2015 Annual Groundwater Monitoring Report

Darr Angell No. 4
Lea County, New Mexico
SRS #2001-108876
NMOCD Abatement Plan Permit No. AP-007

Prepared for: Plains All American Pipeline, LP

2135 S. Loop 250 W, Midland, Texas 79703 USA

074684 | Report No 6 | April 6, 2016

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1. Introduction

This 2015 Annual Groundwater Monitoring Report presents data collected at the Darr Angell No. 4 location (hereafter referred to as the "Site") by GHD Services, Inc. (GHD) on behalf of Plains Pipeline, L.P. (Plains) in compliance with the New Mexico Oil Conservation Division (NMOCD) correspondence dated May 1998. This Site falls under NMOCD Abatement Plan number AP-007. This report presents groundwater assessment and remediation activities associated with quarterly monitoring/recovery well gauging and groundwater sampling events (March, June, August and late November to early December). Groundwater remediation of hydrocarbons via total fluid pumps in conjunction with vapor extraction, pneumatic product only skimmer pumps and light non-aqueous phase liquid (LNAPL) abatement via bi-weekly (every two weeks) hand bailing were also performed during the 2015 calendar year.

1.1 Site Location and History

The legal description of the Site is NW1/4, NE1/4, Section 11, Township 15 South, Range 37 East and SW1/4, SE1/4, Section 2, Township 15 South, Range 37 East, Lea County, New Mexico and is shown in (Figure 1). The Site was formerly the responsibility of Enron Oil Trading and Transportation (EOTT); however, the Site is currently the responsibility of Plains. There were two separate pipeline releases at the Site. The first release occurred on November 9, 1999, and the second on February 2, 2001. The second release was discovered by EOTT employees and notification was immediately made to the NMOCD. Details of the release were later submitted on a Release Notification and Corrective Action Form (C-141) to the NMOCD on May 21, 2005. According to the release report, an estimated 150 barrels of crude oil was released and 95 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 pipeline corrosion.

Beginning on May 29, 2004, project management responsibilities were assumed by NOVA. GHD, formerly Conestoga-Rovers and Associates, Inc. (CRA) assumed Site remediation and project management responsibilities on May 2, 2011.

Currently, there are 16 groundwater monitoring wells (MW-1A, MW-2, MW-3R, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12R, MW-13, MW-14, MW-15 and MW-16) and 15 product recovery wells (RW-1, RW-2, RW-3R, RW-4R, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12, RW-13, RW-14 and RW-15) at the Site. Recovery well RW-4 was plugged and abandoned with NMOCD approval on October 9, 2014. Replacement recovery well RW-4R was drilled and constructed on October 9, 2014. Replacement recovery well RW-3R and recovery wells RW-14 and RW-15 were drilled and constructed on October 14, 2014. Monitoring wells MW-3 and MW-12 and recovery well RW-3 were plugged and abandoned with NMOCD approval on October 15, 2014. Replacement monitoring wells MW-3R and MW-12R were drilled and constructed on October 15, 2014. Professional surveying of the new and replacement wells was performed on November 11, 2014.

2. Regulatory Framework

The Site has been assigned Abatement Plan number AP-007 by the New Mexico Oil Conservation Division (NMOCD) Environmental Bureau. The NMOCD guidelines require groundwater to be

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

Analyte	NMWQCC Standard for Groundwater
20.6.2.3103 Section A – Human Health Standard	
Benzene	0.01 mg/L
Toluene	0.75 mg/L
Ethylbenzene	0.75 mg/L
Total Xylenes	0.62 mg/L

The table below is the site sampling schedule approved by the NMOCD in a correspondence dated April 28, 2004 and was amended in NMOCD correspondence dated June 21, 2005.

NMOCD APPROVED SAMPLING SCHEDULE					
Location	***Schedule***	***Location***	***Schedule***	***Location***	***Schedule***
MW-1A	Annually	MW-11	Annually	RW-4	Plugged/Abandoned
MW-2	Annually	MW-12	Plugged/Abandoned	RW-5	Quarterly
MW-3	Plugged/Abandoned	MW-13	Annually	RW-6	Quarterly
MW-4	Annually	MW-14	Quarterly	RW-7	Quarterly
MW-5	Annually	MW-15	Quarterly	RW-8	Quarterly
MW-6	Quarterly	MW-16	Quarterly	RW-9	Quarterly
MW-7	Annually			RW-10	Quarterly
MW-8	Quarterly	RW-1	Quarterly	RW-11	Quarterly
MW-9	Semi-Annually	RW-2	Quarterly	RW-12	Quarterly
MW-10	Quarterly	RW-3	Plugged/Abandoned	RW-13	Quarterly

Recently drilled monitoring /recovery wells (MW-3R, MW-12R, RW-3R, RW-4R, RW-14 and RW-15) are currently being monitored on a quarterly basis to establish consistent historical data regarding dissolved phase COCs and LNAPL thicknesses. These wells will be added to the NMOCD approved site sampling schedule following correspondence with the regulatory agency.

3. Groundwater Monitoring Activities

Quarterly groundwater monitoring event activities were conducted by GHD on March 2-5, June 1-5, August 10-14 and November 30-December 4, 2015. The Site is monitored with a network of 16 monitoring wells and 15 recovery wells. Wells were sampled in accordance with the sampling schedule referred to in Section 2.0. Wells containing measureable amounts of LNAPL (>0.01 feet) were not sampled. A Site Details Map is presented as Figure 2.

3.1 Groundwater Monitoring Methodology

Prior to purging wells, each well cap was removed to allow groundwater levels to stabilize and equilibrate. Static fluid levels were measured with an electric interface probe to the nearest

hundredth of a foot to obtain groundwater elevation data and assess for the presence of LNAPL. After recording fluid levels, wells not containing LNAPL were purged of three casing volumes of water and then groundwater samples, including duplicate samples, were collected using clean, disposable PVC bailers. Laboratory-supplied sample containers were then filled directly from the bailers. Collected samples were then placed on ice in insulated coolers and chilled to a temperature of approximately 4°C (40°F). The coolers were prepared for delivery and proper chain-of-custody documentation accompanied the samples to Trace Analysis, Inc. in Midland, Texas for analysis of benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8021B. In addition, during the late November and early December sampling event, four wells (MW-3R, MW-12R, RW-14 and RW-15) were analyzed for Polycyclic Aromatic Hydrocarbons (PAH) by EPA Method 8270D.

3.2 Groundwater Monitoring Results

All depth to groundwater measurements were recorded from the top of casing (TOC) of each well. The gauging data presented below represents corrected calculated groundwater elevations using a specific gravity of 0.81 for wells with measurable amounts of LNAPL and the elevation data obtained from professional surveying activities. Groundwater gauging data collected by GHD during the March, June, August and November/December 2015 groundwater monitoring events are presented in Table 1. Groundwater gradient maps for March, June, August and November/December are provided as Figures 3, 5, 7 and 9, respectively.

Corrected groundwater elevations ranged from 3,726.84 feet (MW-15) to 3,729.96 feet (MW-13) in March; from 3,726.31 feet (MW-14) to 3,730.01 feet (MW-13) in June; from 3,726.49 feet (MW-15) to 3,727.36 feet (MW-5) in August; and from 3,726.26 feet (MW-15) to 3,727.33 feet (MW-5) in November/December. Monitoring wells MW-2, MW-4, MW-6, MW-7, MW-8, MW-10, MW-13 and recovery well RW-6 were gauged dry throughout the four quarterly events of 2015. Additionally, RW-5 was gauged dry during in the second quarterly event and remained dry throughout the rest of 2015. MW-11 was gauged dry during the third quarterly event and remained dry throughout the rest of 2015. The groundwater flow direction is towards the east-southeast and is consistent with historical data. The average groundwater gradient determined for the Site from the groundwater monitoring events was approximately 0.001 foot/foot. Pertinent well gauging data indicated a decline in the elevation of the potentiometric surface for 2015. The average decline was 0.19 foot per quarter. Based on the average decline calculated for each quarter, the total decline for 2015 was 0.76 foot.

LNAPL was encountered in eleven wells (RW-1, RW-2, RW-3R, RW-4R, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12 and RW-13) during all groundwater monitoring events and were not purged and sampled for BTEX. LNAPL thicknesses ranged from 0.06 foot (RW-7) to 4.65 feet (RW-3R) in March, from 0.08 foot (RW-12) to 1.94 feet (RW-3R) in June, from 0.01 foot (RW-12 and RW-13) to 1.69 feet (RW-8) in August and from 0.01 foot (RW-12) to 3.43 feet (RW-3R) in November/December. For 2015, the following wells exhibited an average decrease in LNAPL thickness when compared to their 2014 average LNAPL thickness: RW-1 (0.90 foot); RW-2 (0.55 foot); RW-7 (0.01 foot); RW-9 (0.79 foot); RW-10 (1.71 feet); RW-11 (2.19 feet); RW-12 (0.05 foot); and RW-13 (0.14 foot). RW-8 exhibited an average increase of 0.52 foot in LNAPL thickness when compared to its 2014 average LNAPL thickness. LNAPL gauging data collected during quarterly monitoring events for each well was used to calculate the yearly average thickness. RW-3R and RW-4, drilled and installed in October 2014, had respective average thicknesses of 2.91 feet and 1.45 feet for 2015.

During the March groundwater monitoring event, eight wells (MW-3R, MW-12R, MW-14, MW-15, MW-16, RW-5, RW-14 and RW-15) were sampled of which RW-14 and RW-15 detected benzene concentrations above the NMWQCC Standard (0.01 mg/L) for benzene. During the June groundwater monitoring event, seven wells (MW-3R, MW-9, MW-12R, MW-14, MW-15, MW-16 and RW-15) were sampled of which RW-15 detected benzene concentrations above the NMWQCC Standard for benzene. During the August groundwater monitoring event, seven wells (MW-3R, MW-12R, MW-14, MW-15, MW-16, RW-14 and RW-15) were sampled of which one well RW-15 detected benzene concentrations above the NMWQCC Standard for benzene. In addition, RW-15 had a total xylene concentration above the NMWQCC Standard (0.62 mg/L) for total xylenes. During the November/December groundwater monitoring event seven wells (MW-3R, MW-12R, MW-14, MW-15, MW-16, RW-14 and RW-15) were sampled of which RW-14 and RW-15 exhibited a benzene concentration above the NMWQCC Standard for benzene. No other BTEX constituents were detected above the NMWQCC standards.

Bi-weekly (every two weeks) hand bailing of MW-12R, RW-14 and RW-15 was initiated in the second quarter of 2015 to reduce the concentrations of BTEX constituents in these wells. The benzene concentration in RW-14 decreased from 0.0756 mg/kg in the first quarter to below laboratory detection limits in the third quarter, before increasing again to 0.0217 mg/kg in the fourth quarter of 2015. RW-14 was not sampled in the second quarter of 2015. The benzene concentration in RW-15 increased throughout 2015 from 0.0262 mg/kg in March 2015 to 0.413 mg/kg in November/December 2015. Monitor well MW-12R consistently had benzene and toluene concentrations below laboratory detection limits, but detectable concentrations of ethylbenzene and xylenes were exhibited during the second and fourth quarterly sampling events. Groundwater BTEX analytical results are summarized in Table 2. LNAPL Thickness and Groundwater BTEX concentration maps for the March, June, August and November/December 2015 groundwater monitoring events are presented as Figures 4, 6, 8 and 10, respectively.

During the November/December groundwater monitoring event, samples for polycyclic aromatic hydrocarbons (PAH) were collected from MW-3R, MW-12R, RW-14 and RW-15. Analytical laboratory results for these wells indicated the wells did not contain any constituents that exceeded the NMWQCC Standards. Recovery well RW-15 had detectable concentrations of fluorine, phenanthrene, naphthalene, 1-Methylnapthalene, 2-Methylnapthalene and dibenzofuran. Monitoring well MW-12R and recovery well RW-14 have had all PAH constituents below laboratory detection limits for two consecutive years and these wells will be removed from the sampling list for 2016. The historic data on the PAH results are summarized in Table 3.

A color-coded table highlighting PSH, Benzene and Clean Wells is presented as Table 4. Copies of the certified laboratory reports and chain-of-custody documentation are attached in Appendix A.

4. Corrective Action

For 2015, monitoring/recovery wells gauged with LNAPL had the LNAPL removed using a trailer mounted automated groundwater remediation system, pneumatic product only skimmer pumps and manual methods via bi-weekly (every two weeks) hand bailing as part of the LNAPL abatement program for the Site. RW-1, RW-2, RW-3R, RW-4R, RW-5, RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12 and RW-13 were the wells targeted for LNAPL Abatement.

A trailer mounted automated groundwater remediation system was operated at the Site for a total of 53 days during 2015. The system operated at the Site for 41 days during the first quarter and for 12 days during the second quarter. Total fluid pumps driven by compressed air in conjunction with vapor extraction were utilized for LNAPL recovery and groundwater remediation. Throughout the first and second quarters of 2015 the trailer mounted system was moved and operated at other sites. When moved to the Site, the system operated for a cycle of 4 weeks with four pumps installed into four of the six targeted recovery wells. After 2 weeks, and in an effort to maximize LNAPL abatement, two pumps were rotated into the two remaining wells for another 4 weeks of operation. During April, the remediation system was permanently stationed at another project site for the rest of 2015. RW-1, RW-2, RW-3R, RW-8, RW-10 and RW-11 were the wells targeted for LNAPL recovery and groundwater remediation. To maintain the most efficient product recovery system possible, GHD personnel mobilized to the Site twice a week to perform operation and maintenance (O&M) of the automated remediation system. O&M of the remediation trailer/system included wellhead and flowline inspections, maintenance of the compressor (i.e. oil changes, drain water) and total fluid pumps (i.e. cleaning, repairs), gauging of fluid recovered in the Site's storage tank and any other required "housekeeping" tasks. Periodically and as needed, GHD personnel adjusted the total fluid pumps' depth intervals in the wells as an effort to increase LNAPL recovery. The cumulative LNAPL recovered by the remediation system during 2015 was 55.1 gallons (1.31 bbls).

During the first quarter of 2015 and when the remediation system was moved and operated at other project locations, pneumatic product only skimmer pumps were installed in four of the six target wells (RW-1, RW-2, RW-3R, RW-8, RW-10 and RW-11) to maintain product recovery. In April and after the trailer mounted remediation system was permanently moved to another project location LNAPL recovery continued via pneumatic product only skimmer pumps in the same six target wells. Periodically and in an effort to maximize LNAPL abatement, two skimmer pumps were rotated into the two remaining wells. The cumulative LNAPL recovered by the skimmer pumps during 2015 was 124.2 gallons (2.96 bbls).

Monitoring and recovery wells which exhibited LNAPL, but were not part of the automated remediation system had LNAPL removed bi-weekly (every two weeks) via manual hand bailing. The cumulative total of LNAPL recovered via hand bailing in 2015 was 71.6 gallons (1.70 bbls).

The 2015 abatement program recovered approximately 250.9 gallons (6.0 barrels) of product. Approximately 17,268 gallons (411 barrels) of product have been recovered since the start of the product abatement program in 2001.

All fluid recovered from purging, sampling, remediation system operation, skimmer pump operation, BTEX and LNAPL abatement were transferred to a storage tank and later disposed of at a licensed disposal facility.

5. Summary of Findings

Based on groundwater assessment, monitoring and remedial activities performed by GHD at the Site in 2015, the following summary of findings is presented:

- Currently, the Site is monitored with a network of 16 groundwater monitoring wells (MW-1A, MW-2, MW-3R, MW-4 through MW-11, MW-12R, and MW-13 through MW-16) and 15 product recovery wells (RW-1, RW-2, RW-3R, RW-4R and RW-5 through RW-15);

- The trailer mounted automated groundwater remediation system was operational at the Site for a total of 53 days in 2015. The system operated at the Site for 41 days during the first quarter and for 12 days during the second quarter. The system was permanently moved to another project site during April 2015. MW-4, RW-1, RW-2, RW-3R, RW-10 and RW-11 were the wells targeted for LNAPL recovery and groundwater remediation;
- Weekly O&M on the trailer mounted automated groundwater remediation system, ancillary equipment, flowlines and wellheads was performed while operating at the Site;
- During April 2015, LNAPL recovery was conducted with a skimmer/Xitech product only pump system. The targeted wells for the skimmer pump system were RW-1, RW-2, RW-3R, RW-8, RW-10, and RW-11;
- Corrected groundwater elevations ranged from 3,726.84 feet to 3,729.96 feet in March, from 3,726.31 feet to 3,730.01 feet in June, from 3,726.49 feet to 3,727.36 feet in August and from 3,726.26 feet to 3,727.33 feet in November/December;
- LNAPL was encountered in 11 wells (RW-1, RW-2, MW-3R, MW-4R, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12 and RW-13) during all groundwater monitoring events and were not purged and sampled for BTEX. LNAPL thicknesses ranged from 0.06 foot to 4.65 feet in March, from 0.08 foot to 1.94 feet in June, from 0.01 foot to 1.69 feet in August and from 0.01 foot to 3.43 feet in November/December;
- For 2015 the following wells RW-1, RW-2, RW-7, RW-9, RW-10, RW-11, RW-12 and RW-13 exhibited an average decrease in LNAPL thickness when compared to their 2014 average LNAPL thickness: RW-1 (0.90 foot); RW-2 (0.55 foot); RW-7 (0.01 foot); RW-9 (0.79 foot); RW-10 (1.71 feet); RW-11 (2.19 feet); RW-12 (0.05 foot); and RW-13 (0.14 foot);
- RW-8 exhibited an average increase of 0.52 foot in LNAPL thickness when compared to its 2014 average LNAPL thickness;
- During the March groundwater monitoring event, eight wells (MW-3R, MW-12R, MW-14, MW-15, MW-16, RW-5, RW-14 and RW-15) were sampled of which RW-14 and RW-15 detected benzene concentrations above the NMWQCC Standard (0.01 mg/L) for benzene;
- During the June groundwater monitoring event, seven wells (MW-3R, MW-9, MW-12R, MW-14, MW-15, MW-16 and RW-15) were sampled of which RW-15 detected benzene concentrations above the NMWQCC Standard for benzene;
- During the August groundwater monitoring event, seven wells (MW-3R, MW-12R, MW-14, MW-15, MW-16, RW-14 and RW-15) were sampled of which RW-15 detected benzene and total xylene concentrations above the NMWQCC Standard for both constituents;
- During the November/December groundwater monitoring event, seven wells (MW-3R, MW-12R, MW-14, MW-15, MW-16, RW-14 and RW-15) were sampled of which RW-14 and RW-15 exhibited a benzene concentration above the NMWQCC Standard for benzene;
- The benzene concentration in RW-14 had an overall decrease through 2015 (0.0756 mg/L in March 2015 to 0.0217 mg/L in November/December 2015);
- The benzene concentration in RW-15 had an overall increase through 2015 (0.0262 mg/L in March 2015 to 0.413 mg/L in November/December 2015);
- Bi-weekly (every two weeks) hand bailing to reduce BTEX constituent concentrations in MW-12R, RW-14 and RW-15 was initiated in the second quarter of 2015;

- Polycyclic Aromatic Hydrocarbons (PAH) samples were collected from MW-3R, MW-12R, RW-14 and RW-15 in November 2015. Analytical laboratory results for all four wells indicated the wells did not contain any constituents that exceeded the NMWQCC Standards;
- Monitoring wells MW-2, MW-4, MW-6, MW-7, MW-8, MW-10, MW-13 and recovery well RW-6 were dry throughout 2015. Additionally, RW-5 was gauged dry during the second quarterly sampling event and remained dry throughout the rest of 2015. MW-11 was gauged dry during the third quarterly sampling event and remained dry throughout the rest 2015;
- The Site's groundwater flow direction is to the east-southeast and is consistent with historical data. The average groundwater gradient determined at the Site from the 2015 groundwater monitoring events was approximately 0.001 foot/foot;
- Pertinent well gauging data indicated a decline in the elevation of the potentiometric surface for 2014. The average decline was 0.19 foot per quarter. The total of the average decline for the four quarters of 2015 was 0.76 foot;
- Wells which contained measurable LNAPL, but were not a part of the automated remediation system or pneumatic skimmer pump LNAPL recovery program were hand bailed bi-weekly (every two weeks); and
- The 2015 abatement program recovered approximately 250.9 gallons (6.0 barrels) of product. Approximately 17,268 gallons (411 barrels) of product have been recovered since the start of the product abatement program in 2001.

