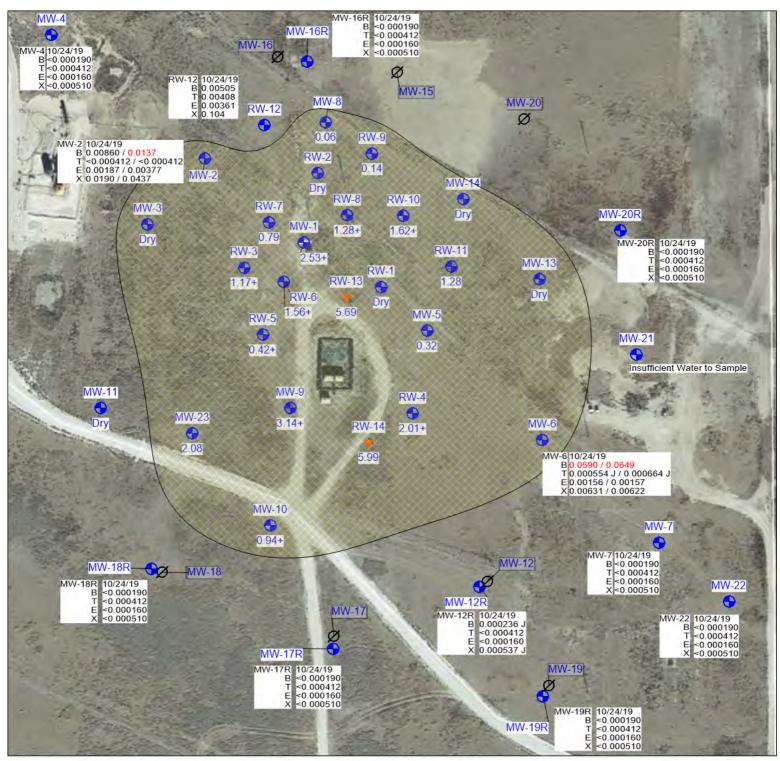
- Well Location
- Ø Plugged Well Location
- ▼ Well Equipped with Remediation Pump
- 3.25 Thickness of LNAPL (ft.)
  - Approximate Area Exceeding NMWQCC
    Human Health Standard for Benzene (0.01 mg/l)

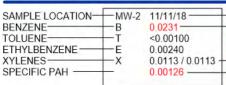




PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 DISSOLVED BTEX IN GROUNDWATER JULY 24, 2019

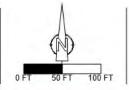
PROJECT 11209885 JULY 24, 2019





DATE SAMPLED
ANALYTICAL RESULT (mg/l). RED
FONT INDICATES CONCENTRATION
EXCEEDS NMWQCC HUMAN HEALTH STD.
SECOND RESULTS ARE FIELD DUPLICATES
PAHS—ONLY EXCEEDANCES OF NMWQCC
STANDARDS ARE POSTED

- Well Location
- Ø Plugged Well Location
- Well Equipped with Remediation Pump
- 3.25 Thickness of LNAPL (ft.)
  - Approximate Area Exceeding NMWQCC
    Human Health Standard for Benzene (0.01 mg/l)





PLAINS ALL AMERICAN PIPELINE COMPANY DARR ANGELL #1 SRS DARR ANGELL #1 ANNUAL REPORT OF GROUNDWATER MONITORING AND REMEDIATION IN 2019 DISSOLVED BTEX IN GROUNDWATER OCTOBER 24, 2019

PROJECT 11209885 OCTOBER 24, 2019

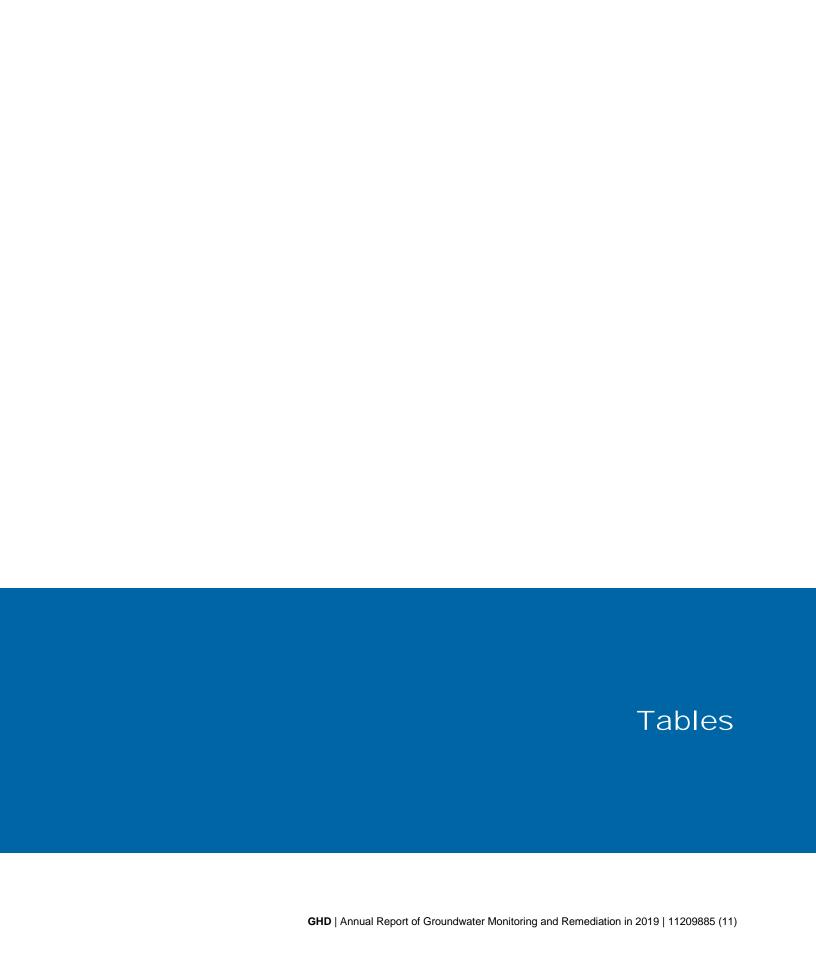


Table 1

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

March   Marc		Elevation			Depth					Volume		Volume	
Mode   Continue   Co		of Top of		Depth to		Thickness	Elevation of	Measured	Screen Interval	Product	Volume	Groundwater	
MW-01   379.02   522718													
MM-91   379.002   528918				(fbtoc)					<u> </u>	(gal.)	Bailed (gal.)	EFR (gal.)	Notes
MW-01   379.002   103718									50-70 (4 in.)				
MW-91   3790.02   107318													
MW-01   379.002   11/27/18   65.10   3.17   LNAPL at TD   68.27					65.95	3.18+	LNAPL at TD	67.16					
MW-01   379.02   1/28/19   65.30   2.97+   LNAPLat TD					2= 12		111151			3.0	0.0		
MW-01   379.012   22519   65.30   2974   LNAPLat TD   0.0   0					65.10	3.17+	LNAPL at TD	68.27					
MW-01   379.0.2   225f19   65.30   2.97											0.2		
MW-01   3790.02   36/19   63.3   66.39   2.94+   INAPL at TD   1,0   0   0										0.0			
MW-01   3790.02					65.30	2.97+	LNAPL at TD						
MW-01 3790.02 6711/19 8 2.0 0.2  MW-01 3790.02 6718/19 2.0 0.2  MW-01 3790.02 6718/19 2.0 0.0  MW-01 3790.02 772/19 66.65 2.56+ LNAPLatTD 69.21  MW-01 3790.02 873/19 1.15 0.0  MW-01 3790.02 873/19 1.19 0.1  MW-01 3790.02 102219 1.18 0.0  MW-01 3790.02 1222419 1.18 0.0  MW-01 3790.02 122419 1.18 0.0  MW-01 3790.02 12920 1.18 0.0  MW-01 3790.03 32718 66.30 3723.24 71.4  MW-02 3790.83 52918 66.31 3723.24 71.4  MW-02 3790.83 52919 67.06 0.00 3723.43  MW-02 3790.83 52919 67.06 0.00 3723.44  MW-02 3790.83 52919 67.06 0.00 3723.54													
MW-01   3790.02   611/19				69.33						1.0	0		
MW-01   3790.02   678/19   2.0   0.2   MW-01   3790.02   772/19   2.0   0.0   MW-01   3790.02   772/19   66.65   2.56+   LNAPL at TD   69.21					66.48	2.63+	LNAPL at TD						
MW-01   3790.02   62519													
MW-01 3790.02 7/2/19													
MW-01   3790.02   7/8/19													
MW-01   3790.02   7722/19   66.65   2.56+ LNAPLaiTD   69.21   1.5   0.0     MW-01   3790.02   8/13/19   1.9   0.1     MW-01   3790.02   8/20/19   2.4   0.1     MW-01   3790.02   8/20/19   2.3   0.1     MW-01   3790.02   8/20/19   2.3   0.1     MW-01   3790.02   9/10/19   0.0   0.0   1.5     MW-01   3790.02   10/21/9   1.8   0.0     MW-01   3790.02   10/21/9   66.82   2.37   3723.75   69.35     MW-01   3790.02   10/23/19   66.82   2.53+ LNAPLaiTD     MW-01   3790.02   10/23/19   66.82   2.53+ LNAPLaiTD   2.0     MW-01   3790.02   12/11/9   2.0   0.0     MW-01   3790.02   12/11/9   2.0   0.0     MW-01   3790.02   12/11/9   2.0   0.0     MW-01   3790.02   12/11/9   2.0   0.5     MW-01   3790.02   12/11/9   2.0   0.5     MW-01   3790.02   12/11/9   2.0   0.0     MW-01   3790.02   12/11/9   2.0   0.0     MW-01   3790.02   17/10   0.0     MW-02   3790.83   2/27/18   66.30   3723.25   71.58   50.70 (4 in)     MW-02   3790.83   2/27/18   66.30   3723.25   71.58   50.70 (4 in)     MW-02   3790.83   2/28/19   66.96   0.00   3723.41   0.0     MW-02   3790.83   2/28/19   66.96   0.00   3723.7     MW-02   3790.83   2/28/19   67.20   0.00   3723.7     MW-02   3790.83   2/28/19   67.20   0.00   3723.54     MW-02   3790.83   3/23/19   67.2													
MW-01   3790.02   8/6/19										1.3	0.2		
MW-01 379.02 8/30/19 2.4 0.1 MW-01 379.02 8/20/19 2.3 0.1 MW-01 379.02 9/25/19 0.0 1.5 MW-01 379.02 10/21/19 1.8 0.0 MW-01 379.02 10/21/19 1.8 0.0 MW-01 379.02 10/21/19 68.19 66.82 2.37 3723.75 69.35 MW-01 379.02 10/23/19 66.82 2.53+ LNAPL at TD 2.0 MW-01 379.02 11/20/19 2.0 0.0 MW-01 379.02 12/11/19 2.0 0.0 MW-01 379.02 12/24/19 2.5 0.0 MW-01 379.02 12/24/19 2.5 0.0 MW-01 379.02 11/20/20 1/22/20 1.5 0.0 MW-01 379.02 11/20/20 1.8/20 1.5 0.0 MW-01 379.02 11/20/20 1.8/20 1.5 0.0 MW-01 379.02 2/11/20 - 66.85 2.05+ LNAPL at TD 68.9 50-70 (4 in.) TD Measured  MW-02 379.03 5/29/18 66.31 3723.25 71.58 50-70 (4 in.) TD Measured  MW-02 379.03 5/29/18 66.31 3723.25 71.58 50-70 (4 in.) TD Measured  MW-02 379.03 5/29/18 66.64 66.44 0.02 3724.39 71.58  MW-02 379.08 3 1/27/18 66.69 0.00 3723.77  MW-02 379.08 3 1/27/18 66.69 0.00 3723.77  MW-02 379.08 3 1/27/18 66.69 0.00 3723.77  MW-02 379.08 3 5/29/19 67.06 0.00 3723.63  MW-02 379.08 3 5/20/19 67.29 0.00 3723.63  MW-02 379.08 3 5/20/19 67.29 0.00 3723.54					66.65	2.56+	LNAPL at TD	69.21					
MW-01   3790.02   8/28/19   2.3   0.1													
MW-01   3790.02   8/28/19													
MW-01         3790.02         9/10/19         1.8         0.0           MW-01         3790.02         9/25/19         1.8         0.0           MW-01         3790.02         10/21/19         68.19         65.82         2.37         3723.75         69.35           MW-01         3790.02         10/23/19         66.82         2.53+         LNAPL at TD         1.8         1.8           MW-01         3790.02         11/20/19         2.0         1.8         1.2         1.2         1.2         1.8         1.2         1.2         1.													
MW-01   3790.02   9/25/19   1.8   0.0													
MW-01   3790.02   10/21/9   68.19   65.82   2.37   3723.75   69.35													
MW-01         3790.02         10/23/19         68.19         65.82         2.37         3723.75         69.35           MW-01         3790.02         10/23/19         66.82         2.53         LNAPL at TD           MW-01         3790.02         11/20/19         2.0         0.0           MW-01         3790.02         12/18/19         2.5         0.0           MW-01         3790.02         12/24/19         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         1/15/20         1.5         0.0           MW-01         3790.02         1/29/20         1.5         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         68.9         50-70 (4 in)         TD Measured           MW-02         3790.83         2/27/18         66.30         3723.25         71.58         50-70 (4 in)         TD Measured           MW-02         3790.83         1/25/18         66.46											0.0		
MW-01         3790.02         10/23/19         66.82         2.53+         LNAPL at TD           MW-01         3790.02         11/20/19         2.0           MW-01         3790.02         12/11/19         2.0           MW-01         3790.02         12/18/19         2.5           MW-01         3790.02         12/24/19         0.5           MW-01         3790.02         1/8/20         1.5           MW-01         3790.02         1/15/20         2.0           MW-01         3790.02         1/29/20         1.5           MW-01         3790.02         1/29/20         1.5           MW-01         3790.83         2/27/18         66.30         3723.25         71.58           MW-02         3790.83         5/29/18         66.30         3723.24         71.4           MW-02         3790.83         1/27/18         66.66         66.44         0.02         3724.39         71.58           MW-02         3790.83         11/27/18         66.69         0.00         3724.14         3.0           MW-02         3790.83         2/26/19         67.06         0.00         3723.63         1.0           MW-02         3790.83										1.8			
MW-01   3790.02   11/20/19   2.0   0.0				68.19				69.35					
MW-01         3790.02         12/11/19         2.0         0.0           MW-01         3790.02         12/18/19         2.5         0.0           MW-01         3790.02         12/24/19         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         1/129/20         1.5         0.0           MW-01         3790.02         2/11/20         66.85         2.05+         LNAPL at TD         68.9         50-70 (4 in.)         TD Measured           MW-02         3790.83         2/27/18         66.30         3723.25         71.58         50-70 (4 in.)         TD Measured           MW-02         3790.83         5/29/18         66.31         3723.24         71.4         3723.24         71.4         3723.24         71.4         3.0         3723.24         71.58         50-70 (4 in.)         30					66.82	2.53+	LNAPL at TD						
MW-01       3790.02       12/18/19       2.5       0.0         MW-01       3790.02       12/24/19       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       68.9       50-70 (4 in.)       TD Measured         MW-02       3790.83       2/27/18       66.30       3723.25       71.58       50-70 (4 in.)       TD Measured         MW-02       3790.83       5/29/18       66.41       3723.24       71.4       3.0         MW-02       3790.83       8/29/18       66.46       66.44       0.02       3724.39       71.58         MW-02       3790.83       2/25/19       67.06       0.00       3723.77													
MW-01       3790.02       12/24/19       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       1/15/20       2.0       0.0         MW-01       3790.02       2/11/20       -       66.85       2.05+       LNAPL at TD       68.9       50-70 (4 in.)       TD Measured         MW-02       3790.83       2/27/18       66.30       3723.25       71.58       50-70 (4 in.)       TD Measured         MW-02       3790.83       5/29/18       66.31       3723.24       71.4       3.0         MW-02       3790.83       8/29/18       66.46       66.44       0.02       3724.39       71.58         MW-02       3790.83       1/27/18       66.69       0.00       3724.14       3.0         MW-02       3790.83       2/25/19       67.06       0.00       3723.77       3790.83       1.0         MW-02       3790.83       5/20/19       67.20       0.00       3723.63       0       8.0         MW-02       3790.83       7/24/19       67.29       0.00       3723.54       0.0       0.0 <td></td>													
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       68.9       50-70 (4 in.)       TD Measured         MW-02       3790.83       2/27/18       66.30       3723.25       71.58       50-70 (4 in.)       TD Measured         MW-02       3790.83       5/29/18       66.31       3723.24       71.4         MW-02       3790.83       8/29/18       66.46       66.44       0.02       3724.39       71.58         MW-02       3790.83       1/27/18       66.69       0.00       3724.14       3.0         MW-02       3790.83       2/25/19       67.06       0.00       3723.77       1.0         MW-02       3790.83       5/20/19       67.20       0.00       3723.63       0       8.0         MW-02       3790.83       5/22/19       0.00       3723.54       0       0.0       3.0         MW-02       3790.83       7/23/19       67.29       0.00       3723.54													
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         68.9         50-70 (4 in.)         TD Measured           MW-02         3790.83         2/27/18         66.30         3723.25         71.58         50-70 (4 in.)         TD Measured           MW-02         3790.83         5/29/18         66.31         3723.24         71.4         THA													
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         68.9         50-70 (4 in.)         TD Measured           MW-02         3790.83         2/27/18         66.30         3723.25         71.58         50-70 (4 in.)         TD Measured           MW-02         3790.83         5/29/18         66.31         3723.24         71.4           MW-02         3790.83         8/29/18         66.44         0.02         3724.39         71.58           MW-02         3790.83         11/27/18         66.69         0.00         3724.14         3.0           MW-02         3790.83         2/25/19         67.06         0.00         3723.77         1.0           MW-02         3790.83         5/20/19         67.20         0.00         3723.63         0         8.0           MW-02         3790.83         5/22/19         0.00         3723.54         0.0         8.0           MW-02         3790.83         7/24/19         67.29         0.00         3723.54         0.0         0.0         3.0													
MW-01         3790.02         2/11/20         -         66.85         2.05+         LNAPL at TD         68.9         50-70 (4 in.)         TD Measured           MW-02         3790.83         2/27/18         66.30         3723.25         71.58         50-70 (4 in.)         70.00													
MW-02       3790.83       2/27/18       66.30       3723.25       71.58       50-70 (4 in)         MW-02       3790.83       5/29/18       66.31       3723.24       71.4         MW-02       3790.83       8/29/18       66.46       66.44       0.02       3724.39       71.58         MW-02       3790.83       11/27/18       66.69       0.00       3724.14       3.0         MW-02       3790.83       2/25/19       67.06       0.00       3723.77         MW-02       3790.83       2/26/19       67.20       0.00       3723.63         MW-02       3790.83       5/20/19       67.20       0.00       3723.54         MW-02       3790.83       7/23/19       67.29       0.00       3723.54         MW-02       3790.83       7/24/19       67.29       0.00       3723.54										1.5	0.0		
MW-02         3790.83         5/29/18         66.31         3723.24         71.4           MW-02         3790.83         8/29/18         66.46         66.44         0.02         3724.39         71.58           MW-02         3790.83         11/27/18         66.69         0.00         3724.14         3.0           MW-02         3790.83         2/25/19         67.06         0.00         3723.77         1.0           MW-02         3790.83         5/20/19         67.20         0.00         3723.63         1.0           MW-02         3790.83         5/22/19         67.29         0.00         3723.54         9.0           MW-02         3790.83         7/23/19         67.29         0.00         3723.54         9.0           MW-02         3790.83         7/24/19         67.29         0.00         3723.54	MW-01	3790.02	2/11/20	-	66.85	2.05+	LNAPL at TD	68.9	50-70 (4 in.)				TD Measured
MW-02         3790.83         5/29/18         66.31         3723.24         71.4           MW-02         3790.83         8/29/18         66.46         66.44         0.02         3724.39         71.58           MW-02         3790.83         11/27/18         66.69         0.00         3724.14         3.0           MW-02         3790.83         2/25/19         67.06         0.00         3723.77         1.0           MW-02         3790.83         5/20/19         67.20         0.00         3723.63         1.0           MW-02         3790.83         5/22/19         67.29         0.00         3723.54         9.0           MW-02         3790.83         7/23/19         67.29         0.00         3723.54         9.0           MW-02         3790.83         7/24/19         67.29         0.00         3723.54													
MW-02         3790.83         8/29/18         66.46         66.44         0.02         3724.39         71.58           MW-02         3790.83         11/27/18         66.69         0.00         3724.14         3.0           MW-02         3790.83         2/25/19         67.06         0.00         3723.77           MW-02         3790.83         2/26/19         1.0           MW-02         3790.83         5/20/19         67.20         0.00         3723.63           MW-02         3790.83         5/22/19         0         8.0           MW-02         3790.83         7/23/19         67.29         0.00         3723.54           MW-02         3790.83         7/24/19         67.29         0.00         3723.54									50-70 (4 in)				
MW-02       3790.83       11/27/18       66.69       0.00       3724.14       3.0         MW-02       3790.83       2/25/19       67.06       0.00       3723.77         MW-02       3790.83       2/26/19       1.0         MW-02       3790.83       5/20/19       67.20       0.00       3723.63         MW-02       3790.83       5/22/19       0.00       3723.54         MW-02       3790.83       7/23/19       67.29       0.00       3723.54         MW-02       3790.83       7/24/19       67.29       0.00       3723.54													
MW-02         3790.83         2/25/19         67.06         0.00         3723.77           MW-02         3790.83         2/26/19         1.0           MW-02         3790.83         5/20/19         67.20         0.00         3723.63           MW-02         3790.83         5/22/19         0.00         3723.54           MW-02         3790.83         7/23/19         67.29         0.00         3723.54           MW-02         3790.83         7/24/19         0.0         3.0					66.44			71.58					
MW-02       3790.83       2/26/19         MW-02       3790.83       5/20/19       67.20       0.00       3723.63         MW-02       3790.83       5/22/19       0       8.0         MW-02       3790.83       7/23/19       67.29       0.00       3723.54         MW-02       3790.83       7/24/19       0.0       3.0											3.0		
MW-02         3790.83         5/20/19         67.20         0.00         3723.63           MW-02         3790.83         5/22/19         0         8.0           MW-02         3790.83         7/23/19         67.29         0.00         3723.54           MW-02         3790.83         7/24/19         0.0         3.0				67.06		0.00	3723.77						
MW-02     3790.83     5/22/19       MW-02     3790.83     7/23/19     67.29     0.00     3723.54       MW-02     3790.83     7/24/19     0.0     3.0						•					1.0		
MW-02     3790.83     7/23/19     67.29     0.00     3723.54       MW-02     3790.83     7/24/19     0.0     3.0				67.20		0.00	3723.63						
MW-02 3790.83 7/24/19 0.0 3.0										0	8.0		
	MW-02	3790.83	7/23/19	67.29		0.00	3723.54						
MW-02 3790.83 8/28/19 0.0 0.5	MW-02	3790.83	7/24/19										
	MW-02	3790.83	8/28/19							0.0	0.5		

Table 1

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

	Elevation of Top of		Depth to	Depth to	Thickness	Elevation of	Measured	Screen Interval	Volume Product	Volume	Volume Groundwater	
	Casing		Groundwater	LNAPL	of LNAPL	Potentiometric	Well Depth	(fbgs) Well	Removed	Groundwater	Removed by	
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)	Notes
MW-02	3790.83	9/10/19								0.5		
MW-02	3790.83	10/2/19								1.0		
MW-02	3790.83	10/21/19	67.51		0.00	3723.32	71.58					
MW-02	3790.83	10/24/19								6.0		
MW-02	3790.83	2/11/20	67.61	-	0.00	3723.22	74.01	50-70 (4 in.)				TD Measured
		- 12-11-2										
MW-03	3791.44	2/27/18		66.98	0.32+	LNAPL at TD	67.30	50-70 (4 in)				
MW-03	3791.44	5/29/18	66.92	66.81	0.11	3724.61	67.3					
MW-03	3791.44	8/29/18				Dry	67.49					
MW-03	3791.44	11/27/18				Dry	67.48					
MW-03	3791.44	2/25/19				Dry						
MW-03	3791.44	5/20/19				Dry						
MW-03	3791.44	7/23/19				Dry	67.00					
MW-03	3791.44	10/21/19				Dry	67.33					
NAVA / O 4	0700.54	0/07/40	07.00		0.00	0704.04	70.04	E0.70 /4:- \				
MW-04	3792.51	2/27/18	67.60		0.00	3724.91	70.24	50-70 (4 in.)				
MW-04	3792.51	5/29/18	67.79		0.00	3724.72	72.31					
MW-04	3792.51	8/29/18	67.95		0.00	3724.56	70.24			4.0		
MW-04	3792.51	11/27/18	68.13		0.00	3724.38				1.0		
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	70.04					
MW-04	3792.51	10/21/19	68.84		0.00	3723.67	70.24					
MW-04	3792.51	10/24/19	00.00		0.00	0700 45	74.00	50.70 (4: )		0.5		TD Marie and
MW-04	3792.51	2/11/20	69.06		0.00	3723.45	74.09	50-70 (4 in.)				TD Measured
	2700 50	2/27/40	66.28	CE DE	0.02	2722.07	71 11	E0.70 (4 in )				
MW-05	3789.50 3789.50	2/27/18	67.20	65.35 65.42	0.93 1.78	3723.97 3723.74	71.41	50-70 (4 in.)				
MW-05		5/29/18										
MW-05	3789.50	8/29/18	68.49	65.34	3.15 5.60	3723.56						
MW-05 MW-05	3789.50 3789.50	11/27/18 2/25/19	70.70 67.17	65.10 66.31	0.86	3723.34 3723.03						
	3789.50		07.17	00.31	0.00	3123.03			0.5	0.0		
MW-05 MW-05	3789.50	4/30/19 5/20/19	68.93	65.91	3.02	3723.02			0.5	0.0		
MW-05	3789.50	6/11/19	00.93	00.91	3.02	3123.02			3.0	1.0		
MW-05	3789.50	6/11/19							1.0	1.0		
MW-05	3789.50									1.6		
	3789.50	6/25/19							0.4 0.2	1.8		
MW-05 MW-05	3789.50	7/8/19 7/23/19	67.33	66.42	0.91	3722.91			0.2	1.0		
MW-05	3789.50	10/21/19	67.00	66.68	0.91	3722.76						
MW-05	3789.50	11/20/19	07.00	00.00	0.32	3122.10			0.4	1.6		
MW-05	3789.50	12/11/19							0.4	0.6		
									0.9			
MW-05 MW-05	3789.50 3789.50	12/24/19 1/29/20							1	0.8 1.2		
MW-05	3789.50		67.76	66.84	0.92	3722.49	73.85	F0.70 (4 in )	ı	1.∠		TD Measured
CO- VVIVI	3709.30	2/11/20	07.70	00.04	0.92	3122.49	13.00	50-70 (4 in.)				I D IVIEdSUIEU
	3789.27	2/27/18	65.61		0.00	3723.66	71.24					

Table 1

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

	Elevation			Depth					Volume		Volume	
	of Top of		Depth to	to	Thickness	Elevation of	Measured	Screen Interval	Product	Volume	Groundwater	
	Casing		Groundwater	LNAPL	of LNAPL	Potentiometric	Well Depth	(fbgs) Well	Removed	Groundwater	Removed by	
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)	Notes
MW-06	3789.27	5/29/18	65.81		0.00	3723.46	71.5					
MW-06	3789.27	8/29/18	65.93		0.00	3723.34	71.24					
MW-06	3789.27	11/27/18	66.35		0.00	3722.92				7.0		
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		
MW-06	3789.27	9/10/19							0.0	3.0		
MW-06	3789.27	9/25/19							0.0	3.0		
MW-06	3789.27	10/21/19	66.79		0.00	3722.48	71.24					
MW-06	3789.27	10/24/19								5.0		
MW-06	3789.27	2/11/20	67.01	-	0.00	3722.26	74.3	50-70 (4 in.)		14.0		TD Measured
								<u> </u>				
MW-07	3789.26	2/27/18	65.95		0.00	3723.31	73.33	50-70 (4 in.)				
MW-07	3789.26	5/29/18	66.17		0.00	3723.09		, ,				Possible bailer in well
MW-07	3789.26	8/29/18	66.28		0.00	3722.98						
MW-07	3789.26	11/27/18	66.42		0.00	3722.84				10.0		
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.)				TD Measured
-			<del>-</del>					,				
MW-08	3790.66	2/27/18	66.29	66.26	0.03	3724.39	72.78	50-70 (4 in)				
MW-08	3790.66	5/29/18	66.07	66.02	0.05	3724.63		- \/				
MW-08	3790.66	8/29/18	66.67	66.62	0.05	3724.03						
MW-08	3790.66	11/27/18	66.80	66.79	0.01	3723.87						
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)				TD Measured
MW-09	3790.94	2/27/18		65.60	4.60+	LNAPL at TD	70.2	50-70 (4 in.)				
MW-09	3790.94	5/29/18		65.17	4.32+	LNAPL at TD		55 75 (1 III.)				
MW-09	3790.94	8/29/18	69.54	66.55	2.99	3723.82						
MW-09	3790.94	11/27/18	00.0 <del>1</del>	66.91	3.59+	0.20.02	70.50					
MW-09	3790.94	2/25/19	70.49	66.94	3.55	3723.33	, 0.00					
MW-09	3790.94	5/20/19	10.70	66.85	3.22+	LNAPL at TD						
14144-09	3130.34	3/20/18		00.00	J.ZZT	LINALLALID						

Table 1

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

	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.)	Notes
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							1	0		
MW-09	3790.94	12/24/19							0.3	1.2		
MW-09	3790.94	1/29/20							0.2	0		
MW-09	3790.94	2/11/20	-	67.51	5.26+	LNAPL at TD	72.77	50-70 (4 in.)				TD Measured
MW-10	3790.94	2/27/18	67.12	66.90	0.22	3724.00	68.48	40-65 (2 in.)				
MW-10	3790.94	5/29/18	67.45	67.10	0.35	3723.77	68.48	· ·				
MW-10	3790.94	8/29/18	67.68	67.23	0.45	3723.62	68.48					
MW-10	3790.94	11/27/18	68.25	67.35	0.90	3723.42						
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	0.94+	LNAPL at TD	68.5					
MW-10	3790.94	2/11/20	67.64	-	0.00	3723.30	69.77	40-65 (2 in.)				TD Measured
MW-11	3792.02	2/27/18				Dry	63.42	35-60 (2 in.)				
MW-11	3792.02	5/29/18				Dry		00 00 (2)				
MW-11	3792.02	8/29/18				Dry						
MW-11	3792.02	11/27/18				Dry						
MW-11	3792.02	2/25/19				Dry						
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					
10100 11	0702.02	10/21/10				Diy	00.10					
MW-12R	3789.55	2/27/18	66.10		0.00	3723.45	85.13	35-60 (2 in.)				
MW-12R	3789.55	5/29/18	66.26		0.00	3723.29						
MW-12R	3789.55	8/29/18	66.39		0.00	3723.16						
MW-12R	3789.55	11/27/18	66.61		0.00	3722.94				9.0		
MW-12R	3789.55	2/25/19	66.53		0.00	3723.02						
MW-12R	3789.55	2/26/19	22.25		2.22	0700.00				9.6		
MW-12R	3789.55	5/20/19	66.95		0.00	3722.60						
MW-12R	3789.55	5/22/19	07.00		0.00	0700 50			0	9.0		
MW-12R	3789.55	7/23/19	67.02		0.00	3722.53						
MW-12R	3789.55	7/24/19	07.00		0.00	0700 00	05.40		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	<b>2</b> 42			0700.55	<b>07</b> 05			7.0		
MW-12R	3789.55	2/11/20	67.49	-	0.00	3722.06	87.65			10.0		
MW-13	3790.98	2/27/18				Dry	63.29	35-60 (2 in)				
MW-13	3790.98	5/29/18				Dry	63.3					
MW-13	3790.98	8/29/18				Dry	63.29					
MW-13	3790.98	11/27/18				Dry						

Table 1

Summary of Fluid Level Measurements
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.)	Notes
MW-13	3790.98	2/25/19	(IDIOC)	(IDIOC)	(IL.)		(IDIOC)	Diameter (iii.)	(yai.)	balleu (gal.)	EFR (yai.)	Notes
MW-13	3790.98	5/20/19				Dry Dry						
MW-13	3790.98	7/23/19				Dry	CO 04					
MW-13	3790.98	10/21/19				Dry	63.31					
MW-14	3791.16	2/27/18				Dry	63.41	35-60 (2 in)				
MW-14	3791.16	5/29/18				Dry	03.41	33-00 (2 111)				
MW-14	3791.16	8/29/18				Dry						
MW-14	3791.16	11/27/18				Dry	63.40					
MW-14	3791.16	2/25/19				Dry	03.40					
	3791.16	5/20/19				Dry						
MW-14	3791.16	7/23/19				Dry						
MW-14							63.41					
MW-14	3791.16	10/21/19				Dry	03.41					
MW-16R	3791.21	2/27/18	66.72		0.00	3724.49	84.78					
MW-16R	3791.21	5/29/18	66.90		0.00	3724.49	84.85					
MW-16R	3791.21	8/29/18	67.05		0.00	3724.16	84.78					
MW-16R	3791.21	11/27/18	67.03		0.00	3723.99	04.70			7.0		
MW-16R		2/25/19	67.44			3723.99				7.0		
MW-16R	3791.21 3791.21	2/25/19	67.44		0.00	3123.11				0.6		
	3791.21		67.60		0.00	3723.61				8.6		
MW-16R	3791.21	5/20/19 5/22/19	67.60		0.00	3/23.01			0	0.5		
MW-16R			67.71		0.00	3723.50			0	8.5		
MW-16R	3791.21	7/23/19	07.71		0.00	3723.30			0.0	0.0		
MW-16R MW-16R	3791.21 3791.21	7/24/19 10/21/19	67.93		0.00	3723.28	84.78		0.0	6.0		
	3791.21		67.93		0.00	3123.20	04.70			6.0		
MW-16R MW-16R	3791.21	10/24/19 2/11/20	68.19		0.00	3723.02	85.51			6.0 8.3		
IVIVV-10PC	3/91.21	2/11/20	00.19	-	0.00	3723.02	00.01			0.3		
MW-17R	3790.20	2/27/18	66.52		0.00	3723.68	78.69					
MW-17R	3790.20	5/29/18	66.71		0.00	3723.49	78.8					
MW-17R	3790.20	8/29/18	66.85		0.00	3723.49	78.69					
MW-17R	3790.20	11/27/18	67.03		0.00	3723.35	70.08			3.5		
MW-17R	3790.20	2/25/19	67.03		0.00	3723.17				ა.ა		
MW-17R	3790.20	2/25/19	01.41		0.00	31 22.33				5.6		
MW-17R	3790.20	5/20/19	67.42		0.00	3722.78				3.0		
MW-17R	3790.20	5/20/19	07.42		0.00	3122.10			0	5.5		
MW-17R	3790.20	7/23/19	67.50		0.00	3722.70			U	ე.ე		
MW-17R	3790.20	7/23/19	07.30		0.00	3122.10			0.0	4.0		
MW-17R	3790.20	10/21/19	67.70		0.00	3722.50	78.69		0.0	4.0		
MW-17R	3790.20		07.70		0.00	3122.30	70.09			4.0		
		10/23/19	67.04		0.00	2722.26	70.15			4.0		TD Magazirod
MW-17R	3790.20	2/11/20	67.94	-	0.00	3722.26	79.15			5.3		TD Measured
M/M 10D	2704.04	2/27/40	66.04		0.00	2724.40	04.40					
MW-18R	3791.04	2/27/18	66.94		0.00	3724.10	81.48					
MW-18R	3791.04	5/29/18	67.13		0.00	3723.91	81.52					
MW-18R	3791.04	8/29/18	67.28		0.00	3723.76	81.48			E O		
MW-18R	3791.04	11/27/18	67.47		0.00	3723.57				5.0		

Table 1

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

						200 0	ounty, New Me	Aloo				
	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.)	Notes
MW-18R	3791.04	2/25/19	67.67		0.00	3723.37						
MW-18R	3791.04	2/26/19								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	7/24/19							0.0	5.0		
MW-18R	3791.04	10/21/19	68.13		0.00	3722.91	81.48					
MW-18R	3791.04	10/23/19								5.0		
MW-18R	3791.04	2/11/20	68.39	-	0.00	3722.65	81.94			6.0	TI	) Measured
MW-19R	3789.67	2/27/18	66.37		0.00	3723.30	71.11					
MW-19R	3789.67	4/24/18	66.46		0.00	3723.21						
MW-19R	3789.67	5/29/18	66.55		0.00	3723.12	78.23					
MW-19R	3789.67	8/29/18	66.68		0.00	3722.99						
MW-19R	3789.67	11/27/18	66.85		0.00	3722.82				1.5		
MW-19R	3789.67	2/25/19	67.06		0.00	3722.61						
MW-19R	3789.67	2/26/19								2.0		
MW-19R	3789.67	5/20/19	67.23		0.00	3722.44						
MW-19R	3789.67	5/22/19							0	1.5		
MW-19R	3789.67	7/23/19	67.30		0.00	3722.37						
MW-19R	3789.67	7/24/19							0.0	1.0		
MW-19R	3789.67	10/21/19	67.51		0.00	3722.16	71.11					
MW-19R	3789.67	10/23/19								0.8		
MW-19R	3789.67	2/11/20	67.79	-	0.00	3721.88	78.79	61.5-81.5 (2 in)			TI	) Measued
MW-20R	3789.73	2/27/18	65.94		0.00	3723.79	72.06					
MW-20R	3789.73	4/24/18	66.07		0.00	3723.66	72.03					
MW-20R	3789.73	5/29/18	66.14		0.00	3723.59	72.06					
MW-20R	3789.73	8/29/18	66.28		0.00	3723.45						
MW-20R	3789.73	11/27/18	66.55		0.00	3723.18				1.5		
MW-20R	3789.73	2/25/19	66.67		0.00	3723.06						
MW-20R	3789.73	2/26/19			0.00	2. 20.00				2.5		
MW-20R	3789.73	5/20/19	66.90		0.00	3722.83						
MW-20R	3789.73	5/22/19	23.00						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			<u> </u>		
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	ΤI	) Measued
MW-21	3790.26	2/27/18	66.70		0.00	3723.56	68.4					
	3790.26		66.78									
MW-21		4/24/18			0.00	3723.48	68.45					
MW-21	3790.26	5/29/18	66.87		0.00	3723.39	60 40					
MW-21	3790.26	8/29/18	67.00		0.00	3723.26	68.48			0.2		
MW-21	3790.26	11/27/18	67.30		0.00	3722.96				0.2		
MW-21	3790.26	2/25/19	67.38		0.00	3722.88						

Table 1

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

	Elevation		<b>5</b> 41 4	Depth					Volume		Volume	
	of Top of		Depth to	to	Thickness	Elevation of	Measured	Screen Interval	Product	Volume	Groundwater	
Well ID	Casing	Date	Groundwater	LNAPL	of LNAPL	Potentiometric Surface (famsl)	Well Depth	(fbgs) Well	Removed	Groundwater	Removed by	Natas
	(famsl) 3790.26	2/26/19	(fbtoc)	(fbtoc)	(ft.)	Surface (famsi)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)	Notes
	3790.26	5/20/19	67.61		0.00	3722.65				0.3		
	3790.26	5/20/19	10.10		0.00	3722.00			0	0.5		
	3790.26	7/23/19	67.63		0.00	3722.63				0.5		
	3790.26	7/23/19	07.03		0.00	3122.03			0.0	0.25		
	3790.26	10/21/19	67.87		0.00	3722.39	68.4		0.0	0.23		
	3790.26	10/21/19	07.07		0.00	3122.39	00.4			0.00		Insufficient water to purge
10100-21	3790.20	10/24/19								0.00		insufficient water to purge
MW-22	3788.97	2/27/18	65.90		0.00	3723.07	84.56					
	3788.97	5/29/18	66.04		0.00	3722.93	84.51					
	3788.97	8/29/18	66.17		0.00	3722.80	84.56					
	3788.97	11/27/18	66.38		0.00	3722.59	04.50			7.0		
	3788.97	2/25/19	66.53		0.00	3722.44				7.0		
	3788.97	2/26/19	00.00		0.00	3722.44				9.0		
	3788.97	5/20/19	66.70		0.00	3722.27				3.0		
	3788.97	5/22/19	00.70		0.00	0122.21			0	8.5		
	3788.97	7/23/19	66.79		0.00	3722.18				0.0		
	3788.97	7/24/19	00.70		0.00	0722.10			0.0	6.0		
	3788.97	10/21/19	67.02		0.00	3721.95	84.56		0.0	0.0		
	3788.97	10/24/19	07.02		0.00	0721.00	04.00			6.0		
	3788.97	2/11/20	67.31	_	0.00	3721.66	85.22			9.0		
10100 22	0700.07	2/11/20	07.01		0.00	0721.00	00.22			0.0		
MW-23	3790.93	2/27/18	67.90	66.52	1.38	3724.15	83.82					
	3790.93	5/29/18	66.84	66.62	0.22	3724.27	00.02					
	3790.93	8/29/18	68.37	66.80	1.57	3723.83						
	3790.93	10/3/18							1.0	0.2		
	3790.93	11/27/18	69.70	66.77	2.93	3723.60						
	3790.93	2/25/19	70.98	66.53	4.45	3723.55						
	3790.93	4/30/19	72.64	66.52	6.12	3723.25			4.7	0.3		
	3790.93	5/20/19	69.30	67.40	1.90	3723.17						
	3790.93	6/11/19							3	1		
	3790.93	6/18/19							1.5	0.5		
	3790.93	6/25/19							1.1	0.4		
	3790.93	7/2/19							0.3	0.4		
	3790.93	7/8/19							0.5	1.2		
	3790.93	7/23/19	69.31	67.50	1.81	3723.09						
	3790.93	8/6/19							0.8	0.5		
	3790.93	8/13/19							0.9	0.1		
	3790.93	8/20/19							2.0	0.5		
MW-23	3790.93	8/28/19							1.4	1.4		
MW-23	3790.93	9/10/19					·		0.9	0.1	<u> </u>	
MW-23	3790.93	9/25/19							0.0	3.0		
	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		
10100 20		12/11/19							2.5			

Table 1

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

	Elevation of Top of		Depth to	Depth to	Thickness	Elevation of	Measured	Screen Interval	Volume Product	Volume	Volume Groundwater	
Well ID	Casing	Date	Groundwater (fbtoc)	LNAPL (fbtoc)	of LNAPL	Potentiometric Surface (famsl)	Well Depth	(fbgs) Well Diameter (in.)	Removed	Groundwater	Removed by	Notes
MW-23	(famsl) 3790.93	12/18/19	(IDIOC)	(IDIOC)	(ft.)	Surface (famsi)	(fbtoc)	Diameter (m.)	<i>(gal.)</i> 1.5	Bailed (gal.) 3.0	EFR (gal.)	Notes
MW-23	3790.93	12/16/19							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		0.7	1.0		TD Measured
10100 25	3730.33	2/11/20	00.01	07.55	1.44	0122.10	04.52					TD Wedgarea
RW-01	3790.75	2/27/18				Dry	60.64	40-65 (6 in.)				
RW-01	3790.75	5/29/18				Dry	60.65	( - )				
RW-01	3790.75	8/29/18				Dry	60.64					
RW-01	3790.75	11/27/18				Dry						
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-02	3791.66	2/27/18				Dry	66.33	40-65 (4 in.)				
RW-02	3791.66	5/29/18				Dry		, ,				
RW-02	3791.66	8/29/18				Dry						
RW-02	3791.66	11/27/18				Dry	66.42					
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-03	3791.34	2/27/18	67.72	66.80	0.92	3724.37	68.13	40-65 (6 in.)				
RW-03	3791.34	5/29/18		66.39	1.69+	LNAPL at TD	68.08					
RW-03	3791.34	8/29/18		66.35	1.87+	LNAPL at TD	68.22					
RW-03	3791.34	10/3/18							1.2	0.0		
RW-03	3791.34	11/27/18	67.73	66.28	1.45	3724.78						
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		
RW-03	3791.34	7/8/19				1117			0.8	0.1		
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		00.00		LALADZ : TT			0.5	0.0		
RW-03	3791.34	10/21/19		66.96	1.17+	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		

Table 1

Summary of Fluid Level Measurements
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.)	Notes
RW-03	3791.34	1/8/20	(115155)	(115155)	(rei)	January (ramor)	(iibtoo)	Diamotor (mi)	0.5	0.0		110100
RW-03	3791.34	2/11/20	-	67.22	0.79+	LNAPL at TD	68.01					TD Measured
RW-04	3790.76	2/27/18	68.70	66.50	2.20	3723.84	68.94	50-70 (4 in.)				
RW-04	3790.76	5/29/18	67.83	66.27	1.56	3724.19		,				
RW-04	3790.76	8/29/18		66.19	2.75+	LNAPL at TD						
RW-04	3790.76	11/27/18		66.25	2.67+		68.92					
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						-	1	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	2.01+	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.)				TD Measured
RW-05	3791.45	2/27/18	67.30	65.80	1.50	3725.37	67.28	47-67 (4 in.)				
RW-05	3791.45	5/29/18		65.81	1.36+	LNAPL at TD	67.17					
RW-05	3791.45	8/29/18		65.96	1.59+	LNAPL at TD	67.55					
RW-05	3791.45	11/27/18		66.17	0.99+		67.16					
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	0.42+	LNAPL at TD	67.29					
RW-05	3791.45	12/18/19							0	Dry		
RW-05	3791.45	12/24/19							0.2	8.0		
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	2.33+	LNAPL at TD	69.44					TD Measured
RW-06	3791.39	2/27/18	67.40	65.90	1.50	3725.21	68.54	46-66 (4 in.)				
RW-06	3791.39	5/29/18	67.03	65.07	1.96	3725.95						
RW-06	3791.39	8/29/18	67.48	66.13	1.35	3725.00						
RW-06	3791.39	10/3/18							0.2	0.0		

Table 1

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

	Elevation			Depth					Volume		Volume	
	of Top of		Depth to	to	Thickness	Elevation of	Measured	Screen Interval	Product	Volume	Groundwater	
	Casing		Groundwater	LNAPL	of LNAPL	Potentiometric	Well Depth	(fbgs) Well	Removed	Groundwater	Removed by	
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)	Notes
RW-06	3791.39	11/27/18	67.47	66.30	1.17	3724.87						
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							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							0.3	0		
RW-06	3791.39	6/25/19							0.2	0.0		
RW-06	3791.39	7/8/19							0.3	0.0		
RW-06	3791.39	7/23/19		66.84	0.61+	LNAPL at TD						
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	1.56+	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				Dry						
RW-06	3791.39	2/11/20	-	67.22	0.31+	LNAPL at TD	67.53					TD Measured
RW-07	3791.51	2/27/18	67.68	67.04	0.64	3724.35	69.16	48-68 (4 in.)				
RW-07	3791.51	5/29/18	68.02	67.23	0.79	3724.13						
RW-07	3791.51	8/29/18	68.15	67.36	0.79	3724.00						
RW-07	3791.51	10/3/18							1.5	0.2		
RW-07	3791.51	11/27/18	68.45	67.45	1.00	3723.87						
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	<u> </u>				TD Measured
RW-08	3790.90	2/27/18		65.60	2.43+	LNAPL at TD	68.03	47-67 (4 in.)				
RW-08	3790.90	5/29/18		65.75	2.47+	LNAPL at TD	68.22					
RW-08	3790.90	8/29/18		65.89	1.63+	LNAPL at TD	67.52					
RW-08	3790.90	11/27/18		66.10	1.32+		67.42					
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						

Table 1

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

Well ID	Elevation of Top of Casing	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	Volume Groundwater Bailed (gal.)	Volume Groundwater Removed by	Natas
RW-08	(famsl) 3790.90	8/20/19	(IDIOC)	(IDIOC)	(11.)	Surface (famisi)	(IDIOC)	Diameter (m.)	( <b>gal.)</b> 0.2	0.3	EFR (gal.)	Notes
RW-08	3790.90	8/28/19							0.2	0.5		
RW-08	3790.90	10/21/19		66.75	1.28+	LNAPL at TD	68		0.1			
RW-08	3790.90	2/11/20		66.93	2.42+	LNAPL at TD	69.35	47-67 (4 in.)				TD Measured
1111 00	0700.00	2/11/20		00.00	2.721	LIVII L at 1B	00.00	47 07 (4 111.)				1 D Wicadarca
RW-09	3791.33	2/27/18	67.18	67.05	0.13	3724.26	71.18	49-69 (4 in.)				
RW-09	3791.33	5/29/18	67.40	67.26	0.14	3724.04	7 11.10	10 00 (1 1111)				
RW-09	3791.33	8/29/18	67.59	67.39	0.20	3723.90						
RW-09	3791.33	11/27/18	67.79	67.57	0.22	3723.72						
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			-				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					TD Measured
RW-10	3791.16	2/27/18		66.00	2.80+	LNAPL at TD	68.8					
RW-10	3791.16	5/29/18	68.73	66.05	2.68	LNAPL at TD	68.8					
RW-10	3791.16	8/29/18		66.31	1.20+	LNAPL at TD	67.51					
RW-10	3791.16	11/27/18		66.50	2.20+		68.70					
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	3791.16	7/23/19		67.00	1.70+	LNAPL at TD						
RW-10	3791.16	10/21/19		67.18	1.62+	LNAPL at TD	68.82					
RW-10	3791.16	2/11/20				Dry	68.68					TD Measured
RW-11	3790.82	2/27/18	70.61	66.00	4.61	3723.94	72.39	50-70 (4 in.)				
RW-11	3790.82	5/29/18	68.22	66.72	1.50	3723.82	72.39					
RW-11	3790.82	8/29/18	68.81	66.85	1.96	3723.60	72.39					
RW-11	3790.82	11/27/18	69.75	66.89	2.86	3723.39						
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		

Table 1

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

	Elevation of Top of		Depth to	Depth to	Thickness	Elevation of	Measured	Screen Interval	Volume Product	Volume	Volume Groundwater	
	Casing		Groundwater	LNAPL	of LNAPL	Potentiometric	Well Depth	(fbgs) Well	Removed	Groundwater	Removed by	
Well ID	(famsl)	Date	(fbtoc)	(fbtoc)	(ft.)	Surface (famsl)	(fbtoc)	Diameter (in.)	(gal.)	Bailed (gal.)	EFR (gal.)	Notes
RW-11	3790.82	1/15/20							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					TD Measured
RW-12	3791.20	2/27/18	66.80		0.00	3724.40	85.81					
RW-12	3791.20	5/29/18	66.95		0.00	3724.25	85.73					
RW-12	3791.20	8/29/18	67.09		0.00	3724.11	85.81					
RW-12	3791.20	11/27/18	67.25		0.00	3723.95				8.0		
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					TD Measured
RW-13	3791.08	2/27/18	72.40	65.75	6.65	3724.07	82.05					
RW-13	3791.08	5/29/18	70.30	66.23	4.07	3724.08						
RW-13	3791.08	8/29/18	70.34	66.46	3.88	3723.88						
RW-13	3791.08	11/27/18	70.61	66.90	3.71	3723.48						
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					TD Measured
RW-14	3790.92	2/27/18	71.13	65.90	5.23	3724.03	79.62					
RW-14	3790.92	5/29/18	69.05	66.59	2.46	3723.86	<u>-</u>					
RW-14	3790.92	8/29/18	71.24	66.36	4.88	3723.63						
RW-14	3790.92	11/27/18	69.51	66.95	2.56	3723.48						
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					TD Measured

### Table 1

### **Summary of Fluid Level Measurements** Plains Pipeline, L.P. Darr Angell No. 1 Lea County, New Mexico

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

### Notes:

- famsl Feet above mean sea level
   fbtoc Feet below top of casing
   LNAPL Light non-aqueous phase liquid.
   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. "+" entered with LNAPL thickness indicates that the base of LNAPL was below the bottom of the well.

Table 2

Summary of Dissolved Hydrocarbons in Groundwater
Plains Pipeline, L.P.

Darr Angell No. 1, SRS Darr Angell #1

Lea County, New Mexico

		Benzene	Toluene	Ethylbenzene	
Sample ID	Sample Date	(mg/L)	(mg/L)	(mg/L)	Total Xylenes
				an Health Standa	
	2/27//	0.01	0.75	0.75	0.62
MW-2	2/27/18	<0.00200	0.0101	0.00899	0.0353
MW-2 (DUP-2)	2/27/18	<0.00200	0.00789	0.00796	0.0308
MW-2	5/31/18	<0.00200	0.00259	0.0182	0.0619
MW-2 (Dup1)	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-2	11/29/18	<0.000190	<0.000412	<0.000160	0.0424
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-4	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
MW-4	10/24/19	<0.000190	<0.000412	<0.000160	<0.000510
MW-6	2/27/18	0.109	0.00278	0.0114	0.0151
MW-6 (DUP-1)	2/27/18	0.141	<0.0500	<0.0500	< 0.0500
MW-6	5/31/18	0.105	<0.00200	0.0105	0.0141
MW-6	8/30/18	0.0829	0.00274	0.00194	0.00900
MW-6	11/29/18	0.0781	<0.000412	0.00840	0.00944
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-7	5/31/18	0.00379	<0.00200	<0.00200	<0.00200
MW-7 (Dup2)	5/31/18	0.00367	<0.00200	<0.00200	<0.00200
MW-7	11/29/18	<0.000190	< 0.000412	<0.000160	<0.000510
MW-7	10/24/19	<0.000190	< 0.000412	<0.000160	<0.000510
MW-12R	2/27/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-12R	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-12R	8/30/18	0.000791	0.000434 J	0.000176 J	<0.000510
MW-12R (DUP-2)	8/30/18	0.000416 J	< 0.000412	0.000176 J	<0.000510
MW-12R	11/29/18	<0.000190	< 0.000412	<0.000160	<0.000510
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
		, <b></b>			
MW-16R	2/27/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-16R	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
	, . <b>-</b>		12120-00	12.2020	

Table 2

Summary of Dissolved Hydrocarbons in Groundwater
Plains Pipeline, L.P.

Darr Angell No. 1, SRS Darr Angell #1

Lea County, New Mexico

		Benzene	Toluene	Ethylbenzene	
Sample ID	Sample Date	(mg/L)	(mg/L)	(mg/L)	Total Xylenes
				an Health Standa	
		0.01	0.75	0.75	0.62
MW-16R	8/30/18	0.000256 J	<0.000412	<0.000160	<0.000510
MW-16R	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
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-17R	2/27/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-17R	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-17R	8/30/18	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
MW-17R (DUP-1)	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
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-18R	2/27/18	<0.00200	<0.00200	0.00200	<0.00200
MW-18R	5/31/18	<0.00200	<0.00200	0.00200	<0.00200
MW-18R	8/30/18	<0.000190	<0.000412	<0.000160	<0.000510
MW-18R	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
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-19R	2/27/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-19R	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-19R	8/30/18	0.000338 J	<0.000412	<0.000160	<0.000510
<u>MW-19R</u>	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
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
	0/07/40	0.0000	0.0000	2 22222	0.0000
MW-20R	2/27/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-20R	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-20R	8/30/18	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
MW-20R (DUP-2)	11/29/18	<0.000190	<0.000412	<0.000160	<0.000510
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

Table 2

Summary of Dissolved Hydrocarbons in Groundwater
Plains Pipeline, L.P.

Darr Angell No. 1, SRS Darr Angell #1

Lea County, New Mexico

		Benzene	Toluene	Ethylbenzene	
Sample ID	Sample Date	(mg/L)	(mg/L)	(mg/L)	Total Xylenes
		٨	IMWQCC Hum	an Health Standa	rds
		0.01	0.75	0.75	0.62
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-21	2/27/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-21	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-21	8/30/18	<0.000190	< 0.000412	<0.000160	<0.000510
MW-21	11/29/18	<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		
				·	
MW-22	2/27/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-22	5/31/18	<0.00200	<0.00200	<0.00200	<0.00200
MW-22	8/30/18	<0.000190	< 0.000412	<0.000160	<0.000510
MW-22	11/29/18	<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
					_
RW-12	2/27/18	0.00237	0.00809	0.00271	0.0170
RW-12	5/31/18	1.53 D	0.0909	0.202	0.220
RW-12	8/30/18	0.00161	0.00965	0.00527	0.0641
RW-12 (DUP-1)	8/30/18	0.00147	0.00834	0.00451	0.0562
RW-12	11/29/18	0.00662	0.0194	0.0145	0.127
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
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
_					

#### Table 2

#### Summary of Dissolved Hydrocarbons in Groundwater Plains Pipeline, L.P. Darr Angell No. 1, SRS Darr Angell #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									

#### 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.

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)	الالهما)	Benzo(a)anthracene (mg/L)	3enzo(a)pyrene (mg/L)	Benzo(b)fluoranthene (mg/L)	Benzo(g,h,i)perylene (mg/L)	Benzo(k)fluoranthene (mg/L)	Chrysene (mg/L)	ibenzo(a,h)anthracene (mg/L)	Dibenzofuran (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	ndeno(1,2,3-cd)pyrene (mg/L)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)
				4		Ф				A/// (0	00.000000000000000000000000000000000000				*					
		0.001	0.001	0.001	0.001	0.0002	0.001	0.001	0.001	0.001	CD Regulatory Sta 0.001	o.001	0.001	0.001	0.001	0.03	0.001	0.001	0.03	0.03
MW-1	11/24/08	<0.000183	<0.000183	0.00485	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.0106	<0.000183	0.0167	<0.000183	0.122	0.0205	<0.000183	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	0.350	0.106	<0.000922	0.748	1.09
MW-2	11/24/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.00174	<0.000183	0.00255	<0.000183	0.0285	0.00282	<0.000183	0.0234	0.0302
MW-2	12/07/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00314	<0.000184	0.00482	<0.000184	0.0435	0.00625	<0.000184	0.0536	0.0528
MW-2 MW-2	12/01/17 11/29/18	<0.000185 <b>0.000671</b>	0.000644 0.000509	<0.000185 <0.0000120	<0.000185 <0.0000410	<0.000185 <0.0000116	<0.000185 <b>0.0000380</b> J	<0.000185 <0.0000227	<0.000185 <0.0000136	<0.000185 <b>0.000175</b>	<0.000185 <0.0000396	0.000941 0.00215	<0.000185 <0.0000157	0.00133 0.00232	<0.000185 <0.0000148	0.00546 0.0137	0.00128 0.00291	<b>0.000236</b> < 0.0000117	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	<0.0000140	0.00140	0.00290	0.000539	0.00629	0.00159
- NAVA ( 2	44/04/00	.0.0004.04	.0.0004.04	.0.0004.04	.0.0004.04	.0.0004.04	.0.000404	.0.0004.04	.0.0004.04	.0.0004.04	.0.0004.04	0.0000	-0.0004.04	0.00077	.0.0004.04	0.0004	0.0027	.0.0004.04	0.0455	0.0005
MW-3 MW-3	11/24/08 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	0.00292 0.00191	<0.000184 <0.000184	0.00377 0.00242	<0.000184 <0.000184	0.0601 0.0372	0.0037	<0.000184 <0.000184	0.0455	0.0625 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	0.0673	0.0136	<0.000186	0.0915	0.115
	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
MW-5 MW-5	11/24/08 12/07/09	<b>0.0424</b> <0.000184	<0.000917 <0.000184	<b>0.0806</b> < 0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 <0.000184	<0.000917 <b>0.00262</b>	<0.000917 <0.000184	0.0201 0.00767	<0.000917 <0.000184	0.0326 0.0122	<0.000917 <0.000184	0.136 0.0779	0.0427 0.0172	<0.000917 <0.000184	0.261 0.137	0.372 0.194
10100-5	12/01/09	<u> </u>	<0.000184	<u> </u>	<u> </u>	<0.000104	<0.000104	<0.000104	<0.000104	0.00202	<0.000104	0.00767	<u> </u>	0.0122	<0.000104	0.0779	0.0172	<u> </u>	0.137	0.194
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	0.0217	0.00322	<0.000184	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 <0.000186	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184 <0.000186	<0.000184	<0.000184 <0.000186	0.00125 0.00152	<0.000184 <0.000186	0.00129 0.000962	<0.000184 <0.000186	0.00437 0.00345	0.00144 0.00131	<0.000184 <0.000186	0.0133 0.00676	0.00426 0.00328
MW-6	12/06/12	<0.000190	<0.000100	<0.000190	<0.000190	<0.000100	<0.000190	<0.000190	<0.000190	<0.000100	<0.000100	0.00398	<0.000190	0.00346	<0.000100	0.0126	0.00406	<0.000100	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 MW-6	11/04/16 12/01/17	<0.000185 <0.000185	<0.000185 <b>0.000313</b>	<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	0.000342 0.00047	<0.000185 <0.000185	<0.000185 <b>0.000277</b>	<0.000185 <0.000185	0.00219 0.00208	<0.000185 <b>0.000360</b>	<b>0.000273</b> <0.000185	0.00141	0.00122
MW-6	11/29/18	0.000306	0.000311	<0.000120	<0.0000410	<0.000116	0.0000189 J	0.0000137 J	<0.000136	<0.000108	<0.0000396	0.000334	0.0000159 J	0.000146	<0.000148	0.00196	0.000293	0.000141	0.00188	0.00107
MW-6	10/24/19	0.0000833	0.000313	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.000108	<0.0000396	0.000332	<0.0000157	0.0000546	<0.000148	0.00161	0.000139	0.0000246 J	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	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
MW-7	11/29/18	<0.0000140 <0.0000140	<b>0.0000476 J</b> <0.0000100	<0.0000120 <0.0000120	<0.00000410	<0.0000116 <0.0000116	<0.00000212 <0.00000212	<0.00000227	<0.0000136 <0.0000136	<0.0000108	<0.0000396	0.00028 0.0000667 B J	<0.0000157 <0.0000157	<0.00000850	<0.0000148 <0.0000148	0.000254 B 0.0000281 B J	0.0000751	<0.0000117 <0.0000117	0.000367 0.0000148 B J	0.0000983 J 0.0000138 B J
MW-7	10/24/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000110	<0.00000212	<0.00000227	<0.0000130	<0.0000108	<0.00000396	0.00000007 B 3	<0.0000137	<0.0000085	<0.0000148	0.0000261 B 3	<0.00000820	<0.0000117	0.0000146 B 3	0.0000136 B 3
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	0.529	0.188	<0.000184	1.26	1.86
MW-8	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	0.359	0.113	<0.000917	0.839	1.14
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	0.0641	0.0104	<0.000184	0.0851	0.112
MW-10	11/24/08 12/08/09	<0.000922	<0.000922 <0.000917	<0.000922 <0.000917	<0.000922 <0.000917	<0.000922 <0.000917	<0.000922 <0.000917	<0.000922 <0.000917	<0.000922 <0.000917	<0.000922 <b>0.0357</b>	<0.000922 <0.000917	0.0286 0.112	<0.000922 <0.000917	0.0382 0.172	<0.000922 <0.000917	0.212 0.856	0.0512 0.245	<0.000922 <0.000917	0.382 1.89	0.537 2.64
10100-10	12/00/03	<b>VO.000317</b>	<b>VO.000317</b>	<b>VO.000317</b>	<b>VO.000317</b>	<b>VO.000317</b>	<b>VO.000317</b>	<b>40.000317</b>	<b>VO.000317</b>	0.0337	<0.000317	0.112	V0.000317	0.172	<0.000317	0.030	0.243	<b>40.000317</b>	1.09	2.04
	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-11	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
MW-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	0.000648	<0.000183	<0.000183	0.000372	<0.000183
	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	0.000615	<0.000184	<0.000184	<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
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	<0.000368	<0.000184	<0.000184		
	11/29/18	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	0.00000214 J	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000847 B J	<0.0000157	<0.00000850	<0.0000148	0.0000307 B J	0.0000133 J	<0.0000117	<0.0000821	<0.00000902
MW-12R	10/24/19	<0.000140	<0.0000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000710 B J	<0.0000157	<0.0000085	<0.0000148	0.0000286 B J	0.00000922 J	<0.0000117	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

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)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)
											CD Regulatory St									
MW-16	11/24/08	0.001 0.000888	0.001 <0.000185	<i>0.001</i> <0.000185	0.001 0.000959	0.0002 0.000847	0.001 0.000814	0.001 0.00102	0.001 0.000879	0.001 0.000958	<i>0.001</i> <0.000185	<b>0.001</b> <0.000185	0.001 0.0013	0.001 0.000417	0.001 0.0010	0.03 <0.000185	0.001 0.00076	0.001 0.0012	0.03 0.000216	0.03 0.000313
MW-16		<0.000184	<0.000183	<0.000183	<0.000939	<0.000847	<0.00014	<0.00102	<0.000879	<0.000938	<0.000184	<0.000183	<0.0013	<0.000417	<0.0010	<0.000183	<0.00078	<0.0012	<0.000218	<0.000313
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	<0.000184	<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-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	<0.000184	<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-18R MW-18R	12/01/17	<0.000184	<0.000184 <0.0000100	<0.000184 <0.0000120	<b>0.000257</b> <0.00000410	<0.000184 <0.0000116	<b>0.000252</b> <0.00000212	<b>0.000298</b> <0.00000227	<b>0.000278</b> <0.0000136	<b>0.000250</b> < 0.0000108	<b>0.000348</b> <0.0000396	<0.000184 <b>0.00000623 B J</b>	<b>0.000286</b> < 0.0000157	<0.000184 <0.0000850	<b>0.000329</b> <0.0000148	<0.000368 <b>0.000134 B J</b>	<0.000184 <b>0.00000952</b> J	<b>0.00029</b> <0.0000117	<0.000184 0.0000439 J	<0.000184 0.0000423 J
IVIVV-TOIX	11/23/10	<0.0000140	<0.0000100	<u> </u>	<0.00000410	<0.0000110	<0.00000212	<0.00000221	<0.0000130	<0.0000108	<0.00000390	0.00000023 B 3	<u> </u>	<0.00000000	<0.0000148	0.000134 B 3	0.00000332 3	<0.0000117	0.00004393	0.00004233
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	<0.000184	<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-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	<0.000186	0.00180	<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		<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	0.000296	<0.000185	<0.000185
MW-19R	11/29/18	<0.000140	<0.000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.00000227	<0.0000136	<0.0000108	<0.00000396	0.00000399 B J	<0.0000157	<0.0000850	<0.000148	0.0000460 B J	<0.00000820	<0.0000117	<0.00000821	<0.00000902
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
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
	12/04/15	<0.000186	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000196	<0.000186	<0.000196	<0.000100	<0.000196	<0.000196	<0.000100	<0.000186	<0.000196	<0.000186	<0.000196
-																				
	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 <0.000184	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
10100-21	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	<0.000164	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
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	<0.000368	<0.000184	<0.000184		
	11/29/18	<0.0000140 <0.0000140	<0.0000100 <0.0000100	<0.0000120 <0.0000120	<0.00000410 <0.00000410	<0.0000116 <0.0000116	<0.00000212 <0.00000212	<0.00000227 <0.00000227	<0.0000136 <0.0000136	<0.0000108 <0.0000108	<0.00000396 <0.00000396	0.00000399 B J 0.00000625 B J	<0.0000157 <0.0000157	<0.00000850 <0.0000850	<0.0000148 <0.0000148	0.0000537 B J 0.0000362 B J	<0.00000820 <0.00000820	<0.0000117 <0.0000117	<0.00000821 <b>0.0000126 B J</b>	<0.00000902 <b>0.0000132 B J</b>
<u> </u>	10/24/19	<0.0000140	<0.0000100	<0.0000120	<0.00000410	<0.0000110	<0.00000212	<0.00000227	<0.0000130	<0.0000100	<0.00000330	0.00000023 B 3	<0.0000137	<0.0000000	<0.0000140	0.0000302 B 3	<0.00000020	<0.0000117	0.0000120 B 0	0.0000132 B 3
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	0.798	0.256	<0.00184	1.74	2.60
	44/05/00	0.000047	0.000047	0.000047	0.000047	0.000047	0.000047	0.000047	0.000047	0.0040	0.000047	0.0000	0.000047	0.0000	0.000047	0.400	0.400	0.000047	0.000	4.04
	11/25/08 12/08/09	<0.000917 <0.00183	<0.000917 <0.00183	<0.000917 <0.00183	<0.000917 <0.00183	<0.000917 <0.00183	<0.000917 <0.00183	<0.000917 <0.00183	<0.000917 <0.00183	0.0218 0.0506	<0.000917 <0.00183	0.0633 0.130	<0.000917 <0.00183	0.0966 0.210	<0.000917 <0.00183	0.400 1.02	0.129 0.321	<0.000917 <0.00183	0.888 2.27	1.31 3.29
																111				
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	0.0801	0.0161	<0.000183	0.134	0.184
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	0.132	0.0273	<0.000917	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	0.338	0.105	<0.000917	0.726	1.07
RW-6	11/25/08 12/08/09	<0.000917	<0.000917 <0.000922	<0.000917 <0.000922	<0.000917 <0.000922	<0.000917 <0.000922	<0.000917 <0.000922	<0.000917 <0.000922	<0.000917 <0.000922	0.0286 0.0110	<0.000917 <0.000922	0.0751 0.0180	<0.000917 <0.000922	0.126 0.0330	<0.000917 <0.000922	0.564 0.175	0.167 0.0456	<0.000917 <0.000922	1.33 0.327	1.93 0.462
1///-0	12/00/03	NO.000322	~U.UUU322	NO.000322	~U.UUU3ZZ	NO.000322	NO.000322	~U.UUU3ZZ	NO.000322	0.0110	~U.UUU3ZZ	0.0100	\0.0003ZZ	0.0330	N.000322	0.173	0.0430	\0.0003ZZ	0.321	0.702
	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	0.477	0.143	<0.000922	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	3.95	1.28	<0.00862	9.15	13.1
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	1.17	0.436	<0.00459	2.87	4.15
	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	2.16	0.704	<0.00461	5.04	7.19
	14/05/00	-0.000047	40 00004 <del>7</del>	-0.000047	-0.000047	-0.000047	-0.000047	40 000047	-0.000047	an noon47	-0.000047	0.0400	-0.000047	0.004	-0.000047	0.004	0.0000	-0.000047	0.507	0.044
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	0.294	0.0838	<0.000917	0.587	0.841

GHD 11209885 (11)

Table 3

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

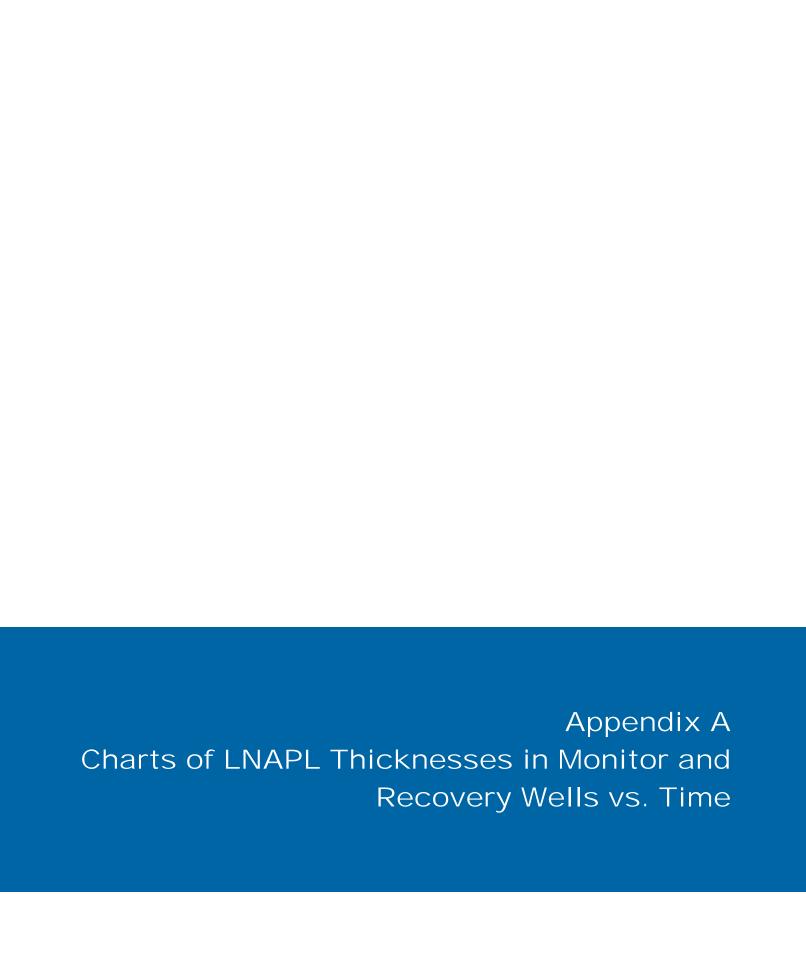
Sample ID	Sample Date	Anthracene	Acenaphthene (mg/L)	Acenaphthylene (mg/l)	Benzo(a)anthracene (mg/L)	Benzo(a)pyrene (mg/L)	Benzo(b)fluoranthene (mg/L)	Benzo(g,h,i)perylene (mg/L)	Benzo(k)fluoranthene (mg/L)	Chrysene (mg/L)	Dibenzo(a,h)anthracene (mg/L)	Dibenzofuran (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	Indeno(1,2,3-cd)pyrene (mg/L)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)
	NMOCD Regulatory Standards																			
		0.001	0.001	0.001	0.001	0.0002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.03	0.001	0.001	0.03	0.03
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	0.402	0.117	<0.00183	0.890	1.24
RW-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	0.0478	0.00643	<0.000183	0.0674	0.0898
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	0.145	0.0571	<0.000917	0.322	0.441
RW-12	12/01/17	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000182	<0.000364	<0.000182	<0.000182		
RW-12	11/29/18	<0.0000140	<0.000100	<0.0000120	<0.00000410	<0.0000116	<0.00000212	<0.0000227	<0.0000136	<0.000108	<0.00000396	0.00000538 B J	<0.0000157	<0.0000850	<0.0000148	0.000138 B J	<0.0000820	<0.000117	0.0000167 J	<0.00000902
RW-12	11/12/19	<0.00000800	<0.0000100	<0.0000700	0.0000120 J	<0.000158	0.00000573 J	0.00000505 J	<0.0000255	<0.000144	<0.0000454	0.00000221 J	<0.0000165	<0.0000898	<0.0000739	0.0000393 B J	<0.000184	<0.000155	<0.000189	<0.000155

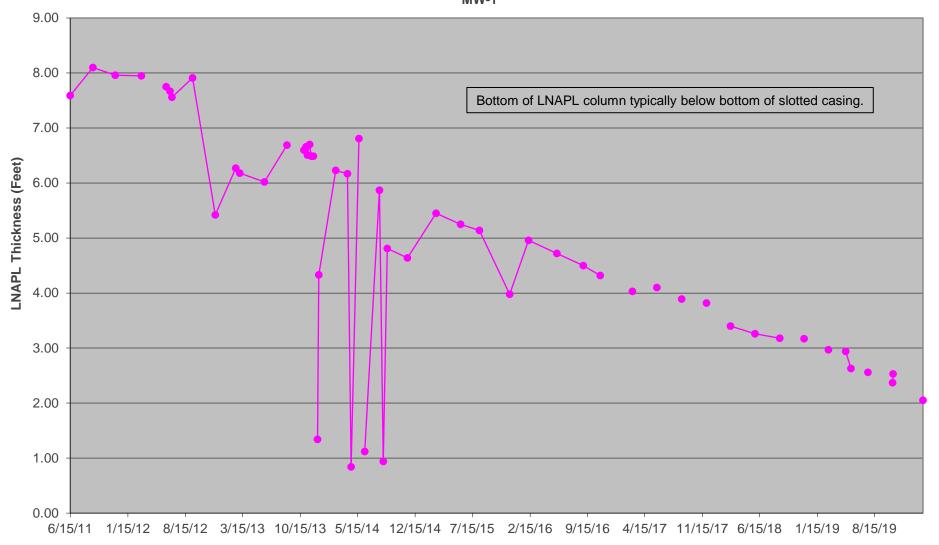
#### Notes:

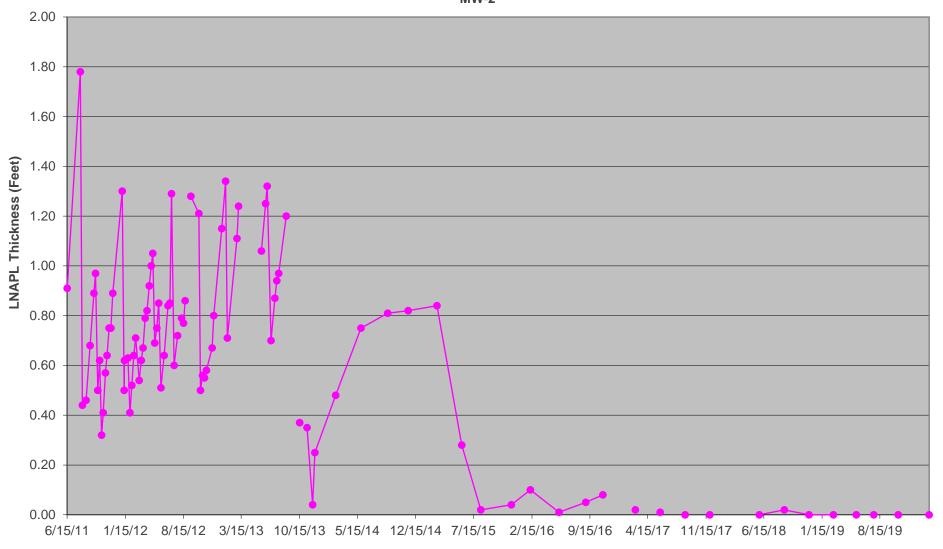
- PAH analyses by EPA Method 8270D.
   Shaded cells indicate NMWQCC Drinking Water Standards Section 1-101.UU and 3-103.A exceedance.
- 3. Bold indicates detection.