6. Recommendations

Based upon the data and conclusions presented in this report, the following is recommended for 2016:

- Continue quarterly groundwater monitoring events with annual reporting to the NMOCD. Each event to include monitoring and recovery well gauging, sampling groundwater for BTEX and annual sampling of all applicable wells for the fourth quarterly event;
- Continue annual sampling for Polycyclic Aromatic Hydrocarbons (PAH). Wells sampled during the 2015 annual event and wells that previously contained LNAPL, but the thickness has decreased to <0.01 foot, will be scheduled for sampling during the fourth quarterly monitoring event;
- Continue bi-weekly (every two weeks) hand bailing of RW-14 and RW-15 to decrease benzene concentrations;
- Continue bi-weekly (every two weeks) LNAPL abatement on monitoring and recovery wells which were gauged with LNAPL but are not wells targeted for the pneumatic product only skimmer pump system;
- Continue operating the pneumatic product only skimmer pump system on four of the six targeted wells for 2 weeks with pump rotation into the two remaining after 2 weeks of operation. RW-1, RW-2, RW-3R, RW-8, RW-10 and RW-11 are the wells targeted for LNAPL recovery via the product only skimmer pump system;

- Communicate/correspond with the NMOCD for approval to add new wells (MW-3R, MW-12R, RW-3R, RW-4R, RW-14 and RW-15) and remove plugged and abandoned wells (MW-3, MW-12 and RW-3) to the previously approved sampling schedule presented in Section 2.0.; and
- Complete plugging and abandoning of MW-4, MW-8, MW-10, RW-5 and RW-6 and complete drilling, construction and developing of MW-4R, MW-8R, MW-10R and RW-5R. NMOCD approval was granted on October 2, 2015. In addition, seek approval to reduce the groundwater sampling schedule for MW-14 to semi-annually and reduce the groundwater sampling schedule for MW-15 and MW-16 to annually. The requested reduction in sampling schedule for the aforementioned wells is based on at least 5 years of analytical results depicting the wells as being below the detection limit for all BTEX constituents.

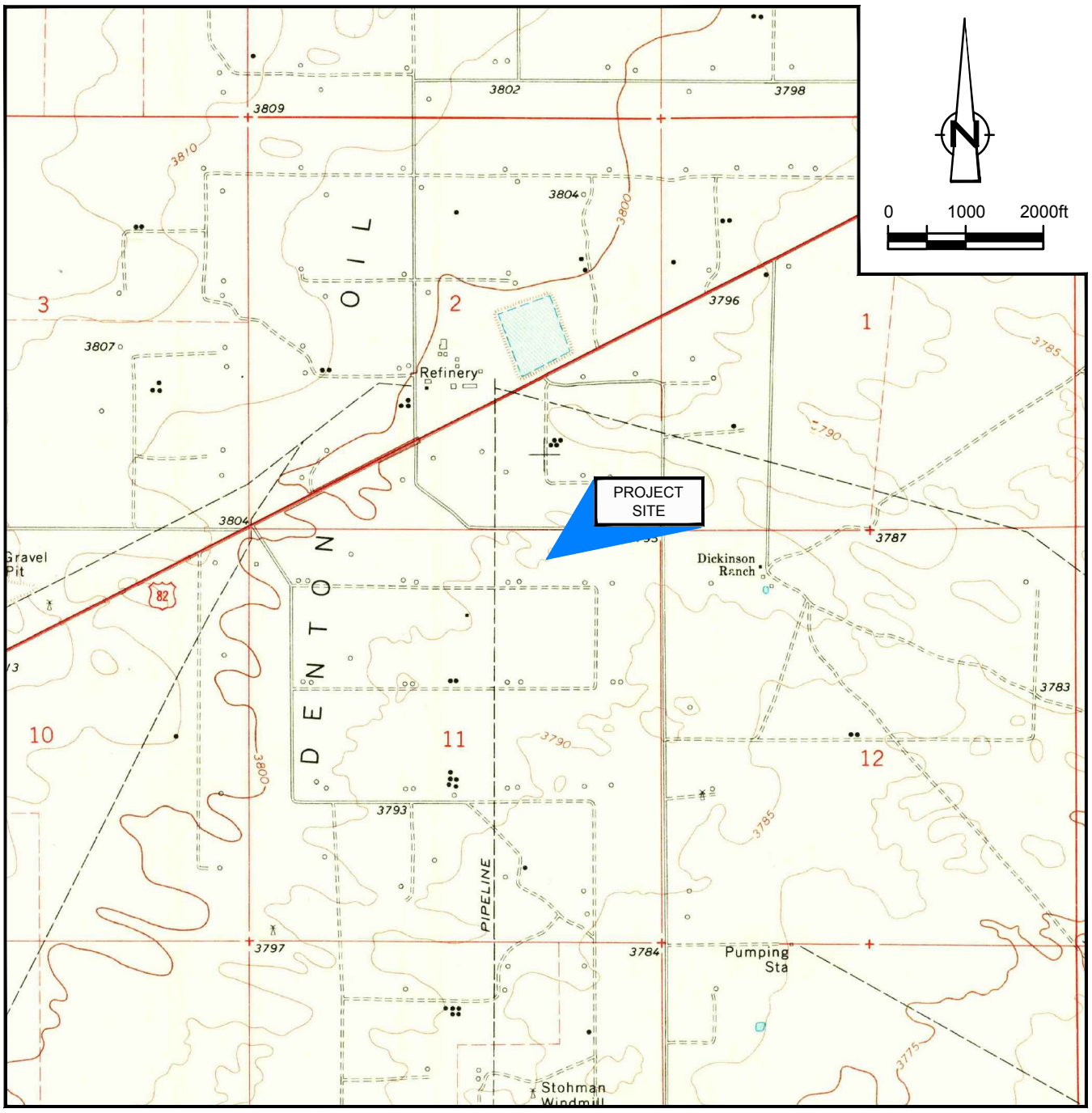
All of which is Respectfully Submitted,

GHD

John Fergerson
Senior Project Manager

Thomas C. Larson
Principal, Midland Operations Manager

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"PRAIRIEVIEW, NEW MEXICO"

LAT/LONG: 33.0264° NORTH, 103.1667° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 1

SITE LOCATION MAP
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

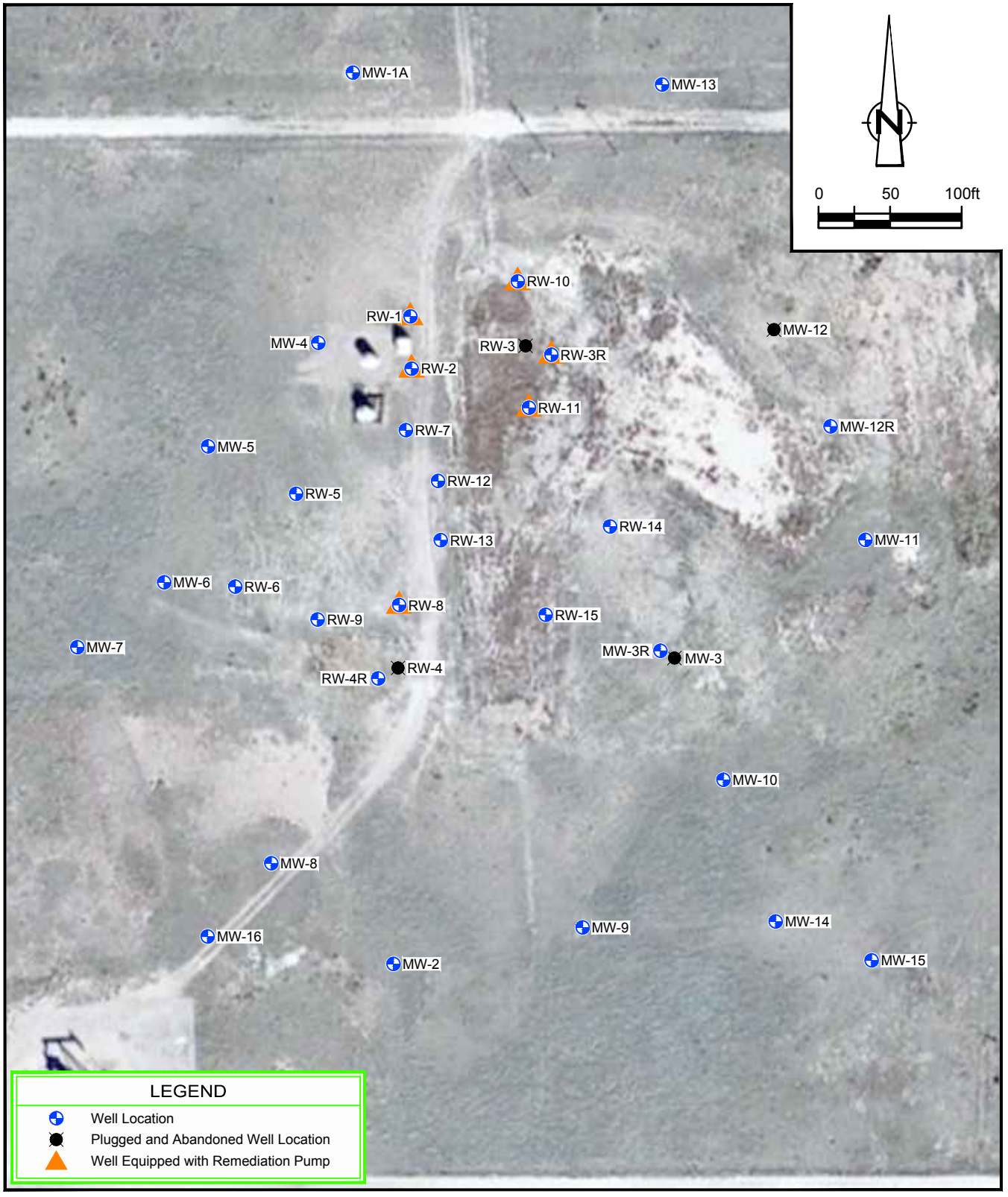


Figure 2

SITE DETAILS MAP
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

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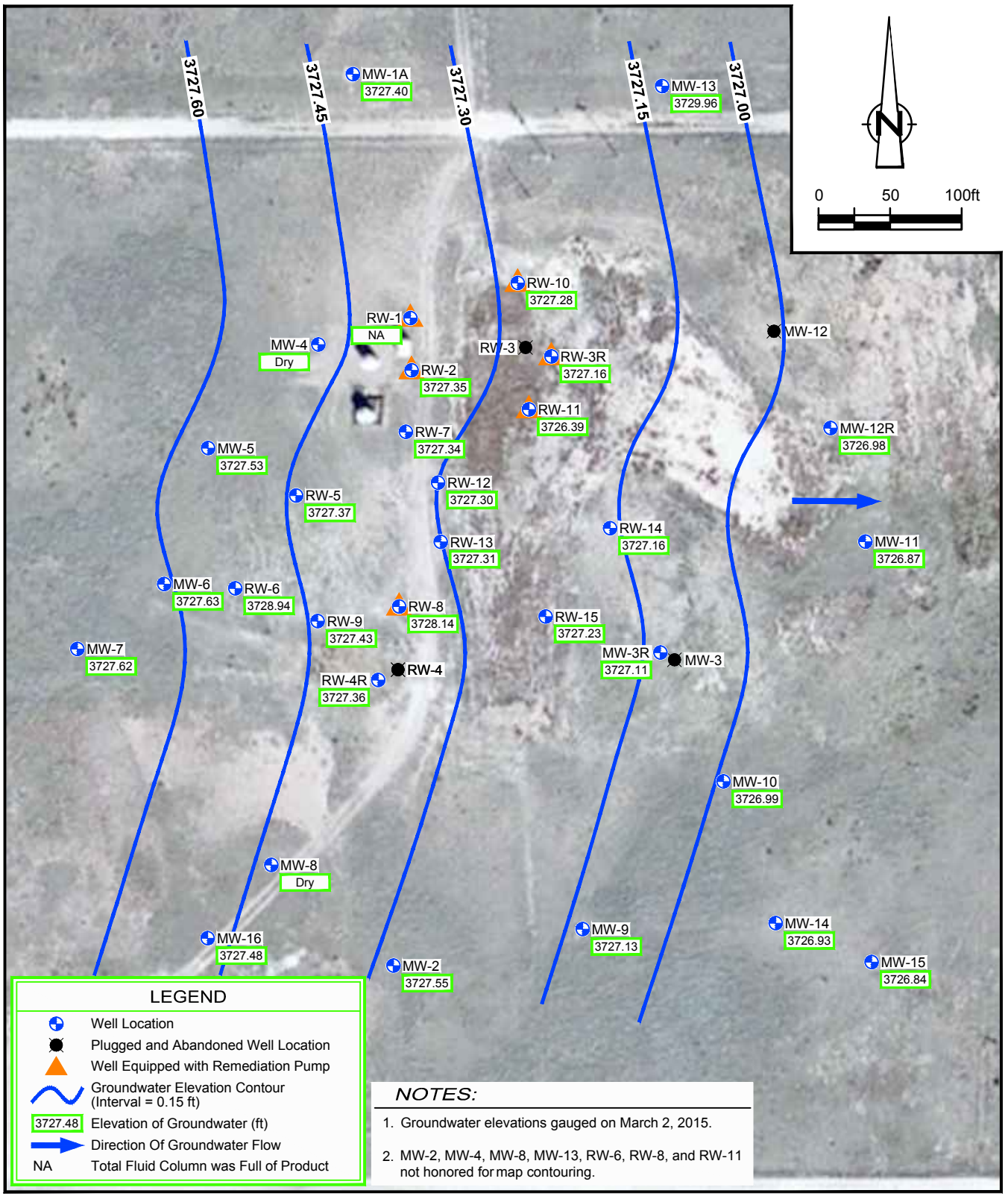

Figure 3

GROUNDWATER GRADIENT MAP - MARCH 2015
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

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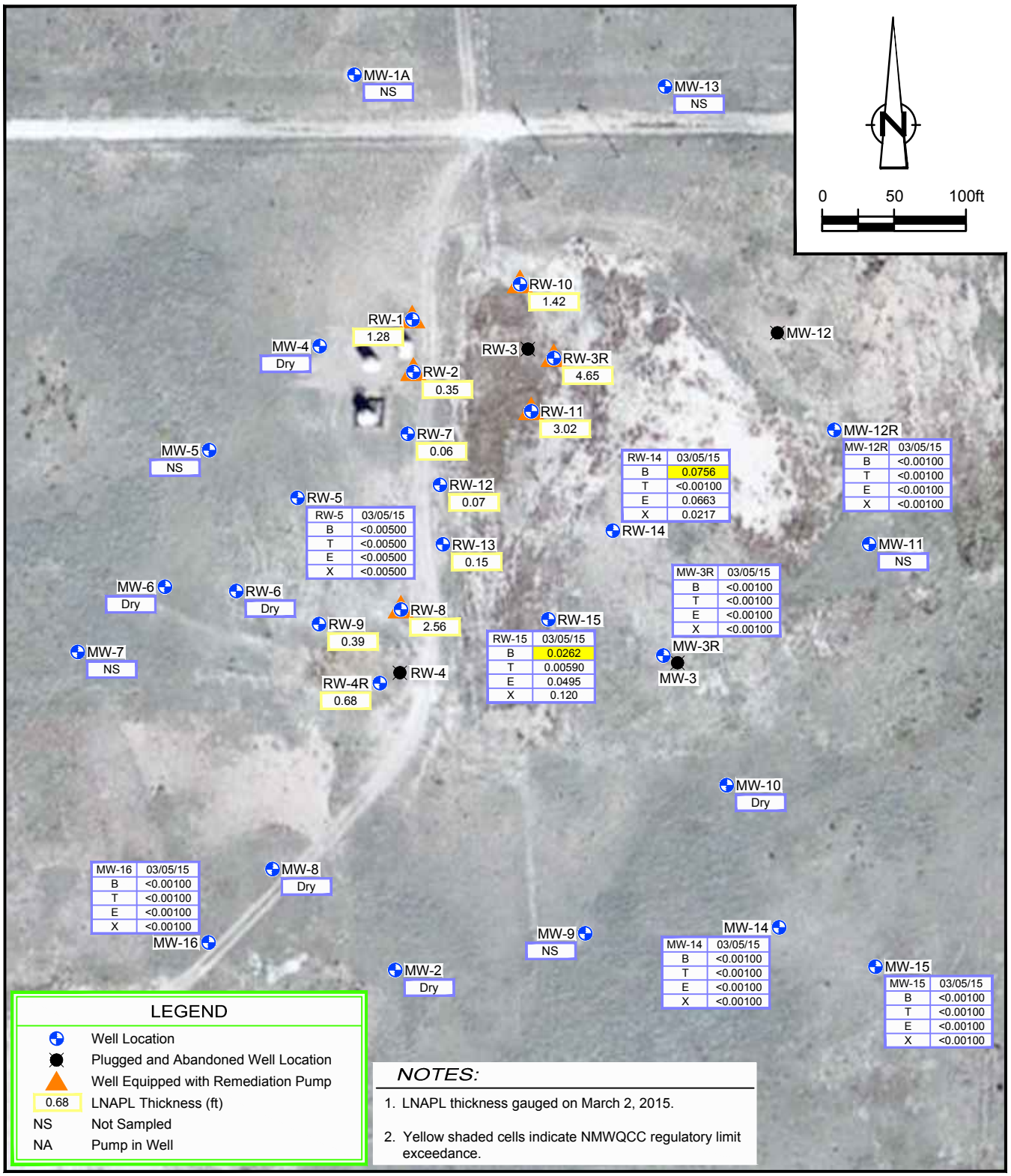

Figure 4

BTEX CONCENTRATION MAP - MARCH 2015
LNAPL THICKNESS AND GROUNDWATER
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

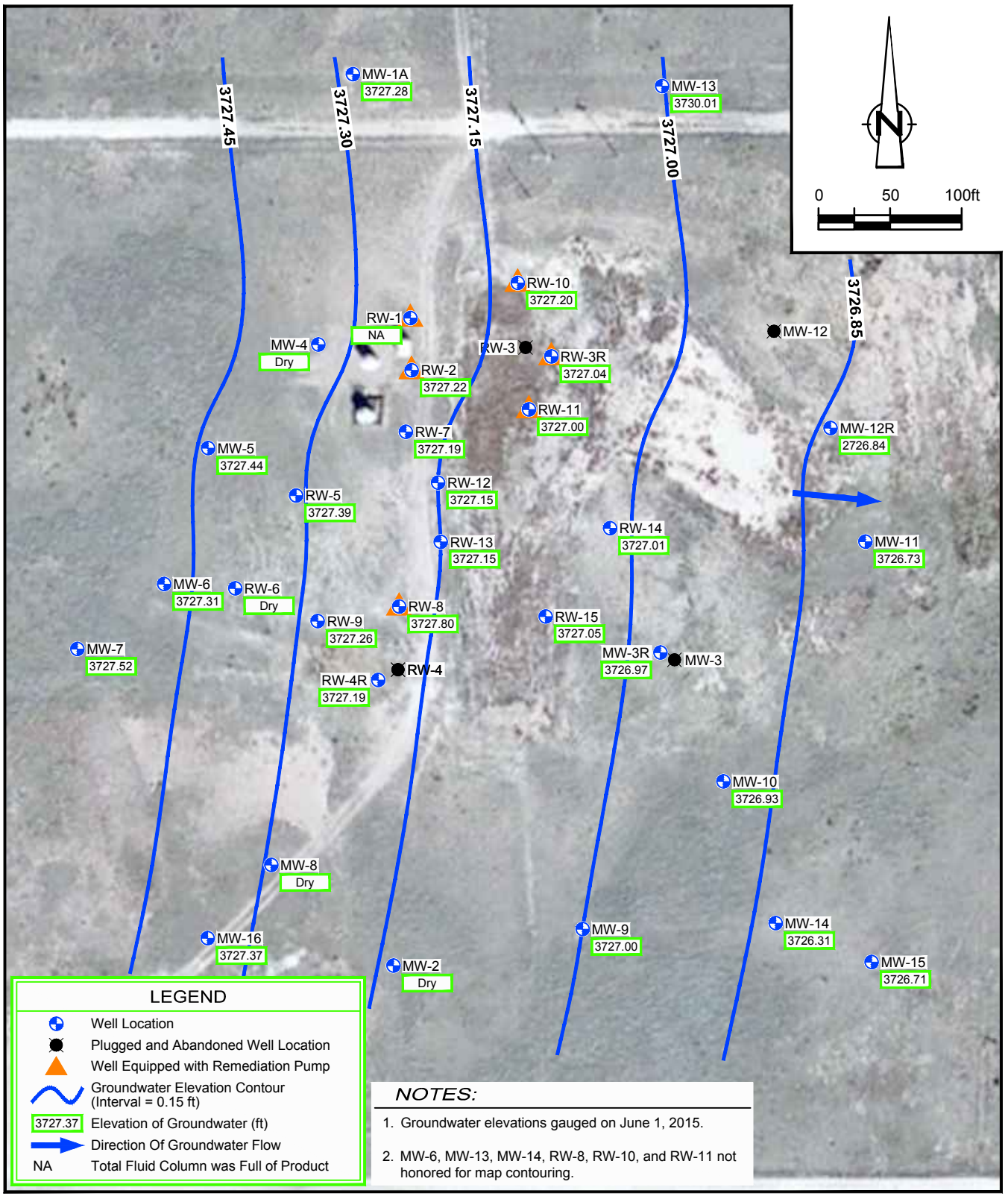

Figure 5

GROUNDWATER GRADIENT MAP - JUNE 2015
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