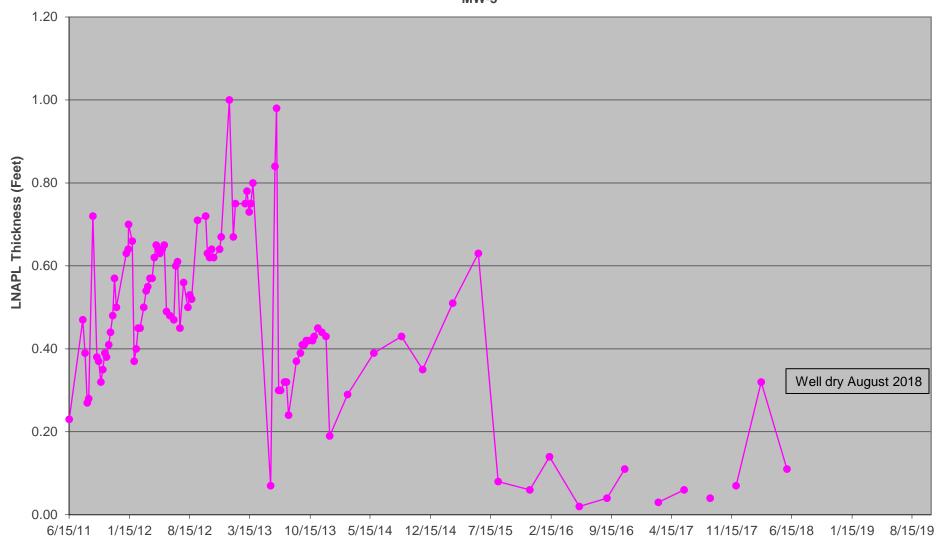
- 4. Nova Training and Environmental collected samples from 2008 through 2010.
   5. Flag J indicates the identification of the analyte is acceptable and the reported result is an estimate.
   6. Flag B indicates the same analyte is found in the associated blank.
   7. Regulaotry standards of 0.001 mg/L noted above are requirements of the NMOCD. Other standards are required by NMAC 20.6.2.3103 Section A..

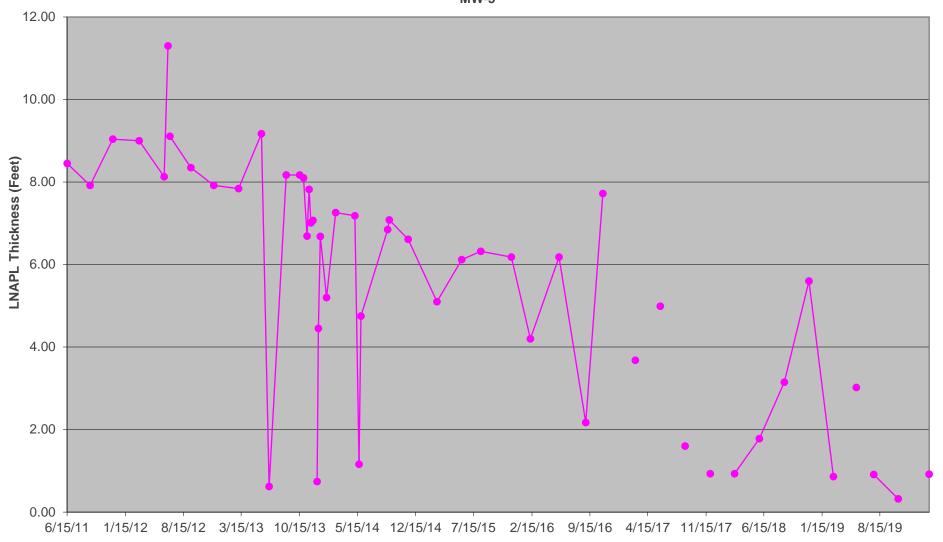


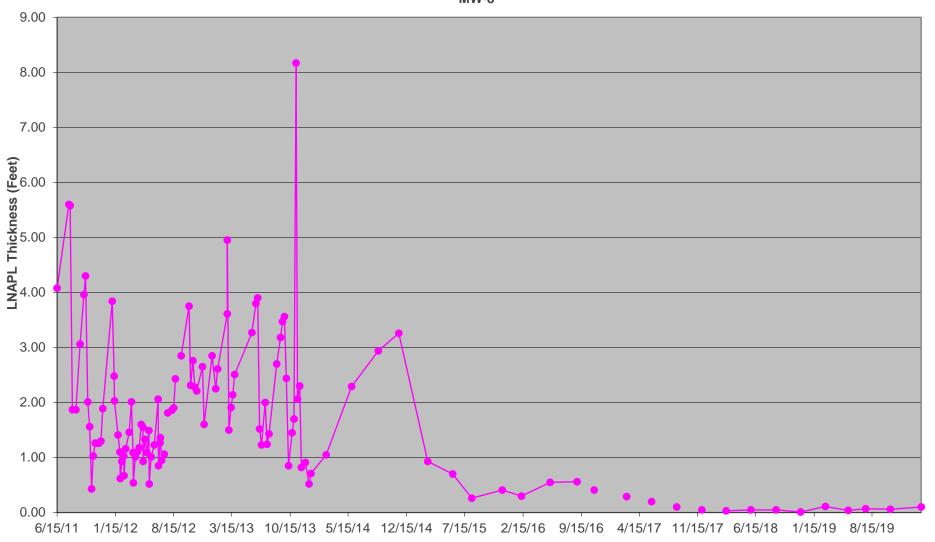


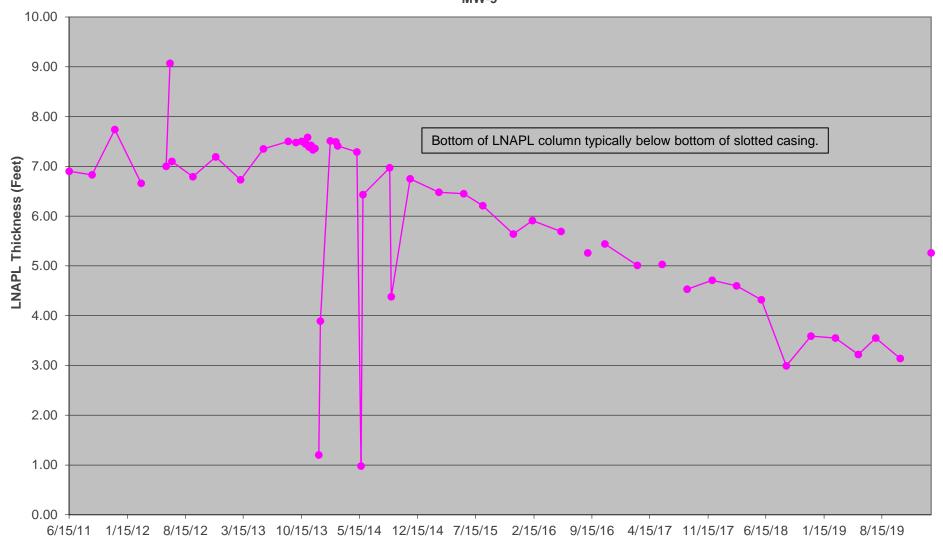


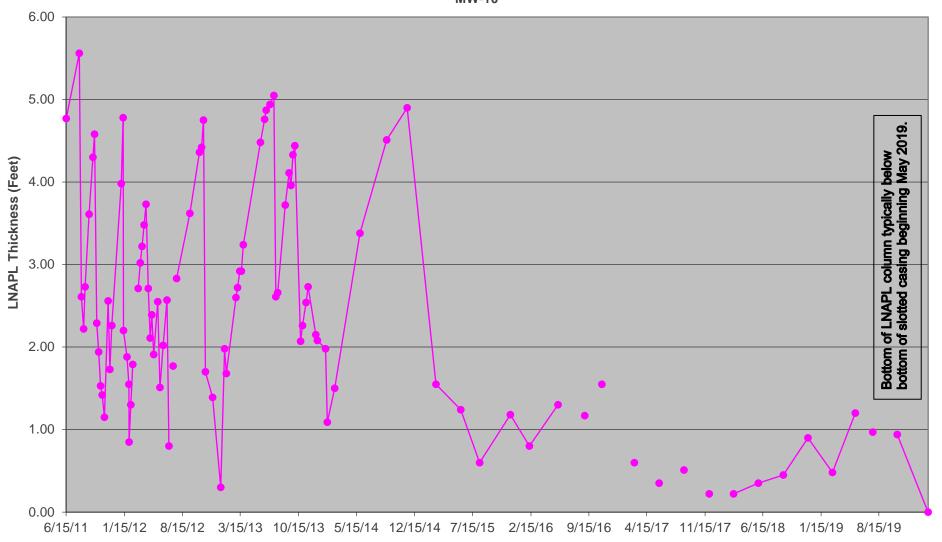


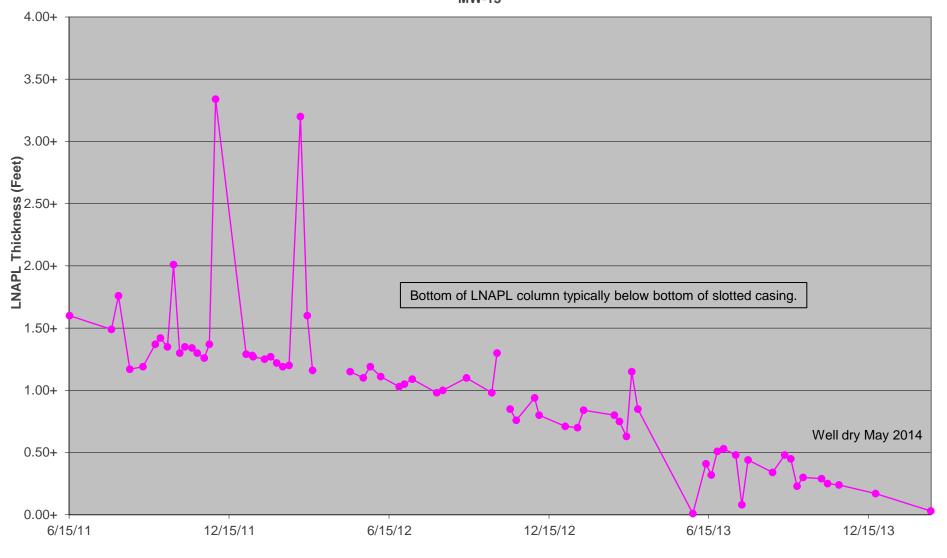


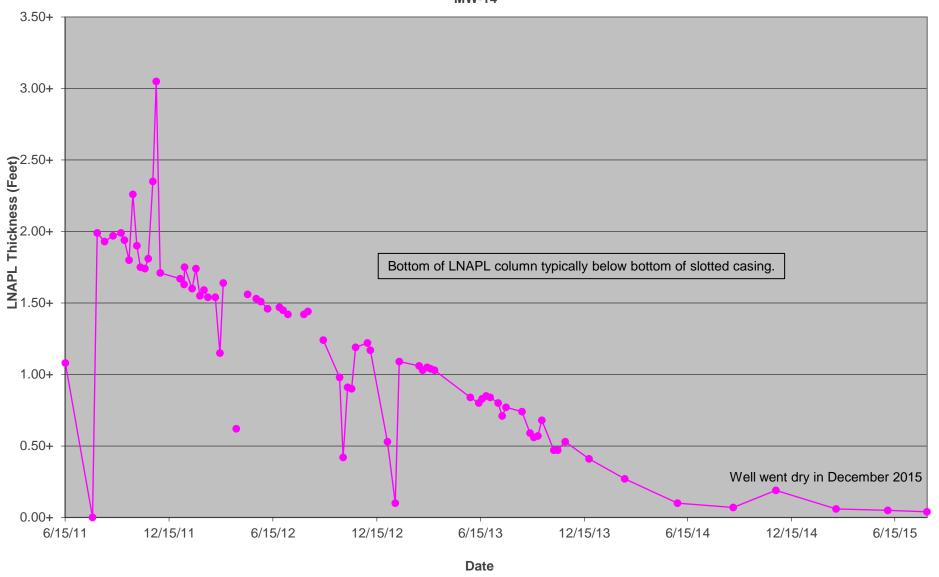


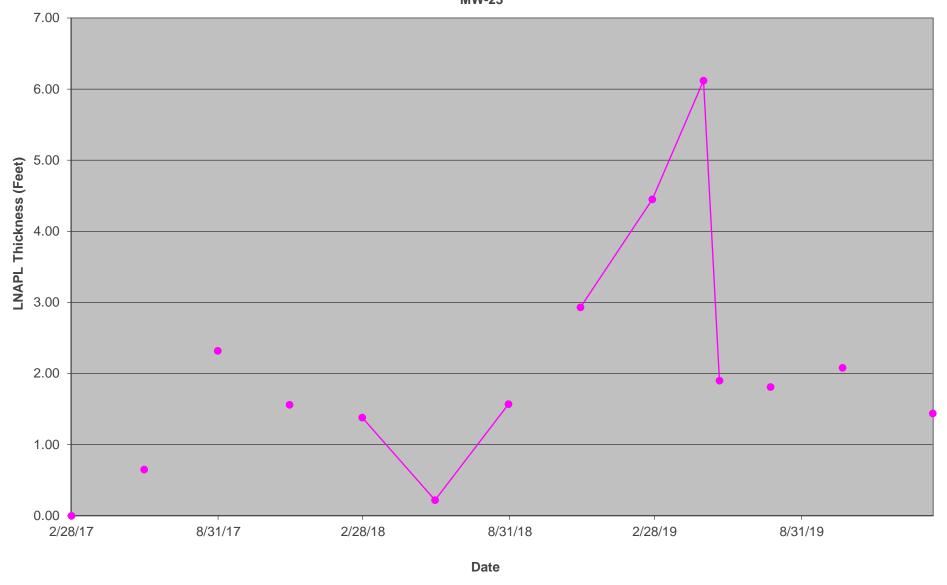


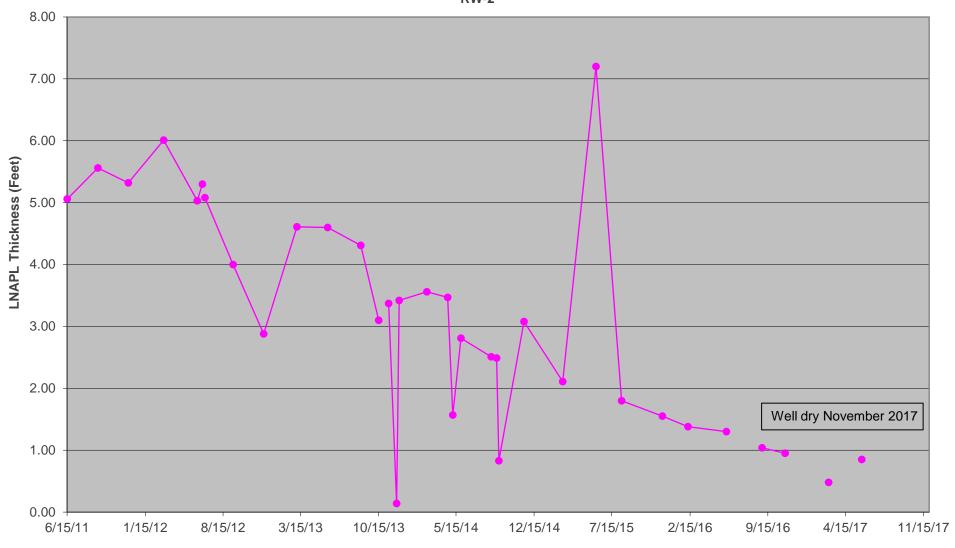


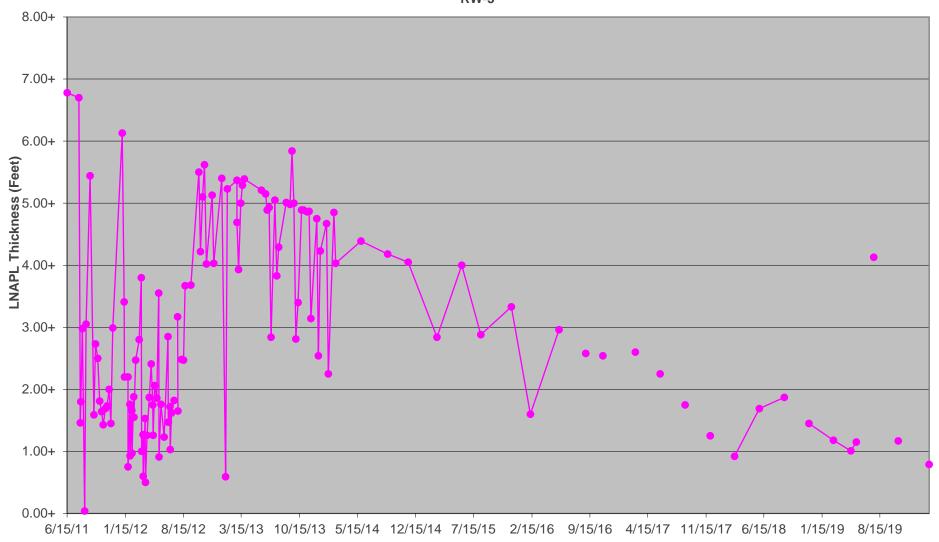


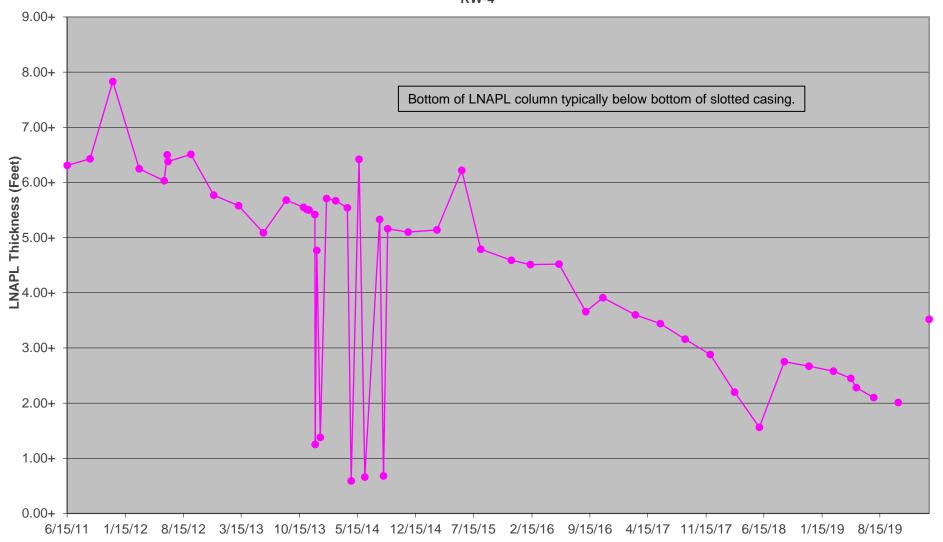


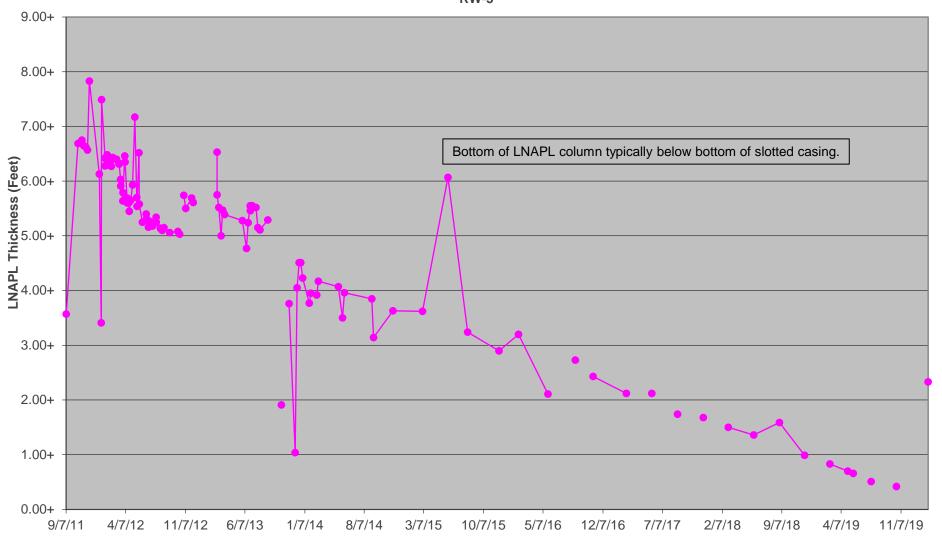


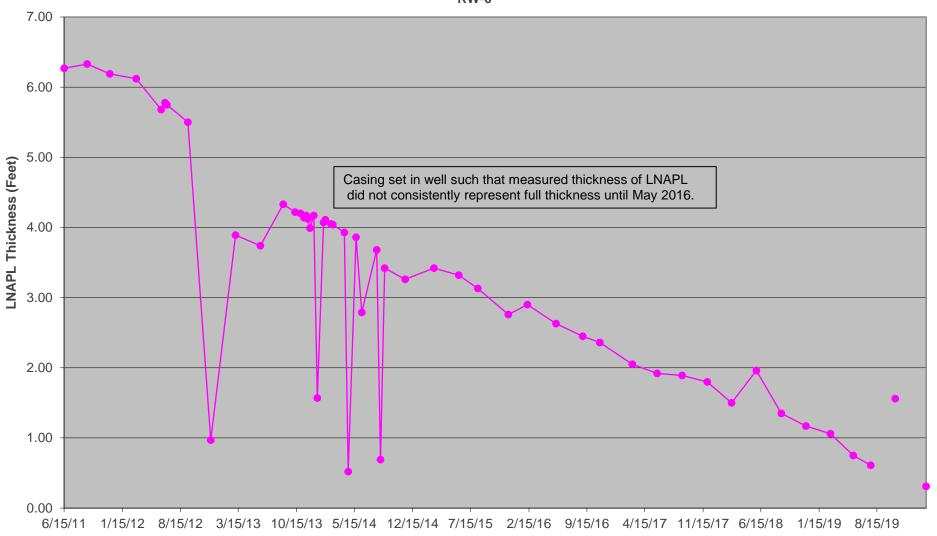


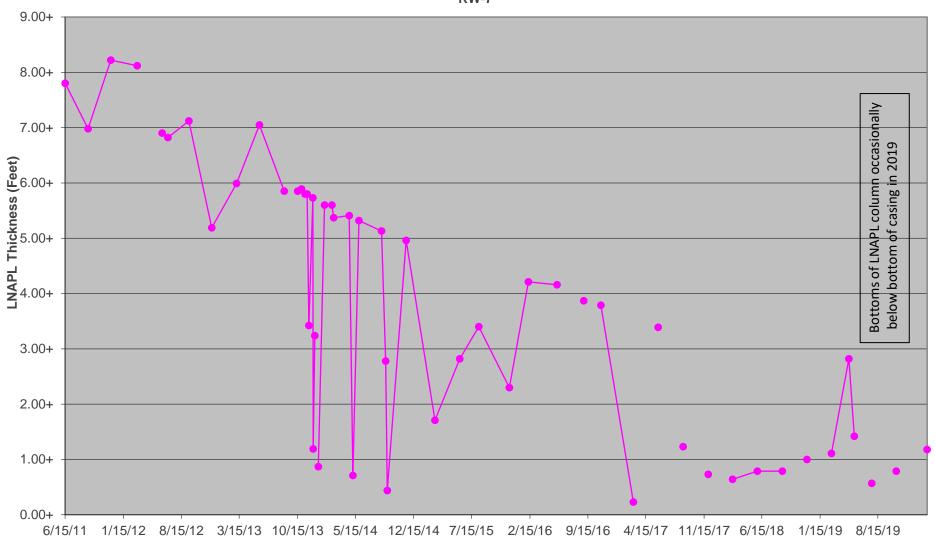


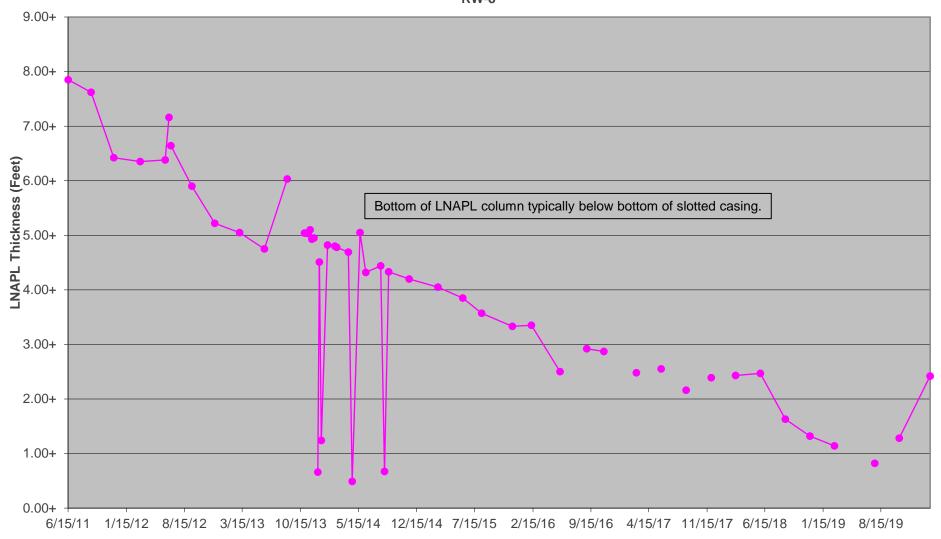


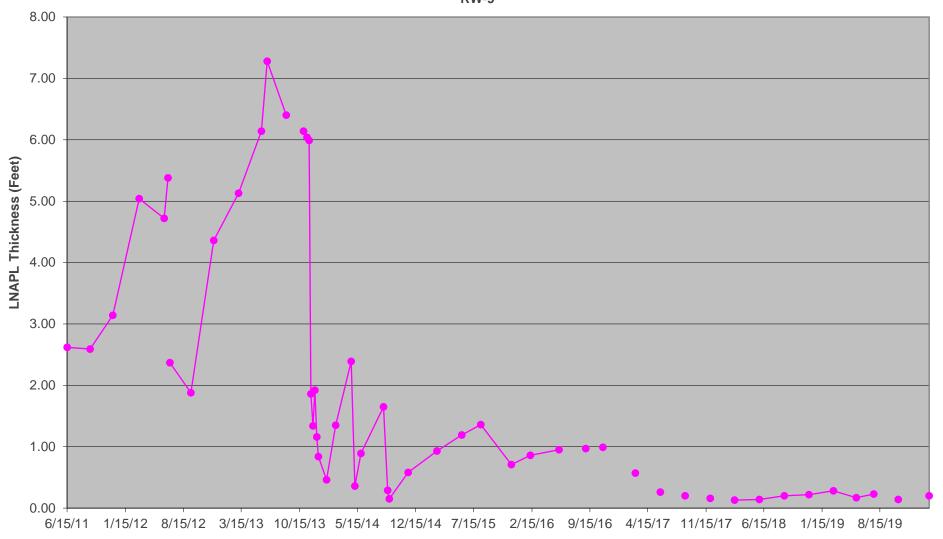


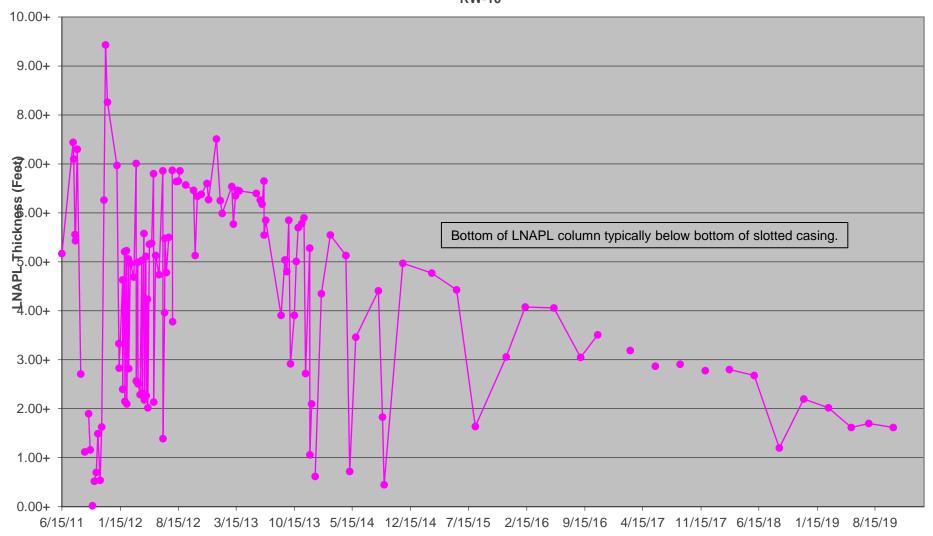


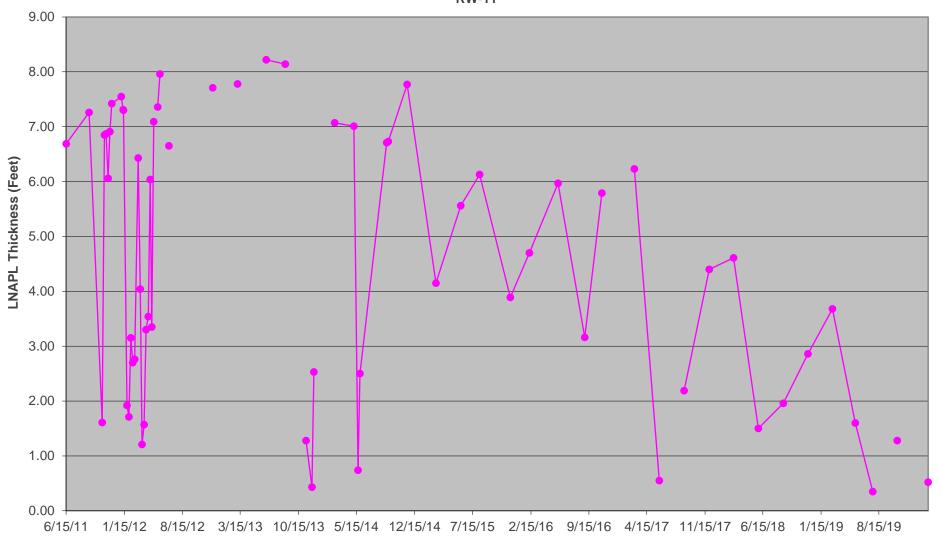


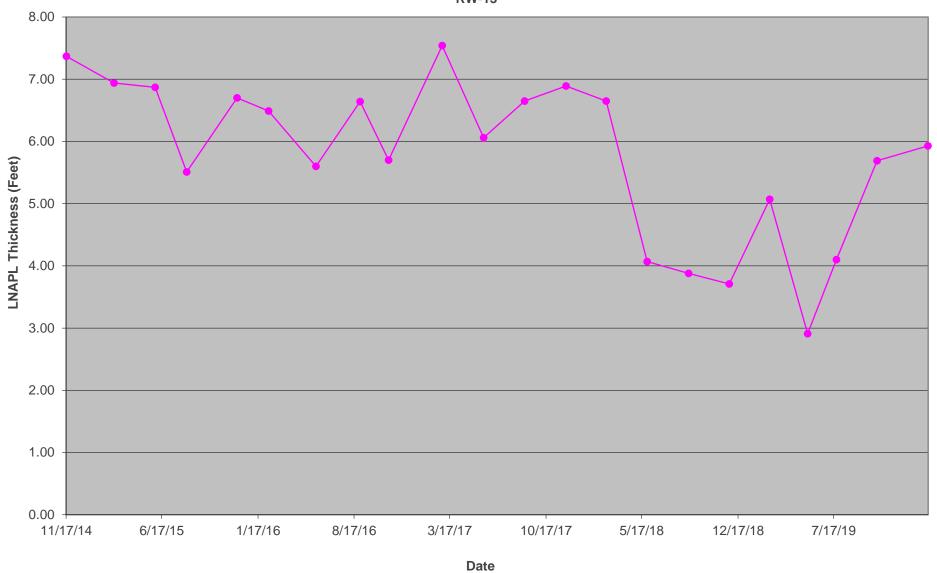


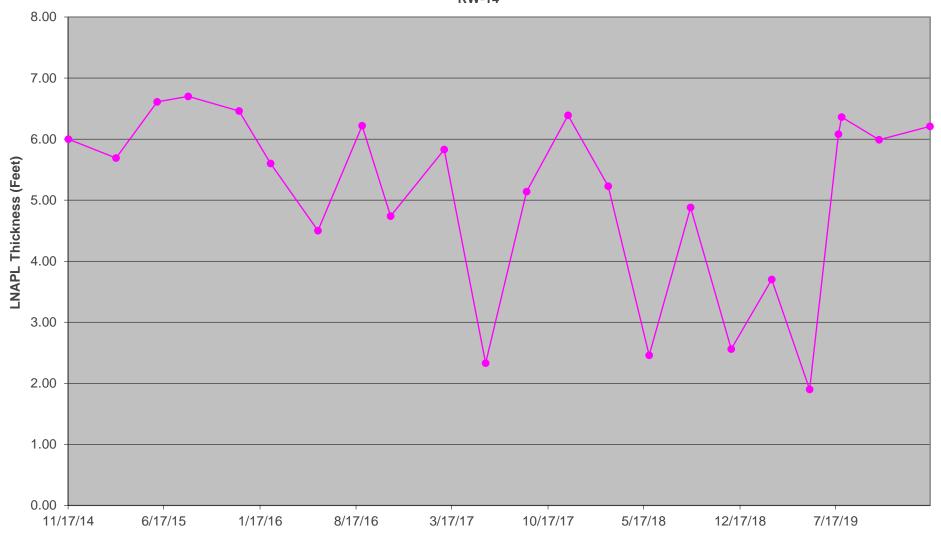






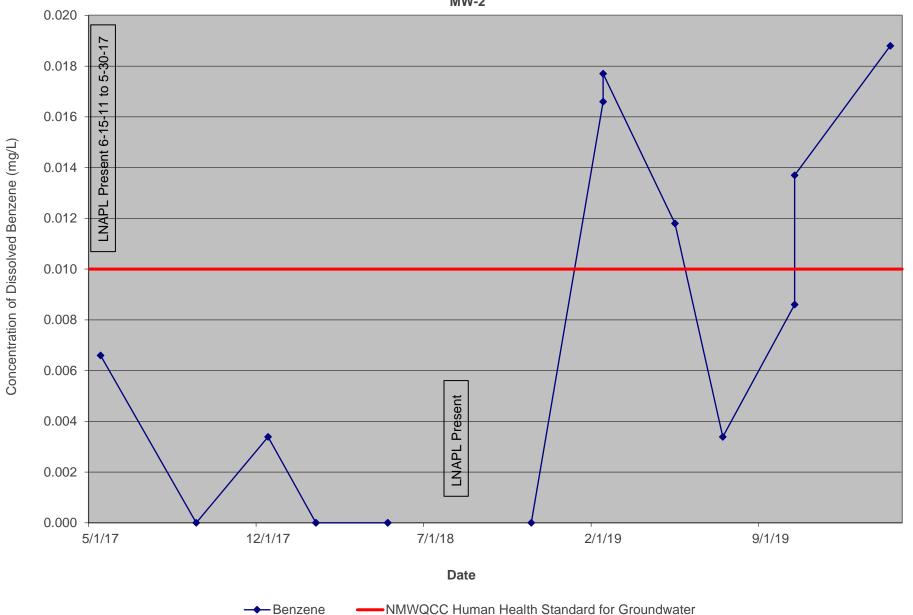




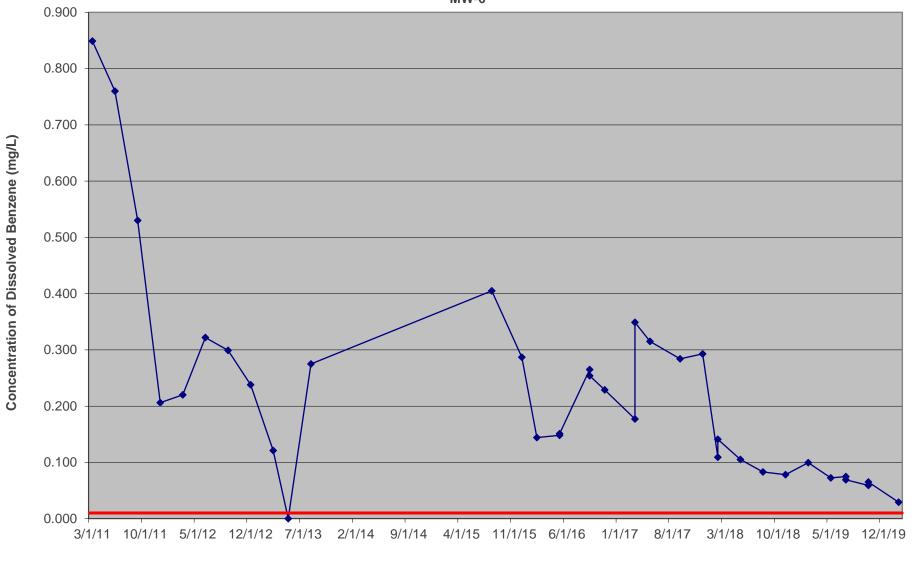


Appendix B Charts of Concentrations of Dissolved Benzene in Monitor and Recovery Wells vs. Time	