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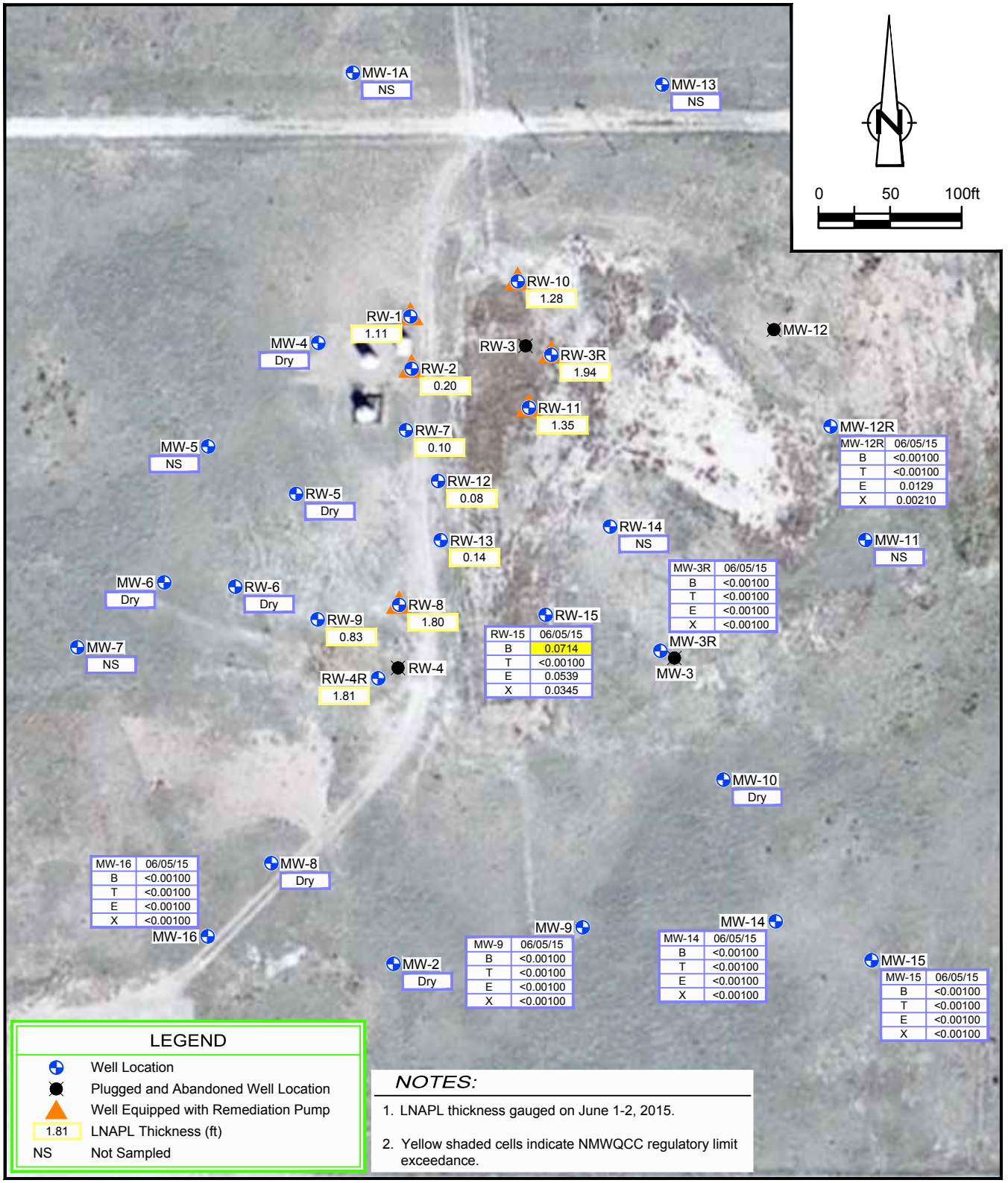

Figure 6

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - JUNE 2015
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

074684-02(006)GN-DL001 JUL 27/2015

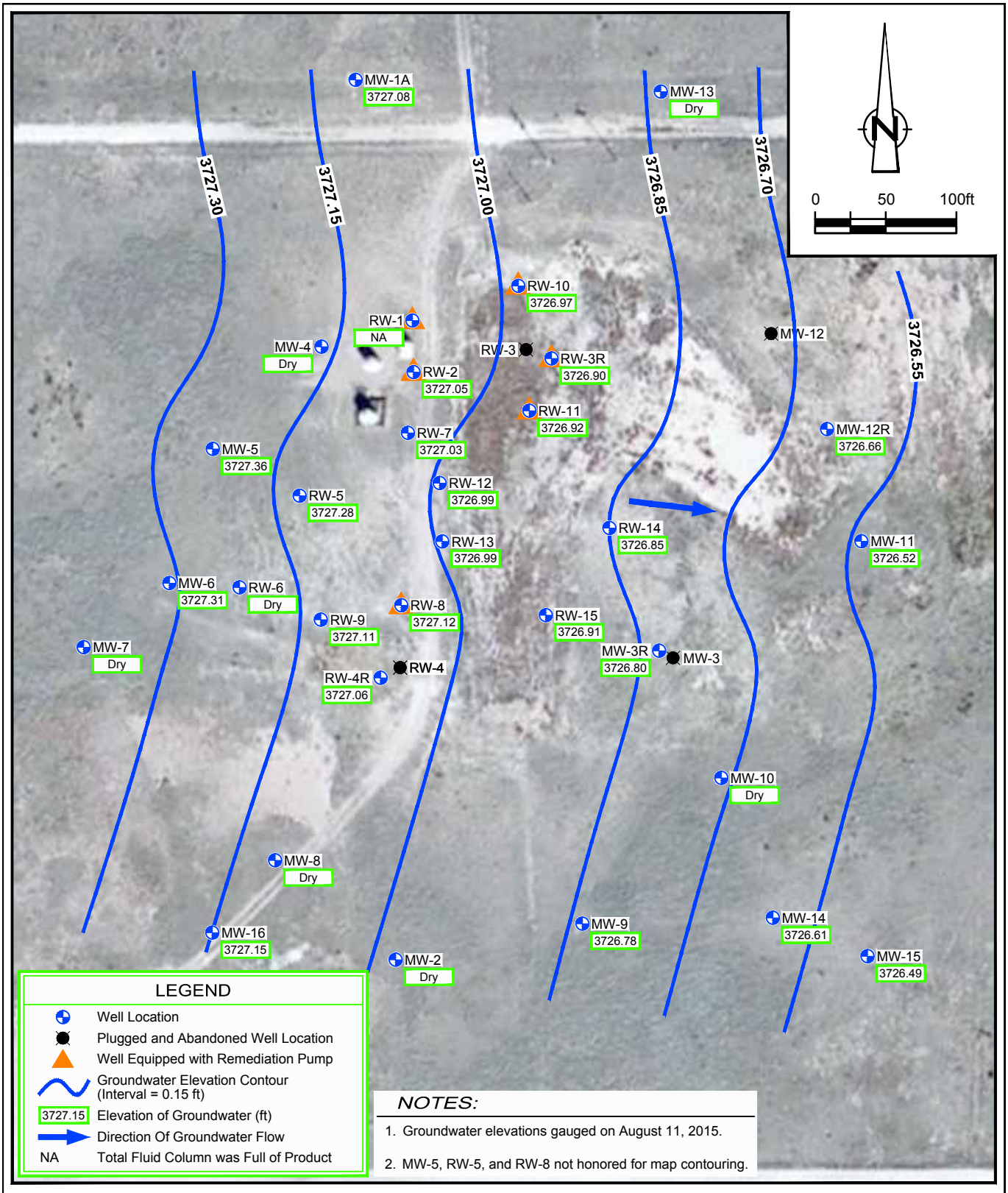

Figure 7

GROUNDWATER GRADIENT MAP - AUGUST 2015
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

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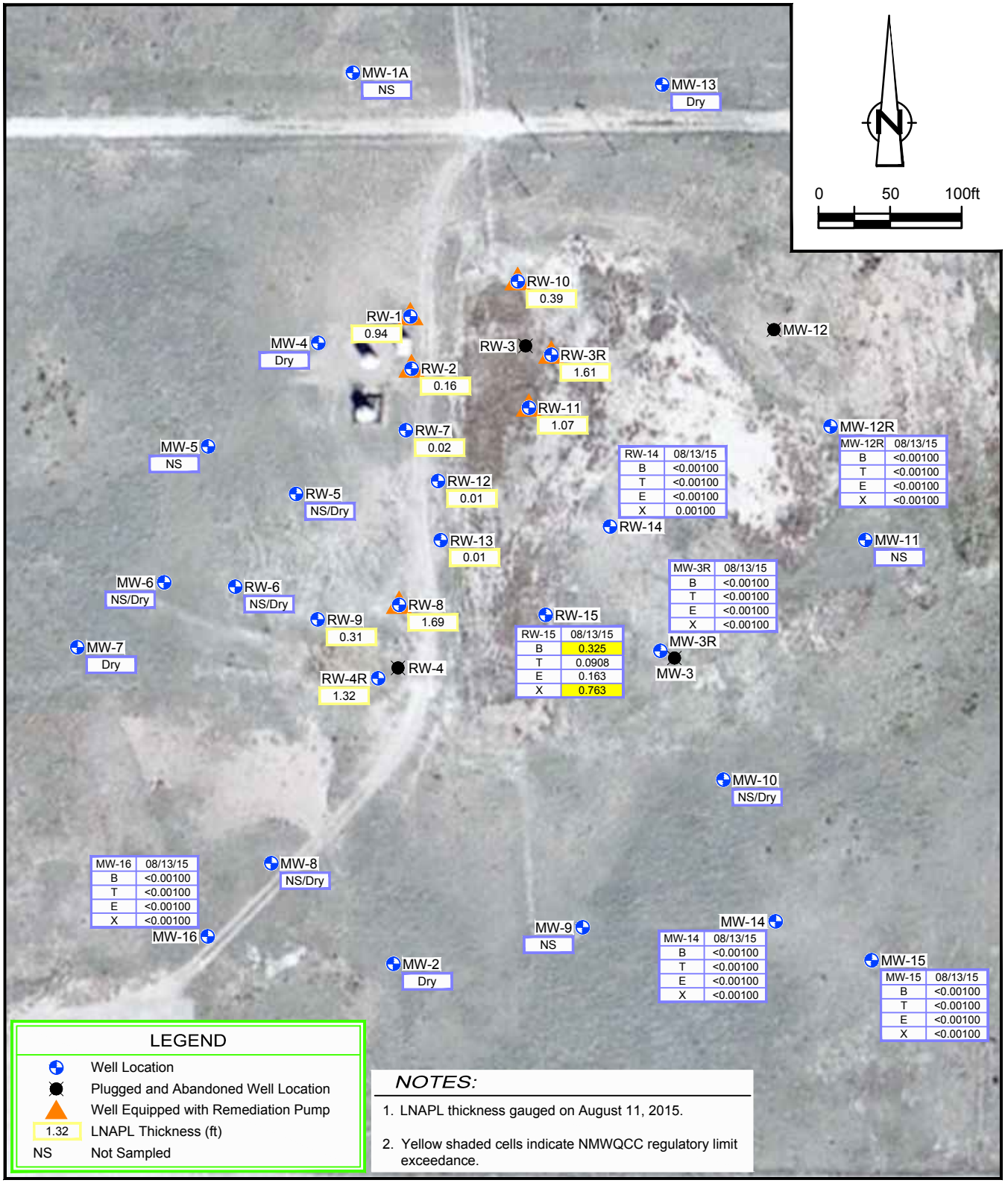

Figure 8

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - AUGUST 2015
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

074684-02(006)GN-DL001 MAR 23/2016

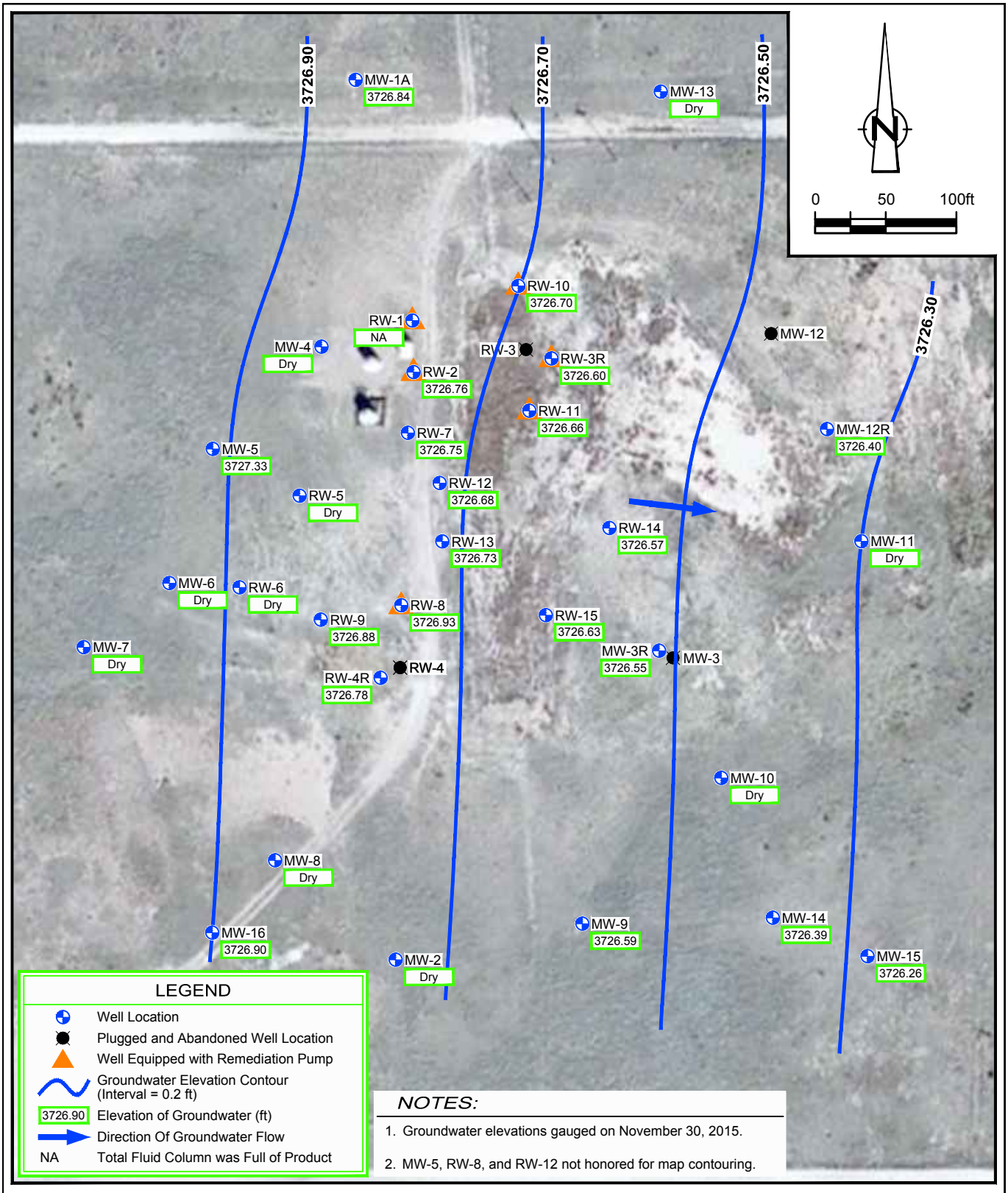

Figure 9

GROUNDWATER GRADIENT MAP - NOVEMBER 2015
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

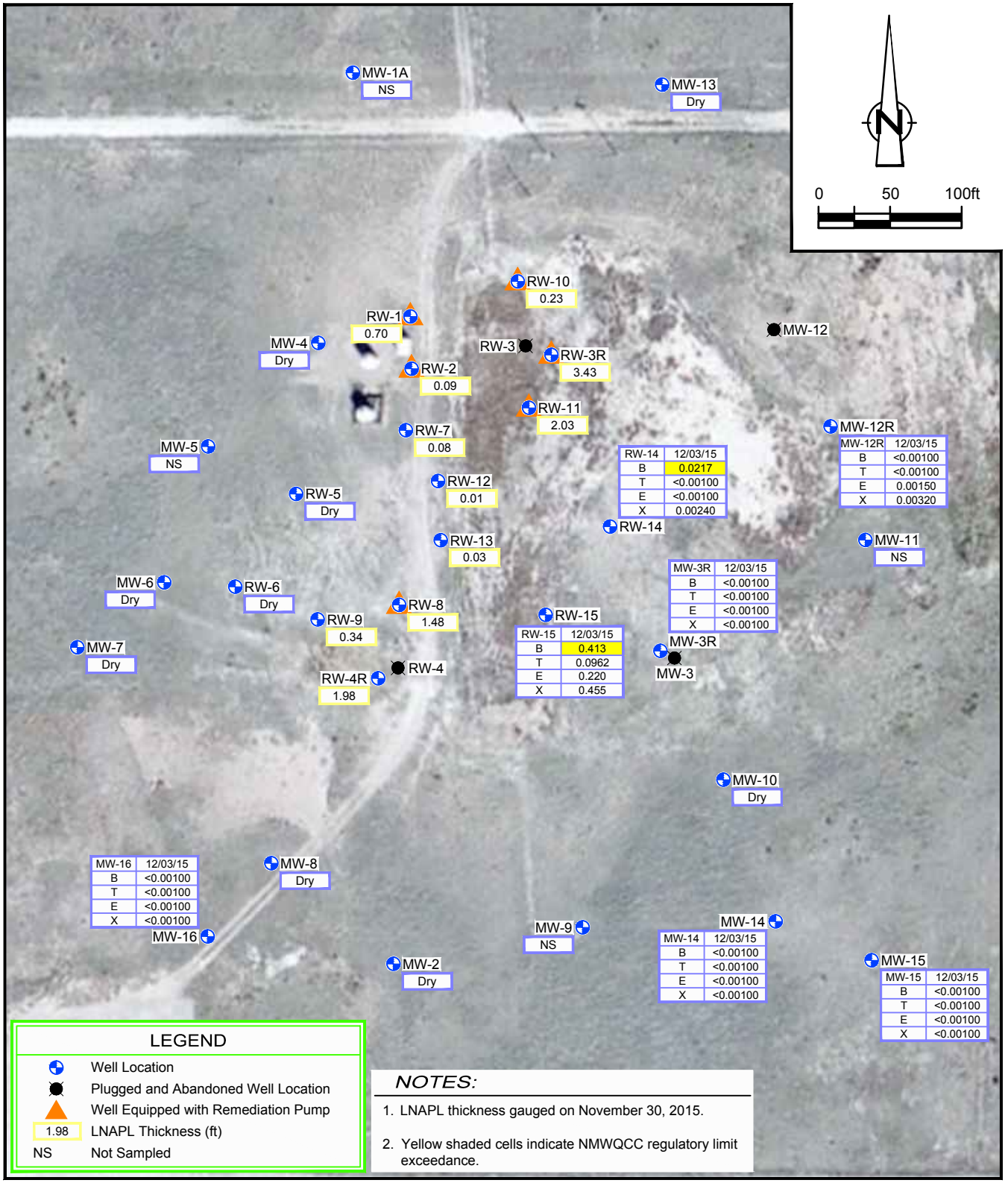

Figure 10

LNAPL THICKNESS AND GROUNDWATER
BTEX CONCENTRATION MAP - NOVEMBER 2015
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

GHD

Tables

TABLE 1
GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
MW-1A	6/15/11	70.49	---	---	---	74.12	40-65
	9/6/11	70.65	---	---	---	74.14	*2*
	11/29/11	70.83	---	---	---	74.15	
	3/5/12	70.97	---	---	---	74.12	
	6/5/12	71.15	---	---	---	74.15	
	9/10/12	71.33	---	---	---	74.15	
	12/3/12	71.50	---	---	---	74.20	
	3/4/13	71.66	---	---	---	74.10	
	5/28/13	71.85	---	---	---	---	
	8/27/13	72.05	---	---	---	74.18	
	11/12/13	72.17	---	---	---	74.17	
	2/24/14	73.26	---	---	---	74.15	
	5/27/14	72.58	---	---	---	74.15	
	9/2/14	72.75	---	---	---	74.15	
3800.59	11/18/14	72.95	---	---	3727.64	74.15	Surveyed on 11/11/14
	3/2/15	73.19	---	---	3727.40	74.19	
	6/1/15	73.31	---	---	3727.28	74.19	
	8/11/15	73.51	---	---	3727.08	74.19	
	11/30/15	73.75	---	---	3726.84	74.19	
MW-2	6/15/11	66.33	---	---	3730.00	68.80	41-66
3796.33	9/6/11	66.53	---	---	3729.80	68.85	*2*
	11/29/11	66.70	---	---	3729.63	68.90	
	3/5/12	66.81	---	---	3729.52	68.93	
	6/5/12	66.97	---	---	3729.36	68.85	
	9/10/12	67.15	---	---	3729.18	68.85	
	12/3/12	67.30	---	---	3729.03	68.81	
	3/4/13	67.46	---	---	3728.87	68.76	
	5/28/13	67.65	---	---	3728.68	---	
	8/27/13	67.84	---	---	3728.49	68.79	
	11/12/13		DRY			68.80	
	2/25/14		DRY			68.80	
	5/27/14	68.34	---	---	3727.99	68.80	
	9/2/14	68.55	---	---	3727.78	68.80	
	11/18/14		DRY			68.80	
	3/2/15	68.78	---	---	3727.55	68.79	
	6/1/15		DRY			68.79	
	8/11/15		DRY			68.79	
	11/30/15		DRY			68.79	
MW-3	6/15/11	68.39	---	---	3729.71	68.92	40-65
3798.10	9/6/11	68.55	---	---	3729.55	69.01	*2*
	11/29/11	68.72	---	---	3729.38	69.05	
	3/5/12	68.88	---	---	3729.22	69.08	
	6/5/12	68.95	---	---	3729.15	69.02	
	9/10/12		DRY			68.93	
	12/3/12		DRY			68.95	
	3/4/13		DRY			69.04	
	5/28/13		DRY			69.04	
	8/27/13		DRY			69.04	
	11/12/13		DRY			69.05	
	2/24/14		DRY			69.05	
	5/27/14		DRY			69.05	
	9/2/14		DRY			69.05	
	10/15/14		Plugged and Abandoned				

TABLE 1
GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
MW-3R	11/18/14	74.25	69.77	4.48	3727.18	85.12	
3797.80							Surveyed on 11/11/14
	3/2/15	70.69	---	---	3727.11	84.98	
	6/1/15	70.83	---	---	3726.97	84.98	
	8/11/15	71.00	---	---	3726.80	84.98	
	11/30/15	71.25	---	---	3726.55	84.98	
MW-4	6/15/11	67.65	---	---	3730.08	69.95	47-67
3797.73	9/6/11	67.82	---	---	3729.91	70.00	*2*
	11/29/11	68.00	---	---	3729.73	70.00	
	3/5/12	68.15	---	---	3729.58	70.00	
	6/5/12	68.32	---	---	3729.41	70.15	
	9/10/12	68.52	---	---	3729.21	70.11	
	12/3/12	68.61	---	---	3729.12	---	
	3/4/13	68.82	---	---	3728.91	70.14	
	5/28/13	69.00	---	---	3728.73	---	
	8/27/13	69.19	---	---	3728.54	70.04	
	11/12/13	69.33	---	---	3728.40	70.16	
	2/24/14	69.50	---	---	3728.23	70.15	
	5/27/14	69.71	---	---	3728.02	70.15	
	9/2/14	69.93	---	---	3727.80	70.15	
	11/18/14	70.06	---	---	3727.67	70.15	
	3/2/15		DRY			70.12	
	6/2/15		DRY			70.12	
	8/11/15		DRY			70.12	
	11/30/15		DRY			70.12	
MW-5	6/15/11	67.03	---	---	3730.20	70.00	47-67
3797.23	9/6/11	67.22	---	---	3730.01	70.07	*2*
	11/29/11	67.39	---	---	3729.84	70.10	
	3/5/12	67.55	---	---	3729.68	70.13	
	6/5/12	67.70	---	---	3729.53	70.06	
	9/10/12	67.87	---	---	3729.36	70.08	
	12/3/12	68.01	---	---	3729.22	70.15	
	3/4/13	68.22	---	---	3729.01	70.13	
	5/28/13	68.37	---	---	3728.86	---	
	8/27/13	68.56	---	---	3728.67	70.14	
	11/12/13	68.71	---	---	3728.52	70.14	
	2/24/14	68.90	---	---	3728.33	70.14	
	5/27/14	69.08	---	---	3728.15	70.14	
	9/2/14	69.29	---	---	3727.94	70.14	
	11/18/14	69.48	---	---	3727.75	70.14	
	3/2/15	69.70	---	---	3727.53	70.02	
	6/1/15	69.79	---	---	3727.44	70.02	
	8/11/15	69.87	---	---	3727.36	70.02	
	11/30/15	69.90	---	---	3727.33	70.02	
MW-6	6/15/11	66.28	---	---	3730.23	69.20	47-67
3796.51	9/6/11	66.50	---	---	3730.01	69.23	*2*
	11/29/11	66.65	---	---	3729.86	70.32	
	3/5/12	66.79	---	---	3729.72	70.30	
	6/5/12	66.95	---	---	3729.56	69.75	
	9/10/12	67.17	---	---	3729.34	69.21	
	12/3/12	67.28	---	---	3729.23	69.22	
	3/4/13	67.44	---	---	3729.07	69.20	
	5/28/13	67.61	---	---	3728.90	69.22	

TABLE 1
GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
MW-6	8/27/13	67.78	---	---	3728.73	69.22	
	11/12/13	67.96	---	---	3728.55	69.29	
	2/24/14	68.15	---	---	3728.36	69.25	
	5/27/14	68.31	---	---	3728.20	69.25	
	9/2/14	68.57	---	---	3727.94	69.25	
	11/18/14	68.71	---	---	3727.80	69.25	
	3/2/15	68.88	---	---	3727.63	69.27	
	6/1/15	69.20	---	---	3727.31	69.27	
	8/11/15	69.20	---	---	3727.31	69.27	
	11/30/15		DRY			69.27	
MW-7	6/15/11	65.86	---	---	3730.30	68.73	47-67
3796.16	9/6/11	66.05	---	---	3730.11	67.75	*2*
	11/29/11	66.22	---	---	3729.94	68.80	
	3/5/12	66.34	---	---	3729.82	68.80	
	6/5/12	66.52	---	---	3729.64	68.85	
	9/10/12	66.72	---	---	3729.44	68.76	
	12/3/12	66.89	---	---	3729.27	68.81	
	3/4/13	67.05	---	---	3729.11	68.77	
	5/28/13		DRY			68.80	
	8/27/13	67.39	---	---	3728.77	68.79	
	11/12/13	67.54	---	---	3728.62	68.81	
	2/24/14	67.72	---	---	3728.44	68.75	
	5/27/14	67.90	---	---	3728.26	68.75	
	9/3/14	68.14	---	---	3728.02	68.75	
	11/18/14	68.31	---	---	3727.85	68.75	
	3/2/15	68.54	---	---	3727.62	68.83	
	6/1/15	68.64	---	---	3727.52	68.83	
	8/11/15		DRY			68.83	
	11/30/15		DRY			68.83	
MW-8	6/15/11	65.82	---	---	3730.07	66.31	47-67
3795.89	9/6/11	66.02	---	---	3729.87	66.35	*2*
	11/29/11	66.20	---	---	3729.69	66.51	
	3/5/12	66.32	66.29	0.03	3729.59	66.55	
	6/5/12	66.50	66.46	0.04	3729.42	66.51	
	9/10/12		DRY			66.50	
	12/3/12		DRY			66.52	
	3/4/13		DRY			66.53	
	5/28/13		DRY			66.62	
	8/27/13		DRY			66.64	
	11/12/13		DRY			66.85	
	2/24/14		DRY			66.65	
	5/27/14		DRY			66.65	
	9/2/14		DRY			66.65	
	11/18/14		DRY				
	3/2/15		DRY			66.76	
	6/1/15		DRY			66.76	
	8/11/15		DRY			66.76	
	11/30/15		DRY			66.76	
MW-9	6/15/11	65.93	---	---	3729.73	69.18	47-67
3795.66	9/6/11	66.11	---	---	3729.55	69.22	*2*
	11/29/11	66.28	---	---	3729.38	69.24	
	3/5/12	66.41	---	---	3729.25	69.27	
	6/5/12	66.58	---	---	3729.08	69.70	

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PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
MW-9	9/10/12	66.82	---	---	3728.84	69.31	
	12/3/12	66.93	---	---	3728.73	69.45	
	3/4/13	67.06	---	---	3728.60	69.30	
	5/28/13	67.24	---	---	3728.42	69.32	
	8/27/13	67.40	---	---	3728.26	68.40	
	11/12/13	67.55	---	---	3728.11	69.41	
	2/24/14	67.72	---	---	3727.94	69.40	
	5/27/14	67.92	---	---	3727.74	69.40	
	9/2/14	68.13	---	---	3727.53	69.40	
	11/18/14	68.30	---	---	3727.36	69.40	
	3/2/15	68.53	---	---	3727.13	69.48	
	6/2/15	68.66	---	---	3727.00	69.48	
	8/11/15	68.88	---	---	3726.78	69.48	
	11/30/15	69.07	---	---	3726.59	69.48	
MW-10	6/15/11	66.63	---	---	3729.60	69.20	47-67
3796.23	9/6/11	66.80	---	---	3729.43	69.28	*2*
	11/29/11	66.97	---	---	3729.26	70.40	
	3/5/12	67.11	---	---	3729.12	70.40	
	6/5/12	67.26	---	---	3728.97	69.40	
	9/10/12	66.51	---	---	3729.72	69.46	
	12/3/12	67.60	---	---	3728.63	69.55	
	3/4/13	67.78	---	---	3728.45	69.48	
	5/28/13	67.93	---	---	3728.30	69.45	
	8/27/13	68.11	---	---	3728.12	69.52	
	11/12/13	68.27	---	---	3727.96	69.56	
	2/24/14		DRY			69.55	
	5/27/14	68.62	---	---	3727.61	69.55	
	9/3/14	68.82	---	---	3727.41	69.55	
	11/18/14	69.03	---	---	3727.20	69.55	
	3/2/15	69.24	---	---	3726.99	69.65	
	6/1/15	69.30	---	---	3726.93	69.56	
	8/11/15		DRY			69.59	
	11/30/15		DRY			69.65	
MW-11	6/15/11	67.11	---	---	3729.47	70.03	47-67
3796.58	9/6/11	67.28	---	---	3729.30	70.03	*2*
	11/29/11	67.45	---	---	3729.13	70.05	
	3/5/12	67.62	---	---	3728.96	70.08	
	6/5/12	67.76	---	---	3728.82	70.10	
	9/10/12	67.96	---	---	3728.62	70.11	
	12/3/12	68.10	---	---	3728.48	70.10	
	3/4/13	68.25	---	---	3728.33	70.06	
	5/28/13	68.42	---	---	3728.16	---	
	8/27/13	68.59	---	---	3727.99	70.09	
	11/12/13	68.75	---	---	3727.83	70.14	
	2/24/14		DRY			70.12	
	5/27/14	69.11	---	---	3727.47	70.12	
	9/2/14	69.31	---	---	3727.27	70.12	
	11/18/14	69.53	---	---	3727.05	70.12	
	3/2/15	69.71	---	---	3726.87	70.20	
	6/1/15	69.85	---	---	3726.73	70.20	
	8/11/15	70.06	---	---	3726.52	70.20	
	11/30/15		DRY			70.20	

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PLAINS PIPELINE, L.P.
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Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
MW-12	6/15/11	68.39	---	---	3729.64	69.74	47-67
3798.03	9/6/11	68.55	---	---	3729.48	69.74	*2*
	11/29/11	68.73	---	---	3729.30	69.75	
	3/5/12	68.88	---	---	3729.15	69.78	
	6/5/12	69.04	---	---	3728.99	69.70	
	9/10/12	69.20	---	---	3728.83	69.71	
	12/3/12		DRY			69.77	
	3/4/13	69.54	---	---	3728.49	69.63	
	5/28/13		DRY			69.60	
	8/27/13		DRY			69.65	
	11/12/13		DRY			69.66	
	2/24/14		DRY			69.63	
	5/27/14		DRY			69.63	
	9/2/14		DRY			69.63	
	10/15/14			Plugged and Abandoned			
MW-12R	11/18/14	70.80	---	---	3727.20	83.85	
3798.00							Surveyed on 11/11/14
	03/02/15	71.02	---	---	3726.98	83.19	
	06/01/15	71.16	---	---	3726.84	83.19	
	08/11/15	71.34	---	---	3726.66	83.19	
	11/30/15	71.60	---	---	3726.40	83.19	
MW-13	6/15/11	69.63	---	---	3730.02	69.72	47-67
3799.65	9/6/11	69.65	---	---	3730.00	69.74	*2*
	11/29/11	69.65	---	---	3730.00	69.75	
	3/5/12	69.67	---	---	3729.98	69.77	
	6/5/12	69.65	---	---	3730.00	69.72	
	9/10/12		DRY			69.72	
	12/3/12		DRY			69.75	
	3/4/13		DRY			69.74	
	5/28/13		DRY			69.73	
	8/27/13		DRY			69.75	
	11/12/13		DRY			69.76	
	2/24/14		DRY			69.75	
	5/27/14	69.67	---	---	3729.98	69.75	
	9/2/14	69.66	---	---	3729.99	69.75	
	11/18/14		Dry			69.75	
	3/2/15	69.69	---	---	3729.96	69.78	
	6/1/15	69.64	---	---	3730.01	69.71	
	8/11/15		DRY			69.71	
	11/30/15		DRY			69.78	
MW-14	6/15/11	66.68	---	---	3729.42	72.72	---
3796.10	9/6/11	66.76	---	---	3729.34	72.70	*2*
	11/29/11	66.95	---	---	3729.15	72.82	
	3/5/12	67.06	---	---	3729.04	72.86	
	6/5/12	67.26	---	---	3728.84	72.72	
	9/10/12	67.42	---	---	3728.68	72.66	
	12/3/12	67.66	---	---	3728.44	72.90	
	3/4/13	67.72	---	---	3728.38	72.65	
	5/28/13	67.88	---	---	3728.22	72.62	
	8/27/13	68.06	---	---	3728.04	72.61	
	11/12/13	68.21	---	---	3727.89	71.68	
	2/24/14	68.38	---	---	3727.72	72.71	
	5/27/14	68.56	---	---	3727.54	72.71	

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GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
MW-14	9/2/14	68.77	---	---	3727.33	72.71	
	11/18/14	69.00	---	---	3727.10	72.71	
	3/2/15	69.17	---	---	3726.93	72.69	
	6/1/15	69.79	---	---	3726.31	72.69	
	8/11/15	69.49	---	---	3726.61	72.69	
	11/30/15	69.71	---	---	3726.39	72.69	
MW-15	6/15/11	65.50	---	---	3730.46	72.75	---
3795.96	9/6/11	66.72	---	---	3729.24	72.92	*2*
	11/29/11	66.92	---	---	3729.04	73.15	
	3/5/12	67.03	---	---	3728.93	73.15	
	6/5/12	67.21	---	---	3728.75	73.00	
	9/10/12	67.36	---	---	3728.60	73.21	
	12/3/12	67.55	---	---	3728.41	73.20	
	3/4/13	67.68	---	---	3728.28	73.02	
	5/28/13	67.85	---	---	3728.11	73.05	
	8/27/13	68.02	---	---	3727.94	73.08	
	11/12/13	68.18	---	---	3727.78	73.04	
	2/24/14	68.34	---	---	3727.62	73.00	
	5/27/14	68.52	---	---	3727.44	73.00	
	9/2/14	68.73	---	---	3727.23	73.00	
	11/18/14	68.95	---	---	3727.01	73.00	
	3/2/15	69.12	---	---	3726.84	73.09	
	6/1/15	69.25	---	---	3726.71	73.09	
	8/11/15	69.47	---	---	3726.49	73.09	
	11/30/15	69.70	---	---	3726.26	73.09	
MW-16	6/15/11	65.81	---	---	3730.12	72.50	---
3795.93	9/6/11	66.03	---	---	3729.90	72.65	*2*
	11/29/11	66.19	---	---	3729.74	73.18	
	3/5/12	66.30	---	---	3729.63	73.20	
	6/5/12	66.46	---	---	3729.47	73.94	
	9/10/12	66.64	---	---	3729.29	74.02	
	12/3/12	66.80	---	---	3729.13	73.50	
	3/4/13	66.95	---	---	3728.98	73.89	
	5/28/13	67.11	---	---	3728.82	73.86	
	8/27/13	67.31	---	---	3728.62	73.89	
	11/12/13	67.46	---	---	3728.47	73.91	
	2/24/14	67.65	---	---	3728.28	70.90	
	5/27/14	67.83	---	---	3728.10	70.90	
	9/2/14	68.03	---	---	3727.90	70.90	
	11/18/14	68.22	---	---	3727.71	70.90	
	3/2/15	68.45	---	---	3727.48	73.95	
	6/1/15	68.56	---	---	3727.37	73.95	
	8/11/15	68.78	---	---	3727.15	73.95	
	11/30/15	69.03	---	---	3726.90	73.95	
RW-1	6/15/11	---	66.84	3.97	NA*	70.81	45-70
3797.66	9/6/11	70.08	67.30	2.78	3729.83	70.85	*4*
	11/29/11	69.91	67.55	2.36	3729.66	70.80	
	3/5/12	69.85	67.77	2.08	3729.49	70.85	
	6/5/12	---	67.55	3.25	NA*	70.80	
	9/10/12	---	67.59	3.22	NA*	70.81	
	12/4/12	---	68.12	2.73	NA*	70.85	
	3/4/13	---	68.00	2.85	NA*	70.85	
	5/28/13	---	68.12	2.73	NA*	70.85	

TABLE 1
GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
RW-1	8/27/13	---	68.30	2.58	NA*	70.88	
	11/12/13	---	68.49	2.41	NA*	70.90	
	2/24/14	---	68.70	2.20	NA*	70.90	
	5/27/14	---	69.09	1.95	NA*	71.04	
	9/2/14	---	69.34	1.73	NA*	71.07	
	11/18/14	---	69.53	1.77	NA*	71.30	
	3/2/15	---	69.82	1.28	NA*	71.10	
	6/2/15	---	69.99	1.11	NA*	71.10	
	8/11/15	---	69.96	0.94	NA*	70.90	
	11/30/15	---	70.40	0.70	NA*	71.10	
RW-2	6/15/11	67.95	67.51	0.44	3730.01	71.95	44-69
3797.60	9/6/11	68.62	67.57	1.05	3729.83	72.05	*4*
	11/29/11	70.68	67.35	3.33	3729.62	71.98	
	3/5/12	70.72	67.53	3.19	3729.46	71.99	
	6/5/12	70.28	67.92	2.36	3729.23	---	
	9/10/12	70.41	68.21	2.20	3728.97	72.10	
	12/4/12	70.01	68.25	1.76	3729.02	---	
	3/4/13	70.69	69.69	1.00	3727.72	---	
	6/4/13	70.71	69.85	0.86	3727.59	---	
	8/27/13	71.02	70.04	0.98	3727.37	---	
	11/12/13	70.66	69.78	0.88	3727.65	---	
	2/24/14	70.89	70.59	0.30	3726.95	---	
	5/27/14	---	68.92	3.17	NA*	72.09	
	7/8/14	---	69.00	3.20	NA*	72.20	
	7/24/14	69.92	69.65	0.27	3727.90	72.20	
	9/2/14	71.16	69.58	0.58	3726.91	72.10	
	11/18/14		NS				
	3/2/15	70.53	70.18	0.35	3727.35	---	
	6/2/15	70.54	70.34	0.20	3727.22	---	
	8/11/15	70.68	70.52	0.16	3727.05	---	
	11/30/15	70.91	70.82	0.09	3726.76	---	
RW-3	6/15/11	68.07	67.76	0.31	3730.99	68.25	44-69
3798.81	9/6/11	68.20	68.12	0.08	3730.67	68.29	*4*
	11/29/11		DRY				
	3/5/12	68.24	---	---	3730.57	68.29	
	6/5/12		DRY			68.08	
	7/10/12		DRY			68.00	
	12/4/12		DRY			---	
	3/4/13		DRY			68.27	
	5/28/13		DRY			68.25	
	8/27/13		DRY			68.30	
	11/12/13		DRY			68.31	
	2/24/14		DRY			68.32	
	5/27/14	68.10	---	---	3730.71	68.29	
	9/2/14	68.10	---	---	3730.71	68.29	
	10/15/14	Plugged and Abandoned					
RW-3R	11/18/14	74.20	69.75	4.45	3727.42	85.43	
3798.02							Surveyed on 11/11/14
	3/2/15	74.63	69.98	4.65	3727.16	---	
	6/2/15	72.55	70.61	1.94	3727.04	---	
	8/11/15	72.42	70.81	1.61	3726.90	---	
	11/30/15	74.20	70.77	3.43	3726.60	---	