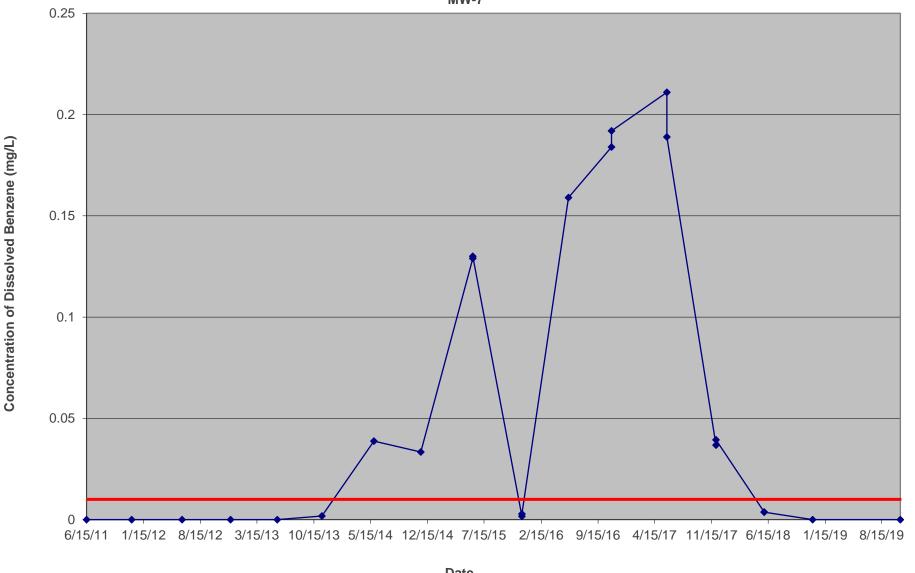
#### DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-2



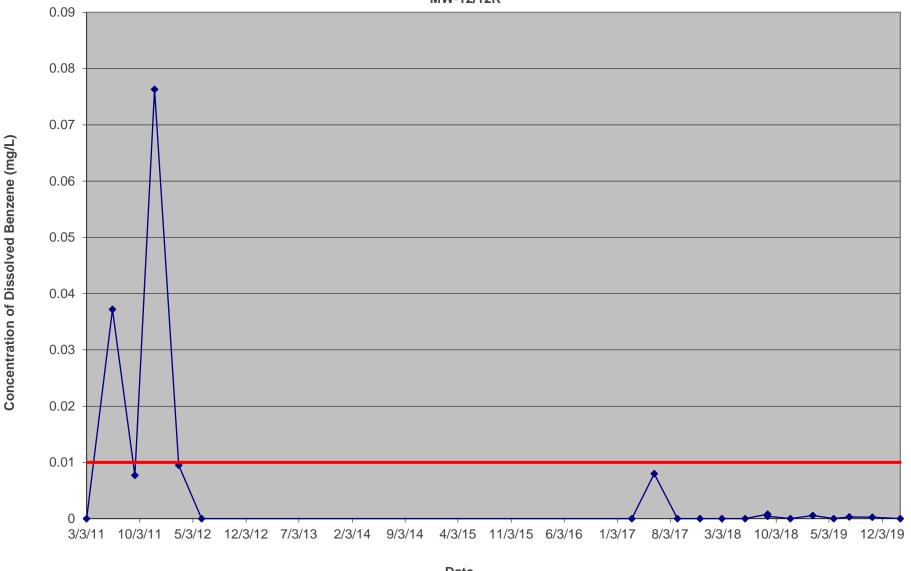
#### DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-6



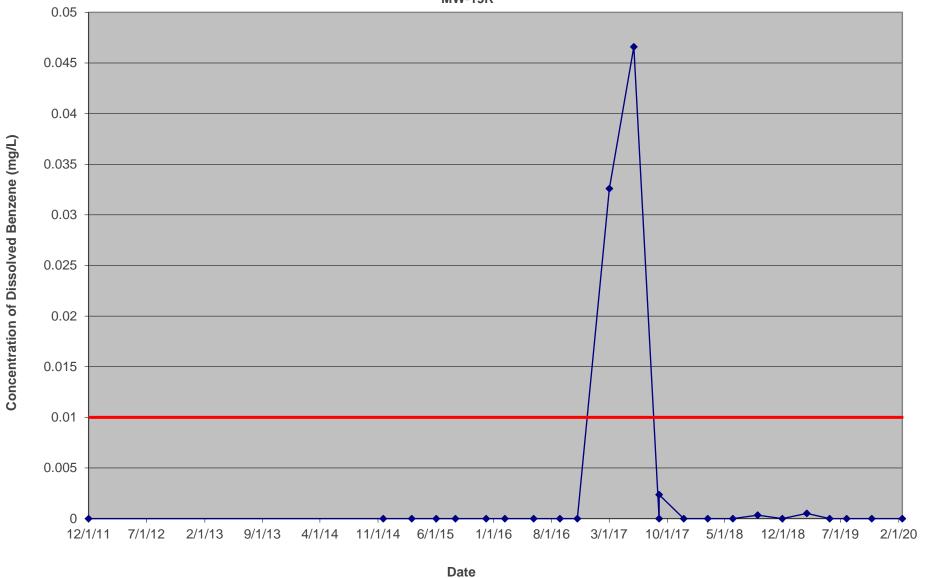
#### DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 **CONCENTRATION OF DISSOLVED BENZENE vs. TIME** MW-7



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

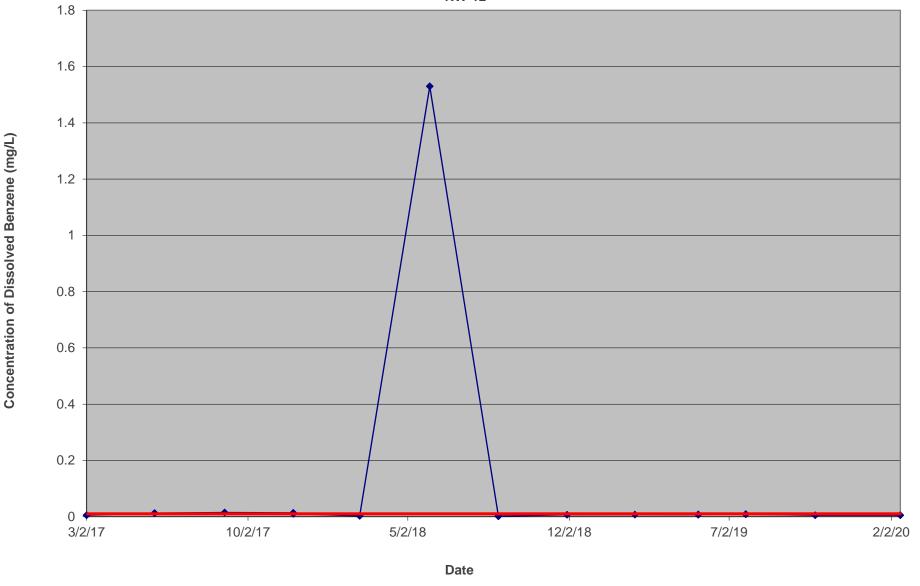


#### DARR ANGELL #1, SRS DARR ANGELL #1 LEA COUNTY, NEW MEXICO NMOCD AP-007 CONCENTRATION OF DISSOLVED BENZENE vs. TIME MW-19R



→ 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 RW-12



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



### ANALYTICAL REPORT March 12, 2019

#### Plains All American, LP - GHD

Sample Delivery Group: L1075029

Samples Received: 03/02/2019

Project Number: 074683

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

SRS DARR ANGELL #1 Site:

Report To: John Schnable

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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MW-17R-022719 L1075029-02	11
MW-12R-022719 L1075029-03	12
MW-19R-022719 L1075029-04	13
MW-22-022719 L1075029-05	14
MW-6-022719 L1075029-06	15
MW-21-022719 L1075029-07	16
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Al: Accreditations & Locations

Sc: Sample Chain of Custody





















#### SAMPLE SUMMARY

MW-18R-022719 L1075029-01 GW			Collected by	Collected date/time 02/27/19 09:30	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1244788	1	03/05/19 00:12	03/05/19 00:12	BMB	Mt. Juliet, TN
MW-17R-022719 L1075029-02 GW			Collected by	Collected date/time 02/27/19 09:55	Received da 03/02/19 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1244788	1	03/05/19 00:33	03/05/19 00:33	BMB	Mt. Juliet, TN
MW-12R-022719 L1075029-03 GW			Collected by	Collected date/time 02/27/19 10:30	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1244788	1	03/05/19 00:53	03/05/19 00:53	BMB	Mt. Juliet, TN
MW-19R-022719 L1075029-04 GW			Collected by	Collected date/time 02/27/19 10:55	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1244728	1	03/04/19 19:14	03/04/19 19:14	DWR	Mt. Juliet, TN
MW-22-022719 L1075029-05 GW			Collected by	Collected date/time 02/27/19 11:35	Received da 03/02/19 08	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1244728	1	03/04/19 19:39	03/04/19 19:39	DWR	Mt. Juliet, TN
MW-6-022719 L1075029-06 GW			Collected by	Collected date/time 02/27/19 12:00	Received date/time 03/02/19 08:45	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location

WG1244728

Batch

Batch

WG1245022

WG1248274























Volatile Organic Compounds (GC) by Method 8021B

MW-21-022719 L1075029-07 GW

Volatile Organic Compounds (GC) by Method 8021B

Volatile Organic Compounds (GC) by Method 8021B

MW-20R-022719 L1075029-08 GW

Method

Method

date/time

03/04/19 20:03

Collected by

Preparation

03/11/19 16:20

Collected by

Preparation

03/04/19 22:56

date/time

date/time

Dilution

1

Dilution

1

date/time

03/04/19 20:03

02/27/19 12:25

Analysis

date/time

Analysis

date/time

03/04/19 22:56

03/11/19 16:20

Collected date/time 02/27/19 12:55

Collected date/time

DWR

Analyst

ACG

Received date/time 03/02/19 08:45

Received date/time

03/02/19 08:45

Analyst

DWR

Mt. Juliet, TN

Location

Mt. Juliet, TN

Location

Mt. Juliet, TN



MW-16R-022719 L1075029-09 GW			Collected by	Collected date/time 02/27/19 13:45	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1245022	1	03/04/19 23:17	03/04/19 23:17	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
RW-12-022719 L1075029-10 GW				02/27/19 14:40	03/02/19 08:	45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1245022	1	03/04/19 23:38	03/04/19 23:38	DWR	Mt. Juliet, TN
MW-2-022719 L1075029-11 GW			Collected by	Collected date/time 02/27/19 15:35	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1245022	1	03/04/19 23:59	03/04/19 23:59	DWR	Mt. Juliet, TN
DUP-01-022719 L1075029-12 GW			Collected by	Collected date/time 02/27/19 00:00	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1245022	1	03/05/19 00:21	03/05/19 00:21	DWR	Mt. Juliet, TN
DUP-02-022719 L1075029-13 GW			Collected by	Collected date/time 02/27/19 00:00	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1245022	1	03/05/19 00:42	03/05/19 00:42	DWR	Mt. Juliet, TN
TRIP BLANK L1075029-14 GW			Collected by	Collected date/time 02/27/19 00:00	Received da 03/02/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location

WG1245022





















Volatile Organic Compounds (GC) by Method 8021B

03/04/19 22:34

03/04/19 22:34

DWR

Mt. Juliet, TN

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

Ср



















Mark W. Beasley Project Manager

#### Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

### Laboratory Review Checklist: Reportable Data



NATIONWIDE.	

Lab	orato	ry Name: Pace Analytical National	LRC Date: 03/12/2019 09:52						
Proj Mex	•	lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1075029-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11						
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1244728, WG1244788, WG1245022 and						
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR⁴	ER# <sup>5</sup>	
R1	OI	Chain-of-custody (C-O-C)							
		Did samples meet the laboratory's standard conditions	X			<u> </u>			
		Were all departures from standard conditions described	d in an exception report?	<u> </u>		X	<u> </u>	<u> </u>	
R2	OI	Sample and quality control (QC) identification		1			,		
		Are all field sample ID numbers cross-referenced to the	,	X		1	_	—	
	T	Are all laboratory ID numbers cross-referenced to the c	orresponding QC data?	X		1	<u> </u>		
R3	OI	Test reports	v time a 2	Ι ν		T	_		
		Were all samples prepared and analyzed within holding		X			-	┼	
		Other than those results < MQL, were all other raw values and substitutions should be a poor or supervisor?	es bracketed by calibration standards?	X		-	-	┼──	
		Were calculations checked by a peer or supervisor?	upon door?	X	-	+	-	+	
		Were all analyte identifications checked by a peer or su		+	-	<del> </del>	╁	+	
		Were sample detection limits reported for all analytes n		X	1	1	+	+	
		Were all results for soil and sediment samples reported Were % moisture (or solids) reported for all soil and sed	, ,	<del>  ^</del>	1	X	$\vdash$	+	
				<u> </u>		T X	<del>                                     </del>	+	
		Were bulk soils/solids samples for volatile analysis extra If required for the project, are TICs reported?	acted with methanol per 3440 Method 5035:	<del>                                     </del>		X	<del>                                     </del>	+	
R4	О	Surrogate recovery data		<u> </u>		1 ^		_	
N <del>-1</del>	10	Were surrogates added prior to extraction?		X	Т	T	Т	Т	
		Were surrogate percent recoveries in all samples within	the laboratory OC limits?	X		+	<del>                                     </del>	+	
R5	OI	Test reports/summary forms for blank samples	The laboratory &c limits.			1		_	
	10.	Were appropriate type(s) of blanks analyzed?		Ιx		T	Π	Т	
		Were blanks analyzed at the appropriate frequency?		X			1		
		Were method blanks taken through the entire analytica	l process, including preparation and, if applicable.	<u> </u>	1	<u>†                                      </u>	$\vdash$	<del>                                     </del>	
		cleanup procedures?	, process, more and proposed and, a approcase,	X					
		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?	X					
		Were LCSs analyzed at the required frequency?		X			ļ		
		Were LCS (and LCSD, if applicable) %Rs within the labo	ratory QC limits?	X				<u> </u>	
		Does the detectability check sample data document the used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х					
		Was the LCSD RPD within QC limits?		X					
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	9						
		Were the project/method specified analytes included in	the MS and MSD?	X			<u> </u>		
		Were MS/MSD analyzed at the appropriate frequency?		X				<u> </u>	
		Were MS (and MSD, if applicable) %Rs within the labora	tory QC limits?	X		ļ	┞	<b>↓</b>	
		Were MS/MSD RPDs within laboratory QC limits?		X		1	<u> </u>		
R8	OI	Analytical duplicate data				1	_		
		Were appropriate analytical duplicates analyzed for each			_	X	┡	—	
		Were analytical duplicates analyzed at the appropriate	. ,	<u> </u>	_	Х	<b>├</b>	—	
	1	Were RPDs or relative standard deviations within the la	boratory QC limits?	<u> </u>		Х	<u> </u>		
R9	OI	Method quantitation limits (MQLs):		Ι	1		Т		
		Are the MQLs for each method analyte included in the	,	X			<u> </u>	—	
		Do the MQLs correspond to the concentration of the lo		X			<del>                                     </del>	₩	
D10	Lou	Are unadjusted MQLs and DCSs included in the laborat	тогу аата раскаде?	X					
R10	OI	Other problems/anomalies	sated in this LDC and ED2	T v		T	T		
		Are all known problems/anomalies/special conditions n		X		1	-	+	
		Was applicable and available technology used to lower the sample results?		Х				<u> </u>	
		and methods associated with this laboratory data packa	•	Х					
		ntified by the letter "R" must be included in the laborator	y data package submitted in the TRRP-required report(s).	Items i	dentifie	ed by th	e letter	"S"	

Items identified by the letter is influst 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).

### Laboratory Review Checklist: Supporting Data



Ξ	LAB.	NATIONWIDE.	

Lab	orato	ory Name: Pace Analytical National	LRC Date: 03/12/2019 09:52						
Proj Mex		Name: Darr Angell #1- Lea County, New	Laboratory Job Number: L1075029-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13						
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1244728, WG1244788, WG1245022 and WG1248274						
# <sup>1</sup>	A <sup>2</sup>	, T				NA <sup>3</sup>	т .	ER# <sup>5</sup>	
	OI	Description		Yes	No	NA	NR⁴	ER#	
S1	I OI	Initial calibration (ICAL)	o for analysis analysis within OC limits?		Т	TV	Т	Т	
		Were response factors and/or relative response factors	•	<del>                                     </del>	+	X	+	-	
		Were percent RSDs or correlation coefficient criteria m		X	1	1	+	$\vdash$	
		Was the number of standards recommended in the me	,	X	+	<u> </u>	-	-	
		Were all points generated between the lowest and hig	nest standard used to calculate the curve?	X	+	<del> </del>	-	-	
		Are ICAL data available for all instruments used?		X	1	1	+	-	
20	La	Has the initial calibration curve been verified using an		X					
52	OI	Initial and continuing calibration verification (ICCV and		T	1	T	1	т —	
		Was the CCV analyzed at the method-required frequen	·	X	<del> </del>	<u> </u>	<b>├</b>	-	
		Were percent differences for each analyte within the m	nethod-required QC limits?	X	+	<u> </u>	-	$\vdash$	
		Was the ICAL curve verified for each analyte?		X	<u> </u>	<b>—</b>	<del>                                     </del>	-	
	1	Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?			Х			
S3	0	Mass spectral tuning				T		1	
		Was the appropriate compound for the method used for	-	+	-	X	-	-	
	1	Were ion abundance data within the method-required	QC limits?			Х			
54	0	Internal standards (IS)		- I				1	
		Were IS area counts and retention times within the me	thod-required QC limits?	X		<u> </u>	<u> </u>		
35	OI	Raw data (NELAC Section 5.5.10)		1	1	1			
		Were the raw data (for example, chromatograms, spec		X		<u> </u>	-	_	
		Were data associated with manual integrations flagged	d on the raw data?	X		<u> </u>	<u> </u>		
66	0	Dual column confirmation		-			_		
	1 -	Did dual column confirmation results meet the method	-required QC?			X			
57	0	Tentatively identified compounds (TICs)			_		_		
	1.	If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?			Х	<u> </u>		
88		Interference Check Sample (ICS) results				1			
		Were percent recoveries within method QC limits?				Х			
59		Serial dilutions, post digestion spikes, and method of s							
		Were percent differences, recoveries, and the linearity	within the QC limits specified in the method?			Х			
510	OI	Method detection limit (MDL) studies				<u> </u>			
		Was a MDL study performed for each reported analyte		X		1	ļ		
		Is the MDL either adjusted or supported by the analysis	s of DCSs?	X					
511	OI	Proficiency test reports					·		
		Was the laboratory's performance acceptable on the a	pplicable proficiency tests or evaluation studies?	X		<u> </u>	<u> </u>		
512	OI	Standards documentation							
		Are all standards used in the analyses NIST-traceable	or obtained from other appropriate sources?	X		<u> </u>	<u> </u>		
513	OI	Compound/analyte identification procedures							
		Are the procedures for compound/analyte identification	n documented?	X					
514	OI	Demonstration of analyst competency (DOC)					_		
		Was DOC conducted consistent with NELAC Chapter 5		X					
		Is documentation of the analyst's competency up-to-da		X	<u> </u>				
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?	X				<u> </u>	
516	OI	Laboratory standard operating procedures (SOPs)				,			
		Are laboratory SOPs current and on file for each method	od 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;
 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

#### Laboratory Review Checklist: Exception Reports

ONE	NATIONWIDE	

-
-
95

Laboratory Name: Pace Analytical National	LRC Date: 03/12/2019 09:52
Project Name: Darr Angell #1- Lea County, New Mexico	Laboratory Job Number: L1075029-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13 and 14
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1244728, WG1244788, WG1245022 and WG1248274
ED #1   December 1	

ER #1 Description

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

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

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

MW-18R-022719

Collected date/time: 02/27/19 09:30

#### SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

L1075029

	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	03/05/2019 00:12	WG1244788
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2019 00:12	WG1244788
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2019 00:12	WG1244788
Total Xylene	U		0.000510	0.00150	0.00150	1	03/05/2019 00:12	WG1244788
(S) a,a,a-Trifluorotoluene(PID)	98.4				79.0-125		03/05/2019 00:12	WG1244788





















MW-17R-022719

### SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 02/27/19 09:55

L1075029

	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	03/05/2019 00:33	WG1244788
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2019 00:33	WG1244788
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2019 00:33	WG1244788
Total Xylene	U		0.000510	0.00150	0.00150	1	03/05/2019 00:33	WG1244788
(S) a,a,a-Trifluorotoluene(PID)	98.7				79.0-125		03/05/2019 00:33	WG1244788





















MW-12R-022719

Collected date/time: 02/27/19 10:30

#### SAMPLE RESULTS - 03

ONE LAB. NATIONWIDE.

L1075029

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000563		0.000190	0.000500	0.000500	1	03/05/2019 00:53	WG1244788
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2019 00:53	WG1244788
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2019 00:53	WG1244788
Total Xylene	U		0.000510	0.00150	0.00150	1	03/05/2019 00:53	WG1244788
(S) a,a,a-Trifluorotoluene(PID)	96.6				79.0-125		03/05/2019 00:53	WG1244788





















MW-19R-022719

# SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE.

#### E. 🤚

Collected date/time: 02/27/19 10:55

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000519		0.000190	0.000500	0.000500	1	03/04/2019 19:14	WG1244728
Toluene	U		0.000412	0.00100	0.00100	1	03/04/2019 19:14	WG1244728
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/04/2019 19:14	WG1244728
Total Xylene	U		0.000510	0.00150	0.00150	1	03/04/2019 19:14	WG1244728
(S) a,a,a-Trifluorotoluene(PID)	96.3				79.0-125		03/04/2019 19:14	WG1244728





















MW-22-022719

### SAMPLE RESULTS - 05

ONE LAB. NATIONWIDE.

Collected date/time: 02/27/19 11:35

#### L1075029

	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	03/04/2019 19:39	WG1244728
Toluene	U		0.000412	0.00100	0.00100	1	03/04/2019 19:39	WG1244728
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/04/2019 19:39	WG1244728
Total Xylene	U		0.000510	0.00150	0.00150	1	03/04/2019 19:39	WG1244728
(S) a,a,a-Trifluorotoluene(PID)	96.1				79.0-125		03/04/2019 19:39	WG1244728





















MW-6-022719

Collected date/time: 02/27/19 12:00

#### SAMPLE RESULTS - 06 L1075029

ONE LAB. NATIONWIDE.

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0994		0.000190	0.000500	0.000500	1	03/04/2019 20:03	WG1244728
Toluene	0.00146		0.000412	0.00100	0.00100	1	03/04/2019 20:03	WG1244728
Ethylbenzene	0.0115		0.000160	0.000500	0.000500	1	03/04/2019 20:03	WG1244728
Total Xylene	0.0115		0.000510	0.00150	0.00150	1	03/04/2019 20:03	WG1244728
(S) a,a,a-Trifluorotoluene(PID)	95.2				79.0-125		03/04/2019 20:03	WG1244728





















MW-21-022719

# SAMPLE RESULTS - 07

ONE LAB. NATIONWIDE.

Collected date/time: 02/27/19 12:25

	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	03/11/2019 16:20	WG1248274
Toluene	U		0.000412	0.00100	0.00100	1	03/11/2019 16:20	WG1248274
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/11/2019 16:20	WG1248274
Total Xylene	U		0.000510	0.00150	0.00150	1	03/11/2019 16:20	WG1248274
(S) a,a,a-Trifluorotoluene(PID)	96.6				79.0-125		03/11/2019 16:20	WG1248274





















MW-20R-022719

# SAMPLE RESULTS - 08

ONE LAB. NATIONWIDE.

Collected date/time: 02/27/19 12:55

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	03/04/2019 22:56	WG1245022
Toluene	U		0.000412	0.00100	0.00100	1	03/04/2019 22:56	WG1245022
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/04/2019 22:56	WG1245022
Total Xylene	U		0.000510	0.00150	0.00150	1	03/04/2019 22:56	WG1245022
(S) a,a,a-Trifluorotoluene(PID)	98.7				79.0-125		03/04/2019 22:56	WG1245022





















MW-16R-022719

Collected date/time: 02/27/19 13:45

#### SAMPLE RESULTS - 09

ONE LAB. NATIONWIDE.

L1075029

	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	03/04/2019 23:17	WG1245022
Toluene	U		0.000412	0.00100	0.00100	1	03/04/2019 23:17	WG1245022
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/04/2019 23:17	WG1245022
Total Xylene	U		0.000510	0.00150	0.00150	1	03/04/2019 23:17	WG1245022
(S) a,a,a-Trifluorotoluene(PID)	99.6				79.0-125		03/04/2019 23:17	WG1245022





















RW-12-022719

#### SAMPLE RESULTS - 10

ONE LAB. NATIONWIDE.

Collected date/time: 02/27/19 14:40

#### L1075029

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00739		0.000190	0.000500	0.000500	1	03/04/2019 23:38	WG1245022
Toluene	0.00863		0.000412	0.00100	0.00100	1	03/04/2019 23:38	WG1245022
Ethylbenzene	0.00722		0.000160	0.000500	0.000500	1	03/04/2019 23:38	WG1245022
Total Xylene	0.0826		0.000510	0.00150	0.00150	1	03/04/2019 23:38	WG1245022
(S) a,a,a-Trifluorotoluene(PID)	96.2				79.0-125		03/04/2019 23:38	WG1245022





















MW-2-022719

#### SAMPLE RESULTS - 11

ONE LAB. NATIONWIDE.

Collected date/time: 02/27/19 15:35

L1075029

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0166		0.000190	0.000500	0.000500	1	03/04/2019 23:59	WG1245022
Toluene	U		0.000412	0.00100	0.00100	1	03/04/2019 23:59	WG1245022
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/04/2019 23:59	WG1245022
Total Xylene	0.0124		0.000510	0.00150	0.00150	1	03/04/2019 23:59	WG1245022
(S) a,a,a-Trifluorotoluene(PID)	94.3				79.0-125		03/04/2019 23:59	WG1245022





















DUP-01-022719

# SAMPLE RESULTS - 12

ONE LAB. NATIONWIDE.

- 15 - 12 ONE LAB. NATION

Collected date/time: 02/27/19 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	03/05/2019 00:21	WG1245022
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2019 00:21	WG1245022
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2019 00:21	WG1245022
Total Xylene	U		0.000510	0.00150	0.00150	1	03/05/2019 00:21	WG1245022
(S) a,a,a-Trifluorotoluene(PID)	97.9				79.0-125		03/05/2019 00:21	WG1245022





















DUP-02-022719

Collected date/time: 02/27/19 00:00

#### SAMPLE RESULTS - 13

ONE LAB. NATIONWIDE.

L1075029

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0177		0.000190	0.000500	0.000500	1	03/05/2019 00:42	WG1245022
Toluene	U		0.000412	0.00100	0.00100	1	03/05/2019 00:42	WG1245022
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/05/2019 00:42	WG1245022
Total Xylene	0.0130		0.000510	0.00150	0.00150	1	03/05/2019 00:42	WG1245022
(S) a,a,a-Trifluorotoluene(PID)	96.5				79.0-125		03/05/2019 00:42	WG1245022





















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Collected date/time: 02/27/19 00:00

#### SAMPLE RESULTS - 14

ONE LAB. NATIONWIDE.

L1075029

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	03/04/2019 22:34	WG1245022
Toluene	U		0.000412	0.00100	0.00100	1	03/04/2019 22:34	WG1245022
Ethylbenzene	U		0.000160	0.000500	0.000500	1	03/04/2019 22:34	WG1245022
Total Xylene	U		0.000510	0.00150	0.00150	1	03/04/2019 22:34	WG1245022
(S) a,a,a-Trifluorotoluene(PID)	98.6				79.0-125		03/04/2019 22:34	WG1245022





















ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1075029-04,05,06

#### Method Blank (MB)

(MB) R3389451-3 03/04/	19 11:15			
	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)	95.6			79.0-125







#### Laboratory Control Sample (LCS)

(LCS) R3389451-1 03/04/	19 09:46				
	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	0.0468	93.5	80.0-121	
Ethylbenzene	0.0500	0.0481	96.2	80.0-123	
Total Xylene	0.150	0.147	97.8	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			95.9	79.0-125	











ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1075029-01,02,03

#### Method Blank (MB)

(MB) R3389731-3 03/04/	19 18:09			
	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)	98.4			79.0-125









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

	03/04/19 17:08 •		

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%	
Benzene	0.0500	0.0528	0.0536	106	107	77.0-122			1.45	20	
Toluene	0.0500	0.0496	0.0504	99.2	101	80.0-121			1.52	20	
Ethylbenzene	0.0500	0.0527	0.0535	105	107	80.0-123			1.48	20	
Total Xylene	0.150	0.156	0.159	104	106	47.0-154			1.97	20	
(S) a,a,a-Trifluorotoluene(PID)				99.8	99.6	79.0-125					













#### L1074965-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1074965-01 03/05/19 01:14 • (MS) R3389731-4 03/05/19 01:35 • (MSD) R3389731-5 03/05/19 01:56
--

(00) 2107 1000 01 00700	()		00/10 01.00	(62)65667.	3. 0 00,00,10	000						
	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	ND	0.0478	0.0554	95.7	111	1	10.0-160			14.7	21
Toluene	0.0500	ND	0.0451	0.0516	90.1	103	1	12.0-148			13.5	21
Ethylbenzene	0.0500	ND	0.0472	0.0537	94.4	107	1	22.0-149			12.9	21
Total Xylene	0.150	ND	0.145	0.163	96.8	109	1	13.0-155			11.7	21
(S)					99.0	98.9		79.0-125				

ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1075029-08,09,10,11,12,13,14

#### Method Blank (MB)

(MB) R3390216-2 03/04/	/19 21:40			
	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)	99.9			79.0-125

# ⁴Cn

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

(LCS) R3390216-1	03/04/19 20:14 •	(LCSD) R3390216-3	03/05/19 06:45

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Benzene	0.0500	0.0446	0.0431	89.2	86.1	77.0-122			3.48	20
Toluene	0.0500	0.0433	0.0405	86.7	81.1	80.0-121			6.68	20
Ethylbenzene	0.0500	0.0450	0.0409	90.0	81.8	80.0-123			9.51	20
Total Xylene	0.150	0.129	0.115	85.9	76.9	47.0-154			11.1	20
(S) a,a,a-Trifluorotoluene(PID)				97.1	97.4	79.0-125				











ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1075029-07

#### Method Blank (MB)

(MB) R3390564-2 03/11/1	19 12:37			
	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)	96.2			79.0-125









#### Laboratory Control Sample (LCS)

(LCS) R3390564-1 C	2/11/10 11:40

(LC3) R3390504-1 03/11/1	19 11.49				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0520	104	77.0-122	
Toluene	0.0500	0.0475	95.0	80.0-121	
Ethylbenzene	0.0500	0.0480	96.0	80.0-123	
Total Xylene	0.150	0.146	97.5	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			96.9	79.0-125	



Sr











#### **GLOSSARY OF TERMS**

#### 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.

#### Abbreviations and Definitions

Appleviations and	d Deliniuons
MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the 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 remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

























#### **ACCREDITATIONS & LOCATIONS**





#### **State Accreditations**

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

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

#### Third Party Federal Accreditations

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

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

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

#### Our Locations

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





















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Plains All American, LP - GHD			Accounts 505 N. Bi	Accounts Payable 505 N. Big Spring, Ste. 600 Widland, TX 79701												Pace National C	Analytical® anter for Testing & Innovation	
Report to:			Email To: Christopher.Knight@ghd.com; John.Schnable@ghd.com													12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-58	7122	
John Schnable Project				City/State Collected:		i der										Phone: 800-767-58 Fax: 615-758-5859		
Description: Darr Angell #1 - Lea County, NM  Phone: 512-506-8803  Fax:  Client Project # 074683				Lab Project # PLAINSGHD-0	074683												5029	
Collected by (print):	Site/Facility ID SRS DARR A		1	P.O.#			HCI								Acctnum: PLAINSGHD Template:T139782			
Collected by (signature):	Same Day Five D Next Day 5 Day Two Day 10 Day		Next Day 5 Day (Rad Only) Two Day 10 Day (Rad Only)		Quote #  Date Results Needed  No. of		40mlAmb-1	40mIAmb-HCl									Prelogin: P69 TSR: 134 - Ma PB:	
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MW-18R-022719	Grab	GW	DIN	2/27/19	0930	3	3		10	201,			7 19				-01	
MW-178-072719		GW	DTW	2/27/19	0955	5	3						_				-02	
MW-12R-022719		GW	DTW	2/27/19	1030	3	3						-			100	-03	
MW-19R-022719	Grab	GW	DTW	2/27/19	1055	3	3							100			-04	
MW-22-022719	Grab	GW	DTIV	2/27/19	1135	3	3										-05	
MW-6-022719	Grab	GW	DTW	2/27/19	1200	3	3		3			10					106	
MW-21-022719	Gran	GW	DIW	2/27/10	1225	3	3		7 2 2							32	-07	
MW-202-022719	Grab	GW	Diw	2/27/19	1255	3	3	West 1					A della				-08	
MW-16R-022719	Grab	GW	DTW	7/27/1	91345	3	3						61			1-10	-69	
RW-12-022719	Gras	GW	DIW	2/27/1	91440	3	3								0.0		-10	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater WW - WasteWater	Remarks:									oH	_ Tem			COC Sea COC Sig Bottles Correct	gned s ar	ple Receipt resent/Intac /Accurate: rive intact: ttles used: volume sent	ot: NP _Y _	
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lains All American, LP - GHD  Accounts 505 N. Bi Midland, Midland, TX 79703  Email To: C			Accounts 505 N. Big	ounts Payable  N. Big Spring, Ste. 600  Iland, TX 79701									Pace A National Cer	Analytical® Innovation
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oject escription: Darr Angell #1 - Lea (	County, NM			Collected:		The state of							L# 1075	17d
one: <b>512-506-8803</b> x:	Client Project # 074683			PLAINSGHD-0	074683								Table #	021
ollected by (print):	Site/Facility ID # SRS DARR ANGELL #1			P.O. #		HCI						Acctnum: PLAINSGHD Template:T139782		
ollected by (signature):		ab MUST Be		Quote #		-qm		5.0					Prelogin: <b>P695141</b> TSR: <b>134 - Mark W. Be</b>	
mmediately	Next Day		y (Rad Only) ay (Rad Only)	Date Resi	ults Needed	No.	40mIAmb-HCI			14-2-7-3			PB: Shipped Via:	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	втех						Remarks	Sample # (lab only)
	<b>C</b> ,	GW	DW	7/19/10	1535	3	3							11
MW-Z-022719 Dup-01-022719 Dup-02-022719	Grab	GW	Drw		7 -	3	3							-12
Dup-01-022/17	Crab	GW	DTW			3	3				Toke Day		- 00	-13
Dup-02-02-119	19106	GW	1000	1 2 - 112/12								0.2 011		
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	· ·	iv.												No section
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* Matrix:  SS - Soil AIR - Air F - Filter  GW - Groundwater B - Bioassay	Remarks:								pH _ Flow _		emp other	COC Si Bottle Correc	gned/Accurate: s arrive intact: t bottles used: ient volume sent	
ww - WasteWater DW - Drinking Water OT - Other	Samples returned via:UPSFedExCourier							429	101 200			If Application Correct/	Thecked: Y	
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Relinquished by : (Signature)		Date:		Time:	Received for lab	by: (Sign	nature)		Date: /	119	Time:	Hold:		Condition: NCF / OK



# ANALYTICAL REPORT

June 05, 2019

#### Plains All American, LP - GHD

Sample Delivery Group: L1102366

Samples Received: 05/24/2019

Project Number:

074683 Description: Darr Angell #1- Lea County, New Mexico

SRS DARR ANGELL #1 Site:

Report To: James Ornelas

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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



















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MW-16R-052219 L1102366-03	12
MW-17R-052219 L1102366-04	13
MW-18R-052219 L1102366-05	14
MW-19R-052219 L1102366-06	15
MW-20R-052219 L1102366-07	16
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#### SAMPLE SUMMARY

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ONE	LAB.	NAI	ION	WIDE.





