TABLE 1
GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
RW-4	6/15/11	---	67.31	0.08	NA*	67.39	44-69
3798.34	9/6/11		DRY			67.43	*4*
	11/29/11		DRY			---	
	3/5/12		DRY			67.43	
	6/5/12		DRY			---	
	9/10/12		DRY			---	
	12/4/12		DRY			---	
	3/4/13		DRY			67.43	
	5/28/13		DRY			67.40	
	8/27/13		DRY			67.43	
	11/12/13		DRY			67.45	
	2/24/14		DRY			67.44	
	5/27/14		DRY			67.44	
	9/2/14		DRY			67.44	
	10/9/15			Plugged and Abandoned			
RW-4R	11/18/14	70.03	70.01	0.02	3727.60	85.42	
3797.61							Surveyed on 11/11/14
	3/2/15	70.80	70.12	0.68	3727.36	---	
	6/2/15	71.89	70.08	1.81	3727.19	---	
	8/11/15	71.62	70.30	1.32	3727.06	---	
	11/30/15	72.43	70.45	1.98	3726.78		
RW-5	6/15/11	67.48	---	---	3730.12	70.35	47-67
3797.60	9/6/11	67.66	---	---	3729.94	70.39	*4*
	11/29/11	67.84	---	---	3729.76	70.38	
	3/5/12	67.97	---	---	3729.63	70.39	
	6/5/12	68.27	---	---	3729.33	70.15	
	9/10/12	68.32	---	---	3729.28	70.32	
	12/4/12	68.50	---	---	3729.10	70.48	
	3/4/13	68.68	---	---	3728.92	70.36	
	5/28/13	68.83	68.80	0.03	3728.77	---	
	8/27/13	69.00	---	---	3728.60	70.40	
	11/12/13	69.16	---	---	3728.44	70.45	
	2/24/14	69.34	---	---	3728.26	70.44	
	5/27/14	69.54	---	---	3728.06	70.44	
	9/2/14	69.74	---	---	3727.86	70.44	
	11/18/14	69.90	---	---	3727.70	70.44	
	3/2/15	70.23	---	---	3727.37	70.47	
	6/1/15	70.21	---	---	3727.39	70.47	
	8/11/15	70.32	---	---	3727.28	70.47	
	11/30/15		DRY			70.47	
RW-6	6/15/11	67.84	66.94	0.90	3730.17	68.35	47-67
3797.28	9/6/11	67.84	67.45	0.39	3729.76	68.35	*4*
	11/29/11	67.65	---	---	3729.63	68.40	
	3/5/12	67.71	67.64	0.07	3729.63	68.41	
	6/5/12	68.12	---	---	3729.16	68.30	
	9/10/12	68.31	---	---	3728.97	68.34	
	12/4/12		DRY			68.31	
	3/4/13	68.31	---	---	3728.97	68.31	
	5/28/13		DRY			68.35	
	8/27/13		DRY			68.35	
	11/12/13		DRY			68.37	
	2/24/14	68.33	---	---	3728.95	68.38	
	5/27/14		DRY			68.38	

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GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
RW-6	9/2/14	68.34	---	---	3728.94	68.38	
	11/18/14		DRY			68.38	
	3/2/15	68.34	---	---	3728.94	68.40	
	6/1/15		DRY			68.33	
	8/11/15		DRY			68.33	
	11/30/15		DRY			68.33	
RW-7	6/15/11	68.92	67.13	1.79	3729.96	73.28	---
3797.43	9/6/11	68.30	67.49	0.81	3729.79	73.30	*4*
	11/29/11	67.87	67.86	0.01	3729.57	73.32	
	3/5/12	68.04	67.87	0.17	3729.53	73.44	
	6/5/12	68.17	68.12	0.05	3729.30	---	
	9/10/12	68.72	68.19	0.53	3729.14	73.31	
	12/4/12	68.75	68.40	0.35	3728.96	---	
	3/4/13	69.29	68.50	0.79	3728.78	---	
	5/28/13	69.42	68.67	0.75	3728.62	---	
	8/27/13	69.71	68.83	0.88	3728.43	---	
	11/12/13	69.95	68.95	1.00	3728.29	---	
	2/24/14	70.58	70.44	0.14	3726.96	---	
	5/27/14	69.49	69.44	0.05	3727.98	73.31	
	9/2/14	69.70	69.66	0.04	3727.76	73.31	
	11/18/14	69.90	69.83	0.07	3727.59	73.31	
	3/2/15	70.14	70.08	0.06	3727.34	---	
	6/2/15	70.32	70.22	0.10	3727.19	---	
	8/11/15	70.42	70.40	0.02	3727.03	---	
	11/30/15	70.74	70.66	0.08	3726.75	---	
RW-8	6/15/11	71.39	67.71	3.68	3729.92	72.80	---
3798.33	9/6/11	70.54	68.10	2.44	3729.77	72.94	*4*
	11/29/11	68.72	---	---	3729.61	73.00	
	3/5/12	68.85	68.83	0.02	3729.50	---	
	6/5/12	69.09	---	---	3729.24	72.95	
	9/10/12	69.20	---	---	3729.13	73.00	
	12/4/12	69.53	69.50	0.03	3728.82	73.30	
	3/4/13	69.73	69.48	0.25	3728.80	---	
	5/28/13	70.15	69.57	0.58	3728.65	---	
	8/27/13	71.13	69.60	1.53	3728.44	---	
	11/12/13	70.61	69.89	0.72	3728.30	---	
	2/24/14	72.20	71.74	0.46	3726.50	---	
	5/27/14	72.43	69.90	2.53	3727.95	73.30	
	7/8/14	72.52	69.75	2.77	3728.05	73.30	
	8/5/14	70.67	70.46	0.21	3727.83	73.30	
	9/2/14	71.34	70.43	0.91	3727.73	73.30	
	11/18/14			NS			
	3/2/15	72.26	70.70	1.56	3727.33	---	
	6/2/15	72.49	70.69	1.80	3727.30	---	
	8/11/15	72.58	70.89	1.69	3727.12	---	
	11/30/15	72.60	71.12	1.48	3726.93	---	
RW-9	6/15/11	71.69	67.11	4.58	3730.01	74.10	---
3797.99	9/6/11	71.04	67.45	3.59	3729.86	74.14	*4*
	11/29/11	68.86	68.43	0.43	3729.48	74.35	
	3/5/12	69.08	68.23	0.85	3729.60	74.38	
	6/5/12	69.15	68.90	0.25	3729.04	---	
	9/10/12	69.15	68.63	0.52	3729.26	74.23	
	12/4/12	69.77	68.72	1.05	3729.07	---	

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GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
RW-9	3/4/13	71.15	68.65	2.50	3728.87	---	
	5/28/13	71.00	68.88	2.12	3728.71	---	
	8/27/13	71.22	69.05	2.17	3728.53	---	
	11/12/13	70.93	69.27	1.66	3728.40	---	
	2/24/14	70.41	69.62	0.79	3728.22	---	
	5/27/14	71.55	69.56	1.99	3728.05	74.23	
	7/24/14	72.11	69.65	2.46	3727.87	74.23	
	8/5/14	70.45	69.98	0.47	3727.92	74.23	
	9/2/14	70.77	69.92	0.85	3727.91	74.23	
	11/18/14	71.49	70.10	1.39	3727.63	74.23	
	3/2/15	70.88	70.49	0.39	3727.43	---	
	6/2/15	71.40	70.57	0.83	3727.26	---	
	8/11/15	71.13	70.82	0.31	3727.11	---	
	11/30/15	71.39	71.05	0.34	3726.88	---	
RW-10	6/15/11	72.62	68.40	4.22	3729.90	73.49	---
3799.10	9/6/11	71.46	68.90	2.56	3729.71	72.60	*4*
	11/29/11	71.59	69.03	2.56	3729.58	73.50	
	3/5/12	70.72	69.48	1.24	3729.38	73.51	
	6/5/12	70.82	69.80	1.02	3729.11	---	
	9/10/12	71.95	69.66	2.29	3729.00	73.56	
	12/4/12	71.94	69.76	2.18	3728.93	---	
	3/4/13	73.17	69.44	3.73	3728.95	---	
	5/28/13	73.19	69.59	3.60	3728.83	---	
	8/27/13	73.10	69.78	3.32	3728.69	---	
	11/12/13	73.04	70.08	2.96	3728.46	---	
	2/24/14	73.07	70.46	2.61	3728.14	---	
	5/27/14	---	70.60	2.68	NA*	73.28	
	7/8/14	---	70.65	2.65	NA*	73.30	
	8/5/14	72.01	71.69	0.32	3727.35	73.28	
	9/2/14	---	70.72	2.32	NA*	73.04	
	11/18/14		NS				
	3/2/15	72.97	71.55	1.42	3727.28	---	
	6/2/15	72.94	71.66	1.28	3727.20	---	
	8/11/15	72.45	72.06	0.39	3726.97	---	
	11/30/15	72.59	72.36	0.23	3726.70	---	
RW-11	6/15/11	71.10	65.75	5.35	3729.88	71.10	---
3796.65	9/6/11		Pump Stuck			68.90	*4*
	11/29/11	71.35	66.16	5.19	3729.50	73.70	
	3/5/12	70.93	66.43	4.50	3729.37	73.70	
	6/5/12	69.62	66.94	2.68	3729.20	---	
	9/10/12	70.79	66.89	3.90	3729.02	73.21	
	12/4/12	70.10	67.25	2.85	3728.86	---	
	3/4/13	72.39	66.95	5.44	3728.67	---	
	5/28/13	72.72	67.08	5.64	3728.50	---	
	8/27/13	---	69.30	3.91	NA	73.21	
	11/12/13	70.72	67.94	2.78	3728.18	---	
	2/24/14	70.70	68.13	2.57	3728.03	---	
	5/27/14	---	67.82	5.08	NA*	72.90	
	7/8/14	---	67.88	4.92	n	72.80	
	8/5/14	69.35	68.86	0.49	3727.70	72.90	
	9/2/14	---	68.19	4.52	NA*	72.71	
	11/18/14			NS			
	3/2/15	72.71	68.69	4.02	3727.20	---	
	6/2/15	70.74	69.39	1.35	3727.00	---	

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PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*
RW-11	8/11/15	70.60	69.53	1.07	3726.92	---	
	11/30/15	71.63	69.60	2.03	3726.66	---	
RW-12	6/15/11	69.98	67.80	2.18	3729.92	72.83	---
3798.13	9/6/11	69.22	68.16	1.06	3729.77	72.84	*4*
	11/29/11	68.90	68.62	0.28	3729.46	72.85	
	3/5/12	68.80	68.63	0.17	3729.47	72.85	
	6/5/12	69.15	---	---	3728.98	77.70	
	9/11/12	69.23	69.00	0.23	3729.09	74.10	
	12/4/12	69.37	69.11	0.26	3728.97	---	
	3/4/13	69.93	69.22	0.71	3728.78	---	
	5/28/13	70.29	69.33	0.96	3728.62	---	
	8/27/13	70.14	69.62	0.52	3728.41	---	
	11/12/13	70.42	69.71	0.71	3728.29	---	
	2/24/14	70.96	70.85	0.11	3727.26	---	
	5/27/14	70.29	70.18	0.11	3727.93	74.10	
	9/2/14	70.51	70.38	0.13	3727.73	74.10	
	11/18/14	70.70	70.57	0.13	3727.54		
	3/2/15	70.89	70.82	0.07	3727.30	---	
	6/2/15	71.04	70.96	0.08	3727.15	---	
	8/11/15	71.15	71.14	0.01	3726.99	---	
	11/30/15	71.46	71.45	0.01	3726.68	---	
RW-13	6/15/11	69.52	68.38	1.14	3729.92	73.85	---
3798.52	9/6/11	69.04	68.85	0.19	3729.63	73.92	*4*
	11/29/11	68.95	---	---	3729.57	73.90	
	3/5/12	69.25	69.01	0.24	3729.46	---	
	6/5/12	69.55	69.45	0.10	3729.05	---	
	7/10/12	69.78	69.31	0.47	3729.12	74.00	
	12/4/12	69.86	69.50	0.36	3728.95	---	
	3/4/13	70.05	69.64	0.41	3728.80	---	
	5/28/13	70.47	69.76	0.71	3728.63	---	
	8/27/13	70.72	69.98	0.74	3728.40	---	
	11/12/13	70.84	70.12	0.72	3728.26	---	
	2/24/14	70.54	70.36	0.18	3728.13	---	
	5/27/14	70.77	70.55	0.22	3727.93	74.00	
	9/2/14	70.99	70.76	0.23	3727.72	74.00	
	11/18/14	71.20	70.95	0.25	3727.52	74.00	
	3/2/15	71.33	71.18	0.15	3727.31	---	
	6/2/15	71.48	71.34	0.14	3727.15	---	
	8/11/15	71.54	71.53	0.01	3726.99	---	
	11/30/15	71.81	71.78	0.03	3726.73	---	
RW-14	11/18/14	70.70	---	---	3727.37	85.39	---
3798.07							Surveyed on 11/11/14
	3/2/15	70.91	70.91		3727.16	87.35	Sheen
	6/2/15	71.06	---	---	3727.01	87.35	
	8/11/15	71.22	---	---	3726.85	87.35	
	11/30/15	71.50	---	---	3726.57	87.35	
RW-15	11/18/14	70.71	---	---	3727.45	85.57	---
3798.16							Surveyed on 11/11/14
	3/2/15	70.93	---	---	3727.23	86.70	
	6/2/15	71.11	---	---	3727.05	86.70	
	8/11/15	71.25	---	---	3726.91	86.70	
	11/30/15	71.53	---	---	3726.63	86.70	

TABLE 1
GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC)*	*Depth to LNAPL (ft TOC)*	*LNAPL Thickness (ft)*	*Corrected Groundwater Elevation (ft)*	*Well Depth (ft TOC)*	Well Screen Interval (ft bgs) *Well Size (in)*

Notes:

1. TOC - Top of Casing.
2. LNAPL - Light non-aqueous phase liquid.
3. bgs - below ground surface.
4. *Corrected groundwater elevations were calculated using an LNAPL specific gravity of 0.81 if LNAPL present in well.
5. NA - Total fluids column was product.
6. NS - No sample collected due to lack of water column or pump in well.

TABLE 2
GROUNDWATER BTEX ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	*Sample Date*	*Benzene*	*Toluene*	*Ethyl-Benzene*	*Total Xylenes*
New Mexico Oil Conservation Division Regulatory Limits					
		0.01	*0.75*	*0.75*	*0.62*
MW-1A	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
MW-2	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
MW-3	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100
MW-3R	3/5/15	<0.00100	<0.00100	<0.00100	<0.00100
DUP-2	3/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	6/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	8/13/15	<0.00100	<0.00100	<0.00100	<0.00100
	12/3/15	<0.00100	<0.00100	<0.00100	<0.00100
MW-4	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
MW-5	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
MW-6	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	2/27/14	<0.00100	<0.00100	<0.00100	<0.00300
	5/29/14	<0.00100	<0.00100	<0.00100	<0.00300
	9/3/14	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
MW-7	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
MW-8	3/2/11	<0.00100	<0.00100	**0.00760**	**0.0210**
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100

TABLE 2
GROUNDWATER BTEX ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	*Sample Date*	*Benzene*	*Toluene*	*Ethyl-Benzene*	*Total Xylenes*
New Mexico Oil Conservation Division Regulatory Limits					
		0.01	***0.75***	***0.75***	***0.62***
MW-8	9/13/11	<0.00100	<0.00100	<0.00100	**0.00700**
MW-9	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	5/29/14	<0.00100	<0.00100	**0.00110**	**0.00390**
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
	6/5/15	<0.00100	<0.00100	<0.00100	<0.00100
MW-10	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	5/29/14	<0.00100	<0.00100	<0.00100	<0.00300
	9/3/14	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
MW-11	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	9/3/14	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
MW-12	12/1/11	**0.210**	<0.00500	**0.0147**	<0.00500
	6/7/12	**0.303**	0.134	**0.397**	**1.2**
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
MW-12R	3/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	6/5/15	<0.00100	<0.00100	**0.0129**	**0.00210**
	8/13/15	<0.00100	<0.00100	<0.00100	<0.00100
	12/3/15	<0.00100	<0.00100	**0.0015**	**0.00320**
MW-14	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100

TABLE 2
GROUNDWATER BTEX ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	*Sample Date*	*Benzene*	*Toluene*	*Ethyl-Benzene*	*Total Xylenes*
New Mexico Oil Conservation Division Regulatory Limits					
		0.01	*0.75*	*0.75*	*0.62*
MW-14	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	2/27/14	<0.00100	<0.00100	<0.00100	<0.00300
	5/29/14	<0.00100	<0.00100	<0.00100	<0.00300
	9/3/14	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
	3/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	6/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	8/13/15	<0.00100	<0.00100	<0.00100	<0.00100
	12/3/15	<0.00100	<0.00100	<0.00100	<0.00100
MW-15	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	2/27/14	<0.00100	<0.00100	<0.00100	<0.00300
	5/29/14	<0.00100	<0.00100	<0.00100	<0.00300
	9/3/14	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
	3/5/15	<0.00100	<0.00100	<0.00100	<0.00100
DUP-1	3/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	6/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	8/13/15	<0.00100	<0.00100	<0.00100	<0.00100
	12/3/15	<0.00100	<0.00100	<0.00100	<0.00100
MW-16	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100

TABLE 2
GROUNDWATER BTEX ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	*Sample Date*	*Benzene*	*Toluene*	*Ethyl-Benzene*	*Total Xylenes*
New Mexico Oil Conservation Division Regulatory Limits					
		0.01	*0.75*	*0.75*	*0.62*
MW-16	2/27/14	<0.00100	<0.00100	<0.00100	<0.00300
	5/29/14	<0.00100	<0.00100	<0.00100	<0.00300
	9/3/14	<0.00100	<0.00100	<0.00100	<0.00100
	11/20/14	<0.00100	<0.00100	<0.00100	<0.00100
	3/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	6/5/15	<0.00100	<0.00100	<0.00100	<0.00100
	8/13/15	<0.00100	<0.00100	<0.00100	<0.00100
	12/3/15	<0.00100	<0.00100	<0.00100	<0.00100
RW-5	3/2/11	**0.00830**	<0.00100	**0.0206**	**0.0360**
	6/15/11	**0.0109**	<0.00100	<0.00100	<0.00100
	9/13/11	**0.0151**	**0.00850**	**0.247**	**0.382**
	12/1/11	<0.00100	**0.0478**	**0.354**	**0.758**
	3/7/12	**0.0548**	**0.0550**	**0.268**	**0.675**
	6/7/12	<0.00100	**0.0092**	**0.220**	**0.592**
	9/12/12	**0.0337**	<0.00100	**0.111**	**0.289**
	12/7/12	<0.00100	<0.00100	**0.0498**	**0.0488**
	3/7/13	<0.00100	<0.00100	**0.0294**	**0.0132**
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100
	2/27/14	<0.00100	<0.00100	**0.0072**	<0.00300
	5/29/14	**0.00100**	<0.00100	**0.00250**	<0.00300
	9/3/14	<0.00100	<0.00100	**0.00140**	**0.00780**
	3/5/15	<0.00500	<0.00500	<0.00500	<0.00500
RW-6	12/1/11	**0.0794**	**0.129**	**0.639**	**1.75**
RW-8	12/1/11	**1.21**	**1.57**	**0.685**	**2.55**
	6/7/12	**1.55**	**0.184**	**0.520**	**1.90**
RW-12	6/7/12	**0.303**	**0.134**	**0.397**	**1.20**
RW-13	3/2/11	**1.21**	**0.910**	**0.914**	**2.15**
	12/1/11	**1.08**	**0.219**	**0.311**	**0.776**
RW-14	11/20/14	**0.052**	<0.00100	**0.0493**	**0.0123**
	3/5/15	**0.0756**	<0.00100	**0.0663**	**0.0217**
	8/13/15	<0.00100	<0.00100	<0.00100	**0.00100**
	12/3/15	**0.0217**	<0.00100	<0.00100	**0.00240**
RW-15	11/20/14	**0.0101**	**0.0117**	**0.0122**	**0.128**
	3/5/15	**0.0262**	**0.0059**	**0.0495**	**0.120**
	6/5/15	**0.0714**	<0.00100	**0.0539**	**0.0345**
DUP-1	6/5/15	**0.0823**	<0.00100	**0.0726**	**0.0355**
	8/13/15	**0.325**	**0.0908**	**0.1630**	**0.763**

TABLE 2
GROUNDWATER BTEX ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	*Sample Date*	*Benzene*	*Toluene*	*Ethyl-Benzene*	*Total Xylenes*
New Mexico Oil Conservation Division Regulatory Limits					
		0.01	*0.75*	*0.75*	*0.62*
RW-15	8/13/15	**0.315**	**0.0887**	**0.1760**	**0.761**
	12/3/15	**0.413**	**0.0962**	**0.2200**	**0.455**
DUP-1	12/3/15	**0.422**	**0.1050**	**0.1780**	**0.423**

Notes:

1. Shaded cells indicate New Mexico Oil Conservation Division Regulatory Limit exceedances.
2. **Bold** indicates detection.
3. BTEX analyses by EPA Method 8021B.
4. Results shown in mg/L.
5. March 2011 analytical results collected by NOVA.