			0 11 1 11	0.11		
			Collected by	Collected date/time	Received da	
MW-22-052219 L1102366-09 GW			Justin Nixon	05/22/19 11:20	05/24/19 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1288848	1	05/30/19 20:17	05/30/19 20:17	ACE	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
RW-12-052219 L1102366-10 GW			Justin Nixon	05/22/19 12:15	05/24/19 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1288848	1	05/30/19 20:40	05/30/19 20:40	ACE	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-6-052219 L1102366-11 GW			Justin Nixon	05/22/19 12:45	05/24/19 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1288848	1	05/30/19 21:04	05/30/19 21:04	ACE	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DUP-1-052219 L1102366-12 GW			Justin Nixon	05/22/19 00:00	05/24/19 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1288848	1	05/30/19 21:28	05/30/19 21:28	ACE	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DUP-2-052219 L1102366-13 GW			Justin Nixon	05/22/19 00:00	05/24/19 08:	30
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		

WG1288848





















Volatile Organic Compounds (GC) by Method 8021B

05/30/19 21:52

05/30/19 21:52

ACE

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.

Ср





















# Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

# Laboratory Review Checklist: Reportable Data



١E	LAB.	NATIONWIDE.	

Lab	orato	ry Name: Pace Analytical National	LRC Date: 06/05/2019 09:26									
Proj Mex		lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1102366-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13									
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1288848, WG1288289 and WG1290327									
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR⁴	ER# <sup>5</sup>					
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?	1		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?		X								
		Were blanks analyzed at the appropriate frequency?		X			İ					
		Were method blanks taken through the entire analytical cleanup procedures?	al process, including preparation and, if applicable,	Х								
		Were blank concentrations < MQL?			Х			1				
R6	OI	Laboratory control samples (LCS):				•	•	•				
		Were all COCs included in the LCS?		Х								
		Was each LCS taken through the entire analytical processing	edure, including prep and cleanup steps?	Х								
		Were LCSs analyzed at the required frequency?	-	X								
		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?	X								
		Were MS/MSD analyzed at the appropriate frequency?		X								
		Were MS (and MSD, if applicable) %Rs within the labora	atory QC limits?	X								
		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	boratory QC limits?			Х						
R9	OI	Method quantitation limits (MQLs):										
		Are the MQLs for each method analyte included in the	laboratory data package?	X								
		Do the MQLs correspond to the concentration of the 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								
			aboratory Accreditation Program for the analytes, matrices age?	Х								
1 Ito	ms ide		ny data nackage submitted in the TRRP-required report(s)	Itams i	dentific	d by th	a latter	"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).

# Laboratory Review Checklist: Supporting Data



\ R	NATIONWIDE.	
٩B.	NATIONWIDE.	- 4

Labo	aboratory Name: Pace Analytical National		LRC Date: 06/05/2019 09:26								
Proje Mex		lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1102366-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12					nd 13			
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1288848, WG1288289 a	and WG12	90327						
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER#			
S1	OI	Initial calibration (ICAL)		•							
		Were response factors and/or relative response fac	tors for each analyte within QC limits?			X					
		Were percent RSDs or correlation coefficient criteria	a met?	Х		Ī					
		Was the number of standards recommended in the	method used for all analytes?	Х							
		Were all points generated between the lowest and	highest standard used to calculate the curve?	Х							
		Are ICAL data available for all instruments used?		Х							
		Has the initial calibration curve been verified using	an appropriate second source standard?	Х							
S2	OI	Initial and continuing calibration verification (ICCV a	nd CCV) and continuing calibration blank (CCB):								
		Was the CCV analyzed at the method-required freq	uency?	Х				T			
		Were percent differences for each analyte within the	e method-required QC limits?	Х			1	1			
		Was the ICAL curve verified for each analyte?		Х		1		1			
		Was the absolute value of the analyte concentration	n in the inorganic CCB < MDL?			Х	1				
S3	0	Mass spectral tuning									
	•	Was the appropriate compound for the method use	d for tuning?			X		Т			
		Were ion abundance data within the method-require	ed QC limits?			Х		T			
S4	0	Internal standards (IS)					•				
		Were IS area counts and retention times within the	method-required QC limits?	X	I	I		Т			
S5	OI	Raw data (NELAC Section 5.5.10)					•				
		Were the raw data (for example, chromatograms, sp	pectral data) reviewed by an analyst?	X				Т			
		Were data associated with manual integrations flag		X		1		T			
S6	0	Dual column confirmation	<b>9</b>				1	_			
		Did dual column confirmation results meet the meth	nod-required QC?			X		Т			
S7	0	Tentatively identified compounds (TICs)									
		If TICs were requested, were the mass spectra and	TIC data subject to appropriate checks?		T	Х	T	Т			
S8	1	Interference Check Sample (ICS) results				1	1				
	-	Were percent recoveries within method QC limits?			Т	Х	T	Т			
S9		Serial dilutions, post digestion spikes, and method	of standard additions	·		1	<u> </u>				
		Were percent differences, recoveries, and the linea			Т	Х	Τ	Т			
S10	OI	Method detection limit (MDL) studies	<b>,</b>								
		Was a MDL study performed for each reported anal	vte?	X	T	T	T	T			
		Is the MDL either adjusted or supported by the anal		X				1			
S11	OI	Proficiency test reports	<b>,</b>		•						
		Was the laboratory's performance acceptable on the	e applicable proficiency tests or evaluation studies?	X		I		Т			
S12	OI	Standards documentation									
		Are all standards used in the analyses NIST-traceab	le or obtained from other appropriate sources?	Х	I	I		Т			
S13	OI	Compound/analyte identification procedures			-		•				
	•	Are the procedures for compound/analyte identification	ation documented?	X				T			
514	OI	Demonstration of analyst competency (DOC)									
		Was DOC conducted consistent with NELAC Chapte	er 5?	X				T			
		Is documentation of the analyst's competency up-to		X	1		1	1			
S15	OI	Verification/validation documentation for methods (				•	•				
		Are all the methods used to generate the data docu	. ,	X			T	T			
S16	OI	Laboratory standard operating procedures (SOPs)	,,			1					
		Are laboratory SOPs current and on file for each me	ethod performed	X			I	T			
Iten	ns ide		atory data package submitted in the TRRP-required report		identific	ed by th	e letter	"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;

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

# Laboratory Review Checklist: Exception Reports

	<b>10ITAN</b>	////IDE

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Laborato	ry Name: Pace Analytical National	LRC Date: 06/05/2019 09:26					
Project N Mexico	lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1102366-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13					
Reviewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1288848, WG1288289 and WG1290327					
ER #1	Description						
1	8021B WG1288289 Total Xylene L1102366-02: Concentration in the Blank >MQL.						

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

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

3. NA = Not applicable;

4. NR = Not reviewed;

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

MW-2-052219

# SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 07:35

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0118		0.000190	0.000500	0.000500	1	05/30/2019 08:19	WG1288289
Toluene	0.000966	J	0.000412	0.00100	0.00100	1	05/30/2019 08:19	WG1288289
Ethylbenzene	0.00286		0.000160	0.000500	0.000500	1	05/30/2019 08:19	WG1288289
Total Xylene	0.00667		0.000510	0.00150	0.00150	1	05/30/2019 08:19	WG1288289
(S) a,a,a-Trifluorotoluene(PID)	94.5				79.0-125		05/30/2019 08:19	WG1288289





















MW-12R-052219

Collected date/time: 05/22/19 08:20

# SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

L1102366

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	06/04/2019 14:13	WG1290327
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 06:30	WG1288289
Ethylbenzene	0.000507		0.000160	0.000500	0.000500	1	05/30/2019 06:30	WG1288289
Total Xylene	0.00108	<u>B J</u>	0.000510	0.00150	0.00150	1	05/30/2019 06:30	WG1288289
(S) a,a,a-Trifluorotoluene(PID)	94.1				79.0-125		05/30/2019 06:30	WG1288289
(S) a,a,a-Trifluorotoluene(PID)	99.9				79.0-125		06/04/2019 14:13	WG1290327





















MW-16R-052219

Collected date/time: 05/22/19 08:45

# SAMPLE RESULTS - 03

ONE LAB. NATIONWIDE.

L1102366

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000480	<u>J</u>	0.000190	0.000500	0.000500	1	05/30/2019 06:51	WG1288289
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 06:51	WG1288289
Ethylbenzene	0.000200	<u>J</u>	0.000160	0.000500	0.000500	1	05/30/2019 06:51	WG1288289
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 06:51	WG1288289
(S) a,a,a-Trifluorotoluene(PID)	96.2				79.0-125		05/30/2019 06:51	WG1288289





















MW-17R-052219

Collected date/time: 05/22/19 09:15

# SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE.

L1102366

	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	05/30/2019 07:11	WG1288289
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 07:11	WG1288289
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2019 07:11	WG1288289
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 07:11	WG1288289
(S) a,a,a-Trifluorotoluene(PID)	96.4				79.0-125		05/30/2019 07:11	WG1288289





















MW-18R-052219

Collected date/time: 05/22/19 09:45

# SAMPLE RESULTS - 05

ONE LAB. NATIONWIDE.

L1102366

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000258	<u>J</u>	0.000190	0.000500	0.000500	1	05/30/2019 07:32	WG1288289
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 07:32	WG1288289
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2019 07:32	WG1288289
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 07:32	WG1288289
(S) a,a,a-Trifluorotoluene(PID)	96.6				79.0-125		05/30/2019 07:32	WG1288289





















MW-19R-052219

Collected date/time: 05/22/19 10:05

# SAMPLE RESULTS - 06

ONE LAB. NATIONWIDE.

L1102366

	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	05/30/2019 19:06	WG1288848
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 19:06	WG1288848
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2019 19:06	WG1288848
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 19:06	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		05/30/2019 19:06	WG1288848





















MW-20R-052219

# SAMPLE RESULTS - 07

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 10:25

L1102366

	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	05/30/2019 19:30	WG1288848
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 19:30	WG1288848
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2019 19:30	WG1288848
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 19:30	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	100				79.0-125		05/30/2019 19:30	WG1288848





















MW-21-052219

# SAMPLE RESULTS - 08

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 10:45

L1102366

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000279	<u>J</u>	0.000190	0.000500	0.000500	1	05/30/2019 19:53	WG1288848
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 19:53	WG1288848
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2019 19:53	WG1288848
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 19:53	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/30/2019 19:53	WG1288848





















MW-22-052219

# SAMPLE RESULTS - 09

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 11:20

L1102366

	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	05/30/2019 20:17	WG1288848
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 20:17	WG1288848
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2019 20:17	WG1288848
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 20:17	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		05/30/2019 20:17	WG1288848





















RW-12-052219

# SAMPLE RESULTS - 10

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 12:15

L1102366

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00663		0.000190	0.000500	0.000500	1	05/30/2019 20:40	WG1288848
Toluene	0.00768		0.000412	0.00100	0.00100	1	05/30/2019 20:40	WG1288848
Ethylbenzene	0.00491		0.000160	0.000500	0.000500	1	05/30/2019 20:40	WG1288848
Total Xylene	0.0564		0.000510	0.00150	0.00150	1	05/30/2019 20:40	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	96.6				79.0-125		05/30/2019 20:40	WG1288848





















MW-6-052219

# SAMPLE RESULTS - 11

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 12:45

L1102366

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0724		0.000190	0.000500	0.000500	1	05/30/2019 21:04	WG1288848
Toluene	0.000675	<u>J</u>	0.000412	0.00100	0.00100	1	05/30/2019 21:04	WG1288848
Ethylbenzene	0.00415		0.000160	0.000500	0.000500	1	05/30/2019 21:04	WG1288848
Total Xylene	0.00905		0.000510	0.00150	0.00150	1	05/30/2019 21:04	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	99.4				79.0-125		05/30/2019 21:04	WG1288848





















DUP-1-052219

# SAMPLE RESULTS - 12

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 00:00

L1102366

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000250	<u>J</u>	0.000190	0.000500	0.000500	1	05/30/2019 21:28	WG1288848
Toluene	U		0.000412	0.00100	0.00100	1	05/30/2019 21:28	WG1288848
Ethylbenzene	U		0.000160	0.000500	0.000500	1	05/30/2019 21:28	WG1288848
Total Xylene	U		0.000510	0.00150	0.00150	1	05/30/2019 21:28	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		05/30/2019 21:28	WG1288848





















DUP-2-052219

# SAMPLE RESULTS - 13

ONE LAB. NATIONWIDE.

Collected date/time: 05/22/19 00:00

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00782		0.000190	0.000500	0.000500	1	05/30/2019 21:52	WG1288848
Toluene	0.0113		0.000412	0.00100	0.00100	1	05/30/2019 21:52	WG1288848
Ethylbenzene	0.00920		0.000160	0.000500	0.000500	1	05/30/2019 21:52	WG1288848
Total Xylene	0.108		0.000510	0.00150	0.00150	1	05/30/2019 21:52	WG1288848
(S) a,a,a-Trifluorotoluene(PID)	99.6				79.0-125		05/30/2019 21:52	WG1288848





















# QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1102366-01,02,03,04,05

# Method Blank (MB)

(MB) R3417366-2 05/30/	19 01:01			
	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)	95.5			79.0-125







# Laboratory Control Sample (LCS)

(LCS) R3417366-1 05/30/	19 00:20				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0475	94.9	77.0-122	
Toluene	0.0500	0.0470	94.0	80.0-121	
Ethylbenzene	0.0500	0.0480	96.0	80.0-123	
Total Xylene	0.150	0.150	99.9	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			95.9	79.0-125	











# Sc

# L1102353-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1102353-01 05/30/19 01:21 • (MS) R341/366-3 05/30/19 08:40 • (MSD) R341/366-4 05/30/19 09	9:00
---	------

, ,	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	0.0494	0.0452	98.7	90.4	1	10.0-160			8.81	21
Toluene	0.0500	U	0.0560	0.0471	112	94.2	1	12.0-148			17.2	21
Ethylbenzene	0.0500	U	0.0494	0.0459	98.9	91.8	1	22.0-149			7.42	21
Total Xylene	0.150	U	0.158	0.143	105	95.3	1	13.0-155			9.97	21
(S) a,a,a-Trifluorotoluene(PID)					94.7	93.8		79.0-125				

06/05/19 09:26

# QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1102366-06,07,08,09,10,11,12,13

# Method Blank (MB)

(MB) R3417359-2 05/30/	19 18:19			
	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)	104			79.0-125

# Laboratory Control Sample (LCS)

(LCS) R3417359-1 05/30/19 12:23						
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	
Analyte	mg/l	mg/l	%	%		
Benzene	0.0500	0.0484	96.9	77.0-122		
Toluene	0.0500	0.0495	98.9	80.0-121		
Ethylbenzene	0.0500	0.0510	102	80.0-123		
Total Xylene	0.150	0.150	99.9	47.0-154		
(S) a,a,a-Trifluorotoluene(PID)			99.3	79.0-125		







# QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1102366-02

# Method Blank (MB)

(MB) R3417675-5 06/04/19 11:52						
	MB Result	MB Qualifier	MB MDL	MB RDL		
Analyte	mg/l		mg/l	mg/l		
Benzene	U		0.000190	0.000500		
(S) a,a,a-Trifluorotoluene(PID)	102			79.0-125		





<sup>†</sup>Cn

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

(LCS) R3417675-1 06/04/19 09:52 • (LCSD) R3417675-2 06/04/19 10:16										
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Benzene	0.0500	0.0443	0.0488	88.7	97.7	77.0-122			9.65	20
(S) a,a,a-Trifluorotoluene(PID)				102	101	79.0-125				













# **GLOSSARY OF TERMS**

# 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.

# Abbreviations and Definitions

Appleviations 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.

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





















# **ACCREDITATIONS & LOCATIONS**





## **State Accreditations**

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

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

# Third Party Federal Accreditations

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

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

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

## Our Locations

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





















			Billing Info	ormation:						Analysis /	Containe	/ Preservative		Chain of Custod	y Page of
Plains All American, I	LP - GHD		Account 505 N. B			600	Pres Chk							Pace	· Analytical*
2135 S Loop 250 W Midland, TX 79703			Midland	d, TX 79	701									National (	Center for Testing & Innovation
Report to: John Schnable			Email To: 0		The state of the s	t@ghd.com;								12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-56	7122
Project Description: Darr Angell #1 - Lea	County, NM			City/St Collect					-					Phone: 800-767-58 Fax: 615-758-5859	559
Phone: <b>512-506-8803</b> Fax:	Client Project 074683	#		PLAIN		074683									7366
Collected by (print):	Site/Facility ID		1	P.O.#				<u> </u>						Acctnum: PLA	AINSGHD
Collected by (signature):  Immediately Packed on Ice N Y	Rush? (LSame DaNext DayTwo Day Three Day	5 Day		Quote		ults Needed	No.	40mIAmb-HC						Template: T1: Prelogin: P70 TSR: 134 - Ma PB:	8912
Sample ID	Comp/Grab	Matrix *	Depth		Date	Time	Of	втех 4					70.18	Shipped Via:	
M-2-052217	16	GW	1.	15-	22-19	735	13	W / W						Remarks	Sample # (lab only)
pw-12R- U52214		GW		1		820	TĨ	1					183		-02
nw-168- 052219		GW				845			Ba 180						-03
mw-178- 057219		GW				915			100						-04
80 W-18R USZZK		GW				945									-05
mw-1912- U52219		GW				1305									-06
m-20K-052219		GW				1025							NED TO		_07
mv-21-052219		GW				1045									- 08
mw-22- 052219		GW			1	1120					1000				-09
Pw-12- USZZZ	A	GW			V	1215	1	4				3746 VIII			-10
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater		Report Flag e			cance	ntratium		AD SC	REEN: <	pH Flow	-	Temp	COC Sea COC Sign Bottles Correct	Sample Receipt C 1 Present/Intact ned/Accurate: arrive intact: bottles used:	: ND Y N
OT - Other	Samples retur UPS Fe	dExCou	ırier	11.87	Tr	acking# 48	82	86	3/2	3441	133	11	a continue.	ent volume sent: If Applicat o Headspace:	
Relinquished by: (Signature)		Date:	13-15	Time: 1400		eceived by: (Signa	-				Received	d: Yes No HCL / MeoH TBR		ation Correct/Ch	ecked: Y N
Relinquished by (Signature)		Date:	1	Time:	Re	eceived by: (Signa	ture)			Temp: 4	1.50	Bottles Received:	If preserv	ation required by Lo	gin: Date/Time
Relinquished by : (Signature)		Date:		Time:	Re	eceived for lab by	: (Signat	ure)		Date: 7	DA5	Time: 0830	Hold:		Condition: NCF / OK

			Billing Infor	rmation:				А	nalysis /	Container	/ Preservative		Chain of Custody	Page C of C
Plains All American, L	P - GHD		Accounts 505 N. B	s Payable ig Spring, Ste , TX 79701	e. 600	Pres Chk							Pace National Co	Analytical® Interfor Testing & Innovation
Midland, TX 79703														
Report to: John Schnable				hristopher.Knig able@ghd.com	ht@ghd.com;								12065 Lebanon Rd Mount Juliet, TN 37 Phone: 615-758-58! Phone: 800-767-58!	8
Project Description: Darr Angell #1 - Lea	County, NM			City/State Collected:									Fax: 615-758-5859	■1436#
Phone: <b>512-506-8803</b> Fax:	Client Project # 074683			Lab Project # PLAINSGHI	0-074683								Table #	1366
Collected by (print):	Site/Facility ID			P.O. #			ַם						Acctnum: PLA	
Collected by (signature):	Same Da	ab MUST Be y Five   5 Day 10 Day	Day	Quote #	esults Needed	No.	40mlAmb-HCl						Prelogin: P70 TSR: 134 - Mai	8912
Packed on Ice NY	Three Da			T		of Cntrs							Shipped Via:	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time		втех						Remarks	Sample # (lab only)
Awb-052219	16	GW		5-124	9 1245	3	X							-(1
Dyol - U52219	6	GW		1	-	3	X							118
pyp-2-052219	6	GW				3	X							1-17
119		GW												
		GW												
		GW												
		GW												
TRIP BLANK	G	GW		5-12-19		-	X							
													Development (	Phochilist
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:	Report Flory	SPLS estima	ted Can	RAD SCREEN: <			0.5 mR/hr Temp Temp Temp			COC Second Bottle	Sample Receipt Checkist COC Seal Present/Intact: NP Y N COC Signed/Accurate: Bottles arrive intact: N Correct bottles used: N, N		
WW - WasteWater DW - Drinking Water OT - Other	Samples retu				Tracking #				Flow Other			VOA Ze	ient volume sent  If Applica ro Headspace:	ble y N
Relinquished by : (Signature)		Date:	219	Time: 1400	Received by: (Sig	nature)			Trip Bl	ank Receiv	ed: Yes (No) HCL / MeoH TBR		vation Correct/C	
Relinquished by : (Signature)		Date:	BIT	Time:	Received by: (Sig	gnature)			Temp:	0 11/5	Bottles Received:	If prese	rvation required by L	
Relinquished by : (Signature)		Date:		Time:	Received for lab	hy: (Sign	ature		Date:	TON	Time: 0830	Hold:		Condition: NCF / OK



# Non-Conformance (check applicable items)

1	VOII-COIII	Non-complimance (check applicable items)	2	Icable items)	
2011	Sample Integrity	Integrity		Chain of Custody Clarification	
	Paramete time	Parameter(s) past holding time	×	Login Clarification Needed	If Broken Container:
	Tempera	Temperature not in range		Chain of custody is incomplete	Insufficient packing material around container
	Improper type	Improper container type		Please specify Metals requested.	Insufficient packing material inside cooler
	pH not in range.	range.		Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courie
	Insufficie	Insufficient sample volume.		Received additional samples not listed on coc.	Sample was frozen
	Sample is	Sample is biphasic.		Sample ids on containers do not match ids on coc	Container lid not intact
	Vials rece	Vials received with headspace.		Trip Blank not received.	If no Chain of Custody:
	Broken container	ontainer		Client did not "X" analysis.	Received by:
	Broken c	Broken container:		Chain of Custody is missing	Date/Time:
	Sufficient	Sufficient sample remains			Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

# Login Comments: Din not receive a trip blank

Client informed by:	Call	Email	Voice Mail	Date: 5/24/19	Time: 1830	
TSR Initials: MB	Client Cont	act:				

# Login Instructions:

Client notified



# ANALYTICAL REPORT

June 25, 2019

# Plains All American, LP - GHD

Sample Delivery Group: L1110886

Samples Received: 06/20/2019

Project Number: 074683-2018.1

Description: Darr Angell #1 - Lea County, NM

Report To: James Ornelas

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





















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DARR1-PUMP OFF-061919 L1110886-01	9
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Volatile Organic Compounds (MS) by Method M18-Mod	11
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PAGE:

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DARR1-PUMP OFF-061919 L1110886-01 Air			Collected by Justin Nixon	06/19/19 11:45	06/20/19 09:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1299139	80	06/20/19 22:40	06/20/19 22:40	MBF	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1299904	4000	06/21/19 23:17	06/21/19 23:17	AMC	Mt. Juliet, TN
			Collected by	Collected date/time	Received dat	te/time
DARR1-PUMP ON-061919 L1110886-02 Air			Justin Nixon	06/19/19 12:10	06/20/19 09:	00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (MS) by Method M18-Mod	WG1299139	80	06/20/19 23:22	06/20/19 23:22	MBF	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1299904	4000	06/21/19 23:59	06/21/19 23:59	AMC	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.





















# Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

# Laboratory Review Checklist: Reportable Data

ONE LAB. NATIONWID

Lab	orato	ry Name: Pace Analytical National	LRC Date: 06/25/2019 09:18					
Proj	ect N	lame: Darr Angell #1 - Lea County, NM	Laboratory Job Number: L1110886-01 and 02					
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1299139 and WG1299904					
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
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?	<u> </u>	Х				
		Were all analyte identifications checked by a peer or s	upervisor?	X			İ	
		Were sample detection limits reported for all analytes		X			İ	
		Were all results for soil and sediment samples reported		Х				
		Were % moisture (or solids) reported for all soil and sec	, ,			X		
		Were bulk soils/solids samples for volatile analysis extr			1	X	1	
		If required for the project, are TICs reported?	dated man medicaner per erre to medica ecce.		<b>†</b>	X		
R4	0	Surrogate recovery data			1	1 /		<u> </u>
		Were surrogates added prior to extraction?		Х	I	I	I	
		Were surrogate percent recoveries in all samples within	n the laboratory OC limits?	<del>  ^</del>	X	<u> </u>	<del>                                     </del>	1
R5	OI	Test reports/summary forms for blank samples	in the laboratory de limits.	L	1 ^	1	l .	L '
K3	Oi	Were appropriate type(s) of blanks analyzed?		X	T	I	T T	I
		Were blanks analyzed at the appropriate frequency?		X	+	_		
			al process including properation and if applicable	<del>  ^</del>	1	+	-	-
		Were method blanks taken through the entire analytical cleanup procedures?	al 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?		X				
		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?	X				
		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 in	n the MS and MSD?			Х		
		Were MS/MSD analyzed at the appropriate frequency?				Х	1	
		Were MS (and MSD, if applicable) %Rs within the laboration	atory QC limits?			Х		
		Were MS/MSD RPDs within laboratory QC limits?				Х	İ	
R8	OI	Analytical duplicate data				•	•	
		Were appropriate analytical duplicates analyzed for ea	ch matrix?			X		
		Were analytical duplicates analyzed at the appropriate				Х		
		Were RPDs or relative standard deviations within the la				X		
R9	OI	Method quantitation limits (MQLs):	,					
-110		Are the MQLs for each method analyte included in the	laboratory data package?	Х	I	1	T	
		Do the MQLs correspond to the concentration of the lo		X				
		Are unadjusted MQLs and DCSs included in the labora		X	<del>                                     </del>	<del>                                     </del>		
R10	OI	Other problems/anomalies	, 2200 parings.			1		
KIO	101	Are all known problems/anomalies/special conditions i	noted in this LRC and ER?	X				
			r the SDL to minimize the matrix interference effects on		+	+		<del>                                     </del>
		the sample results?		Х				
		and methods associated with this laboratory data pack	aboratory Accreditation Program for the analytes, matrices age?	X	<u> </u>	<u> </u>	Ļ	<u></u>

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).

Laboratory Name: Pace Analytical National

# Laboratory Review Checklist: Supporting Data

LRC Date: 06/25/2019 09:18

ON

E LAD. NATIONWIDE.	E LAB.	NATIONWIDE.	
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Proj	ect N	Name: Darr Angell #1 - Lea County, NM	Laboratory Job Number: L1110886-01 and 02								
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1299139 and WG1299904								
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR⁴	ER# <sup>5</sup>			
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	et?	Х							
		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							
		Are ICAL data available for all instruments used?		Х							
		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):								
		Was the CCV analyzed at the method-required frequer	ncy?	Х							
		Were percent differences for each analyte within the m	nethod-required QC limits?	Х							
		Was the ICAL curve verified for each analyte?		Х							
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?			Х					
S3	0	Mass spectral tuning			•			•			
		Was the appropriate compound for the method used for	or tuning?	Х							
		Were ion abundance data within the method-required		X			ĺ				
S4	0	Internal standards (IS)				•	•				
		Were IS area counts and retention times within the met	thod-required QC limits?	X							
S5	OI	Raw data (NELAC Section 5.5.10)									
		Were the raw data (for example, chromatograms, speci	tral data) reviewed by an analyst?	Ιx		I	I				
		Were data associated with manual integrations flagged	d on the raw data?	Х							
S6	0	Dual column confirmation									
		Did dual column confirmation results meet the method-	-required QC?	T		X	I				
S7	0	Tentatively identified compounds (TICs)		_			•				
		If TICs were requested, were the mass spectra and TIC	data subject to appropriate checks?	T		X					
S8	ı	Interference Check Sample (ICS) results	, , , ,				•				
		Were percent recoveries within method QC limits?		T		Х	I				
S9	ı	Serial dilutions, post digestion spikes, and method of s	tandard additions								
		Were percent differences, recoveries, and the linearity		T		X	I				
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		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 of	or obtained from other appropriate sources?	X			I				
S13	OI	Compound/analyte identification procedures	· · · · · · · · · · · · · · · · · · ·								
		Are the procedures for compound/analyte identification	n documented?	Ιx		I	Ι				
S14	OI	Demonstration of analyst competency (DOC)				<u> </u>	<u> </u>				
		Was DOC conducted consistent with NELAC Chapter 5	??	Х							
		Is documentation of the analyst's competency up-to-da		X							
S15	OI	Verification/validation documentation for methods (NEI		•							
		Are all the methods used to generate the data docume	,	X							
S16	OI	Laboratory standard operating procedures (SOPs)	and the second s								
		Are laboratory SOPs current and on file for each metho	od performed	Ιx							
1 Itor	nc ido	,	ny data packago submitted in the TPPP required report(s)		dontifio	d by th	o lottor	"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;
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 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Laboratory Review Checklist: Exception Reports

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OINE	LAD.	INAII	CINVV	IUE,

300
- <b>2</b> 3,

Laborat	ory Name: Pace Analytical National	LRC Date: 06/25/2019 09:18						
Project	Name: Darr Angell #1 - Lea County, NM	Laboratory Job Number: L1110886-01 and 02						
Reviewer Name: Mark W. Beasley		Prep Batch Number(s): WG1299139 and WG1299904						
ER #1	Description							
1	M18-Mod WG1299139 1,4-Bromofluorobenzene L1110886-01 and 02: Percent Recovery is outside of established control limits							

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

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

3. NA = Not applicable;

4. NR = Not reviewed;

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

Collected date/time: 06/19/19 11:45

# SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

L1110886

# 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	44300	142000		4000	WG1299904
Toluene	108-88-3	92.10	800	3010	52500	198000		4000	WG1299904
Ethylbenzene	100-41-4	106	800	3470	10700	46200		4000	WG1299904
m&p-Xylene	1330-20-7	106	1600	6940	28500	123000		4000	WG1299904
o-Xylene	95-47-6	106	800	3470	7270	31500		4000	WG1299904
Methyl tert-butyl ether	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1299139
TPH (GC/MS) Low Fraction	8006-61-9	101	200000	826000	5520000	22800000		4000	WG1299904
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		319		<u>J1</u>		WG1299139
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG1299904





















L1110886-01 WG1299139: Surrogate failure due to matrix interference.

Collected date/time: 06/19/19 12:10

### SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

110886

#### 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	52100	166000		4000	WG1299904
Toluene	108-88-3	92.10	800	3010	60700	229000		4000	WG1299904
Ethylbenzene	100-41-4	106	800	3470	11100	48200		4000	WG1299904
m&p-Xylene	1330-20-7	106	1600	6940	26600	115000		4000	WG1299904
o-Xylene	95-47-6	106	800	3470	7580	32900		4000	WG1299904
Methyl tert-butyl ether	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1299139
TPH (GC/MS) Low Fraction	8006-61-9	101	200000	826000	5980000	24700000		4000	WG1299904
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		317		<u>J1</u>		WG1299139
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.3				WG1299904





















L1110886-02 WG1299139: Surrogate failure due to matrix interference.

ONE LAB. NATIONWIDE.

Volatile Organic Compounds (MS) by Method M18-Mod

L1110886-01,02

#### Method Blank (MB)

(MB) R3422972-3 06/20/1	19 11:00					
	MB Result	MB Qualifier	MB MDL	MB RDL		
Analyte	ppbv		ppbv	ppbv		
MTBE	U		0.0505	0.200		
(S) 1,4-Bromofluorobenzene	96.2			60.0-140		







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

(LCS) R3422972-1 06/20/19 09:30 • (LCSD) R3422972-2 06/20/19 10:14											
	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	4.28	4.24	114	113	70.0-130			1.03	25	
(S) 1,4-Bromofluorobenzene				99.0	99.5	60.0-140					













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Volatile Organic Compounds (MS) by Method M18-Mod

L1110886-01,02

#### Method Blank (MB)

(MB) R3423605-3 06/21/19	9 10:24					
	MB Result	MB Qualifier	MB MDL	MB RDL		
Analyte	ppbv		ppbv	ppbv		
Benzene	U		0.0460	0.200		
Ethylbenzene	U		0.0506	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	U		6.91	50.0		
(S) 1,4-Bromofluorobenzene	95.2			60.0-140		

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

(LCS) R3423605-1 06/21/19 08:53 • (LCSD) R3423605-2 06/21/19 09:37

Analyte         Spike Amount         LCS Result         LCSD Result         LCS Rec.         LCSD Rec.         Rec. Limits         LCS Qualifier         LCSD Qualifier         RPD         RPD Limits           Analyte         ppbv         ppbv         ppbv         %												
Benzene       3.75       4.73       4.72       126       126       70.0-130       0.168       25         Toluene       3.75       4.61       4.59       123       123       70.0-130       0.384       25         Ethylbenzene       3.75       4.60       4.57       123       122       70.0-130       0.645       25         m&p-Xylene       7.50       8.91       8.95       119       119       70.0-130       0.499       25         o-Xylene       3.75       4.50       4.54       120       121       70.0-130       0.909       25		Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Toluene     3.75     4.61     4.59     123     123     70.0-130     0.384     25       Ethylbenzene     3.75     4.60     4.57     123     122     70.0-130     0.645     25       m&p-Xylene     7.50     8.91     8.95     119     119     70.0-130     0.499     25       o-Xylene     3.75     4.50     4.54     120     121     70.0-130     0.909     25	Analyte	ppbv	ppbv	ppbv	%	%	%			%	%	
Ethylbenzene     3.75     4.60     4.57     123     122     70.0-130     0.645     25       m&p-Xylene     7.50     8.91     8.95     119     119     70.0-130     0.499     25       o-Xylene     3.75     4.50     4.54     120     121     70.0-130     0.909     25	Benzene	3.75	4.73	4.72	126	126	70.0-130			0.168	25	
m&p-Xylene 7.50 8.91 8.95 119 119 70.0-130 0.499 25 o-Xylene 3.75 4.50 4.54 120 121 70.0-130 0.909 25	Гoluene	3.75	4.61	4.59	123	123	70.0-130			0.384	25	
o-Xylene 3.75 4.50 4.54 120 121 70.0-130 0.909 25	Ethylbenzene	3.75	4.60	4.57	123	122	70.0-130			0.645	25	
,	m&p-Xylene	7.50	8.91	8.95	119	119	70.0-130			0.499	25	
TPH (GC/MS) Low Fraction 203 238 239 118 118 70.0-130 0.192 25	o-Xylene	3.75	4.50	4.54	120	121	70.0-130			0.909	25	
	ΓΡΗ (GC/MS) Low Fraction	203	238	239	118	118	70.0-130			0.192	25	
(S) 1,4-Bromofluorobenzene 98.5 99.2 60.0-140	(S) 1,4-Bromofluorobenzene	ō			98.5	99.2	60.0-140					





















DATE/TIME:

06/25/19 09:18

PAGE:

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## **GLOSSARY OF TERMS**

### 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.

#### 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

J1

Surrogate recovery limits have been exceeded; values are outside upper control limits.

























### **ACCREDITATIONS & LOCATIONS**





#### **State Accreditations**

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

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

#### Third Party Federal Accreditations

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

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

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

#### Our Locations

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























			Billing Infor	rmation:					Analysis /	Containe	er / Preservative	Chain of Custody	Chain of Custody Page of		
2135 S loop 250 W Midland, TX 79703			ccounts Payable 05 N. Big Spring, Ste. 600 lidland, TX 79701									Pace National C	Analytical® enter for Testing & Innovation		
				mail To: Christopher.Knight@ghd.com;									12065 Lebanon Rd		
John Scinable			John.Schna	able@ghd.com				10-7					Mount Juliet, TN 37 Phone: 615-758-58	58	
Project Description: Darr Angell #1 - Lea (	County, NM			City/State Collected:	8,	P. Control of the Con							Phone: 800-767-58 Fax: 615-758-5859	■.90%s	
Dhana: 517-506-8803	O74683-201			Lab Project # PLAINSGHD	)-074683								A14	10886	
Justin Mixan	Site/Facility ID	#		P.O. #									Acctnum: PLA		
Collected by (signature):	Same Da	Same Day Five Day		Quote #			Tedla						Prelogin: P70	8914	
Immediately Packed on Ice N Y	Next Day Two Day Three Da	10 D	y (Rad Only) Pay (Rad Only)	(Rad Only) Date Results No y (Rad Only)		No. of	M18-MOD						PB: 5-13	,	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	A18						Snipped via: r	Sample # (lab only	
O i - coalbic		Air	T.	16-19-19	19300 1145	1	X							10.	
Danl-pumpoff-obhia	6	Air	+	6-19-19	Q 1210	1	X		100					-0	
Darr 1- Pumpon- ubiging	6	Air	-	OFF	100	1	X						1 1 22		
				1		-	X								
		Air		-	-	1									
		Air	+	1		1	X								
			-		-	-									
			-			-									
(a)						-									
												4			
* Matrix:  SS - Soil AIR - Air F - Filter  GW - Groundwater B - Bioassay  WW - WasteWater	Remarks:						pH Temp			COC Sea	Sample Receipt Checklist COC Seal Present/Intact: NP Y COC Signed/Accurate: Y Bottles arrive intact: Y				
DW - Drinking Water OT - Other UPSFedEx Courier					Tracking # 4430	5 =	Flow Other					Suffic: VOA Ze	Correct bottles used:  Sufficient volume sent:  If Applicable  VOA Zero Headspace:  Y N		
Relinquished by : (Signature)  Date:				Received by: (Signati		Name Water		Trip Blank Regeived: Yes No HCL1 MeoH			Preservation Correct/Checked: _Y _				
Relinquished by : (Signature)		Date:		Time:	Received by: (Signati	ure)			Temp:		C Bottles Received:	If preservation required by Login: Date/Time			
Relinquished by : (Signature)		Date:	-	Time:	Received for lab by:	-	C-101		Date:		Time:	Hold:		Condition:	



# ANALYTICAL REPORT

August 02, 2019

#### Plains All American, LP - GHD

Sample Delivery Group: L1122864

Samples Received: 07/26/2019

Project Number: 074683

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

Site: SRS DARR ANGELL #1

Report To: James Ornelas

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 Analytica National is performed per guidance provided in laboratory standard operating procedures RNV-502-MrJL-0067 and ENV-502-MrJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information growded, and as the samples are received.



















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Cp: Cover Page	1
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Ss: Sample Summary	3
Cn: Case Narrative	5
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### SAMPI

LE SUMMARY	ONE LAB. NATION
LL SUMMARI	O112 E/18:11/(1101

MW-18R-072419 L1122864-01 GW			Collected by Justin Nixon	Collected date/time 07/24/19 10:25	Received da 07/26/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 13:25	07/30/19 13:25	DWR	Mt. Juliet, TN
/olatile Organic Compounds (GC) by Method 8021B	WG1320778	1	08/01/19 01:12	08/01/19 01:12	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	
MW-17R-072419 L1122864-02 GW			Justin Nixon	07/24/19 11:05	07/26/19 08:	45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 13:49	07/30/19 13:49	DWR	Mt. Juliet, TN
/olatile Organic Compounds (GC) by Method 8021B	WG1320778	1	08/01/19 01:36	08/01/19 01:36	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-19R-072419 L1122864-03 GW			Justin Nixon	07/24/19 11:30	07/26/19 08:	45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 14:13	07/30/19 14:13	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B	WG1320778	1	08/01/19 02:00	08/01/19 02:00	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-12R-072419 L1122864-04 GW			Justin Nixon	07/24/19 12:15	07/26/19 08:	45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
/olatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 14:37	07/30/19 14:37	DWR	Mt. Juliet, TN
olatile Organic Compounds (GC) by Method 8021B	WG1320778	1	08/01/19 02:24	08/01/19 02:24	ADM	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-22-072419 L1122864-05 GW			Justin Nixon	07/24/19 12:55	07/26/19 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
/olatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 15:01	07/30/19 15:01	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	
MW-6-072419 L1122864-06 GW			Justin Nixon	07/24/19 13:25	07/26/19 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		





















Volatile Organic Compounds (GC) by Method 8021B

MW-21-072419 L1122864-07 GW

Volatile Organic Compounds (GC) by Method 8021B

MW-20R-072419 L1122864-08 GW

Method

Method

Batch

Batch

WG1319881

WG1319881

Collected by

Justin Nixon

Preparation

07/30/19 18:14

Collected by

Justin Nixon

Preparation

07/30/19 18:38

date/time

date/time

Dilution

1

Dilution

Collected date/time Received date/time

Collected date/time Received date/time

07/26/19 08:45

Location

Mt. Juliet, TN

Location

Mt. Juliet, TN

Analyst

DWR

07/26/19 08:45

Analyst

DWR

07/24/19 13:45

07/30/19 18:14

07/24/19 14:10

07/30/19 18:38

Analysis

date/time

Analysis

date/time



			Collected by	Collected date/time	Received da	
MW-16R-072419 L1122864-09 GW			Justin Nixon	07/24/19 14:35	07/26/19 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 19:01	07/30/19 19:01	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
RW-12-072419 L1122864-10 GW			Justin Nixon	07/24/19 15:30	07/26/19 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 19:25	07/30/19 19:25	DWR	Mt. Juliet, Ti
			Collected by	Collected date/time	Received da	te/time
MW-2-072419 L1122864-11 GW			Justin Nixon	07/24/19 16:05	07/26/19 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1319881	1	07/30/19 19:49	07/30/19 19:49	DWR	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DUP-1-072419 L1122864-12 GW			Justin Nixon	07/24/19 00:00	07/26/19 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1320900	1	08/01/19 14:14	08/01/19 14:14	JAH	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DUP-2-072419 L1122864-13 GW			Justin Nixon	07/24/19 00:00	07/26/19 08:	45
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		

WG1320900





















Plains All American, LP - GHD

Volatile Organic Compounds (GC) by Method 8021B

08/01/19 14:44

08/01/19 14:44

JAH

Mt. Juliet, TN

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





















PAGE:

5 of 29

Mark W. Beasley Project Manager

### Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

## Laboratory Review Checklist: Reportable Data



Е	LAB.	NATIONWIDE.	

Laboratory Name: Pace Analytical National		ry Name: Pace Analytical National	LRC Date: 08/02/2019 19:29						
Project Name: Darr Angell #1- Lea County, New Mexico  Laboratory Job Number: L1122864-01, 02, 03, 04, 05, 06, 07, 08, 09,					)9, 10, <sup>1</sup>	11, 12 a	nd 13		
Reviewer Name: Mark W. Beasley Prep Batch Number(s): WG1319881, WG1320778 and WG1320900									
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
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	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	les bracketed by calibration standards?	Х					
		Were calculations checked by a peer or supervisor?	<u> </u>	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		Х					
		Were % moisture (or solids) reported for all soil and sec	liment samples?			Х			
		Were bulk soils/solids samples for volatile analysis extr	acted with methanol per SW846 Method 5035?			Х			
		If required for the project, are TICs reported?	·			Х			
R4	0	Surrogate recovery data						•	
		Were surrogates added prior to extraction?		Х					
		Were surrogate percent recoveries in all samples within	n the laboratory QC limits?	Х					
R5	OI	Test reports/summary forms for blank samples	<u> </u>				•		
		Were appropriate type(s) of blanks analyzed?		Х					
		Were blanks analyzed at the appropriate frequency?		Х					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?							
		Were blank concentrations < MQL?						1	
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			,	,			
		Were the project/method specified analytes included in	the MS and MSD?			X			
		Were MS/MSD analyzed at the appropriate frequency?				X		1	
		Were MS (and MSD, if applicable) %Rs within the labora	atory QC limits?		<u> </u>	X		<u> </u>	
		Were MS/MSD RPDs within laboratory QC limits?				X		<u> </u>	
R8	OI	Analytical duplicate data		Ι	1			1	
		Were appropriate analytical duplicates analyzed for ea				X			
		Were analytical duplicates analyzed at the appropriate				X			
		Were RPDs or relative standard deviations within the la	boratory QC limits?	<u> </u>		X			
R9	OI	Method quantitation limits (MQLs):			1	T		1	
		Are the MQLs for each method analyte included in the		X	ļ			<u> </u>	
		Do the MQLs correspond to the concentration of the lo		X	<u> </u>	1		<u> </u>	
Dis	Lo	Are unadjusted MQLs and DCSs included in the labora	tory data package?	X		1			
R10	OI	Other problems/anomalies			1		_		
		Are all known problems/anomalies/special conditions r		Х	<u> </u>	1	-	<del>                                     </del>	
		the sample results?	r the SDL to minimize the matrix interference effects on	Х					
		and methods associated with this laboratory data pack	•	X		<u> </u>			
1 1+0	- lai -		ay data package submitted in the TDDD required report(s)			A b + b	_		

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

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
 NA = Not applicable;
 NR = Not reviewed;
 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

## Laboratory Review Checklist: Supporting Data



ONE LAB. NATIONWIDE.	्ये

Lab	orato	ory Name: Pace Analytical National	LRC Date: 08/02/2019 19:29							
Project Name: Darr Angell #1- Lea County, New Mexico  Laboratory Job Number: L1122864-01, 02, 03, 04, 05, 06, 07, 08,						9, 10, 1	l1, 12 a	nd 13		
Reviewer Name: Mark W. Beasley			Prep Batch Number(s): WG1319881, WG1320778 and WG1320900							
# <sup>1</sup>	A <sup>2</sup>	Description	•	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>		
S1	OI	Initial calibration (ICAL)								
		Were response factors and/or relative response factor	ors for each analyte within QC limits?			Х				
		Were percent RSDs or correlation coefficient criteria	•	Х						
		Was the number of standards recommended in the n	nethod used for all analytes?	Х						
		Were all points generated between the lowest and h	,	X				$\vdash$		
		Are ICAL data available for all instruments used?		X						
		Has the initial calibration curve been verified using a	n appropriate second source standard?	X						
S2	OI	Initial and continuing calibration verification (ICCV an		<u> </u>						
		Was the CCV analyzed at the method-required frequ	<u> </u>	X						
		Were percent differences for each analyte within the		X	1 1					
		Was the ICAL curve verified for each analyte?		X	1 1					
		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 tunina?			Х		Т		
		Were ion abundance data within the method-require	-		1	Х				
54	0	Internal standards (IS)								
		Were IS area counts and retention times within the m	Τx	I I		Г	$\overline{}$			
S5	OI	Raw data (NELAC Section 5.5.10)	ioniou ioquiiou do iiiiioi							
	10.	Were the raw data (for example, chromatograms, spe	ectral data) reviewed by an analyst?	T X	I I		Γ	Т		
		Were data associated with manual integrations flagg		$\frac{\lambda}{X}$	1 1			$\vdash$		
S6	То	Dual column confirmation								
	1 -	Did dual column confirmation results meet the metho	od-required QC?	1	I I	X	Г	Т		
S7	О	Tentatively identified compounds (TICs)	ou required we.							
<i></i>		If TICs were requested, were the mass spectra and T	IC data subject to appropriate checks?	T	П	X	Ι	Т		
S8		Interference Check Sample (ICS) results	To data subject to appropriate checks.							
<u> </u>	•	Were percent recoveries within method QC limits?			П	X	Ι			
S9	lı -	Serial dilutions, post digestion spikes, and method of	f standard additions		<u> </u>		<u> </u>			
	'	Were percent differences, recoveries, and the lineari				X				
S10	OI	Method detection limit (MDL) studies	ty want the de limits specified in the method.							
210	<u> </u> U.	Was a MDL study performed for each reported analy	te?	X	П		T T	Т		
		Is the MDL either adjusted or supported by the analy		X				_		
S11	OI	Proficiency test reports	313 01 2003.							
J.I.	<u> </u> U.	Was the laboratory's performance acceptable on the	applicable proficiency tests or evaluation studies?	X	П		T T	Т		
S12	Οι	Standards documentation	applicable proficiency tests of evaluation studies.							
J12	101	Are all standards used in the analyses NIST-traceable	e or obtained from other appropriate sources?	T X	Т		Π			
513	OI	Compound/analyte identification procedures	e of obtained from other appropriate sources.		1		<u> </u>			
713	JOI	Are the procedures for compound/analyte identificat	ion documented?	X	Т		Г	т		
514	OI	Demonstration of analyst competency (DOC)	ion accamented.	^	<u> </u>					
J 1 T	1 0,	Was DOC conducted consistent with NELAC Chapter	X	T		Ι				
		Is documentation of the analyst's competency up-to-		X	1			$\vdash$		
S15	OI	Verification/validation documentation for methods (N		^	1 1					
515	101	Are all the methods used to generate the data docur		X	1		Γ	$\overline{}$		
S16	OI	Laboratory standard operating procedures (SOPs)	mented, verified, and validated, where applicable!		1 1					
טוכ	U	Are laboratory SOPs current and on file for each met		Тх	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).

### Laboratory Review Checklist: Exception Reports

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Laborato	ry Name: Pace Analytical National	LRC Date: 08/02/2019 19:29				
Project Name: Darr Angell #1- Lea County, New Mexico		Laboratory Job Number: L1122864-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 13				
Reviewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1319881, WG1320778 and WG1320900				
ER #1	Description					
1	8021B WG1320900 Total Xylene L1122864-12: Concentration in the Blank >MQI					

<sup>1.</sup> 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).

MW-18R-072419

Collected date/time: 07/24/19 10:25

### SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000201	<u>J</u>	0.000190	0.000500	0.000500	1	08/01/2019 01:12	WG1320778
Toluene	0.000448	<u>J</u>	0.000412	0.00100	0.00100	1	07/30/2019 13:25	WG1319881
Ethylbenzene	0.000365	<u>J</u>	0.000160	0.000500	0.000500	1	07/30/2019 13:25	WG1319881
Total Xylene	0.00101	<u>J</u>	0.000510	0.00150	0.00150	1	07/30/2019 13:25	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		07/30/2019 13:25	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		08/01/2019 01:12	WG1320778





















MW-17R-072419

### SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 07/24/19 11:05

L1122864

	<b>.</b>	0 110	221		1101	D.1		5
	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	08/01/2019 01:36	WG1320778
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 13:49	WG1319881
Ethylbenzene	0.000189	<u>J</u>	0.000160	0.000500	0.000500	1	07/30/2019 13:49	WG1319881
Total Xylene	U		0.000510	0.00150	0.00150	1	07/30/2019 13:49	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		07/30/2019 13:49	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		08/01/2019 01:36	WG1320778





















MW-19R-072419

Collected date/time: 07/24/19 11:30

### SAMPLE RESULTS - 03

ONE LAB. NATIONWIDE.

L1122864

	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	08/01/2019 02:00	WG1320778
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 14:13	WG1319881
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/30/2019 14:13	WG1319881
Total Xylene	U		0.000510	0.00150	0.00150	1	07/30/2019 14:13	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		07/30/2019 14:13	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		08/01/2019 02:00	WG1320778





















MW-12R-072419

Collected date/time: 07/24/19 12:15

### SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE.

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.000300	<u>J</u>	0.000190	0.000500	0.000500	1	08/01/2019 02:24	WG1320778
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 14:37	WG1319881
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/30/2019 14:37	WG1319881
Total Xylene	U		0.000510	0.00150	0.00150	1	07/30/2019 14:37	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		07/30/2019 14:37	WG1319881
(S) a a a-Trifluorotoluene(PID)	10.3				79 0-125		08/01/2019 02:24	WG1320778





















MW-22-072419

### SAMPLE RESULTS - 05

ONE LAB. NATIONWIDE.

Collected date/time: 07/24/19 12:55

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/30/2019 15:01	WG1319881
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 15:01	WG1319881
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/30/2019 15:01	WG1319881
Total Xylene	U		0.000510	0.00150	0.00150	1	07/30/2019 15:01	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		07/30/2019 15:01	WG1319881





















MW-6-072419

# SAMPLE RESULTS - 06

ONE LAB. NATIONWIDE.

S - 06 ONE LAB. NATIO

## Collected date/time: 07/24/19 13:25

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0746		0.000190	0.000500	0.000500	1	07/30/2019 17:50	WG1319881
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 17:50	WG1319881
Ethylbenzene	0.000864		0.000160	0.000500	0.000500	1	07/30/2019 17:50	WG1319881
Total Xylene	0.00431		0.000510	0.00150	0.00150	1	07/30/2019 17:50	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		07/30/2019 17:50	WG1319881





















MW-21-072419

Collected date/time: 07/24/19 13:45

### SAMPLE RESULTS - 07

ONE LAB. NATIONWIDE.

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/30/2019 18:14	WG1319881
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 18:14	WG1319881
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/30/2019 18:14	WG1319881
Total Xylene	U		0.000510	0.00150	0.00150	1	07/30/2019 18:14	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		07/30/2019 18:14	WG1319881





















MW-20R-072419

Collected date/time: 07/24/19 14:10

### SAMPLE RESULTS - 08

ONE LAB. NATIONWIDE.

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/30/2019 18:38	WG1319881
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 18:38	WG1319881
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/30/2019 18:38	WG1319881
Total Xylene	U		0.000510	0.00150	0.00150	1	07/30/2019 18:38	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		07/30/2019 18:38	WG1319881





















MW-16R-072419

Collected date/time: 07/24/19 14:35

### SAMPLE RESULTS - 09

ONE LAB. NATIONWIDE.

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	07/30/2019 19:01	WG1319881
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 19:01	WG1319881
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/30/2019 19:01	WG1319881
Total Xylene	U		0.000510	0.00150	0.00150	1	07/30/2019 19:01	WG1319881
(S) a a a-Trifluorotoluene(PID)	102				79 0-125		07/30/2019 19:01	WG1319881





















RW-12-072419

### SAMPLE RESULTS - 10

ONE LAB. NATIONWIDE.

Collected date/time: 07/24/19 15:30

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00869		0.000190	0.000500	0.000500	1	07/30/2019 19:25	WG1319881
Toluene	0.0115		0.000412	0.00100	0.00100	1	07/30/2019 19:25	WG1319881
Ethylbenzene	0.0223		0.000160	0.000500	0.000500	1	07/30/2019 19:25	WG1319881
Total Xylene	0.162		0.000510	0.00150	0.00150	1	07/30/2019 19:25	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		07/30/2019 19:25	WG1319881





















MW-2-072419

### SAMPLE RESULTS - 11

ONE LAB. NATIONWIDE.

Collected date/time: 07/24/19 16:05

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00339		0.000190	0.000500	0.000500	1	07/30/2019 19:49	WG1319881
Toluene	U		0.000412	0.00100	0.00100	1	07/30/2019 19:49	WG1319881
Ethylbenzene	U		0.000160	0.000500	0.000500	1	07/30/2019 19:49	WG1319881
Total Xylene	0.00161		0.000510	0.00150	0.00150	1	07/30/2019 19:49	WG1319881
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		07/30/2019 19:49	WG1319881





















DUP-1-072419

### SAMPLE RESULTS - 12

ONE LAB. NATIONWIDE.

Collected date/time: 07/24/19 00:00

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0691		0.000190	0.000500	0.000500	1	08/01/2019 14:14	WG1320900
Toluene	U		0.000412	0.00100	0.00100	1	08/01/2019 14:14	WG1320900
Ethylbenzene	0.000755		0.000160	0.000500	0.000500	1	08/01/2019 14:14	WG1320900
Total Xylene	0.00394	В	0.000510	0.00150	0.00150	1	08/01/2019 14:14	WG1320900
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		08/01/2019 14:14	WG1320900





















DUP-2-072419

### SAMPLE RESULTS - 13

ONE LAB. NATIONWIDE.

Collected date/time: 07/24/19 00:00

L1122864

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00807		0.000190	0.000500	0.000500	1	08/01/2019 14:44	WG1320900
Toluene	0.0109		0.000412	0.00100	0.00100	1	08/01/2019 14:44	WG1320900
Ethylbenzene	0.0210		0.000160	0.000500	0.000500	1	08/01/2019 14:44	WG1320900
Total Xylene	0.151		0.000510	0.00150	0.00150	1	08/01/2019 14:44	WG1320900
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		08/01/2019 14:44	WG1320900





















ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1122864-01,02,03,04,05,06,07,08,09,10,11

#### Method Blank (MB)

(MB) R3436079-3 07/30/	/19 11:57			
	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









(LCS) R3436079-1 07/30	/19 10:31				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0456	91.1	77.0-122	
Toluene	0.0500	0.0449	89.7	80.0-121	
Ethylbenzene	0.0500	0.0487	97.4	80.0-123	
Total Xylene	0.150	0.144	95.7	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			102	79.0-125	











ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1122864-01,02,03,04

#### Method Blank (MB)

(MB) R3436592-2 08/01/	/19 00:38			
	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)	103			79.0-125

# 3

## Ss

### Laboratory Control Sample (LCS)

(LCS) R3436592-1 07/31/19 23:39									
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier				
Analyte	mg/l	mg/l	%	%					
Benzene	0.0500	0.0517	103	77.0-122					
(S) a,a,a-Trifluorotoluene(PID)			102	79.0-125					













ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1122864-12,13

#### Method Blank (MB)

(MB) R3436739-3 08/01/19 13:03					
	MB Result	MB Qualifier	MB MDL	MB RDL	
Analyte	mg/l		mg/l	mg/l	
Benzene	U		0.000190	0.000500	
Toluene	U		0.000412	0.00100	
Ethylbenzene	U		0.000160	0.000500	
Total Xylene	U		0.000510	0.00150	
(S) a,a,a-Trifluorotoluene(PID)	103			79.0-125	

## Laboratory Control Sample (LCS)

(LCS) R3436739-1 08/01/19 10:52					
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0448	89.7	77.0-122	
Toluene	0.0500	0.0438	87.5	80.0-121	
Ethylbenzene	0.0500	0.0476	95.2	80.0-123	
Total Xylene	0.150	0.141	93.9	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			102	79.0-125	



















#### **GLOSSARY OF TERMS**

#### ONE LAB. NATIONWIDE.

#### 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	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 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

	·
В	The same analyte is found in the associated blank.
1	The identification of the analyte is acceptable; the reported value is an estimate



















### **ACCREDITATIONS & LOCATIONS**





#### **State Accreditations**

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

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

#### Third Party Federal Accreditations

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

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

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

#### Our Locations

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























		Billing Information:				Analysis / Container / Preservative							Chain of Custody Page of				
			505 N. B	Accounts Payable 505 N. Big Spring, Ste. 600 Midland, TX 79701										Pace.	Analytical® enter for Testing & Innov		
				o: Christopher.Knight@ghd.com; ornelas@ghd.com										Mount Juliet, TN 37	12065 Lebanon Rd Mount Juliet, TN 37122		
Project Description: Darr Angell #1- Lea		City/State Collected:										Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859					
Phone: <b>512-506-8803</b> Fax:  Client Project # 074683			Lab Project # PLAINSGHD-074683											1244	12864		
Collected by (print):	Site/Facility ID #  SRS DARR ANGELL #1  Rush? (Lab MUST Be Notif  Same Day Five Day  Next Day 5 Day (Rad Two Day 10 Day (Ra			Only) Date Results Needed			40mlAmb-HCI							Acctnum: PLA	NINSGHD		
Collected by (signature):														Template:T139782 Prelogin: P719647 TSR: 134 - Mark W. Beasley			
Packed on Ice NY	Three I	Day				No. of Cntrs								PB: Shipped Via:			
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time		BTEX							Remarks	Sample # (lab or		
Au 1812 - 072419	6	GW		7-24-19	1025	3	X								-0		
1-w-1712-072414		GW			1105					1000 Eyen					50		
mw-1912 - 672419		GW			1130					THE STATE OF			平数	1 939	03		
mw-1212-072419		GW			1215			2011							1 DE 04		
muzz- 07249		GW			1255									30.5	0		
m-b- 072419		GW			1325			100					製館	3	04		
mu-21-072419		GW			1345			150							0		
mu-2012-072419		GW		100	1410										08		
mw-168- 07249		GW			1435										06		
Rw-12-07249	1	GW			530	V									/11		
* Matrix:  SS - Soil* AIR - Air GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other  **Remarks: Repart to SI F - Filter B - Bioassay  Samples returned via: UPS FedEx Courier				Concentrations.  Tracking # UCIO				pH Temp Flow Other						Sample Receipt Check ist COC Seal Present/Intact: NP Y COC Signed/Accurate: Bottles arrive intact: Correct bottles used: Sufficient volume sent: If Applicable			
Relinquished by: (Signature) Date:			Т		Received by: (Signat	Trip Blank Received: Yes / No) HCL / MeoH TBR					VOA Zero Headspace: Preservation Correct/Checked: Y  RAD SCREEN: <0.5 mR/hr						
Relinquished by : (Signature) Date:			Т	ime: R	Received by: (Signati	ure)			Temp: °C Bottles Received: 5.340 = 5.332					If preservation required by Login: Date/Time			
Relinquished by : (Signature)		Date:	Т	ime: R	eceived for lab by:	ure)	re) Date:			Date: Time:			Hold:				

		Billing Info	ormation:		Analysis / Container / Preservative								Chain of Custody Page of			
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 Ca	Analytical* noter for Testing & Innovetion
Report to: James Ornelas	Email To: Christopher.Knight@ghd.com; james.ornelas@ghd.com												12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858			
Project Description: Darr Angell #1- Lea		4								Phone: 800-767-5859 Fax: 615-758-5859						
Phone: <b>512-506-8803</b> Fax:	Client Project #				Lab Project # PLAINSGHD-074683										L# 11	22864
Collected by (print):	Site/Facility ID # SRS DARR ANGELL #1			P.O. #			Amb-HCI								Acctnum: PLA	INSGHD
Collected by (signature):	signature):  Rush? (Lab MUST Be Notified)  Same Day Five Day  Next Day 5 Day (Rad Only)  Two Day 10 Day (Rad Only)														Template: <b>T139782</b> Prelogin: <b>P719647</b>	
Immediately Packed on Ice N Y				Date Re	No. of	40mlA				and the second s				TSR: 134 - Mark W. Beasley PB:		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTEX					中的油			Shipped Via:	Sample # (lab only)
mu-2-072419	16	GW		724-19	1605	3	X							i frais		-11
Dp-1-072419	11	GW				3	X						The state of		7	12
ap-2 -072419	J	GW		1		3	×									13
		GW														
		GW														
		GW														
		GW								2280		Hillian				Production of the Production o
TRIP BLANK		GW										Mile 1				
															14-16-16	
* Matrix:  SS - Soil AIR - Air F - Filter  GW - Groundwater B - Bioassay  WW - WasteWater  DW - Drinking Water  OT - Other	Remarks:					pH Temp			Bottl	Sample Receipt Checklist COC Seal Present/Intact: NP Y COC Signed/Accurate: Bottles arrive intact: Correct bottles used:						
	Samples returUPS \( \subseteq \text{Fe} \)	Tracking # Sanc									cient	volume sent: If Applicat				
Relinquished by : (Signature)		Date:			nature)		1 240	Trip	Trip Blank Received: Yes No HCL / MeoH				Preservation Correct/Checked: Y N RAD CONTENT < 0.5 mR/hr			
Relinquished by : (Signature)		Date:			Received by: (Sign	eceived by: (Signature)					°C 80	ttles Received:	If pres	If preservation required by Login: Date/Time		
Relinquished by : (Signature) Date:				Time:	Received for lab by: (Signature)					Date: 7/214/5 Fine: 45						Condition: NCF / OK



# ANALYTICAL REPORT

August 23, 2019

### Plains All American, LP - GHD

Sample Delivery Group: L1131596

Samples Received: 08/15/2019

Project Number: 074683-2018.1

Description: Darr Angell #1 - Lea County, NM

Report To: James Ornelas

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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





















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Dilution

2000

Preparation

08/23/19 01:05

date/time

Batch

WG1333153

Mt. Juliet, TN



DARR-1-EXHAUST-PUMPOFF-081419 L1131596-01 Air

Volatile Organic Compounds (MS) by Method M18-Mod

Method

Collected by

Analysis

date/time

08/23/19 01:05

Collected date/time Received date/time

MBF

08/15/19 08:45 08/14/19 12:30

Analyst Location



















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.

Ср



















Mark W. Beasley Project Manager

### Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

### Laboratory Review Checklist: Reportable Data

ONE LA

В.	NATIONWIDE.	
υ.	TO THOUTHOUSE.	

Laboratory Name: Pace Analytical National		ry Name: Pace Analytical National	LRC Date: 08/23/2019 17:32							
Proj	ect N	lame: Darr Angell #1 - Lea County, NM	Laboratory Job Number: L1131596-01							
Revi	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1333153							
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>		
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			1	Х	1			
R2	OI	Sample and quality control (QC) identification	a in an exception report.	<u> </u>		1 /	<u> </u>			
- 1.2		Are all field sample ID numbers cross-referenced to the	a laboratory ID numbers?	Ιx		I	I			
		Are all laboratory ID numbers cross-referenced to the		X	1		<del> </del>			
R3	OI	Test reports	corresponding &c data:				<u> </u>			
K3	Oi		a times?	X	Т	Т	T			
		Were all samples prepared and analyzed within holding		X			1			
		Other than those results < MQL, were all other raw values and substitute and subs	des bracketed by Calibration Standards:	X	<del>                                     </del>	+	<del>                                     </del>			
		Were calculations checked by a peer or supervisor?		_			-	-		
		Were all analyte identifications checked by a peer or si	•	X	-		<del>                                     </del>			
		Were sample detection limits reported for all analytes in		X		-	<u> </u>	-		
		Were all results for soil and sediment samples reported	, ,	X		<b>—</b>	<u> </u>			
		Were % moisture (or solids) reported for all soil and sec		ļ	ļ	X	ļ			
		Were bulk soils/solids samples for volatile analysis extr	racted with methanol per SW846 Method 5035?			X				
		If required for the project, are TICs reported?				X				
R4	0	Surrogate recovery data								
		Were surrogates added prior to extraction?		X						
		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?		X						
		Were blanks analyzed at the appropriate frequency?		X						
		Were method blanks taken through the entire analytica	al process, including preparation and, if applicable,	Х			İ			
		cleanup procedures?		_ ^						
		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?		Х						
		Were LCS (and LCSD, if applicable) %Rs within the labor	oratory QC limits?	X			1			
			e laboratory's capability to detect the COCs at the MDL	Х						
		Was the LCSD RPD within QC limits?		X						
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	8	•	•	•	•			
		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				X				
		Were MS/MSD RPDs within laboratory QC limits?	30.7 40			X				
R8	OI	Analytical duplicate data				_ ^				
I KO	I OI	Were appropriate analytical duplicates analyzed for ea	ch matriy?	I	Т	Ιx	I	1		
				-		X	-			
		Were analytical duplicates analyzed at the appropriate		╂	<del>                                     </del>	+	╂	-		
DC		Were RPDs or relative standard deviations within the la	aboratory QC IIIIIIIS:			Х				
R9	OI	Method quantitation limits (MQLs):		_	1	_	1			
		Are the MQLs for each method analyte included in the		X	<u> </u>	1		-		
		Do the MQLs correspond to the concentration of the lo		X	Ь—			<u> </u>		
		Are unadjusted MQLs and DCSs included in the labora	tory data package?	X	<u> </u>	<u> </u>				
R10	OI	Other problems/anomalies								
		Are all known problems/anomalies/special conditions r		X	<u> </u>	ļ				
		Was applicable and available technology used to lowe the sample results?	r the SDL to minimize the matrix interference effects on	Х						
			aboratory Accreditation Program for the analytes, matrices age?	Х						
1 Iter	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"							"S"		

Items identified by the letter 'R' 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).

Laboratory Name: Pace Analytical National

### Laboratory Review Checklist: Supporting Data

LRC Date: 08/23/2019 17:32

ONE

	LAB.	NATIONWIDE.	
_	_,		

Project Name: Darr Angell #1 - Lea County, NM			Laboratory Job Number: L1131596-01						
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1333153						
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR⁴	ER# <sup>5</sup>	
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	et?	Х					
		Was the number of standards recommended in the me	thod used for all analytes?	X					
		Were all points generated between the lowest and high	hest standard used to calculate the curve?	X					
		Are ICAL data available for all instruments used?		X			1		
		Has the initial calibration curve been verified using an a	appropriate second source standard?	X					
S2	OI	Initial and continuing calibration verification (ICCV and							
		Was the CCV analyzed at the method-required frequer		X					
		Were percent differences for each analyte within the m	ethod-required QC limits?	X		1			
		Was the ICAL curve verified for each analyte?		X					
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?	1		X	<u> </u>		
S3	0	Mass spectral tuning	· · · · · · · · · · · · · · · · · · ·			1		1	
		Was the appropriate compound for the method used for	or tuning?	X	Τ	T	T T	1	
		Were ion abundance data within the method-required		X	1		<del>                                     </del>		
S4	О	Internal standards (IS)							
-		Were IS area counts and retention times within the met	thod-required QC limits?	Тх	I	T	Ι	Τ	
S5	OI	Raw data (NELAC Section 5.5.10)	into required do ininto.	<u> </u>	1	1	<u> </u>	1	
	<u> </u>	Were the raw data (for example, chromatograms, speci	tral data) reviewed by an analyst?	T X	Τ	Τ	Τ	Ι	
		Were data associated with manual integrations flagged		$\frac{1}{x}$		<del> </del>		<del>                                     </del>	
S6	0	Dual column confirmation	Ton the law data:					1	
30		Did dual column confirmation results meet the method-	required QC?	Т	Τ	Тх	Τ	Τ	
S7	0	Tentatively identified compounds (TICs)	required &c.		<u> </u>	1 ^	<u> </u>	1	
37	U	If TICs were requested, were the mass spectra and TIC	data subject to appropriate checks?	Т	Т	X	Т	Т	
S8	L	Interference Check Sample (ICS) results	data subject to appropriate checks:			1 ^			
30	ļ '	Were percent recoveries within method QC limits?		Т	Т	X	T	T	
S9		Serial dilutions, post digestion spikes, and method of s	tandard additions			1 ^	<u> </u>		
33		Were percent differences, recoveries, and the linearity		T	Т	Ιx	Т	T	
S10	OI	Method detection limit (MDL) studies	within the QC limits specified in the method:				<u> </u>	<u> </u>	
310	Oi	Was a MDL study performed for each reported analyte	2	ΙX	1	T	1	1	
		Is the MDL either adjusted or supported by the analysis		$\frac{1}{x}$	+	+	<del>                                     </del>		
S11	OI		3 01 DC35:			<u> </u>	<u> </u>	<u> </u>	
311	Oi	Proficiency test reports  Was the laboratory's performance acceptable on the a	anlicable proficiency tests or avaluation studies?	Τx	1	T	1	1	
S12	OI	Standards documentation	pplicable proficiency tests of evaluation studies:				<u> </u>		
312	Oi	Are all standards used in the analyses NIST-traceable of	or obtained from other appropriate courses?	Ιx	Т	T	Т	I	
S13	OI		or obtained from other appropriate sources:	1 ^		1	<u> </u>	1	
313	Oi	Compound/analyte identification procedures	a degumented?	Тх	Т	Т	Т	T	
C14	Loi	Are the procedures for compound/analyte identification		1		<u> </u>	L		
S14	OI	Demonstration of analyst competency (DOC)		TV	Т	T	T	T	
		Was DOC conducted consistent with NELAC Chapter 5	X	-	+	<del>                                     </del>			
C1F		Is documentation of the analyst's competency up-to-da		X				<u> </u>	
S15	OI	Verification/validation documentation for methods (NEI	. ,	T v	_		_		
C4C	Lou	Are all the methods used to generate the data docume	entea, ventiea, and validated, where applicable?	X					
S16	OI	Laboratory standard operating procedures (SOPs)		1		T	T		
		Are laboratory SOPs current and on file for each metho		X		<u> </u>	<u> </u>		
1. Iter	ms ide	ntified by the letter "R" must be included in the laborator	ry data package submitted in the TRRP-required report(s)	. Items i	dentific	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).

### Laboratory Review Checklist: Exception Reports

ONE	LAB.	NATION	IWIDE.
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304
4

Laboratory Name: Pace Analytical National	LRC Date: 08/23/2019 17:32
Project Name: Darr Angell #1 - Lea County, NM	Laboratory Job Number: L1131596-01
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1333153

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);
- 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).