TABLE 3
GROUNDWATER PAH ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Napthalene	1-Methylnapthalene	2-Methylnapthalene	Dibenzofuran
NMWQCC Drinking Water Standards Section 1-101.UU and 3-103.A					0.001	0.007	0.002		0.002	0.002	0.003			0.004			0.03			
MW-1A	12/3/08	<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
	12/1/09	<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	**0.000974**	<0.000183	<0.000183	<0.000183
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	11/20/14	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.000195	<0.00195	<0.000195	<0.000195
	12/3/15	Not sampled due to insufficient water column																		
MW-2	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-3	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-3R	11/20/14	Not sampled due to LNAPL present in well																		
	12/3/15	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199
MW-4	12/3/08	<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	0.000209	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-5	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-6	12/3/08	<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	**0.000391**	<0.000183	<0.000183	<0.000183	<0.000183	**0.000285**
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/1/11	<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	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-8	12/3/08	<0.000192	<0.000192	<0.000192	<0.000192	<0.000192	<0.000192	<0.000192	<0.000192	<0.000192	<0.000192	<0.000192	**0.00604**	<0.000192	**0.00597**	<0.000192	**0.00205**	**0.0108**	**0.00967**	**0.00451**
	12/1/09	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	**0.0617**	<0.000917	**0.00241**	<0.000917	<0.000917	<0.000917	<0.000917	**0.00402**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		

TABLE 3
GROUNDWATER PAH ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Napthalene	1-Methylnapthalene	2-Methylnapthalene	Dibenzofuran
NMWQCC Drinking Water Standards Section 1-101.UU and 3-103.A					0.001	0.007	0.002		0.002	0.002	0.003			0.004			0.03			
MW-9	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-10	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-11	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-12	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-12R	11/20/14	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199
	12/3/15	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.000199
MW-13	12/3/08	<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
	12/1/09	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201	<0.000201
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-14	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-15	12/3/08	<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
	12/2/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
MW-16	12/3/08	<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
	12/1/09	<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
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
RW-1	12/3/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.00669**	<0.000184	**0.0084**	<0.000184	**0.0278**	**0.0518**	**0.0478**	**0.00414**
	12/2/09	Not sampled due to insufficient water volume																		
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
RW-2	12/3/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.019**	<0.000184	**0.0227**	<0.000184	**0.0656**	**0.166**	**0.153**	**0.0115**
	12/2/09	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	<0.00461	**0.248**	<0.00461	**0.336**	<0.00461	**0.808**	**2.17**	**3.02**	**0.145**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		

TABLE 3
GROUNDWATER PAH ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Napthalene	1-Methylnapthalene	2-Methylnapthalene	Dibenzofuran
NMWQCC Drinking Water Standards Section 1-101.UU and 3-103.A																				
					0.001	0.007	0.002		0.002	0.002	0.003			0.004			0.03			
RW-3	12/3/08	Not sampled due to insufficient water volume																		
	12/2/09	Not sampled due to insufficient water volume																		
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
RW-3R	11/20/14	Not sampled due to LNAPL present in well																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-4	12/3/08	Not sampled due to insufficient water volume																		
	12/2/09	Not sampled due to insufficient water volume																		
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
RW-4R	11/20/14	Not sampled due to LNAPL present in well																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-5	12/3/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.00148**	<0.000183	0.000841	<0.000183	**0.0254**	**0.0160**	**0.0144**	**0.00133**
	12/2/09	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	<0.000187	**0.00763**	**0.00624**	**0.00263**	**0.000674**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/7/12	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	0.00213	<0.000190	0.013	**0.0137**	**0.00994**	**0.00171**
	12/3/15	DRY																		
RW-6	12/3/08	Not sampled due to insufficient water volume																		
	12/2/09	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.00340**	<0.000183	**0.00476**	<0.000183	**0.0382**	**0.0445**	**0.0553**	**0.00257**
	11/23/10	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.00513**	<0.000183	<0.000183	<0.000183	**0.0486**	**0.0529**	**0.0633**	**0.00378**
	12/1/11	<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
	12/3/15	DRY																		
RW-7	12/3/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.0179**	<0.000184	**0.0232**	<0.000184	**0.0942**	**0.172**	**0.158**	**0.0118**
	12/2/09	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.0400**	<0.000183	**0.0570**	<0.000183	**0.172**	**0.408**	**0.506**	**0.0240**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-8	12/3/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.0128**	<0.000183	**0.0164**	<0.000183	**0.0496**	**0.115**	**0.106**	**0.00891**
	12/2/09	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.0106**	<0.000183	**0.0145**	<0.000183	**0.0534**	**0.102**	**0.128**	**0.00772**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-9	12/3/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.00907**	<0.000184	**0.0112**	<0.000184	**0.0574**	**0.0859**	**0.0791**	**0.00642**
	12/2/09	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	**0.0488**	<0.000917	**0.0679**	<0.000917	**0.215**	**0.473**	**0.625**	**0.0320**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/3/15	Not sampled due to LNAPL present in well																		

TABLE 3
GROUNDWATER PAH ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Napthalene	1-Methylnapthalene	2-Methylnapthalene	Dibenzofuran
NMWQCC Drinking Water Standards Section 1-101.UU and 3-103.A					0.001	0.007	0.002		0.002	0.002	0.003			0.004			0.03			
RW-10	12/3/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.0265**	<0.000183	**0.0346**	<0.000183	**0.121**	**0.279**	**0.257**	**0.0193**
	12/2/09	Not sampled due to insufficient water volume																		
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-11	12/3/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.0076**	<0.000184	**0.0093**	<0.000184	**0.053**	**0.066**	**0.0609**	**0.00494**
	12/2/09	Not sampled due to insufficient water volume																		
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-12	12/3/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.0193**	<0.000183	**0.0242**	<0.000183	**0.11**	**0.198**	**0.182**	**0.0143**
	12/2/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.0127**	<0.000184	**0.0182**	<0.000184	**0.049**	**0.112**	**0.141**	**0.0081**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-13	12/3/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.00409**	<0.000184	<0.000184	**0.0187**	<0.000184	**0.0234**	<0.000184	**0.0608**	**0.139**	**0.128**	**0.0131**
	12/2/09	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	**0.0013**	<0.000183	**0.00156**	<0.000183	**0.00094**	**0.00489**	**0.00337**	**0.000891**
	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
	12/3/15	Not sampled due to LNAPL present in well																		
RW-14	11/20/14	<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
	12/3/15	<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
RW-15	11/20/14	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190	<0.000190
	12/3/15	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	**0.00103**	<0.000200	**0.000442**	<0.000200	**0.00952**	**0.0111**	**0.00569**	**0.00098**

Notes:

1. Shaded cells indicate New Mexico Water Control Commission Limit exceedance.
2. **Bold** indicates detection.
3. PAH analyses by EPA Method 8270.
4. Results shown in mg/L.
5. 2008 through 2010 analytical results collected by NOVA.

TABLE 4

COLOR CODED TABLE (PSH, BENZENE AND CLEAN WELLS)

PLAINS PIPELINE, L.P.

DARR ANGELL NO. 4

LEA COUNTY, NEW MEXICO

	PSH (feet)			Benzene (mg/L)	Clean				
	MW-1A	MW-2	MW-3	MW-3R	MW-4	MW-5	MW-6	MW-7	MW-8
1st Quarter 2010	NSC	NSC			NSC	NSC		NSC	
2nd Quarter 2010	NSC	NSC			NSC	NSC		NSC	
3rd Quarter 2010	NSC	NSC			NSC	NSC		NSC	
4th Quarter 2010									
1st Quarter 2011	NSC	NSC			NSC	NSC		NSC	
2nd Quarter 2011 *	NSC	NSC			NSC	NSC		NSC	
3rd Quarter 2011	NSC	NSC			NSC	NSC		NSC	
4th Quarter 2011			---						---
1st Quarter 2012	NSC	NSC	---		NSC	NSC		NSC	0.03
2nd Quarter 2012	NSC	NSC	NS		NSC	NSC		NSC	
3rd Quarter 2012	NSC	NSC	DRY		NSC	NSC		NSC	DRY
4th Quarter 2012			DRY						DRY
1st Quarter 2013	NSC	NSC	DRY		NSC	NSC		NSC	DRY
2nd Quarter 2013	NSC	NSC	DRY		NSC	NSC		NSC	DRY
3rd Quarter 2013	NSC	NSC	DRY		NSC	NSC		NSC	DRY
4th Quarter 2013		DRY	DRY						DRY
1st Quarter 2014	NSC	DRY	DRY		NSC	NSC		NSC	DRY
2nd Quarter 2014	NSC	NSC	DRY		NSC	NSC		NSC	DRY
3rd Quarter 2014	NSC	NSC	DRY		NSC	NSC		NSC	DRY
4th Quarter 2014		DRY	DRY	4.48	NSC			NSC	DRY
1st Quarter 2015	NSC	DRY	P&A		DRY	NSC	DRY	NSC	DRY
2nd Quarter 2015	NSC	DRY			DRY	NSC	NSC	NSC	DRY
3rd Quarter 2015	NSC	DRY			DRY	NSC	DRY	DRY	DRY
4th Quarter 2015	DRY	DRY			DRY	DRY	DRY	DRY	DRY

TABLE 4

COLOR CODED TABLE (PSH, BENZENE AND CLEAN WELLS)

PLAINS PIPELINE, L.P.

DARR ANGELL NO. 4

LEA COUNTY, NEW MEXICO

		PSH (feet)		Benzene (mg/L)		Clean			
	MW-9	MW-10	MW-11	MW-12	MW-12R	MW-13	MW-14	MW-15	MW-16
1st Quarter 2010	NSC		NSC	NSC		NSC		0.0042	
2nd Quarter 2010			NSC	NSC		NSC			
3rd Quarter 2010	NSC		NSC	NSC		NSC			
4th Quarter 2010				0.658					
1st Quarter 2011	NSC		NSC	NSC		NSC			
2nd Quarter 2011 *			NSC	NSC		NSC			
3rd Quarter 2011	NSC		NSC	NSC		NSC			
4th Quarter 2011				0.210		NSC			
1st Quarter 2012	NSC		NSC	NSC		NSC			
2nd Quarter 2012			NSC	NSC		NSC			
3rd Quarter 2012	NSC		NSC	NSC		NSC			
4th Quarter 2012				DRY		DRY			
1st Quarter 2013	NSC		NSC	DRY		DRY			
2nd Quarter 2013			NSC	DRY		DRY			
3rd Quarter 2013	NSC			DRY		DRY			
4th Quarter 2013				DRY		DRY			
1st Quarter 2014	NSC	NSC	NSC	NSC		DRY			
2nd Quarter 2014			NSC	DRY		DRY			
3rd Quarter 2014	NSC			DRY		NSC			
4th Quarter 2014				DRY		DRY			
1st Quarter 2015	NSC	DRY	NSC			NSC			
2nd Quarter 2015		NSC	NSC	P&A		NSC			
3rd Quarter 2015	NSC	DRY	NSC			DRY			
4th Quarter 2015	DRY	DRY	DRY			DRY			

TABLE 4

COLOR CODED TABLE (PSH, BENZENE AND CLEAN WELLS)

PLAINS PIPELINE, L.P.

DARR ANGELL NO. 4

LEA COUNTY, NEW MEXICO

	PSH (feet)			Benzene (mg/L)		Clean			
	RW-1	RW-2	RW-3	RW-3R	RW-4	RW-4R	RW-5	RW-6	RW-7
1st Quarter 2010	--	1.02	1.20		--		0.0172	0.285	.73
2nd Quarter 2010	--	1.15	--		--		0.0120	0.278	1.79
3rd Quarter 2010	1.13	1.23	0.87		0.54			0.147	0.24
4th Quarter 2010	1.14	1.27	0.88		--			0.248	0.27
1st Quarter 2011	1.23	1.20	0.82		--			0.04	0.27
2nd Quarter 2011 *	3.97	0.44	0.31		0.08		0.0109	0.90	1.79
3rd Quarter 2011	2.78	1.05	0.08		DRY		0.0151	0.39	0.81
4th Quarter 2011	2.36	3.33	DRY		DRY			0.0794	---
1st Quarter 2012	2.08	3.19	DRY		DRY		0.0548	0.07	0.17
2nd Quarter 2012	3.25	2.36	DRY		DRY			NSC	0.05
3rd Quarter 2012	3.22	2.20	DRY		DRY		0.0337	NSC	0.53
4th Quarter 2012	2.73	1.76	DRY		DRY			DRY	0.35
1st Quarter 2013	2.85	1.00	DRY		DRY				0.79
2nd Quarter 2013	2.73	0.86	DRY		DRY		0.03	DRY	0.75
3rd Quarter 2013	2.58	0.98	DRY		DRY			DRY	0.88
4th Quarter 2013	2.41	0.88	DRY		DRY			DRY	1.00
1st Quarter 2014	2.20	0.30	DRY		DRY			NSC	0.14
2nd Quarter 2014	1.95	3.17	DRY		DRY		0.001	DRY	0.05
3rd Quarter 2014	1.73	0.58	NSC		DRY			DRY	0.04
4th Quarter 2014	1.77	NS	DRY	4.45	DRY	0.02	NSC	DRY	0.07
1st Quarter 2015	1.28	0.35	P&A	4.65	P&A	0.68		DRY	0.06
2nd Quarter 2015	1.11	0.20		1.94		1.81	NS	DRY	0.10
3rd Quarter 2015	0.94	0.16		1.61		1.32	DRY	DRY	0.02
4th Quarter 2015	0.70	0.09		3.43		1.98	DRY	DRY	0.08

TABLE 4

COLOR CODED TABLE (PSH, BENZENE AND CLEAN WELLS)

PLAINS PIPELINE, L.P.

DARR ANGELL NO. 4

LEA COUNTY, NEW MEXICO

	PSH (feet)			Benzene (mg/L)		Clean		
	RW-8	RW-9	RW-10	RW-11	RW-12	RW-13	RW-14	RW-15
1st Quarter 2010	1.41	1.64	4.34	5.74	0.95	0.930		
2nd Quarter 2010	0.76	0.83	3.17	6.13	0.55	1.150		
3rd Quarter 2010	0.66	0.76	3.25	6.13	0.33	0.537		
4th Quarter 2010	0.68	0.72	--	6.06	0.26	2.060		
1st Quarter 2011	0.64	0.25	2.56	5.78	0.25	1.210		
2nd Quarter 2011 *	3.68	4.58	4.22	5.35	2.18	1.14		
3rd Quarter 2011	2.44	3.59	2.56	Pump Stuck	1.06	0.19		
4th Quarter 2011	1.21	0.43	2.56	5.19	0.28	1.08		
1st Quarter 2012	0.02	0.85	1.24	4.50	0.17	0.24		
2nd Quarter 2012	1.55	0.25	1.02	2.68	0.303	0.10		
3rd Quarter 2012	NS	0.52	2.29	3.90	0.23	0.47		
4th Quarter 2012	0.03	1.05	2.18	2.85	0.26	0.36		
1st Quarter 2013	0.25	2.50	3.73	5.44	0.71	0.41		
2nd Quarter 2013	0.58	2.12	3.60	5.64	0.96	0.71		
3rd Quarter 2013	1.53	2.17	3.32	3.91	0.52	0.74		
4th Quarter 2013	0.72	1.66	2.96	2.78	0.71	0.72		
1st Quarter 2014	0.46	0.79	2.61	2.57	0.11	0.18		
2nd Quarter 2014	2.53	1.99	2.68	5.08	0.11	0.22		
3rd Quarter 2014	1.09	0.85	2.32	4.52	0.13	0.23		
4th Quarter 2014	NS	1.39	NS	NS	0.01	0.25	0.0520	0.0101
1st Quarter 2015	2.56	0.39	1.42	3.02	0.07	0.15	0.0756	0.0262
2nd Quarter 2015	1.80	0.83	1.28	1.35	0.08	0.14	NS	0.0714
3rd Quarter 2015	1.69	0.31	0.39	1.07	0.01	0.01		0.325
4th Quarter 2015	1.48	0.34	0.23	2.03	0.01	0.03	0.0217	0.413

* CRA took over for NOVA

NSC - Not Scheduled

NS - Not Sampled

Appendices

Appendix A
Certified Laboratory Reports

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

John Fergerson
CRA-Midland
2135 South Loop 250 West
Midland, TX, 79703

Report Date: March 13, 2015

Work Order: 15030911

Project Location: Lovington, NM
Project Name: Darr Angel #4
Project Number: 074684
SRS #: 2001-10876

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

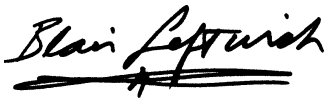
Sample	Description	Matrix	Date Taken	Time Taken	Date Received
388361	MW-12R-030515	water	2015-03-05	12:30	2015-03-09
388362	MW-14-030515	water	2015-03-05	12:45	2015-03-09
388363	MW-15-030515	water	2015-03-05	13:05	2015-03-09
388364	MW-16-030515	water	2015-03-05	13:30	2015-03-09
388365	DUP-1-030515	water	2015-03-05	00:00	2015-03-09
388366	RW-14-030515	water	2015-03-05	14:35	2015-03-09
388367	RW-15-030515	water	2015-03-05	15:05	2015-03-09
388368	RW-5-030515	water	2015-03-05	15:20	2015-03-09
388369	MW-3R-030515	water	2015-03-05	15:40	2015-03-09
388370	DUP-2-030515	water	2015-03-05	00:00	2015-03-09

Notes

- **Work Order 15030911:** Air in some samples, analyze regardless

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 18 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

Report Contents

Case Narrative

Samples for project Darr Angel #4 were received by TraceAnalysis, Inc. on 2015-03-09 and assigned to work order 15030911. Samples for work order 15030911 were received intact with headspace and at a temperature of .8 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	101463	2015-03-11 at 15:00	119945	2015-03-12 at 12:32
BTEX	S 8021B	101465	2015-03-12 at 10:28	119967	2015-03-13 at 08:26

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15030911 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 388361 - MW-12R-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119945	Date Analyzed:	2015-03-12	Analyzed By:	AK
Prep Batch:	101463	Sample Preparation:	2015-03-11	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	S	<0.00100	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	S	<0.00100	mg/L	1	0.00100
Xylene	U	S	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0842	mg/L	1	0.100	84	70 - 130
4-Bromofluorobenzene (4-BFB)			0.109	mg/L	1	0.100	109	70 - 130