DARR-1-EXHAUST-PUMPOFF-081419

### SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 08/14/19 12:30

L1131596

### 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	17900	57200		2000	WG1333153
Toluene	108-88-3	92.10	400	1510	21000	79100		2000	WG1333153
Ethylbenzene	100-41-4	106	400	1730	7620	33000		2000	WG1333153
m&p-Xylene	1330-20-7	106	800	3470	12700	54900		2000	WG1333153
o-Xylene	95-47-6	106	400	1730	4640	20100		2000	WG1333153
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1333153
TPH (GC/MS) Low Fraction	8006-61-9	101	100000	413000	2970000	12300000		2000	WG1333153
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				WG1333153





















### QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

Volatile Organic Compounds (MS) by Method M18-Mod

L1131596-01

### Method Blank (MB)

(S) 1,4-Bromofluorobenzene

(MB) R3443489-3 08/22/19 10:43					
	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	U		6.91	50.0	
(S) 1,4-Bromofluorobenzene	94.9			60.0-140	



(LCS) R3443489-1 08/22/19 09:17 • (LCSD) R3443489-2 08/22/19 10:01											
	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	3.95	4.02	105	107	70.0-130			1.88	25	
Benzene	3.75	3.88	3.92	103	104	70.0-130			1.00	25	
Toluene	3.75	3.91	3.96	104	105	70.0-130			1.25	25	
Ethylbenzene	3.75	3.94	4.00	105	107	70.0-130			1.43	25	
m&p-Xylene	7.50	7.81	7.90	104	105	70.0-130			1.09	25	
o-Xylene	3.75	3.93	3.99	105	107	70.0-130			1.52	25	
TPH (GC/MS) Low Fraction	203	209	211	103	104	70.0-130			1.39	25	

60.0-140





















98.9

98.3

### **GLOSSARY OF TERMS**

### 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.























### **ACCREDITATIONS & LOCATIONS**





### **State Accreditations**

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

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

### Third Party Federal Accreditations

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

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

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

### Our Locations

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





















	Billing Information:							F	Analysis / Container / Preservative					Chain of Custod	/ Page of			
Plains All American, Ll	P - GHD		505 N. B	s Payable ig Spring, Sto , TX 79701	e. 600	Pres Chk										Pace Analytical National Center for Testing & In		
Midland, TX 79703			iviidiand	, 17 /3/01														
Report to: James Ornelas			1	Christopher.Knig elas@ghd.com	ght@ghd.com;										1	12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-58	7122	
Project Description: Darr Angell #1 - Lea			City/State Collected:											1	Phone: 800-767-58 Fax: 615-758-5859	59		
Phone: <b>512-506-8803</b> Fax:	Client Project 074683-203			Lab Project # PLAINSGH	D-074683											C23		
Collected by (print):	Site/Facility ID	) #		P.O. #											1	Acctnum: PL	AINSGHD	
Collected by (signature):	Rush? (L	ab MUST Be		Quote #			Tedlar									Template: <b>T1</b> 4		
Immediately Packed on Ice N Y		y 5 Day 10 D		Date R	esults Needed	No.	M18-MOD T									TSR: <b>134 - Ma</b>	rk W. Beasley	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	M18								3	Shipped Via: F Remarks	Sample # (lab only)	
Darr- 1- Exhaust- Pumpoff- 081419	Grab	Air	-	8/14/1	0851 6	1	Х										-01	
		Air				1	X											
		Air				1	X											
		Air				1	X									- Alexander		
		Air		-		1	X											
																	Na a	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:									pH _		_ Temp					hecklist NP Y N Y N Y N	
WW - WasteWater DW - Drinking Water OT - Other UPSFedEx Courier		ırier		Tracking # Fec	lax	108	Flow Other_ 082 5991 4517					A	Correct bottle Sufficient vo.		les used:  volume sent:  If Applicable			
Relinquished by : (Signature)		Date: 8/14	1/19	Time: 1600	Received by: (Sign	SHOW THE PERSON NAMED IN COLUMN		7		Trip Blan	Receiv	Н	CL / MeoH	Prese:	rvation		necked: Y N	
Relinquished by : (Signature)		Date:		Time:	Received by: (Sign	nature)				Temp:	1.		s Received:	If prese	ervation r	required by Lo	gin: Date/Time	
Relinquished by : (Signature)		Date:		Time:	Received for lab b	y: (Sigha	ature)			Date:		Time:	45	Hold:			Condition: NCF / OK	



Login #: Clien	Client: PLAINSGHD Date: 8/15/19	Evaluated by: Brock Fariss
Non-Conformance (check applicable items)	applicable items)	
Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding time	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 x 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#

# Login Comments: ID on container is "Dorr-2-Exhaust-Pumpoff081419" at 1300 COC has ID as "Dorr-1-Exhaust" at 1230

ient informed by:	Call	Email	Voice Mail	Date: 8/19/19	Time; 1600
TSR Initials: MB	Client Contact:	James 0			

# Login Instructions:

Log per COC



# ANALYTICAL REPORT

November 07, 2019

### Plains All American, LP - GHD

Sample Delivery Group: L1154391

Samples Received: 10/26/2019

Project Number: 074683

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

Site: SRS DARR ANGELL #1

Report To: John Schnable

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley Project Manager

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

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### SAMPLE SUMMARY

Collected by

ONE	$I\Delta R$	ΝΔΤ	$I \cap VIV$	M = M + M

Collected date/time Received date/time

MW-16R-102419 L1154391-01 GW			Justin Nixon	10/24/19 12:45	10/26/19 08:	00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1375310	1	11/06/19 07:59	11/06/19 07:59	DWR	Mt. Juliet, TN
MW-17R-102419 L1154391-02 GW			Collected by Justin Nixon	Collected date/time 10/24/19 13:00	Received da 10/26/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1375310	1	11/06/19 08:22	11/06/19 08:22	DWR	Mt. Juliet, TN
MW-19R-102419 L1154391-03 GW			Collected by Justin Nixon	Collected date/time 10/24/19 13:15	Received da 10/26/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1375310	1	11/06/19 08:44	11/06/19 08:44	DWR	Mt. Juliet, TN
MW-20R-102419 L1154391-04 GW			Collected by Justin Nixon	Collected date/time 10/24/19 13:35	Received da 10/26/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1375310	1	11/06/19 09:06	11/06/19 09:06	DWR	Mt. Juliet, TN
MW-22-102419 L1154391-05 GW			Collected by Justin Nixon	Collected date/time 10/24/19 13:50	Received da 10/26/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1375310 WG1371234	1	11/06/19 09:28 10/29/19 17:46	11/06/19 09:28 10/30/19 14:43	DWR AAT	Mt. Juliet, TN Mt. Juliet, TN
MW-4-102419 L1154391-06 GW			Collected by Justin Nixon	Collected date/time 10/24/19 14:00	Received da 10/26/19 08:	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1375310	1	11/06/19 09:50	11/06/19 09:50	DWR	Mt. Juliet, TN
MW-7-102419 L1154391-07 GW			Collected by Justin Nixon	Collected date/time 10/24/19 14:10	Received da 10/26/19 08:	

Dilution

1

1

Dilution

1

Preparation

11/06/19 10:12

10/29/19 17:46

Collected by

Justin Nixon

Preparation

11/06/19 10:34

date/time

date/time

Analysis

date/time

11/06/19 10:12

10/30/19 15:05

10/24/19 14:25

Analysis

date/time

11/06/19 10:34























Volatile Organic Compounds (GC) by Method 8021B

MW-18R-102419 L1154391-08 GW

Volatile Organic Compounds (GC) by Method 8021B

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

Method

Method

Batch

Batch

WG1375310

WG1375310

WG1371234

Analyst

DWR

AAT

10/26/19 08:00

Analyst

DWR

Collected date/time Received date/time

Location

Mt. Juliet, TN

Mt. Juliet, TN

Location

Mt. Juliet, TN

### SAMPLE SUMMARY

NIE	LAB.	NIATI	ONIV.	۸/۱۲
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			Collected by	Collected date/time	Received da	te/time
MW-12R-102419 L1154391-09 GW			Justin Nixon	10/24/19 14:35	10/26/19 08:	00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1375505	1	11/06/19 11:10	11/06/19 11:10	ACG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1371234	1	10/29/19 17:46	10/30/19 15:26	AAT	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-2-102419 L1154391-10 GW			Justin Nixon	10/24/19 14:40	10/26/19 08:	00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1375505	1	11/06/19 11:30	11/06/19 11:30	ACG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1371234	2	10/29/19 17:46	10/30/19 15:48	AAT	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
DUP-1-102419 L1154391-11 GW			Justin Nixon	10/24/19 00:00	10/26/19 08:	00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1375505	1	11/06/19 11:51	11/06/19 11:51	ACG	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
RW-12-102419 L1154391-12 GW			Justin Nixon	10/24/19 14:50	10/26/19 08:	00
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (GC) by Method 8021B	WG1375505	1	11/06/19 12:52	11/06/19 12:52	ACG	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	te/time
MW-6-102419 L1154391-13 GW			Justin Nixon	10/24/19 15:00	10/26/19 08:	00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8021B	WG1375505	1	11/06/19 13:13	11/06/19 13:13	ACG	Mt. Juliet, TN

WG1371234

Batch

Batch

WG1375505

WG1375505























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

DUP-2-102419 L1154391-14 GW

Volatile Organic Compounds (GC) by Method 8021B

TRIP BLANK L1154391-15 GW

Volatile Organic Compounds (GC) by Method 8021B

Method

Method

10/29/19 17:46

Collected by

Justin Nixon

Preparation

11/06/19 13:33

Collected by

Justin Nixon

Preparation

11/06/19 06:23

date/time

date/time

Dilution

1

Dilution

1

10/30/19 16:10

10/24/19 00:00

Analysis

date/time

11/06/19 13:33

10/24/19 00:00

11/06/19 06:23

Analysis

date/time

Collected date/time

Collected date/time

AAT

Received date/time

10/26/19 08:00

Analyst

ACG

Received date/time

10/26/19 08:00

Analyst

ACG

Mt. Juliet, TN

Location

Mt. Juliet, TN

Location

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.

2



















PAGE:

5 of 32



### Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

### Laboratory Review Checklist: Reportable Dat

ta	ONE LAB. NATIONWIDE.	*

Lab	orato	ry Name: Pace Analytical National	LRC Date: 11/07/2019 14:14					
	ject N xico	lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1154391-01, 02, 03, 04, 05, and 15	06, 07	7, 08, 0	9, 10, 1	1, 12, 1	3, 14
Rev	viewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1371234, WG1375505 and	WG1375310				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
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?	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 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 s	upervisor?	Х				
		Were sample detection limits reported for all analytes i		Х				
		Were all results for soil and sediment samples reported		Х				
		Were % moisture (or solids) reported for all soil and sec			1	Х		
		Were bulk soils/solids samples for volatile analysis extr				Х		
		If required for the project, are TICs reported?	•			Х		
R4	0	Surrogate recovery data			•			
		Were surrogates added prior to extraction?		Х				T
		Were surrogate percent recoveries in all samples withi	n the laboratory QC limits?	Х	1			
25	OI	Test reports/summary forms for blank samples			•			
		Were appropriate type(s) of blanks analyzed?		Х	T		T	Т
		Were blanks analyzed at the appropriate frequency?		X	1	1		
		Were method blanks taken through the entire analytica	al process, including preparation and, if applicable.	<u> </u>	<del>                                     </del>	1		$\vdash$
		cleanup procedures?	p	X				
		Were blank concentrations < MQL?		Х				
₹6	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				
<del>2</del> 7	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				Т
		Were MS/MSD analyzed at the appropriate frequency?		Х	Ì			
		Were MS (and MSD, if applicable) %Rs within the labora	atory QC limits?	Х				
		Were MS/MSD RPDs within laboratory QC limits?		Х				1
28	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for ea	ch matrix?			Х		T
		Were analytical duplicates analyzed at the appropriate	frequency?			Х		
		Were RPDs or relative standard deviations within the la	aboratory QC limits?			Х		
39	OI	Method quantitation limits (MQLs):	,					
		Are the MQLs for each method analyte included in the	laboratory data package?	Х	I			$\Box$
		Do the MQLs correspond to the concentration of the lo		X	1	T		
		Are unadjusted MQLs and DCSs included in the labora		X	1			
R10	OI	Other problems/anomalies	, p 3					
	1	Are all known problems/anomalies/special conditions in	noted in this LRC and ER?	X		Ι		
			r the SDL to minimize the matrix interference effects on	X				
			aboratory Accreditation Program for the analytes, matrices	Х				
			ry data package submitted in the TRRP-required report(s).	Items	identifie	ed by th	e letter	"S"

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

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

3. NA = Not applicable;

4. NR = Not reviewed;

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

### Laboratory Review Checklist: Supporting Data



NATIONWIDE.
-------------

Laboratory Name: Pace Analytical National			LRC Date: 11/07/2019 14:14							
	ject N xico	Name: Darr Angell #1- Lea County, New	Laboratory Job Number: L1154391-01, 02, 03, 04, 05 and 15	5, 06, 07	7, 08, 0	9, 10, 1	1, 12, 1	3, 14		
Rev	/iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1371234, WG1375505 and WG1375310							
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>		
S1	OI	Initial calibration (ICAL)				•	•			
		Were response factors and/or relative response fact	tors for each analyte within QC limits?	X						
		Were percent RSDs or correlation coefficient criteria	a met?	X						
		Was the number of standards recommended in the	method used for all analytes?	Х			İ			
		Were all points generated between the lowest and h	highest standard used to calculate the curve?	X						
		Are ICAL data available for all instruments used?		Х				1		
		Has the initial calibration curve been verified using a	an appropriate second source standard?	Х						
S2	OI	Initial and continuing calibration verification (ICCV a	nd CCV) and continuing calibration blank (CCB):							
		Was the CCV analyzed at the method-required frequency	uency?	X						
		Were percent differences for each analyte within the	e method-required QC limits?	X				1		
		Was the ICAL curve verified for each analyte?	·	X		1		1		
		Was the absolute value of the analyte concentration	n in the inorganic CCB < MDL?			Х		1		
S3	0	Mass spectral tuning				•				
	_	Was the appropriate compound for the method used	d for tuning?	X				Т		
		Were ion abundance data within the method-require	ed QC limits?	X				1		
S4	0	Internal standards (IS)						•		
	_	Were IS area counts and retention times within the r	method-required QC limits?	X				T		
S5	OI	Raw data (NELAC Section 5.5.10)	·				•			
		Were the raw data (for example, chromatograms, sp	ectral data) reviewed by an analyst?	X				T		
		Were data associated with manual integrations flagor	ged on the raw data?	X				1		
S6	0	Dual column confirmation		_						
		Did dual column confirmation results meet the meth	od-required QC?			Х		Т		
S7	0	Tentatively identified compounds (TICs)	·	•		•	•	•		
		If TICs were requested, were the mass spectra and	TIC data subject to appropriate checks?			Х		T		
S8	ı	Interference Check Sample (ICS) results	,					•		
	•	Were percent recoveries within method QC limits?				Х		Т		
S9	1	Serial dilutions, post digestion spikes, and method of	of standard additions	_						
		Were percent differences, recoveries, and the linear				Х		T		
S10	OI	Method detection limit (MDL) studies	·	•		•				
		Was a MDL study performed for each reported analy	yte?	X				T		
		Is the MDL either adjusted or supported by the analy	ysis of DCSs?	X						
S11	OI	Proficiency test reports				•	•			
		Was the laboratory's performance acceptable on the	e applicable proficiency tests or evaluation studies?	X				1		
S12	OI	Standards documentation				•	•			
		Are all standards used in the analyses NIST-traceab	le or obtained from other appropriate sources?	X						
S13	OI	Compound/analyte identification procedures								
		Are the procedures for compound/analyte identifica	tion documented?	X						
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?	X						
S15	OI	Verification/validation documentation for methods (I	NELAC Chapter 5)							
	•	Are all the methods used to generate the data docu	mented, verified, and validated, where applicable?	X						
S16	OI	Laboratory standard operating procedures (SOPs)								
		Are laboratory SOPs current and on file for each me	thod performed	X						
1. Ite	ms ide	entified by the letter "R" must be included in the labora	atory data package submitted in the TRRP-required report(s)	. Items i	dentifi	ed by th	e letter	"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;

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

### Laboratory Review Checklist: Exception Reports

0115			
ONE	LAB.	NATIC	ONWIDE.

	304
DE.	- 457

Laboratory Name: Pace Analytical National	LRC Date: 11/07/2019 14:14					
Project Name: Darr Angell #1- Lea County, New Mexico	Laboratory Job Number: L1154391-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 and 15					
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1371234, WG1375505 and WG1375310					
ER #1 Description						

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

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

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

MW-16R-102419

### SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 12:45

L1154391

	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	11/06/2019 07:59	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 07:59	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 07:59	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 07:59	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/06/2019 07:59	WG1375310





















MW-17R-102419

Collected date/time: 10/24/19 13:00

### SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

L1154391

	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	11/06/2019 08:22	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 08:22	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 08:22	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 08:22	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/06/2019 08:22	WG1375310





















MW-19R-102419

### SAMPLE RESULTS - 03

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 13:15

L1154391

	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	11/06/2019 08:44	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 08:44	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 08:44	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 08:44	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/06/2019 08:44	WG1375310





















MW-20R-102419

### SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 13:35

L1154391

	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	11/06/2019 09:06	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 09:06	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 09:06	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 09:06	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/06/2019 09:06	WG1375310





















### SAMPLE RESULTS - 05

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 13:50

### 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	11/06/2019 09:28	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 09:28	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 09:28	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 09:28	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	99.6				79.0-125		11/06/2019 09:28	WG1375310







### 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		0.0000140	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Acenaphthene	U		0.0000100	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Acenaphthylene	U		0.0000120	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Benzo(a)anthracene	U		0.00000410	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Benzo(a)pyrene	U		0.0000116	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Benzo(b)fluoranthene	U		0.00000212	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Benzo(g,h,i)perylene	U		0.00000227	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Benzo(k)fluoranthene	U		0.0000136	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Chrysene	U		0.0000108	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Dibenz(a,h)anthracene	U		0.00000396	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Dibenzofuran	0.00000625	ВЈ	0.00000105	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Fluoranthene	U		0.0000157	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Fluorene	U		0.00000850	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Indeno(1,2,3-cd)pyrene	U		0.0000148	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Naphthalene	0.0000362	ВЈ	0.0000198	0.000250	0.000250	1	10/30/2019 14:43	WG1371234
Phenanthrene	U		0.00000820	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
Pyrene	U		0.0000117	0.0000500	0.0000500	1	10/30/2019 14:43	WG1371234
1-Methylnaphthalene	0.0000126	ВJ	0.00000821	0.000250	0.000250	1	10/30/2019 14:43	WG1371234
2-Methylnaphthalene	0.0000132	ВJ	0.00000902	0.000250	0.000250	1	10/30/2019 14:43	WG1371234
(S) Nitrobenzene-d5	115				31.0-160		10/30/2019 14:43	WG1371234
(S) 2-Fluorobiphenyl	107				48.0-148		10/30/2019 14:43	WG1371234
(S) p-Terphenyl-d14	98.9				37.0-146		10/30/2019 14:43	WG1371234















MW-4-102419

### SAMPLE RESULTS - 06

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 14:00

L1154391

	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	11/06/2019 09:50	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 09:50	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 09:50	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 09:50	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	102				79.0-125		11/06/2019 09:50	WG1375310





















### SAMPLE RESULTS - 07

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 14:10

.1154391

### Volatile Organic Compounds (GC) by Method 8021B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Ratch
	Result	Qualifier	JUL	Ollauj. MQL	MIGL	Dilution	Alidiysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000190	0.000500	0.000500	1	11/06/2019 10:12	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 10:12	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 10:12	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 10:12	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/06/2019 10:12	WG1375310

# <sup>1</sup>Cp







### 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		0.0000140	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Acenaphthene	U		0.0000100	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Acenaphthylene	U		0.0000120	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Benzo(a)anthracene	U		0.00000410	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Benzo(a)pyrene	U		0.0000116	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Benzo(b)fluoranthene	U		0.00000212	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Benzo(g,h,i)perylene	U		0.00000227	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Benzo(k)fluoranthene	U		0.0000136	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Chrysene	U		0.0000108	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Dibenz(a,h)anthracene	U		0.00000396	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Dibenzofuran	0.00000667	<u>B J</u>	0.00000105	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Fluoranthene	U		0.0000157	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Fluorene	U		0.00000850	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Indeno(1,2,3-cd)pyrene	U		0.0000148	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Naphthalene	0.0000281	<u>B J</u>	0.0000198	0.000250	0.000250	1	10/30/2019 15:05	WG1371234
Phenanthrene	U		0.00000820	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
Pyrene	U		0.0000117	0.0000500	0.0000500	1	10/30/2019 15:05	WG1371234
1-Methylnaphthalene	0.0000148	<u>B J</u>	0.00000821	0.000250	0.000250	1	10/30/2019 15:05	WG1371234
2-Methylnaphthalene	0.0000138	<u>B J</u>	0.00000902	0.000250	0.000250	1	10/30/2019 15:05	WG1371234
(S) Nitrobenzene-d5	123				31.0-160		10/30/2019 15:05	WG1371234
(S) 2-Fluorobiphenyl	109				48.0-148		10/30/2019 15:05	WG1371234
(S) p-Terphenyl-d14	105				37.0-146		10/30/2019 15:05	WG1371234













MW-18R-102419

# SAMPLE RESULTS - 08

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 14:25

	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	11/06/2019 10:34	WG1375310
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 10:34	WG1375310
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 10:34	WG1375310
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 10:34	WG1375310
(S) a,a,a-Trifluorotoluene(PID)	101				79.0-125		11/06/2019 10:34	WG1375310





















### SAMPLE RESULTS - 09

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 14:35

### 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	0.000236	J	0.000190	0.000500	0.000500	1	11/06/2019 11:10	WG1375505
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 11:10	WG1375505
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 11:10	WG1375505
Total Xylene	0.000537	<u>J</u>	0.000510	0.00150	0.00150	1	11/06/2019 11:10	WG1375505
(S) a,a,a-Trifluorotoluene(PID)	92.3				79.0-125		11/06/2019 11:10	WG1375505





### 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		0.0000140	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Acenaphthene	U		0.0000100	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Acenaphthylene	U		0.0000120	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Benzo(a)anthracene	U		0.00000410	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Benzo(a)pyrene	U		0.0000116	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Benzo(b)fluoranthene	U		0.00000212	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Benzo(g,h,i)perylene	U		0.00000227	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Benzo(k)fluoranthene	U		0.0000136	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Chrysene	U		0.0000108	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Dibenz(a,h)anthracene	U		0.00000396	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Dibenzofuran	0.00000710	ВJ	0.00000105	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Fluoranthene	U		0.0000157	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Fluorene	U		0.00000850	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Indeno(1,2,3-cd)pyrene	U		0.0000148	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Naphthalene	0.0000286	ВJ	0.0000198	0.000250	0.000250	1	10/30/2019 15:26	WG1371234
Phenanthrene	0.00000922	<u>J</u>	0.00000820	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
Pyrene	U		0.0000117	0.0000500	0.0000500	1	10/30/2019 15:26	WG1371234
1-Methylnaphthalene	0.0000150	<u>B J</u>	0.00000821	0.000250	0.000250	1	10/30/2019 15:26	WG1371234
2-Methylnaphthalene	0.0000132	B J	0.00000902	0.000250	0.000250	1	10/30/2019 15:26	WG1371234
(S) Nitrobenzene-d5	117				31.0-160		10/30/2019 15:26	WG1371234
(S) 2-Fluorobiphenyl	106				48.0-148		10/30/2019 15:26	WG1371234
(S) p-Terphenyl-d14	103				37.0-146		10/30/2019 15:26	WG1371234















### SAMPLE RESULTS - 10

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 14:40

1154391

### 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	<del></del>
Benzene	0.00860		0.000190	0.000500	0.000500	1	11/06/2019 11:30	WG1375505
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 11:30	WG1375505
Ethylbenzene	0.00187		0.000160	0.000500	0.000500	1	11/06/2019 11:30	WG1375505
Total Xylene	0.0190		0.000510	0.00150	0.00150	1	11/06/2019 11:30	WG1375505
(S) a,a,a-Trifluorotoluene(PID)	94.8				79.0-125		11/06/2019 11:30	WG1375505

## Ср







### 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	0.00120		0.0000280	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Acenaphthene	0.000502		0.0000200	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Acenaphthylene	U		0.0000240	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Benzo(a)anthracene	0.000537		0.00000820	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Benzo(a)pyrene	0.000323		0.0000232	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Benzo(b)fluoranthene	0.0000671	J	0.00000424	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Benzo(g,h,i)perylene	0.0000552	J	0.00000454	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Benzo(k)fluoranthene	U		0.0000272	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Chrysene	0.000253		0.0000216	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Dibenz(a,h)anthracene	U		0.00000792	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Dibenzofuran	0.00102		0.00000210	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Fluoranthene	0.000181		0.0000314	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Fluorene	0.00182		0.0000170	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Indeno(1,2,3-cd)pyrene	U		0.0000296	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Naphthalene	0.00140		0.0000396	0.000250	0.000500	2	10/30/2019 15:48	WG1371234
Phenanthrene	0.00290		0.0000164	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
Pyrene	0.000539		0.0000234	0.0000500	0.000100	2	10/30/2019 15:48	WG1371234
1-Methylnaphthalene	0.00629		0.0000164	0.000250	0.000500	2	10/30/2019 15:48	WG1371234
2-Methylnaphthalene	0.00159		0.0000180	0.000250	0.000500	2	10/30/2019 15:48	WG1371234
(S) Nitrobenzene-d5	113				31.0-160		10/30/2019 15:48	WG1371234
(S) 2-Fluorobiphenyl	102				48.0-148		10/30/2019 15:48	WG1371234
(S) p-Terphenyl-d14	96.8				37.0-146		10/30/2019 15:48	WG1371234















DUP-1-102419

### SAMPLE RESULTS - 11

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 00:00

L1154391

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0137		0.000190	0.000500	0.000500	1	11/06/2019 11:51	WG1375505
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 11:51	WG1375505
Ethylbenzene	0.00377		0.000160	0.000500	0.000500	1	11/06/2019 11:51	WG1375505
Total Xylene	0.0437		0.000510	0.00150	0.00150	1	11/06/2019 11:51	WG1375505
(S) a,a,a-Trifluorotoluene(PID)	94.6				79.0-125		11/06/2019 11:51	WG1375505





















RW-12-102419

### SAMPLE RESULTS - 12

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 14:50

L1154391

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.00505		0.000190	0.000500	0.000500	1	11/06/2019 12:52	WG1375505
Toluene	0.00408		0.000412	0.00100	0.00100	1	11/06/2019 12:52	WG1375505
Ethylbenzene	0.00361		0.000160	0.000500	0.000500	1	11/06/2019 12:52	WG1375505
Total Xylene	0.104		0.000510	0.00150	0.00150	1	11/06/2019 12:52	WG1375505
(S) a,a,a-Trifluorotoluene(PID)	93.8				79.0-125		11/06/2019 12:52	WG1375505





















### SAMPLE RESULTS - 13

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 15:00

1154391

### 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	0.0590		0.000190	0.000500	0.000500	1	11/06/2019 13:13	WG1375505
Toluene	0.000554	J	0.000412	0.00100	0.00100	1	11/06/2019 13:13	WG1375505
Ethylbenzene	0.00156		0.000160	0.000500	0.000500	1	11/06/2019 13:13	WG1375505
Total Xylene	0.00631		0.000510	0.00150	0.00150	1	11/06/2019 13:13	WG1375505
(S) a,a,a-Trifluorotoluene(PID)	103				79.0-125		11/06/2019 13:13	WG1375505









### 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	0.0000833		0.0000140	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Acenaphthene	0.000313		0.0000100	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Acenaphthylene	U		0.0000120	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Benzo(a)anthracene	U		0.00000410	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Benzo(a)pyrene	U		0.0000116	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Benzo(b)fluoranthene	U		0.00000212	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Benzo(g,h,i)perylene	U		0.00000227	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Benzo(k)fluoranthene	U		0.0000136	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Chrysene	U		0.0000108	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Dibenz(a,h)anthracene	U		0.00000396	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Dibenzofuran	0.000332		0.00000105	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Fluoranthene	U		0.0000157	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Fluorene	0.0000546		0.00000850	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Indeno(1,2,3-cd)pyrene	U		0.0000148	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Naphthalene	0.00161		0.0000198	0.000250	0.000250	1	10/30/2019 16:10	WG1371234
Phenanthrene	0.000139		0.00000820	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
Pyrene	0.0000246	<u>J</u>	0.0000117	0.0000500	0.0000500	1	10/30/2019 16:10	WG1371234
1-Methylnaphthalene	0.000970		0.00000821	0.000250	0.000250	1	10/30/2019 16:10	WG1371234
2-Methylnaphthalene	0.000783		0.00000902	0.000250	0.000250	1	10/30/2019 16:10	WG1371234
(S) Nitrobenzene-d5	141				31.0-160		10/30/2019 16:10	WG1371234
(S) 2-Fluorobiphenyl	109				48.0-148		10/30/2019 16:10	WG1371234
(S) p-Terphenyl-d14	105				37.0-146		10/30/2019 16:10	WG1371234















DUP-2-102419

### SAMPLE RESULTS - 14

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 00:00

L1154391

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	0.0649		0.000190	0.000500	0.000500	1	11/06/2019 13:33	WG1375505
Toluene	0.000664	J	0.000412	0.00100	0.00100	1	11/06/2019 13:33	WG1375505
Ethylbenzene	0.00157		0.000160	0.000500	0.000500	1	11/06/2019 13:33	WG1375505
Total Xylene	0.00622		0.000510	0.00150	0.00150	1	11/06/2019 13:33	WG1375505
(S) a,a,a-Trifluorotoluene(PID)	104				79.0-125		11/06/2019 13:33	WG1375505





















TRIP BLANK

#### SAMPLE RESULTS - 15

ONE LAB. NATIONWIDE.

Collected date/time: 10/24/19 00:00

L1154391

#### 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	11/06/2019 06:23	WG1375505
Toluene	U		0.000412	0.00100	0.00100	1	11/06/2019 06:23	WG1375505
Ethylbenzene	U		0.000160	0.000500	0.000500	1	11/06/2019 06:23	WG1375505
Total Xylene	U		0.000510	0.00150	0.00150	1	11/06/2019 06:23	WG1375505
(S) a,a,a-Trifluorotoluene(PID)	93.5				79.0-125		11/06/2019 06:23	WG1375505





















ONE LAB. NATIONWIDE.

Volatile Organic Compounds (GC) by Method 8021B

L1154391-01,02,03,04,05,06,07,08

#### Method Blank (MB)

(MB) R3469177-2 11/06/19	9 02:03			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
(S) a,a,a-Trifluorotoluene(PID)	103			79.0-125

# <sup>4</sup>Cn

#### Laboratory Control Sample (LCS)

(LCS) R3469177-1 11/06/19	9 01:19				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Benzene	0.0500	0.0462	92.4	77.0-122	
Toluene	0.0500	0.0470	94.0	80.0-121	
Ethylbenzene	0.0500	0.0440	88.0	80.0-123	
Total Xylene	0.150	0.133	88.7	47.0-154	
(S) a,a,a-Trifluorotoluene(PID)			102	79.0-125	









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Volatile Organic Compounds (GC) by Method 8021B

L1154391-09,10,11,12,13,14,15

#### Method Blank (MB)

(MB) R3469174-3 11/06/19	9 06:03			
	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)	94.9			79.0-125









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

(LCS) R3469174-1 11/06/1	LCS) R3469174-1 11/06/19 05:01 • (LCSD) R3469174-2 11/06/19 05:22									
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Benzene	0.0500	0.0534	0.0540	107	108	77.0-122			1.12	20
Toluene	0.0500	0.0492	0.0494	98.4	98.8	80.0-121			0.406	20
Ethylbenzene	0.0500	0.0513	0.0514	103	103	80.0-123			0.195	20
Total Xylene	0.150	0.141	0.142	94.0	94.7	47.0-154			0.707	20
(S) a,a,a-Trifluorotoluene(PID)				106	104	79.0-125				











#### L1154391-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) | 1154391-14 11/06/19 13:33 • (MS) P3469174-4 11/06/19 13:54 • (MSD) P3469174-5 11/06/19 14:14

(03) [1134331-14 11/00/13	15.55 (1415) 115-	103174-4 11/00	13 13.54 (11)	D) N3403174-3	11/00/13 14.14							
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Benzene	0.0500	0.0649	0.105	0.104	80.2	78.2	1	10.0-160			0.957	21
Toluene	0.0500	0.000664	0.0449	0.0438	88.5	86.3	1	12.0-148			2.48	21
Ethylhonzono	0.0500	0.00157	0.0463	0.0450	90.5	86.0	1	22 0 1/0			2.85	21

Benzene	0.0500	0.0649	0.105	0.104	80.2	78.2	1	10.0-160	0.957
Toluene	0.0500	0.000664	0.0449	0.0438	88.5	86.3	1	12.0-148	2.48
Ethylbenzene	0.0500	0.00157	0.0463	0.0450	89.5	86.9	1	22.0-149	2.85
Total Xylene	0.150	0.00622	0.135	0.132	85.9	83.9	1	13.0-155	2.25
(S) a,a,a-Trifluorotoluene(PID)					110	110		79.0-125	

ONE LAB. NATIONWIDE.

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

L1154391-05,07,09,10,13

#### Method Blank (MB)

(MB) R3467018-3 10/30	/19 13:37				1
	MB Result	MB Qualifier	MB MDL	MB RDL	2_
Analyte	mg/l		mg/l	mg/l	ľΤ
Anthracene	U		0.0000140	0.0000500	느
Acenaphthene	U		0.0000100	0.0000500	3 5
Acenaphthylene	U		0.0000120	0.0000500	Ľ
Benzo(a)anthracene	U		0.00000410	0.0000500	4
Benzo(a)pyrene	U		0.0000116	0.0000500	
Benzo(b)fluoranthene	U		0.00000212	0.0000500	<u> -</u>
Benzo(g,h,i)perylene	U		0.00000227	0.0000500	<sup>5</sup> T
Benzo(k)fluoranthene	U		0.0000136	0.0000500	L
Chrysene	U		0.0000108	0.0000500	6
Dibenz(a,h)anthracene	U		0.00000396	0.0000500	6 5
Fluoranthene	U		0.0000157	0.0000500	
Fluorene	U		0.00000850	0.0000500	7
Indeno(1,2,3-cd)pyrene	U		0.0000148	0.0000500	
Naphthalene	0.0000231	<u>J</u>	0.0000198	0.000250	8
Phenanthrene	U		0.00000820	0.0000500	
Pyrene	U		0.0000117	0.0000500	-
1-Methylnaphthalene	0.0000148	<u>J</u>	0.00000821	0.000250	9 /
2-Methylnaphthalene	0.0000149	<u>J</u>	0.00000902	0.000250	Ľ
Dibenzofuran	0.00000655	<u>J</u>	0.00000105	0.0000500	10_
(S) Nitrobenzene-d5	115			31.0-160	l S
(S) 2-Fluorobiphenyl	110			48.0-148	
(S) p-Terphenyl-d14	111			37.0-146	

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

(LCS) R3467018-1 10/30	/19 12:54 • (LCSD	) R3467018-2	10/30/19 13:15							
	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	0.00210	0.00200	105	100	67.0-134			4.88	20
Anthracene	0.00200	0.00202	0.00191	101	95.5	67.0-150			5.60	20
Acenaphthene	0.00200	0.00198	0.00187	99.0	93.5	65.0-138			5.71	20
Acenaphthylene	0.00200	0.00218	0.00203	109	102	66.0-140			7.13	20
Benzo(a)anthracene	0.00200	0.00203	0.00198	102	99.0	61.0-140			2.49	20
Benzo(a)pyrene	0.00200	0.00173	0.00170	86.5	85.0	60.0-143			1.75	20
Benzo(b)fluoranthene	0.00200	0.00165	0.00166	82.5	83.0	58.0-141			0.604	20
Benzo(g,h,i)perylene	0.00200	0.00182	0.00181	91.0	90.5	52.0-153			0.551	20
Benzo(k)fluoranthene	0.00200	0.00174	0.00174	87.0	87.0	58.0-148			0.000	20
Chrysene	0.00200	0.00190	0.00187	95.0	93.5	64.0-144			1.59	20
Dibenz(a,h)anthracene	0.00200	0.00182	0.00181	91.0	90.5	52.0-155			0.551	20





















ONE LAB. NATIONWIDE.

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

L1154391-05,07,09,10,13

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

(LCS) R3467018-1	10/30/19 12:54	(LCSD) R3467018-2	10/30/19 13:15

	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	0.00216	0.00210	108	105	69.0-153			2.82	20
Fluorene	0.00200	0.00211	0.00200	105	100	64.0-136			5.35	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00175	0.00174	87.5	87.0	54.0-153			0.573	20
Naphthalene	0.00200	0.00182	0.00171	91.0	85.5	61.0-137			6.23	20
Phenanthrene	0.00200	0.00192	0.00185	96.0	92.5	62.0-137			3.71	20
Pyrene	0.00200	0.00182	0.00173	91.0	86.5	60.0-142			5.07	20
1-Methylnaphthalene	0.00200	0.00193	0.00181	96.5	90.5	66.0-142			6.42	20
2-Methylnaphthalene	0.00200	0.00184	0.00171	92.0	85.5	62.0-136			7.32	20
(S) Nitrobenzene-d5				120	111	31.0-160				
(S) 2-Fluorobiphenyl				112	107	48.0-148				
(S) p-Terphenyl-d14				105	105	37.0-146				





















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#### **GLOSSARY OF TERMS**

#### ONE LAB. NATIONWIDE.

#### Guide to Reading and Understanding Your Laboratory Report

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

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

#### Abbreviations and Definitions

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

Qualifier	Description
a a a a i i i c i	Description

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























#### **ACCREDITATIONS & LOCATIONS**





#### **State Accreditations**

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

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

#### Third Party Federal Accreditations

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

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

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

#### Our Locations

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





















PAGE:

			Billing Info	ormation:					Analysis / (	Container / Preservative	9	Chain of Custoo	dy Page of 2				
Plains All American, 2135 S Loop 250 W Midland, TX 79703	LP - GHD		505 N. E	Accounts Payable 505 N. Big Spring, Ste. 600 Midland, TX 79701								0	Analytical* Contar for Tasting & Innovation				
Report to: John Schnable				mail To: john.schnable@ghd.com, hristopher.Knight@ghd.com;												12065 Lebanon Ro Mount Juliet, TN 3	
Project Description: Darr Angell #1- Lea	County, Ne	City/State Collected:		Please Cir PT MT C				E				Phone: 615-758-5 Phone: 800-767-5 Fax: 615-758-5859	858 859				
Phone: <b>512-506-8803</b> Fax:	Client Project 074683			Lab Project # PLAINSGHD				40mlAmb-NoPres-WT				SDG# LI	154391				
Collected by (print): 5064in	Site/Facility SRS DARR	D# ANGELL#1		P.O.#			173	mb-Nc				Acctnum: PLA					
Collected by (signature):	Rush? Same I			ay		100 miles	40mlAmb-HC	40mlA				Template:T13 Prelogin: P73	6594				
Immediately Packed on Ice NY_X	Two D		y (Rad Only)			No. of		AHSIMLV				PM: <b>134 - Mar</b>	k W. Beasley				
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	втех	АНК				Shipped Via:	Sample # (lab only)				
MW-16R-102419	Cı	GW		10-24-19	12:45	3	×						-01				
MW-17R-102419		GW		10-24-19	13:00	3	X		155				02				
mw-1912-102419		GW		10-24-19	13:15	3	X	A	G.A.				03				
MW-20R-102419		GW		10-24-19	13:35	3	X	100	E A				04				
mw-22-102419		GW		10-24-19	13:50	5	×	X		Maria Maria			05				
MW-4-102419		GW		10-24-10	14:00	3	X		ALE ST				04				
MW-7-102419		GW		10-24-19	14:10	5	X	X					07				
MW-18R-102419		GW		10-24-19	14:25	3	×						08				
MW-12R-102419		GW		10-24-19		5	×	X					39				
MW-2-102419	1	GW		10-24-19	14:40	5	X	X					10				
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:	Report Flag e	to SD Stimated	Ls 1 Concentra	Shork:				pH _ Flow _	Temp	Sample Receipt Checklist COC Seal Present/Intact: NP Y N COC Signed/Accurate: N Bottles arrive intact: N						
DW - Drinking Water OT - Other Samples returned via:UPSFedExCourier			Ti Ti	racking #					THE WALL	Sufficien	oottles used: it volume sent: If Applicab	Le N N					
Relinquished by : (Signature)		Date: 10-23		ime: Re	eceived by: (Signa	iture)	-		Trip Blank F	Received: Yes/No HEL/MeoH	Preservat	Headspace: ion Correct/Che n <0.5 mR/hr:	ocked: $X_{Y} = N \\ N \\ N \\ N$				
Relinquished by : (Signature)		Date: (225		10	eceived by: (Signa	ture)			Temp: 929	A °C Bottles Received	li If preservati	ion required by Log	in: Date/Time				
Relinquished by : (Signature)		Date:	T	ime: Re	eceived for lab by	Signati	ure)		Date: 10176	Time: 119 8:00	Hold:		Condition: NCF / OK				

			Billing Inf	formation:		- VIII	T		ele co	Analysis	/ Conta	iner / Dr	eservative			Chain of Custo	de Des	e 2 of 2		
Plains All American, LP - GHD		Accounts Payable 505 N. Big Spring, Ste. 600			Pres Chk	- 0000000000000000000000000000000000000				Conta		SELVATIVE			100	e Analyt				
2135 S Loop 250 W Midland, TX 79703			Midlan	Midland, TX 79701					=-							Nationa	Center for Tes	ting & Innovation		
Report to: John Schnable				: john.schnable@g her.Knight@ghd.co												12065 Lebanon F Mount Juliet, TN				
Project Description: Darr Angell #1- Lea	County, Ne	City/State Collected:			Please Circle PT MT CT			5			20p					Phone: 615-758- Phone: 800-767- Fax: 615-758-585	5859			
Phone: <b>512-506-8803</b> Fax:	Client Project	t#		Lab Project # PLAINSGHD	-074683			40mlAmb-NoPres-WT				-				SDG#L	1154	391		
Collected by (print): Justin	Site/Facility ID # SRS DARR ANGELL #1			P.O.#	P.O.#		   <del>   </del>	mb-Nc								Table # Acctnum: PL	AINSGH	ID		
Collected by (signature):		Lab MUST Be	And the second	Quote#	1 - 1 - 1 - 1 - 1		mb-H(	10mlA								Template:T1 Prelogin: P7				
Immediately Packed on Ice N Y	Next Day 5 Day		y (Rad Only) ay (Rad Only)		esults Needed		40mlAmb-HCI	PAHSIMLVI 4										PM: <b>134 - Ma</b>		isley
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs		PAHSI								Shipped Via:	Sample	e # (lab only)		
DUP-1-102419	G	GW		10-24-19	NIA	3	X											-11		
RW-12-102419		GW		10-24-19		3	X											12		
MW-6-102419		GW	100	10-24-19		5	X	X		Town of								13		
DUP-2-102419	1	GW		10-24-10		3	X											14		
Trip Blank	6	GW		10-2449	NIA	1	X				l Lage				TE ST	7 19		15		
		GW				351										2 2 3 7 1 2				
		GW	al en			1		100		9.1										
TRIP BLANK		GW	1.0																	
		GW			Maria A	e			11.5											
		GW			THE ST	1				Mar.				A 5.5		Allow,				
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:	Report Flag		s ted Concer	itrations					pH Flow	- W-7	Temp		CO	C Seal	   Present/Intac   d/Accurate:   rrive intact:	t: XNP	t Y N N N		
DW - Drinking Water OT - Other	Samples retui	rned via: edExCou	rier	Ti	Tracking #						Tiow					Correct bottles used: Sufficient volume sent: If Applicable				
Relinquished by : (Signature)  PMY W	inquished by : (Signature) Date: Time: Re			ecoived by: (Sign	nature)	-		7	Trip Blan	k Recei	7	L/ Meol	Pi	VOA Zero Headspace:  Preservation Correct/Checked:  RAD Screen <0.5 mR/hr:  Y N N N						
Relinquished by : (Signature)		Date: /0 25	19	Time: Re	eceived by: (Sign	nature)				Temp: AAAA °C Bottles Received:				l: If	If preservation required by Login: Date/Time			/Time		
Relinquished by : (Signature)	- 27"	Date:		Time: Re	acceived for lab b	y: Signat	ure)			Date: 1017	6119	Time	ZiW)	Но	old:			dition:		



# ANALYTICAL REPORT

November 26, 2019

#### Plains All American, LP - GHD

Sample Delivery Group: L1160939
Samples Received: 11/14/2019
Project Number: 074683

Description: Darr Angell #1- Lea County, New Mexico
Site: SRS DARR ANGEL #1 (GHD 074683)

Report To: John Schnable

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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 PAIC.

Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOPATIL-1067 and ENV-SOPATIL-1068. 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
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RW-12-111219 L1160939-01	9
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RW-12-111219 L1160939-01 GW			Collected by Justin Nixon	Collected date/time 11/12/19 12:00	Received dat 11/14/19 09:30	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C-SIM	WG1382732	1	11/18/19 18:13	11/19/19 02:31	ΔDF	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.

2





















#### Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

#### Laboratory Review Checklist: Reportable Data

ONE LAB. NATIONWIDE.

Lab	orato	ry Name: Pace Analytical National	LRC Date: 11/26/2019 08:19									
Proj Mex		lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1160939-01									
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1382732									
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>				
R1	OI	Chain-of-custody (C-O-C)					1					
		Did samples meet the laboratory's standard conditions	of sample acceptability upon receipt?	T X		I						
		Were all departures from standard conditions describe				Х						
R2	OI	Sample and quality control (QC) identification		1	1							
		Are all field sample ID numbers cross-referenced to the	e laboratory ID numbers?	Ιx		I	Ι					
		Are all laboratory ID numbers cross-referenced to the		X								
R3	OI	Test reports	<u> </u>	•		•						
	•	Were all samples prepared and analyzed within holding	g times?	T X			1					
		Other than those results < MQL, were all other raw value		X								
		Were calculations checked by a peer or supervisor?	,	X		1						
		Were all analyte identifications checked by a peer or si	upervisor?	X		1	1					
		Were sample detection limits reported for all analytes r		X								
		Were all results for soil and sediment samples reported		X		1	i i					
		Were % moisture (or solids) reported for all soil and sec		1		X	<u> </u>					
		Were bulk soils/solids samples for volatile analysis extr		1		X						
		If required for the project, are TICs reported?		1		X						
R4	0	Surrogate recovery data		1								
		Were surrogates added prior to extraction?		Х		I	Ι					
		Were surrogate percent recoveries in all samples withi	X			1						
R5	OI	Test reports/summary forms for blank samples	,	1			•					
		Were appropriate type(s) of blanks analyzed?		Ιx								
		Were blanks analyzed at the appropriate frequency?		X			1					
		Were method blanks taken through the entire analytical	al process, including preparation and, if applicable,	$\overline{}$		1						
		cleanup procedures?		X								
		Were blank concentrations < MQL?		X								
R6	OI	Laboratory control samples (LCS):										
		Were all COCs included in the LCS?		X								
		Was each LCS taken through the entire analytical proc	edure, including prep and cleanup steps?	X								
		Were LCSs analyzed at the required frequency?		X								
		Were LCS (and LCSD, if applicable) %Rs within the laborated within the l	oratory QC limits?	X								
		Does the detectability check sample data document th used to calculate the SDLs?	e laboratory's capability to detect the COCs at the MDL	Х								
		Was the LCSD RPD within QC limits?		X								
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	a									
		Were the project/method specified analytes included in	n the MS and MSD?	Х								
		Were MS/MSD analyzed at the appropriate frequency?		X								
		Were MS (and MSD, if applicable) %Rs within the labora	atory QC limits?		Х			1				
		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	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 lowest non-zero calibration standard?										
		Are unadjusted MQLs and DCSs included in the laboratory data package?					<u></u>	<u> </u>				
R10	OI	Other problems/anomalies					,					
		Are all known problems/anomalies/special conditions r		X								
		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 age?	Х								
1. Ite	ms ide	entified by the letter "R" must be included in the laborato	ry data package submitted in the TRRP-required report(s).	Items i	dentifie	ed by th	e 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).

## Laboratory Review Checklist: Supporting Data

ONE LAB. NATIONWIDE

Ε.	1

Lab	orato	ory Name: Pace Analytical National	LRC Date: 11/26/2019 08:19								
Proj Mex		Name: Darr Angell #1- Lea County, New	Laboratory Job Number: L1160939-01								
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1382732								
# <sup>1</sup>	A <sup>2</sup>	Description	•	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>			
S1	OI	Initial calibration (ICAL)			•	•		•			
		Were response factors and/or relative response factor	rs for each analyte within QC limits?	X							
		Were percent RSDs or correlation coefficient criteria n	net?	Х			1				
		Was the number of standards recommended in the me		Х			1				
		Were all points generated between the lowest and hig	·	X			1				
		Are ICAL data available for all instruments used?	•	X			<u> </u>				
		Has the initial calibration curve been verified using an	appropriate second source standard?	X	1	1	1	<u> </u>			
S2	OI	Initial and continuing calibration verification (ICCV and			1	•	1				
	10.	Was the CCV analyzed at the method-required freque		Ιx	I	T	T	1			
		Were percent differences for each analyte within the r		X	1		<del>                                     </del>				
		Was the ICAL curve verified for each analyte?	nemou required de limits.	X	1	+	+	<del>                                     </del>			
		Was the absolute value of the analyte concentration in	a the inerganic CCP < MDI 2	<del>-   ^</del>	1	X	+				
S3	0	·	Title Horganic CCB \ MDL:					1			
33	10	Mass spectral tuning	ior tuning?	Τx	T	т —	т —	Т			
		Was the appropriate compound for the method used f	-		-	+	+				
64	T <sub>0</sub>	Were ion abundance data within the method-required	QC limits:	X			<u> </u>				
S4	0	Internal standards (IS)		Ιν.	1	1	1	T			
	Ι	Were IS area counts and retention times within the me	etnoa-requirea QC limits?	X			<u> </u>	<u> </u>			
S5	OI	Raw data (NELAC Section 5.5.10)			<del></del>	_					
		Were the raw data (for example, chromatograms, spec		X		+	-	-			
		Were data associated with manual integrations flagge	d on the raw data?	X			<u> </u>				
S6	0	Dual column confirmation					1	1			
		Did dual column confirmation results meet the method	d-required QC?			X					
S7	0	Tentatively identified compounds (TICs)					,				
		If TICs were requested, were the mass spectra and TIC	C data subject to appropriate checks?			X	<u> </u>	<u> </u>			
S8	I	Interference Check Sample (ICS) results									
		Were percent recoveries within method QC limits?				X	<u> </u>				
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									
		Was a MDL study performed for each reported analyte	?	Х			<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?	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	on 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-d	ate and on file?	Х							
S15	OI	Verification/validation documentation for methods (NE									
		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							
$\vdash$		A state of the state of the for each method performed									

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

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

3. NA = Not applicable;

4. NR = Not reviewed;

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

#### Laboratory Review Checklist: Exception Reports

		NIATIO	NWIDE.
OINE	LAD.	NATIC	ハNVVIDE.

	2006.0
=	- 5
	-

Laborato	ry Name: Pace Analytical National	LRC Date: 11/26/2019 08:19
Project N Mexico	lame: Darr Angell #1- Lea County, New	Laboratory Job Number: L1160939-01
Reviewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1382732
ER #1	Description	
1	8270 C-SIM WG1382732 Nanhthalone: Perc	ent Recovery is outside of established control limits

<sup>1.</sup> 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).

(S) 2-Methylnaphthalene-D10

(S) Fluoranthene-D10

### SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

WG1382732

WG1382732

11/19/2019 02:31

11/19/2019 02:31

Collected date/time: 11/12/19 12:00

90.5

109

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

L1160939

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l	mg/l		date / time	
Anthracene	U		0.00000800	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Acenaphthene	U		0.0000100	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Acenaphthylene	U		0.00000700	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Benzo(a)anthracene	0.0000120	<u>J</u>	0.00000830	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Benzo(a)pyrene	U		0.0000158	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Benzo(b)fluoranthene	0.00000573	<u>J</u>	0.00000212	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Benzo(g,h,i)perylene	0.00000505	<u>J</u>	0.00000227	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Benzo(k)fluoranthene	U		0.0000255	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Chrysene	U		0.0000144	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Dibenz(a,h)anthracene	U		0.00000454	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Dibenzofuran	0.00000221	<u>J</u>	0.00000105	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Fluoranthene	U		0.0000165	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Fluorene	U		0.00000898	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Indeno(1,2,3-cd)pyrene	U		0.00000739	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Naphthalene	0.0000393	<u>B J</u>	0.0000120	0.000250	0.000250	1	11/19/2019 02:31	WG1382732
Phenanthrene	U		0.0000184	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
Pyrene	U		0.0000155	0.0000500	0.0000500	1	11/19/2019 02:31	WG1382732
1-Methylnaphthalene	U		0.0000189	0.000250	0.000250	1	11/19/2019 02:31	WG1382732
2-Methylnaphthalene	U		0.0000155	0.000250	0.000250	1	11/19/2019 02:31	WG1382732
2-Chloronaphthalene	U		0.0000165	0.000250	0.000250	1	11/19/2019 02:31	WG1382732
(S) Nitrobenzene-d5	108				11.0-135		11/19/2019 02:31	WG1382732
(S) 2-Fluorobiphenyl	88.0				32.0-120		11/19/2019 02:31	WG1382732
(S) p-Terphenyl-d14	89.5				23.0-122		11/19/2019 02:31	WG1382732

50.0-150

50.0-150





















ONE LAB. NATIONWIDE.

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

L1160939-01

#### Method Blank (MB)

(MB) R3473468-2 11/19/19	00:22				
	MB Result	MB Qualifier	MB MDL	MB RDL	2
Analyte	mg/l		mg/l	mg/l	<sup>2</sup> T
Anthracene	U		0.00000800	0.0000500	
Acenaphthene	U		0.0000100	0.0000500	³S
Acenaphthylene	U		0.00000700	0.0000500	Ľ
Benzo(a)anthracene	U		0.00000830	0.0000500	4
Benzo(a)pyrene	U		0.0000158	0.0000500	<sup>4</sup> C
Benzo(b)fluoranthene	U		0.00000212	0.0000500	느
Benzo(g,h,i)perylene	U		0.00000227	0.0000500	<sup>5</sup> T
Benzo(k)fluoranthene	U		0.0000255	0.0000500	Ľ
Chrysene	U		0.0000144	0.0000500	6
Dibenz(a,h)anthracene	U		0.00000454	0.0000500	<sup>6</sup> S
Fluoranthene	U		0.0000165	0.0000500	
Fluorene	U		0.00000898	0.0000500	<sup>7</sup> C
Indeno(1,2,3-cd)pyrene	U		0.00000739	0.0000500	Ĭ
Naphthalene	0.0000325	<u>J</u>	0.0000120	0.000250	8
Phenanthrene	U		0.0000184	0.0000500	8 G
Pyrene	U		0.0000155	0.0000500	
1-Methylnaphthalene	U		0.0000189	0.000250	<sup>9</sup> A
2-Methylnaphthalene	0.0000161	<u>J</u>	0.0000155	0.000250	
2-Chloronaphthalene	U		0.0000165	0.000250	10_
Dibenzofuran	0.00000195		0.00000105	0.0000500	<sup>10</sup> S
(S) Nitrobenzene-d5	102			11.0-135	
(S) 2-Methylnaphthalene-d10	83.5			50.0-150	
(S) 2-Fluorobiphenyl	80.5			32.0-120	
(S) Fluoranthene-d10	106			50.0-150	
(S) p-Terphenyl-d14	95.5			23.0-122	

#### Laboratory Control Sample (LCS)

CS) R3473468-1 11/19/19 00:01						
Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier		
mg/l	mg/l	%	%			
0.00200	0.00196	98.0	43.0-127			
0.00200	0.00169	84.5	42.0-120			
0.00200	0.00172	86.0	43.0-120			
0.00200	0.00192	96.0	46.0-120			
0.00200	0.00195	97.5	44.0-122			
0.00200	0.00175	87.5	43.0-122			
0.00200	0.00160	80.0	25.0-137			
0.00200	0.00199	99.5	39.0-128			
	Spike Amount mg/l 0.00200 0.00200 0.00200 0.00200 0.00200 0.00200 0.00200 0.00200	Spike Amount mg/l         LCS Result mg/l           0.00200         0.00196           0.00200         0.00169           0.00200         0.00172           0.00200         0.00192           0.00200         0.00195           0.00200         0.00175           0.00200         0.00160	Spike Amount         LCS Result mg/l         LCS Rec.           mg/l         %           0.00200         0.00196         98.0           0.00200         0.00169         84.5           0.00200         0.00172         86.0           0.00200         0.00192         96.0           0.00200         0.00195         97.5           0.00200         0.00175         87.5           0.00200         0.00160         80.0	Spike Amount         LCS Result         LCS Rec.         Rec. Limits           mg/l         mg/l         %         %           0.00200         0.00196         98.0         43.0-127           0.00200         0.00169         84.5         42.0-120           0.00200         0.00172         86.0         43.0-120           0.00200         0.00192         96.0         46.0-120           0.00200         0.00195         97.5         44.0-122           0.00200         0.00175         87.5         43.0-122           0.00200         0.00160         80.0         25.0-137		

(S) p-Terphenyl-d14

#### QUALITY CONTROL SUMMARY

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

L1160939-01

#### Laboratory Control Sample (LCS)

(LCS) R3473468-1 11/19/19 00:01	
---------------------------------	--

(200) 110 170 100 1 11/10/10	00.01				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Chrysene	0.00200	0.00189	94.5	42.0-129	
Dibenz(a,h)anthracene	0.00200	0.00167	83.5	25.0-139	
Fluoranthene	0.00200	0.00199	99.5	48.0-131	
Fluorene	0.00200	0.00182	91.0	42.0-120	
Indeno(1,2,3-cd)pyrene	0.00200	0.00168	84.0	37.0-133	
Naphthalene	0.00200	0.00155	77.5	30.0-120	
Phenanthrene	0.00200	0.00181	90.5	42.0-120	
Pyrene	0.00200	0.00173	86.5	38.0-124	
1-Methylnaphthalene	0.00200	0.00162	81.0	43.0-120	
2-Methylnaphthalene	0.00200	0.00156	78.0	40.0-120	
2-Chloronaphthalene	0.00200	0.00163	81.5	39.0-120	
Dibenzofuran	0.00200	0.00174	87.0	70.0-130	
(S) Nitrobenzene-d5			113	11.0-135	
(S) 2-Methylnaphthalene-d10			87.5	50.0-150	
(S) 2-Fluorobiphenyl			85.5	32.0-120	
(S) Fluoranthene-d10			108	50.0-150	



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<sup>†</sup>Cn







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#### L1160934-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

98.0

23.0-122

(OS) I 1160934-02 11/19/19 06:40 • (MS) R3473468-3 11/19/19 07:01 • (MSD) R3473468-4 11/19/19 07:22

	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	%	%		%			%	%
Anthracene	0.00200	0.0000849	0.00207	0.00204	99.3	97.8	1	28.0-120			1.46	25
Acenaphthene	0.00200	U	0.00187	0.00186	93.5	93.0	1	16.0-120			0.536	25
Acenaphthylene	0.00200	U	0.00177	0.00176	88.5	88.0	1	16.0-121			0.567	26
Benzo(a)anthracene	0.00200	U	0.00184	0.00181	92.0	90.5	1	19.0-125			1.64	26
Benzo(a)pyrene	0.00200	U	0.00111	0.00121	55.5	60.5	1	10.0-126			8.62	32
Benzo(b)fluoranthene	0.00200	U	0.00106	0.00110	53.0	55.0	1	10.0-125			3.70	36
Benzo(g,h,i)perylene	0.00200	U	0.000279	0.000291	13.9	14.5	1	10.0-128			4.21	37
Benzo(k)fluoranthene	0.00200	U	0.00116	0.00130	58.0	65.0	1	10.0-124			11.4	32
Chrysene	0.00200	U	0.00173	0.00172	86.5	86.0	1	18.0-127			0.580	26
Dibenz(a,h)anthracene	0.00200	U	0.000270	0.000250	13.5	12.5	1	10.0-132			7.69	43
Fluoranthene	0.00200	U	0.00203	0.00199	102	99.5	1	37.0-122			1.99	23
Fluorene	0.00200	0.000319	0.00218	0.00217	93.0	92.5	1	20.0-120			0.460	26
Indeno(1,2,3-cd)pyrene	0.00200	U	0.000341	0.000369	17.0	18.4	1	10.0-130			7.89	38
Naphthalene	0.00200	0.0104	0.0107	0.0106	15.0	10.0	1	14.0-120		$\underline{\vee}$	0.939	20
Phenanthrene	0.00200	0.000714	0.00254	0.00255	91.3	91.8	1	26.0-120			0.393	24
Pyrene	0.00200	U	0.00182	0.00175	91.0	87.5	1	29.0-120			3.92	24

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

#### L1160934-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1160934-02 11/19/19 06:40 • (MS) R3473468-3 11/19/19 07:01 • (MSD) R3473468-4 11/19/19 07:22

	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	%	%		%			%	%
1-Methylnaphthalene	0.00200	0.00597	0.00698	0.00687	50.5	45.0	1	10.0-145			1.59	24
2-Methylnaphthalene	0.00200	0.00660	0.00750	0.00737	45.0	38.5	1	10.0-143			1.75	24
2-Chloronaphthalene	0.00200	U	0.00158	0.00158	79.0	79.0	1	16.0-120			0.000	25
(S) Nitrobenzene-d5					118	115		11.0-135				
(S) 2-Methylnaphthalene-d10					96.5	93.0		50.0-150				
(S) 2-Fluorobiphenyl					83.0	82.5		32.0-120				
(S) Fluoranthene-d10					112	111		50.0-150				
(S) p-Terphenyl-d14					92.0	90.5		23.0-122				





















#### **GLOSSARY OF TERMS**



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	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
--	-----------	-------------

В	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.

.





Ss















#### **ACCREDITATIONS & LOCATIONS**





#### State Accreditations

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

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

#### Third Party Federal Accreditations

A2LA – ISO 17025 1461.0	1
A2LA – ISO 17025 <sup>5</sup> 1461.0	2
Canada 1461.0	1
EPA-Crypto TN000	003

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

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

#### Our Locations

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





















Plains All American, LP - GHD			4	A 13			Analysis	Containe	ontainer / Preservative Chain of Custody							
2135 \$ Loon 250 W 505 N. Big			nts Payable Big Spring, Ste d, TX 79701	g Spring, Ste. 600	Pres Chk					Conta	er / Presen	vative		Chain of Cust	stody Page ace Analytical	
Report to: John Schnable			Email To: (	Christopher.Knigh	,ht@ghd.com;										landa.	
Project Description: Darr Angell #1 - Le	ea County, NI	м		City/State Collected:				H.							12065 Lebanon Mount Juliet, TN Phone: 615-758 Phone: 800-767	TN 37122 8-5858 7-5859
Phone: <b>512-506-8803</b> Fax:	Client Project 074683	<i>c</i> #		Lab Project # PLAINSGHD-	)-074683			40mIAmb-NoPres-WT							Fax: 615-758-58	11 60939
Collected by (print):	Site/Facility ID		LI (64	P.O.#	)		7	oN-qm								H032
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mmediately Packed on Ice N Y Sample ID	Two Day Three Da	Day	ay (Rad Only)		ults Needed	No. of	K 40ml	MLVI							Prelogin: P68 TSR: PB:	31/11
	Comp/Grab		Depth	Date	Time	Cntrs	BTEX	2AH							Shipped Via:	
Rw-12-111219	6	GW		11-12-19	1200		-	1		Y 3					Remarks	Sample # (lab o
		GW													2 1 3	-0
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W - Groundwater B - Bioassay W - WasteWater	Remarks:					2				рН	Tem	mp		LOCO SEST N	mple Receipt Che Present/Intact:	ecklist NP Y
N - Drinking Water Γ - Other		IExCourier	er SUL	A Trai	icking #	1				Flow	Othe	er	B	Bottles ar	rrive intact: ottles used: t volume sent:	NXX.
elinquished by : (Signature)		Date: //-/2-f9 Date:		30 pm /	ceived by: (Signatu	2			Tr	Trip Blank Rec	1	Yes /No HCL / Me TBR	) V	VOA Zero He Preservatio	If Applicable Headspace: ion Correct/Chec	cked: Y
linquished by : (Signature)	t l	1(-(3-(° Date:	Time:	8:00 8	eived by: (Signatu		5.2		Te	emp: .8-,2=1.6		TBR ttles Receive	ed: If	preservation	OSCREEN: <0.	5 mR/nr n: Date/Time
				Recei	eived for lab by: (S	Signature	<b>a</b> )			late:	Time	ne: ()93	The second second second	Hold:	- 20	Condition: NCF OK



# ANALYTICAL REPORT

November 20, 2019

#### Plains All American, LP - GHD

Sample Delivery Group: L1161077

Samples Received: 11/15/2019

Project Number: 074683-2019.1

Description: Darr Angell #1 - Lea County, NM

Site: SRS DARR ANGELL #1

Report To: John Schnable

2135 S Loop 250 W

Midland, TX 79703

Entire Report Reviewed By:

Mark W. Beasley

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 Arabytical National is performed ber pulladines provided in bloomatory, standard operating procedures ENV-SOP-MIT\_BOGO and ENV-SOP-MIT\_BOGO. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





















Cp: Cover Page	•
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	g
PUMP OFF L1161077-01	g
PUMP ON L1161077-02	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

























DUND 055 1404055 04 44			Collected by Heath Boyd	Collected date/time 11/12/19 12:15	Received dat 11/15/19 08:30	
PUMP OFF L1161077-01 Air			пеан воуч	11/12/19 12.13	11/13/19 06.30	J
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (MS) by Method M18-Mod	WG1381132	2000	11/16/19 00:33	11/16/19 00:33	CAW	Mt. Juliet, TN
			Collected by	Collected date/time	Received dat	e/time
PUMP ON L1161077-02 Air			Heath Boyd	11/12/19 12:30	11/15/19 08:30	)
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Volatile Organic Compounds (MS) by Method M18-Mod	WG1381132	2000	11/16/19 01:23	11/16/19 01:23	CAW	Mt. Juliet, TN





















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

Mark W. Beasley Project Manager

#### Laboratory Data Package Cover Page



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

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

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

Mark W. Beasley Project Manager

## Laboratory Review Checklist: Reportable Data

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Laboratory Name: Pace Analytical National			LRC Date: 11/20/2019 16:03					
Project Name: Darr Angell #1 - Lea County, NM			Laboratory Job Number: L1161077-01 and 02					
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1381132					
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR⁴	ER# <sup>5</sup>
R1	OI	Chain-of-custody (C-O-C)			1	1	1	
		Did samples meet the laboratory's standard conditions	X	T	T	Ι	1	
		Were all departures from standard conditions describe		<del>†                                      </del>	×	1	1	
R2	OI	Sample and quality control (QC) identification	- · · · · · · · · · · · · · · · · · · ·	_			<u> </u>	
		Are all field sample ID numbers cross-referenced to the	e laboratory ID numbers?	X	Т	T	Π	
		Are all laboratory ID numbers cross-referenced to the	X	<del>†                                      </del>		1	1	
R3	OI	Test reports			•	<u> </u>		
		Were all samples prepared and analyzed within holding times?						
		Other than those results < MQL, were all other raw value		Х				
		Were calculations checked by a peer or supervisor?	· · · · · · · · · · · · · · · · · · ·	X	$\vdash$			1
		Were all analyte identifications checked by a peer or si	upervisor?	X	1			
		Were sample detection limits reported for all analytes r	•	Х				
		Were all results for soil and sediment samples reported		X	$\vdash$			1
		Were % moisture (or solids) reported for all soil and sec	• •		1	X		
		Were bulk soils/solids samples for volatile analysis extr				X		
		If required for the project, are TICs reported?			$\vdash$	X		1
R4	0	Surrogate recovery data			_	•		
		Were surrogates added prior to extraction?		Х	Т		Τ	
		Were surrogate percent recoveries in all samples within the laboratory QC limits?						1
R5	OI							
		Were appropriate type(s) of blanks analyzed?		X	Т	T	1	
		Were blanks analyzed at the appropriate frequency?		X	$\vdash$	1		1
		Were method blanks taken through the entire analytical	<u> </u>	1	1	1	1	
		cleanup procedures?	X					
		Were blank concentrations < MQL?	Х					
R6	OI Laboratory control samples (LCS):							
	Were all COCs included in the LCS?							
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?							
		Were LCSs analyzed at the required frequency?		Х				
		Were LCS (and LCSD, if applicable) %Rs within the laborated within the l	oratory QC limits?	X				
		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?	<u> </u>		Х			
R8	OI							
		Were appropriate analytical duplicates analyzed for ea	ch matrix?	<u> </u>	<u> </u>	Х		
		Were analytical duplicates analyzed at the appropriate	frequency?	<u> </u>		Х		
		Were RPDs or relative standard deviations within the laboratory QC limits?				Х		
R9	OI	Method quantitation limits (MQLs):					_	
	Are the MQLs for each method analyte included in the laboratory data package?							
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?						
		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				
		Was applicable and available technology used to lowe the sample results?	r the SDL to minimize the matrix interference effects on	Х				
			aboratory Accreditation Program for the analytes, matrices age?	Х				
1. Itams identified by the letter "P" must be included in the laboratory data package submitted in the TPPP required reports. Itams identified by the letter "P" must be included in the laboratory data package submitted in the TPPP required reports. Itams identified by the letter "C'						"C"		

Items identified by the letter "R" 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).

Laboratory Name: Pace Analytical National

#### Laboratory Review Checklist: Supporting Data

LRC Date: 11/20/2019 16:03

ONE LAB. NATIONWIDE.

State.
- 48
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Proj	ject N	Name: Darr Angell #1 - Lea County, NM	Laboratory Job Number: L1161077-01 and 02					
Rev	iewe	r Name: Mark W. Beasley	Prep Batch Number(s): WG1381132					
# <sup>1</sup>	A <sup>2</sup>	Description	•	Yes	No	NA <sup>3</sup>	NR⁴	ER# <sup>5</sup>
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors	Х					
		Were percent RSDs or correlation coefficient criteria m	et?	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?		Х				
		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		X				
		Were percent differences for each analyte within the m	•	X				
		Was the ICAL curve verified for each analyte?	•	X				
		Was the absolute value of the analyte concentration in	the inorganic CCB < MDL?	$\top$		X		
S3	0	Mass spectral tuning						
		Was the appropriate compound for the method used for	or tuning?	T x	T	T	Τ	
		Were ion abundance data within the method-required		$\frac{x}{x}$				1
S4	0	Internal standards (IS)				1		
-		Were IS area counts and retention times within the me	thod-required QC limits?	X	1	T	T	T
S5	OI	Raw data (NELAC Section 5.5.10)	inou required do ininto.		1	1	1	<u> </u>
33	101	Were the raw data (for example, chromatograms, speci	tral data) reviewed by an analyst?	X	T	Т	Т	
		Were data associated with manual integrations flagged		X	1	+	<del>                                     </del>	<del>                                     </del>
S6	0	Dual column confirmation	7 Off the Taw Gata.		_			
30	10	Did dual column confirmation results meet the method	required QC?	$\neg$	T	Τx	Т	
S7	0	Tentatively identified compounds (TICs)	required &c.			1 ~		
37	10	If TICs were requested, were the mass spectra and TIC	data subject to appropriate checks?	$\neg$	Т	Ιx	Т	Т
S8	L	Interference Check Sample (ICS) results	data subject to appropriate effects.			1 /		
30	'	Were percent recoveries within method QC limits?		$\neg$	T	Ιx	T	
S9	l i	Serial dilutions, post digestion spikes, and method of s	tandard additions		1	1 ^		
33	1'	Were percent differences, recoveries, and the linearity		$\neg$	T	Τx	Т	
S10	OI	Method detection limit (MDL) studies	within the QC limits specified in the method:			1 ^		
310	I OI	Was a MDL study performed for each reported analyte	2	X	1	1	I	T
		Is the MDL either adjusted or supported by the analysis		X	+	+	<u> </u>	<del>                                     </del>
S11	OI	Proficiency test reports	3 01 DC35:				<u> </u>	
311	I OI	Was the laboratory's performance acceptable on the a	policable proficioney tosts or avaluation studios?	l x	1	1	I	T
S12	OI	Standards documentation	pplicable proficiency tests of evaluation studies:	^			<u> </u>	
312	Oi	Are all standards used in the analyses NIST-traceable of	T x		T	T	1	
S13	OI	·				1		
313	I OI	Compound/analyte identification procedures  Are the procedures for compound/analyte identification	Х	1	Т	Т		
S14	OI		<del></del> ^	1	1	<u> </u>		
314	OI	Demonstration of analyst competency (DOC)	X	Т	Т	Т		
		Was DOC conducted consistent with NELAC Chapter 5?				+	-	<del>                                     </del>
C1F		Is documentation of the analyst's competency up-to-da		l X				
S15	OI	Verification/validation documentation for methods (NEI		T v		1	1	
CAC		Are all the methods used to generate the data docume	ented, verified, and validated, where applicable?	l X	1	1		
S16	OI							
4		Are laboratory SOPs current and on file for each metho		X		1	<u> </u>	<u></u>
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"							

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

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

3. NA = Not applicable;

4. NR = Not reviewed;

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

#### Laboratory Review Checklist: Exception Reports

ONE		

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LRC Date: 11/20/2019 16:03
Laboratory Job Number: L1161077-01 and 02
Prep Batch Number(s): WG1381132

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);
- 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).

PUMP OFF

#### SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 11/12/19 12:15

L1161077

#### 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	37200	119000		2000	WG1381132
Toluene	108-88-3	92.10	400	1510	38200	144000		2000	WG1381132
Ethylbenzene	100-41-4	106	400	1730	5710	24800		2000	WG1381132
m&p-Xylene	1330-20-7	106	800	3470	18200	78900		2000	WG1381132
o-Xylene	95-47-6	106	400	1730	4920	21300		2000	WG1381132
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1381132
TPH (GC/MS) Low Fraction	8006-61-9	101	100000	413000	4020000	16600000		2000	WG1381132
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.6				WG1381132





















PUMP ON

#### SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 11/12/19 12:30

L1161077

#### 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	37500	120000		2000	WG1381132
Toluene	108-88-3	92.10	400	1510	39500	149000		2000	WG1381132
Ethylbenzene	100-41-4	106	400	1730	5970	25900		2000	WG1381132
m&p-Xylene	1330-20-7	106	800	3470	19400	84100		2000	WG1381132
o-Xylene	95-47-6	106	400	1730	5290	22900		2000	WG1381132
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1381132
TPH (GC/MS) Low Fraction	8006-61-9	101	100000	413000	4050000	16700000		2000	WG1381132
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.9				WG1381132





















PAGE: 10 of 14

ONE LAB. NATIONWIDE.

Volatile Organic Compounds (MS) by Method M18-Mod

L1161077-01,02

#### Method Blank (MB)

TPH (GC/MS) Low Fraction

(S) 1,4-Bromofluorobenzene 95.9

(MR) P3472424-3 11/15/19 11:23

(IVID) R34/2424-3 II	1/15/19 11.25			
	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

50.0

60.0-140











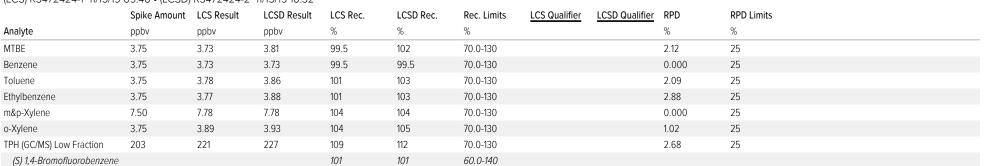
#### Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

6.91

(LCS) R3472424-1 11/15/19 09:40 • (LCSD) R3472424-2 11/15/19 10:32

J

21.3





°Sr









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#### **GLOSSARY OF TERMS**

#### 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 resu 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 fo 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.























#### **ACCREDITATIONS & LOCATIONS**





#### **State Accreditations**

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

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

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

#### Our Locations

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





















		Billing Information:				Analysis / Container / Preservative								Chain of Custody Page of				
Plains All American, LP - GHD  2135 S Loop 250 W  Midland, TX 79703			Accounts 505 N. B Midland	. 600	Pres Chk										Pace National C	Analytical® enter for Testing & Innovation		
Report to: John Schnable	Email To: john.schnable@ghd.com, Christopher.Knight@ghd.com;			ante	pac	1/20	om							12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-58	7122			
Project City/State				lea County, MM Please C												Phone: 800-767-58 Fax: 615-758-5859	59	
Phone: <b>512-506-8803</b> Fax: 432-940-2184	O74683-201	#	Lab Project #					80150	210							SDG #    []	877	
Collected by (print): Heath Boyd	Site/Facility ID	# Darr t	ngel #   P.O.#					ER 81	1508 4							Acctnum: PLA		
Collected by (signature):		ab MUST Be		Quote #			edlar		3							Template:T14 Prelogin: P74		
Immediately Packed on Ice N Y Y Next Day 5 Day Two Day 10 Da Three Day			(Rad Only) Date R		sults Needed	No.	M18-MOD Tedlar	TVAC	13	X					7 2	PM: 134 - Mark W. Beasley PB:		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	M18-I	1	Bre							Shipped Via:	Sample # (lab only)	
Pump Off	Grab	Air	7	11-12-19	1215		1	+	+								01	
Pump On	Grab	Air		11-12-19	1230		1	+	+								62	
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* Matrix:  SS - Soil AIR - Air F - Filter  GW - Groundwater B - Bioassay  WW - WasteWater	Remarks: Report to SDL Flag estimated			s concentrations						pH _ Flow _		Temp		COC Seal COC Signe Bottles a		ple Receipt C resent/Intact /Accurate: rive intact: ttles used:		
DW - Drinking Water OT - Other	Samples return	ned via: dEx Cou	ırier		Tracking #			Su						Suffi	ufficient volume sent:  If Applicable  OA Zero Headspace:  Y N			
John Schnalle 11				ime: 4:45	Received by: (Sig	nature		1		Trip Blank	Receive	НС	res No HCL / MeoH TBR	Prese	ervatio	on Correct/Ch <0.5 mR/hr:	ecked: Y N	
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Relinquished by : (Signature)		Date: Til		ime:	Received for lab I	by: (Signa	ture)	re) 1/03te: -19 Time: -30					30	Hold:			Condition: NCF / OR	



# about GHD

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

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