Sample: 388362 - MW-14-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119945	Date Analyzed:	2015-03-12	Analyzed By:	AK
Prep Batch:	101463	Sample Preparation:	2015-03-11	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	S	<0.00100	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	S	<0.00100	mg/L	1	0.00100
Xylene	U	S	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0860	mg/L	1	0.100	86	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0996	mg/L	1	0.100	100	70 - 130

Sample: 388363 - MW-15-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119945	Date Analyzed:	2015-03-12	Analyzed By:	AK
Prep Batch:	101463	Sample Preparation:	2015-03-11	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	S	<0.00100	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	S	<0.00100	mg/L	1	0.00100
Xylene	U	S	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0844	mg/L	1	0.100	84	70 - 130
4-Bromofluorobenzene (4-BFB)			0.102	mg/L	1	0.100	102	70 - 130

Sample: 388364 - MW-16-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119967	Date Analyzed:	2015-03-13	Analyzed By:	AK
Prep Batch:	101465	Sample Preparation:	2015-03-12	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	S	<0.00100	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	S	<0.00100	mg/L	1	0.00100
Xylene	U	S	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0870	mg/L	1	0.100	87	70 - 130
4-Bromofluorobenzene (4-BFB)			0.104	mg/L	1	0.100	104	70 - 130

Sample: 388365 - DUP-1-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119967	Date Analyzed:	2015-03-13	Analyzed By:	AK
Prep Batch:	101465	Sample Preparation:	2015-03-12	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	S	<0.00100	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	S	<0.00100	mg/L	1	0.00100
Xylene	U	S	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0953	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0978	mg/L	1	0.100	98	70 - 130

Sample: 388366 - RW-14-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119967	Date Analyzed:	2015-03-13	Analyzed By:	AK
Prep Batch:	101465	Sample Preparation:	2015-03-12	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		S	**0.0756**	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene		S	**0.0663**	mg/L	1	0.00100
Xylene		S	**0.0217**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0909	mg/L	1	0.100	91	70 - 130
4-Bromofluorobenzene (4-BFB)			0.107	mg/L	1	0.100	107	70 - 130

Sample: 388367 - RW-15-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119967	Date Analyzed:	2015-03-13	Analyzed By:	AK
Prep Batch:	101465	Sample Preparation:	2015-03-12	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		s	**0.0262**	mg/L	1	0.00100
Toluene		s	**0.00590**	mg/L	1	0.00100
Ethylbenzene		s	**0.0495**	mg/L	1	0.00100
Xylene		s	**0.120**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.106	mg/L	1	0.100	106	70 - 130
4-Bromofluorobenzene (4-BFB)			0.110	mg/L	1	0.100	110	70 - 130

Sample: 388368 - RW-5-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119967	Date Analyzed:	2015-03-13	Analyzed By:	AK
Prep Batch:	101465	Sample Preparation:	2015-03-12	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene [1]	U	s	<0.00500	mg/L	5	0.00100
Toluene	U	s	<0.00500	mg/L	5	0.00100
Ethylbenzene	U	s	<0.00500	mg/L	5	0.00100
Xylene	U	s	<0.00500	mg/L	5	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.463	mg/L	5	0.500	93	70 - 130
4-Bromofluorobenzene (4-BFB)			0.509	mg/L	5	0.500	102	70 - 130

Sample: 388369 - MW-3R-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119967	Date Analyzed:	2015-03-13	Analyzed By:	AK
Prep Batch:	101465	Sample Preparation:	2015-03-12	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	S	<0.00100	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	S	<0.00100	mg/L	1	0.00100
Xylene	U	S	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0907	mg/L	1	0.100	91	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0948	mg/L	1	0.100	95	70 - 130

Sample: 388370 - DUP-2-030515

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	119967	Date Analyzed:	2015-03-13	Analyzed By:	AK
Prep Batch:	101465	Sample Preparation:	2015-03-12	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	S	<0.00100	mg/L	1	0.00100
Toluene	U	S	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	S	<0.00100	mg/L	1	0.00100
Xylene	U	S	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0950	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0961	mg/L	1	0.100	96	70 - 130

Method Blanks

Method Blank (1) QC Batch: 119945

QC Batch: 119945 | Date Analyzed: 2015-03-12 | Analyzed By: AK
Prep Batch: 101463 | QC Preparation: 2015-03-11 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		8	<0.000299	mg/L	0.001
Toluene		8	<0.000247	mg/L	0.001
Ethylbenzene		8	<0.000423	mg/L	0.001
Xylene		8	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0906	mg/L	1	0.100	91	70 - 130
4-Bromofluorobenzene (4-BFB)			0.102	mg/L	1	0.100	102	70 - 130

Method Blank (1) QC Batch: 119967

QC Batch: 119967 | Date Analyzed: 2015-03-13 | Analyzed By: AK
Prep Batch: 101465 | QC Preparation: 2015-03-12 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		8	<0.000299	mg/L	0.001
Toluene		8	<0.000247	mg/L	0.001
Ethylbenzene		8	<0.000423	mg/L	0.001
Xylene		8	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0857	mg/L	1	0.100	86	70 - 130
4-Bromofluorobenzene (4-BFB)			0.101	mg/L	1	0.100	101	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 119945 | Date Analyzed: 2015-03-12 | Analyzed By: AK
Prep Batch: 101463 | QC Preparation: 2015-03-11 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		s	0.101	mg/L	1	0.100	<0.000299	101	70 - 130
Toluene		s	0.0977	mg/L	1	0.100	<0.000247	98	70 - 130
Ethylbenzene		s	0.0990	mg/L	1	0.100	<0.000423	99	70 - 130
Xylene		s	0.301	mg/L	1	0.300	<0.000552	100	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		s	0.0912	mg/L	1	0.100	<0.000299	91	70 - 130	10	20
Toluene		s	0.0949	mg/L	1	0.100	<0.000247	95	70 - 130	3	20
Ethylbenzene		s	0.0985	mg/L	1	0.100	<0.000423	98	70 - 130	0	20
Xylene		s	0.297	mg/L	1	0.300	<0.000552	99	70 - 130	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0864	0.0867	mg/L	1	0.100	86	87	70 - 130
4-Bromofluorobenzene (4-BFB)	0.104	0.103	mg/L	1	0.100	104	103	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 119967 | Date Analyzed: 2015-03-13 | Analyzed By: AK
Prep Batch: 101465 | QC Preparation: 2015-03-12 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		s	0.0988	mg/L	1	0.100	<0.000299	99	70 - 130
Toluene		s	0.0972	mg/L	1	0.100	<0.000247	97	70 - 130
Ethylbenzene		s	0.0978	mg/L	1	0.100	<0.000423	98	70 - 130
Xylene		s	0.299	mg/L	1	0.300	<0.000552	100	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		s	0.0956	mg/L	1	0.100	<0.000299	96	70 - 130	3	20
Toluene		s	0.0948	mg/L	1	0.100	<0.000247	95	70 - 130	2	20
Ethylbenzene		s	0.0952	mg/L	1	0.100	<0.000423	95	70 - 130	3	20
Xylene		s	0.289	mg/L	1	0.300	<0.000552	96	70 - 130	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0832	0.0863	mg/L	1	0.100	83	86	70 - 130
4-Bromofluorobenzene (4-BFB)	0.101	0.101	mg/L	1	0.100	101	101	70 - 130

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 388346

QC Batch: 119945 | Date Analyzed: 2015-03-12 | Analyzed By: AK
Prep Batch: 101463 | QC Preparation: 2015-03-11 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		s	0.0998	mg/L	1	0.100	<0.000299	100	70 - 130
Toluene		s	0.0976	mg/L	1	0.100	<0.000247	98	70 - 130
Ethylbenzene		s	0.0966	mg/L	1	0.100	<0.000423	97	70 - 130
Xylene		s	0.294	mg/L	1	0.300	<0.000552	98	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		s	0.0999	mg/L	1	0.100	<0.000299	100	70 - 130	0	20
Toluene		s	0.0998	mg/L	1	0.100	<0.000247	100	70 - 130	2	20
Ethylbenzene		s	0.0992	mg/L	1	0.100	<0.000423	99	70 - 130	3	20
Xylene		s	0.301	mg/L	1	0.300	<0.000552	100	70 - 130	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0845	0.0861	mg/L	1	0.1	84	86	70 - 130
4-Bromofluorobenzene (4-BFB)	0.100	0.103	mg/L	1	0.1	100	103	70 - 130

Matrix Spike (MS-1) Spiked Sample: 388364

QC Batch: 119967 | Date Analyzed: 2015-03-13 | Analyzed By: AK
Prep Batch: 101465 | QC Preparation: 2015-03-12 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		s	0.0998	mg/L	1	0.100	<0.000299	100	70 - 130
Toluene		s	0.0980	mg/L	1	0.100	<0.000247	98	70 - 130
Ethylbenzene		s	0.0987	mg/L	1	0.100	<0.000423	99	70 - 130
Xylene		s	0.297	mg/L	1	0.300	<0.000552	99	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		s	0.102	mg/L	1	0.100	<0.000299	102	70 - 130	2	20
Toluene		s	0.0988	mg/L	1	0.100	<0.000247	99	70 - 130	1	20
Ethylbenzene		s	0.101	mg/L	1	0.100	<0.000423	101	70 - 130	2	20
Xylene		s	0.302	mg/L	1	0.300	<0.000552	101	70 - 130	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0830	0.0847	mg/L	1	0.1	83	85	70 - 130
4-Bromofluorobenzene (4-BFB)	0.101	0.103	mg/L	1	0.1	101	103	70 - 130

Calibration Standards

Standard (CCV-2)

QC Batch: 119945 | Date Analyzed: 2015-03-12 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		s	mg/L	0.100	0.0986	99	80 - 120	2015-03-12
Toluene		s	mg/L	0.100	0.0955	96	80 - 120	2015-03-12
Ethylbenzene		s	mg/L	0.100	0.0969	97	80 - 120	2015-03-12
Xylene		s	mg/L	0.300	0.294	98	80 - 120	2015-03-12

Standard (CCV-3)

QC Batch: 119945 | Date Analyzed: 2015-03-12 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		s	mg/L	0.100	0.0990	99	80 - 120	2015-03-12
Toluene		s	mg/L	0.100	0.0958	96	80 - 120	2015-03-12
Ethylbenzene		s	mg/L	0.100	0.0965	96	80 - 120	2015-03-12
Xylene		s	mg/L	0.300	0.292	97	80 - 120	2015-03-12

Standard (CCV-1)

QC Batch: 119967 | Date Analyzed: 2015-03-13 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		s	mg/L	0.100	0.0990	99	80 - 120	2015-03-13
Toluene		s	mg/L	0.100	0.0958	96	80 - 120	2015-03-13
Ethylbenzene		s	mg/L	0.100	0.0965	96	80 - 120	2015-03-13
Xylene		s	mg/L	0.300	0.292	97	80 - 120	2015-03-13

Standard (CCV-2)

QC Batch: 119967 | Date Analyzed: 2015-03-13 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		s	mg/L	0.100	0.0977	98	80 - 120	2015-03-13
Toluene		s	mg/L	0.100	0.0975	98	80 - 120	2015-03-13
Ethylbenzene		s	mg/L	0.100	0.0948	95	80 - 120	2015-03-13
Xylene		s	mg/L	0.300	0.288	96	80 - 120	2015-03-13

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-103	El Paso
2	PJLA	L14-93	Lubbock
3	Kansas	Kansas E-10317	Lubbock
4	LELAP	LELAP-02002	El Paso
5	LELAP	LELAP-02003	Lubbock
6	NELAP	T104704221-15-6	El Paso
7	NELAP	T104704219-14-10	Lubbock
8	NELAP	T104704392-14-8	Midland
9		2014-018	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction

F	Description
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Result Comments

1 Dilution due to surfactants.

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 15030911

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: CONESTOGA-ROVERS & ASSOC. Phone #: 432-686-0086

Address: (Street, City, Zip) 2135 S LOOP 250 W, MIDLAND, TX 79703 Fax #:

Contact Person: CHRIS KNIGHT / JOHN FERGERSON E-mail: CKNIGHT@CRAWORLD.COM JFERGERSON@CRAWORLD.COM

Invoice to: (If different from above) PLAINS - CAMILLE BRYANT

Project #: 074684 Project Name: DARR ANGEL #4

Project Location (including state): LEA COUNTY, NEW MEXICO Sampler Signature: MICHAEL LOVE

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
388361	MW-12R-030515	3			X							X			1230
362	MW-14-030515				X							X			1245
363	MW-15-030515				X							X			1305
364	MW-16-030515				X							X			1330
365	DUP-1-030515				X							X			—
366	RW-14-030515				X							X			1435
367	RW-15-030515	↓			X							X			1505
368	RW-5-030515	2			X							X			1520
369	MW-3R-030515	3			X							X			1540
370	DUP-2-030515	↓			X							X			—

Analysis columns: MTBE 8021 / 602 / 8260 / 624; BTEX 8021 / 602 / 8260 / 624 (B); TPH 418.1 / TX1005 / TX1005 Ext(C35); TPH 8015 GRO / DRO / TVHC; PAH 8270 / 625; Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7; TCLP Metals Ag As Ba Cd Cr Pb Se Hg; TCLP Volatiles; TCLP Semi Volatiles; TCLP Pesticides; RCI; GC/MS Vol. 8260 / 624; GC/MS Semi. Vol. 8270 / 625; PCB's 8082 / 608; Pesticides 8081 / 608; BOD, TSS, pH; Moisture Content; Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity; Na, Ca, Mg, K, TDS, EC; Turn Around Time if different from standard; Hold

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
Kevin Wienhold	CRA	3/9/15	9:29		TA	3-9-15	9:29	INST IR-1 OBS 0.9 °C COR 0.8 °C
								INST ____ OBS ____ °C COR ____ °C
								INST ____ OBS ____ °C COR ____ °C

LAB USE ONLY

Intact (Y) N

Headspace Y (N) NA

Log-in-Review ____

REMARKS:

Air in some samples, ~~sample~~ ~~Re~~ Analyze Regardless

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier # CARRY-IN

ORIGINAL COPY

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

(Corrected Report)

John Fergerson
CRA-Midland
2135 South Loop 250 West
Midland, TX, 79703

Report Date: June 22, 2015

Work Order: 15060821

Project Location: Lea Co, NM
Project Name: Darr #4
Project Number: 074684 (2)

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
394950	MW-9-060515	water	2015-06-05	07:50	2015-06-08
394951	MW-14-060515	water	2015-06-05	08:30	2015-06-08
394952	MW-15-060515	water	2015-06-05	09:15	2015-06-08
394953	MW-3R-060515	water	2015-06-05	10:40	2015-06-08
394954	MW-12R-060515	water	2015-06-05	11:20	2015-06-08
394955	MW-16-060515	water	2015-06-05	12:10	2015-06-08
394956	RW-15-060515	water	2015-06-05	13:30	2015-06-08
394957	Dup-1-060515	water	2015-06-05	00:00	2015-06-08

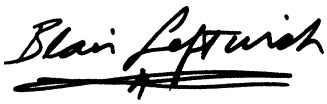
Report Corrections (Work Order 15060821)

- 6/22/15: Reran BTEX on sample 394954.

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 26 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

Report Contents

Case Narrative

Samples for project Darr #4 were received by TraceAnalysis, Inc. on 2015-06-08 and assigned to work order 15060821. Samples for work order 15060821 were received intact at a temperature of 10.5 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	103389	2015-06-10 at 15:38	122199	2015-06-10 at 15:38
BTEX	S 8021B	103423	2015-06-11 at 15:31	122241	2015-06-11 at 15:31
BTEX	S 8021B	103593	2015-06-18 at 14:25	122453	2015-06-18 at 14:25
TX1005 Extended - NEW	TX1005	103387	2015-06-11 at 04:51	122222	2015-06-11 at 12:31
TX1005 Extended - NEW	TX1005	103441	2015-06-11 at 14:00	122279	2015-06-15 at 09:02

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15060821 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 394950 - MW-9-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122199	Date Analyzed:	2015-06-10	Analyzed By:	JS
Prep Batch:	103389	Sample Preparation:	2015-06-10	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0888	mg/L	1	0.100	89	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0851	mg/L	1	0.100	85	72.9 - 120

Sample: 394950 - MW-9-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122279	Date Analyzed:	2015-06-15	Analyzed By:	SM
Prep Batch:	103441	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35	U	1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.72	mg/L	1	2.50	109	70.2 - 133
n-Octane			2.54	mg/L	1	2.50	102	70.5 - 140
n-Tricosane			2.76	mg/L	1	2.50	110	75 - 128

Sample: 394951 - MW-14-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122199	Date Analyzed:	2015-06-10	Analyzed By:	JS
Prep Batch:	103389	Sample Preparation:	2015-06-10	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0877	mg/L	1	0.100	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0840	mg/L	1	0.100	84	72.9 - 120

Sample: 394951 - MW-14-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122279	Date Analyzed:	2015-06-15	Analyzed By:	SM
Prep Batch:	103441	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35	U	1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.64	mg/L	1	2.50	106	70.2 - 133
n-Octane			2.49	mg/L	1	2.50	100	70.5 - 140
n-Tricosane			2.66	mg/L	1	2.50	106	75 - 128

Sample: 394952 - MW-15-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122199	Date Analyzed:	2015-06-10	Analyzed By:	JS
Prep Batch:	103389	Sample Preparation:	2015-06-10	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0882	mg/L	1	0.100	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0846	mg/L	1	0.100	85	72.9 - 120

Sample: 394952 - MW-15-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122279	Date Analyzed:	2015-06-15	Analyzed By:	SM
Prep Batch:	103441	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35	U	1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.67	mg/L	1	2.50	107	70.2 - 133
n-Octane			2.49	mg/L	1	2.50	100	70.5 - 140
n-Tricosane			2.69	mg/L	1	2.50	108	75 - 128

Sample: 394953 - MW-3R-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122199	Date Analyzed:	2015-06-10	Analyzed By:	JS
Prep Batch:	103389	Sample Preparation:	2015-06-10	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0882	mg/L	1	0.100	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0851	mg/L	1	0.100	85	72.9 - 120

Sample: 394953 - MW-3R-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122279	Date Analyzed:	2015-06-15	Analyzed By:	SM
Prep Batch:	103441	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35	U	1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.39	mg/L	1	2.50	96	70.2 - 133
n-Octane			2.24	mg/L	1	2.50	90	70.5 - 140
n-Tricosane			2.41	mg/L	1	2.50	96	75 - 128

Sample: 394954 - MW-12R-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122453	Date Analyzed:	2015-06-18	Analyzed By:	JS
Prep Batch:	103593	Sample Preparation:	2015-06-18	Prepared By:	JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene		1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene		1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0969	mg/L	1	0.100	97	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0961	mg/L	1	0.100	96	72.9 - 120

Sample: 394954 - MW-12R-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122279	Date Analyzed:	2015-06-15	Analyzed By:	SM
Prep Batch:	103441	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35	U	1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.74	mg/L	1	2.50	110	70.2 - 133
n-Octane			2.68	mg/L	1	2.50	107	70.5 - 140
n-Tricosane			2.79	mg/L	1	2.50	112	75 - 128

Sample: 394955 - MW-16-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122241	Date Analyzed:	2015-06-11	Analyzed By:	JS
Prep Batch:	103423	Sample Preparation:	2015-06-11	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0876	mg/L	1	0.100	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0835	mg/L	1	0.100	84	72.9 - 120

Sample: 394955 - MW-16-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122279	Date Analyzed:	2015-06-15	Analyzed By:	SM
Prep Batch:	103441	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35		1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.64	mg/L	1	2.50	106	70.2 - 133
n-Octane			2.51	mg/L	1	2.50	100	70.5 - 140
n-Tricosane			2.69	mg/L	1	2.50	108	75 - 128

Sample: 394956 - RW-15-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122241	Date Analyzed:	2015-06-11	Analyzed By:	JS
Prep Batch:	103423	Sample Preparation:	2015-06-11	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1,2,3,4,5	**0.0714**	mg/L	1	0.00100
Toluene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene		1,2,3,4,5	**0.0539**	mg/L	1	0.00100
Xylene		1,2,3,4,5	**0.0345**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0875	mg/L	1	0.100	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0886	mg/L	1	0.100	89	72.9 - 120

Sample: 394956 - RW-15-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122279	Date Analyzed:	2015-06-15	Analyzed By:	SM
Prep Batch:	103441	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35	U	1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.43	mg/L	1	2.50	97	70.2 - 133
n-Octane			2.27	mg/L	1	2.50	91	70.5 - 140
n-Tricosane			2.46	mg/L	1	2.50	98	75 - 128

Sample: 394957 - Dup-1-060515

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	122241	Date Analyzed:	2015-06-11	Analyzed By:	JS
Prep Batch:	103423	Sample Preparation:	2015-06-11	Prepared By:	JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1,2,3,4,5	**0.0823**	mg/L	1	0.00100
Toluene	U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene		1,2,3,4,5	**0.0726**	mg/L	1	0.00100
Xylene		1,2,3,4,5	**0.0355**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0872	mg/L	1	0.100	87	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0882	mg/L	1	0.100	88	72.9 - 120

Sample: 394957 - Dup-1-060515

Laboratory:	Lubbock				
Analysis:	TX1005 Extended - NEW	Analytical Method:	TX1005	Prep Method:	N/A
QC Batch:	122222	Date Analyzed:	2015-06-11	Analyzed By:	SM
Prep Batch:	103387	Sample Preparation:	2015-06-11	Prepared By:	SM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
C6-C12	U	1,4	<5.00	mg/L	1	5.00
>C12-C35	U	1,4	<5.00	mg/L	1	5.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.56	mg/L	1	2.50	102	70.2 - 133
n-Octane			2.30	mg/L	1	2.50	92	70.5 - 140
n-Tricosane			2.51	mg/L	1	2.50	100	75 - 128

Method Blanks

Method Blank (1) QC Batch: 122199

QC Batch: 122199 | Date Analyzed: 2015-06-10 | Analyzed By: JS
Prep Batch: 103389 | QC Preparation: 2015-06-10 | Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1,2,3,4,5	<0.000352	mg/L	0.001
Toluene		1,2,3,4,5	<0.000371	mg/L	0.001
Ethylbenzene		1,2,3,4,5	<0.000352	mg/L	0.001
Xylene		1,2,3,4,5	<0.000379	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0879	mg/L	1	0.100	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0827	mg/L	1	0.100	83	72.9 - 120

Method Blank (1) QC Batch: 122222

QC Batch: 122222 | Date Analyzed: 2015-06-11 | Analyzed By: SM
Prep Batch: 103387 | QC Preparation: 2015-06-11 | Prepared By: SM

Parameter	Flag	Cert	MDL Result	Units	RL
C6-C12		1,4	<0.654	mg/L	5
>C12-C35		1,4	<0.704	mg/L	5

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.75	mg/L	1	2.50	110	70.2 - 133
n-Octane			2.63	mg/L	1	2.50	105	70.5 - 140
n-Tricosane			2.78	mg/L	1	2.50	111	75 - 128

Method Blank (1) QC Batch: 122241

QC Batch: 122241 | Date Analyzed: 2015-06-11 | Analyzed By: JS
Prep Batch: 103423 | QC Preparation: 2015-06-11 | Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1,2,3,4,5	<0.000352	mg/L	0.001
Toluene		1,2,3,4,5	<0.000371	mg/L	0.001
Ethylbenzene		1,2,3,4,5	<0.000352	mg/L	0.001
Xylene		1,2,3,4,5	<0.000379	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0875	mg/L	1	0.100	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0836	mg/L	1	0.100	84	72.9 - 120

Method Blank (1) QC Batch: 122279

QC Batch: 122279 | Date Analyzed: 2015-06-15 | Analyzed By: SM
Prep Batch: 103441 | QC Preparation: 2015-06-11 | Prepared By: SM

Parameter	Flag	Cert	MDL Result	Units	RL
C6-C12		1,4	<0.654	mg/L	5
>C12-C35		1,4	<0.704	mg/L	5

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane			2.62	mg/L	1	2.50	105	70.2 - 133
n-Octane			2.50	mg/L	1	2.50	100	70.5 - 140
n-Tricosane			2.68	mg/L	1	2.50	107	75 - 128

Method Blank (1) QC Batch: 122453

QC Batch: 122453 | Date Analyzed: 2015-06-18 | Analyzed By: JS
Prep Batch: 103593 | QC Preparation: 2015-06-18 | Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1,2,3,4,5	<0.000352	mg/L	0.001
Toluene		1,2,3,4,5	<0.000371	mg/L	0.001
Ethylbenzene		1,2,3,4,5	<0.000352	mg/L	0.001
Xylene		1,2,3,4,5	<0.000379	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0991	mg/L	1	0.100	99	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0969	mg/L	1	0.100	97	72.9 - 120

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 122199 | Date Analyzed: 2015-06-10 | Analyzed By: JS
Prep Batch: 103389 | QC Preparation: 2015-06-10 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.0872	mg/L	1	0.100	<0.000352	87	76 - 120
Toluene		1,2,3,4,5	0.0877	mg/L	1	0.100	<0.000371	88	77.4 - 120
Ethylbenzene		1,2,3,4,5	0.0872	mg/L	1	0.100	<0.000352	87	76.6 - 120
Xylene		1,2,3,4,5	0.264	mg/L	1	0.300	<0.000379	88	77.2 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.0866	mg/L	1	0.100	<0.000352	87	76 - 120	1	20
Toluene		1,2,3,4,5	0.0898	mg/L	1	0.100	<0.000371	90	77.4 - 120	2	20
Ethylbenzene		1,2,3,4,5	0.0891	mg/L	1	0.100	<0.000352	89	76.6 - 120	2	20
Xylene		1,2,3,4,5	0.270	mg/L	1	0.300	<0.000379	90	77.2 - 121	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.0879	0.0886	mg/L	1	0.100	88	89	74.6 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0850	0.0856	mg/L	1	0.100	85	86	75 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 122222 | Date Analyzed: 2015-06-11 | Analyzed By: SM
Prep Batch: 103387 | QC Preparation: 2015-06-11 | Prepared By: SM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
C6-C12		1,4	45.1	mg/L	1	50.0	<0.654	90	62.2 - 125
>C12-C35		1,4	48.4	mg/L	1	50.0	<0.704	97	62.8 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
C6-C12		1,4	44.9	mg/L	1	50.0	<0.654	90	62.2 - 125	0	20
>C12-C35		1,4	47.9	mg/L	1	50.0	<0.704	96	62.8 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	2.47	2.40	mg/L	1	2.50	99	96	70.2 - 133
n-Octane	2.63	2.65	mg/L	1	2.50	105	106	70.5 - 140
n-Tricosane	2.57	2.56	mg/L	1	2.50	103	102	75 - 128

Laboratory Control Spike (LCS-1)

QC Batch: 122241 | Date Analyzed: 2015-06-11 | Analyzed By: JS
Prep Batch: 103423 | QC Preparation: 2015-06-11 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.0881	mg/L	1	0.100	<0.000352	88	76 - 120
Toluene		1,2,3,4,5	0.0900	mg/L	1	0.100	<0.000371	90	77.4 - 120
Ethylbenzene		1,2,3,4,5	0.0893	mg/L	1	0.100	<0.000352	89	76.6 - 120
Xylene		1,2,3,4,5	0.272	mg/L	1	0.300	<0.000379	91	77.2 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.0866	mg/L	1	0.100	<0.000352	87	76 - 120	2	20
Toluene		1,2,3,4,5	0.0878	mg/L	1	0.100	<0.000371	88	77.4 - 120	2	20
Ethylbenzene		1,2,3,4,5	0.0868	mg/L	1	0.100	<0.000352	87	76.6 - 120	3	20
Xylene		1,2,3,4,5	0.263	mg/L	1	0.300	<0.000379	88	77.2 - 121	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.0867	0.0883	mg/L	1	0.100	87	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0853	0.0854	mg/L	1	0.100	85	85	75 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 122279 | Date Analyzed: 2015-06-15 | Analyzed By: SM
Prep Batch: 103441 | QC Preparation: 2015-06-11 | Prepared By: SM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
C6-C12		1,4	45.0	mg/L	1	50.0	<0.654	90	62.2 - 125
>C12-C35		1,4	48.0	mg/L	1	50.0	<0.704	96	62.8 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
C6-C12		1,4	45.2	mg/L	1	50.0	<0.654	90	62.2 - 125	0	20
>C12-C35		1,4	48.8	mg/L	1	50.0	<0.704	98	62.8 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	2.30	2.30	mg/L	1	2.50	92	92	70.2 - 133
n-Octane	2.57	2.58	mg/L	1	2.50	103	103	70.5 - 140
n-Tricosane	2.48	2.53	mg/L	1	2.50	99	101	75 - 128

Laboratory Control Spike (LCS-1)

QC Batch: 122453 | Date Analyzed: 2015-06-18 | Analyzed By: JS
Prep Batch: 103593 | QC Preparation: 2015-06-18 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000352	102	76 - 120
Toluene		1,2,3,4,5	0.104	mg/L	1	0.100	<0.000371	104	77.4 - 120
Ethylbenzene		1,2,3,4,5	0.104	mg/L	1	0.100	<0.000352	104	76.6 - 120
Xylene		1,2,3,4,5	0.315	mg/L	1	0.300	<0.000379	105	77.2 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.101	mg/L	1	0.100	<0.000352	101	76 - 120	1	20
Toluene		1,2,3,4,5	0.104	mg/L	1	0.100	<0.000371	104	77.4 - 120	0	20
Ethylbenzene		1,2,3,4,5	0.103	mg/L	1	0.100	<0.000352	103	76.6 - 120	0	20
Xylene		1,2,3,4,5	0.314	mg/L	1	0.300	<0.000379	105	77.2 - 121	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.101	0.101	mg/L	1	0.100	101	101	74.6 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0993	0.0993	mg/L	1	0.100	99	99	75 - 120

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 394922

QC Batch: 122199 | Date Analyzed: 2015-06-10 | Analyzed By: JS
Prep Batch: 103389 | QC Preparation: 2015-06-10 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.998	mg/L	1	0.100	0.865	133	12.8 - 158
Toluene		1,2,3,4,5	0.102	mg/L	1	0.100	0.0121	90	16.9 - 157
Ethylbenzene		1,2,3,4,5	0.191	mg/L	1	0.100	0.0926	98	10 - 158
Xylene		1,2,3,4,5	0.493	mg/L	1	0.300	0.216	92	10 - 159

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.963	mg/L	1	0.100	0.865	98	12.8 - 158	4	20
Toluene		1,2,3,4,5	0.102	mg/L	1	0.100	0.0121	90	16.9 - 157	0	20
Ethylbenzene		1,2,3,4,5	0.191	mg/L	1	0.100	0.0926	98	10 - 158	0	20
Xylene		1,2,3,4,5	0.488	mg/L	1	0.300	0.216	91	10 - 159	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.0913	0.0895	mg/L	1	0.1	91	90	74.6 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0923	0.0914	mg/L	1	0.1	92	91	75 - 120

Matrix Spike (MS-1) Spiked Sample: 395274

QC Batch: 122222 | Date Analyzed: 2015-06-11 | Analyzed By: SM
Prep Batch: 103387 | QC Preparation: 2015-06-11 | Prepared By: SM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
C6-C12		1,4	41.8	mg/L	1	50.0	<0.654	84	47 - 130
>C12-C35		1,4	45.1	mg/L	1	50.0	0.717	89	53.9 - 129

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
C6-C12		1,4	42.2	mg/L	1	50.0	<0.654	84	47 - 130	1	20
>C12-C35		1,4	45.3	mg/L	1	50.0	0.717	89	53.9 - 129	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	2.19	2.18	mg/L	1	2.5	88	87	70.2 - 133
n-Octane	2.44	2.45	mg/L	1	2.5	98	98	70.5 - 140
n-Tricosane	2.36	2.34	mg/L	1	2.5	94	94	75 - 128

Matrix Spike (MS-1) Spiked Sample: 395136

QC Batch: 122241 | Date Analyzed: 2015-06-11 | Analyzed By: JS
Prep Batch: 103423 | QC Preparation: 2015-06-11 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.0862	mg/L	1	0.100	<0.000352	86	12.8 - 158
Toluene		1,2,3,4,5	0.0873	mg/L	1	0.100	<0.000371	87	16.9 - 157
Ethylbenzene		1,2,3,4,5	0.0855	mg/L	1	0.100	<0.000352	86	10 - 158
Xylene		1,2,3,4,5	0.260	mg/L	1	0.300	<0.000379	86	10 - 159

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.0901	mg/L	1	0.100	<0.000352	90	12.8 - 158	4	20
Toluene		1,2,3,4,5	0.0908	mg/L	1	0.100	<0.000371	91	16.9 - 157	4	20
Ethylbenzene		1,2,3,4,5	0.0887	mg/L	1	0.100	<0.000352	89	10 - 158	4	20
Xylene		1,2,3,4,5	0.269	mg/L	1	0.300	<0.000379	90	10 - 159	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0884	0.0883	mg/L	1	0.1	88	88	74.6 - 120
4-Bromofluorobenzene (4-BFB)	0.0865	0.0856	mg/L	1	0.1	86	86	75 - 120

Matrix Spike (MS-1) Spiked Sample: 394935

QC Batch: 122279 | Date Analyzed: 2015-06-15 | Analyzed By: SM
Prep Batch: 103441 | QC Preparation: 2015-06-11 | Prepared By: SM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
C6-C12		1,4	51.3	mg/L	1	50.0	<0.654	103	47 - 130
>C12-C35		1,4	56.3	mg/L	1	50.0	<0.704	113	53.9 - 129

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
C6-C12		1,4	44.6	mg/L	1	50.0	<0.654	89	47 - 130	14	20
>C12-C35		1,4	49.1	mg/L	1	50.0	<0.704	98	53.9 - 129	14	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	2.42	2.29	mg/L	1	2.5	97	92	70.2 - 133
n-Octane	2.63	2.39	mg/L	1	2.5	105	96	70.5 - 140
n-Tricosane	2.57	2.43	mg/L	1	2.5	103	97	75 - 128

Matrix Spike (MS-1) Spiked Sample: 395802

QC Batch: 122453 | Date Analyzed: 2015-06-18 | Analyzed By: JS
Prep Batch: 103593 | QC Preparation: 2015-06-18 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.101	mg/L	1	0.100	<0.000352	101	12.8 - 158
Toluene		1,2,3,4,5	0.103	mg/L	1	0.100	<0.000371	103	16.9 - 157
Ethylbenzene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000352	102	10 - 158
Xylene		1,2,3,4,5	0.309	mg/L	1	0.300	<0.000379	103	10 - 159

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.100	mg/L	1	0.100	<0.000352	100	12.8 - 158	1	20
Toluene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000371	102	16.9 - 157	0	20
Ethylbenzene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000352	102	10 - 158	0	20
Xylene		1,2,3,4,5	0.309	mg/L	1	0.300	<0.000379	103	10 - 159	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.0989	0.0987	mg/L	1	0.1	99	99	74.6 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0988	0.0994	mg/L	1	0.1	99	99	75 - 120

Calibration Standards

Standard (CCV-2)

QC Batch: 122199 | Date Analyzed: 2015-06-10 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0861	86	80 - 120	2015-06-10
Toluene		1,2,3,4,5	mg/L	0.100	0.0884	88	80 - 120	2015-06-10
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.0875	88	80 - 120	2015-06-10
Xylene		1,2,3,4,5	mg/L	0.300	0.266	89	80 - 120	2015-06-10

Standard (CCV-3)

QC Batch: 122199 | Date Analyzed: 2015-06-10 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0889	89	80 - 120	2015-06-10
Toluene		1,2,3,4,5	mg/L	0.100	0.0908	91	80 - 120	2015-06-10
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.0896	90	80 - 120	2015-06-10
Xylene		1,2,3,4,5	mg/L	0.300	0.272	91	80 - 120	2015-06-10

Standard (CCV-1)

QC Batch: 122222 | Date Analyzed: 2015-06-11 | Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
C6-C12		1,4	mg/L	500	462	92	75 - 125	2015-06-11
>C12-C35		1,4	mg/L	500	496	99	75 - 125	2015-06-11

Standard (CCV-2)

QC Batch: 122222 | Date Analyzed: 2015-06-11 | Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
C6-C12		1,4	mg/L	500	453	91	75 - 125	2015-06-11
>C12-C35		1,4	mg/L	500	490	98	75 - 125	2015-06-11

Standard (CCV-1)

QC Batch: 122241 Date Analyzed: 2015-06-11 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0860	86	80 - 120	2015-06-11
Toluene		1,2,3,4,5	mg/L	0.100	0.0882	88	80 - 120	2015-06-11
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.0870	87	80 - 120	2015-06-11
Xylene		1,2,3,4,5	mg/L	0.300	0.264	88	80 - 120	2015-06-11

Standard (CCV-2)

QC Batch: 122241 Date Analyzed: 2015-06-11 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0867	87	80 - 120	2015-06-11
Toluene		1,2,3,4,5	mg/L	0.100	0.0891	89	80 - 120	2015-06-11
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.0881	88	80 - 120	2015-06-11
Xylene		1,2,3,4,5	mg/L	0.300	0.267	89	80 - 120	2015-06-11

Standard (CCV-1)

QC Batch: 122279 Date Analyzed: 2015-06-15 Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
C6-C12		1,4	mg/L	500	460	92	75 - 125	2015-06-15
>C12-C35		1,4	mg/L	500	495	99	75 - 125	2015-06-15

Standard (CCV-2)

QC Batch: 122279 | Date Analyzed: 2015-06-15 | Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
C6-C12		1,4	mg/L	500	454	91	75 - 125	2015-06-15
>C12-C35		1,4	mg/L	500	496	99	75 - 125	2015-06-15

Standard (CCV-1)

QC Batch: 122453 | Date Analyzed: 2015-06-18 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.100	100	80 - 120	2015-06-18
Toluene		1,2,3,4,5	mg/L	0.100	0.102	102	80 - 120	2015-06-18
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.102	102	80 - 120	2015-06-18
Xylene		1,2,3,4,5	mg/L	0.300	0.310	103	80 - 120	2015-06-18

Standard (CCV-2)

QC Batch: 122453 | Date Analyzed: 2015-06-18 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0988	99	80 - 120	2015-06-18
Toluene		1,2,3,4,5	mg/L	0.100	0.103	103	80 - 120	2015-06-18
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.102	102	80 - 120	2015-06-18
Xylene		1,2,3,4,5	mg/L	0.300	0.310	103	80 - 120	2015-06-18

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-15-11	Lubbock
5		2014-018	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.

F	Description
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 1506082l

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: Conestoga-Rovers & Assc. Phone #: (432) 686-0086

Address: (Street, City, Zip) 2135 South Loop 250 W, Midland, TX 79703 Fax #: (432) 686-0186

Contact Person: Chris Knight / John Ferguson E-mail: cknight@craworld.com; jferguson@craworld.com

Invoice to: (If different from above) Plains : Camille Bryant cjbryant@paalp.com

Project #: 074684 Project Name: Darr 4

Project Location (including state): Lea County, NM Sampler Signature:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
394950	MW-9-060515	6	40mL	X				X				X		6/5	750
394951	MW-14-060515														830
394952	MW-15-060515														915
394953	MW-3R-060515														1040
394954	MW-12R-060515														1120
394955	MW-16-060515														1210
	~~RW-5-060515~~														1300
394956	RW-15-060515														1330
394957	DUP-1-060515														—

ANALYSIS REQUEST (Circle or Specify Method No.)	Turn Around Time if different from standard	Hold
MTBE 8021 / 602 / 8260 / 624		
BTEX 8021 / 602 / 8260 / 624	X	
TPH 418.1 / TX1005 / TX1005 Ext(C35)	X	
TPH 8015 GRO / DRO / TVHC		
PAH 8270 / 625		
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7		
TCLP Metals Ag As Ba Cd Cr Pb Se Hg		
TCLP Volatiles		
TCLP Semi Volatiles		
TCLP Pesticides		
RCI		
GC/MS Vol. 8260 / 624		
GC/MS Semi. Vol. 8270 / 625		
PCB's 8082 / 608		
Pesticides 8081 / 608		
BOD, TSS, pH		
Moisture Content		
Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity		
Na, Ca, Mg, K, TDS, EC		

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
Kevin Wellhold	CRA	6/8/15	920	Nancy Trace		6/8/15	9:20	INST FR OBS 10.5 °C COR °C
Nancy Trace		6/8/15	11:34					INST OBS °C COR °C
				BC TA		6-9-15	9:30	INST 1.R.3 OBS 1.8 °C COR 2.0 °C

LAB USE ONLY

Intact Y / N

Headspace Y / N / NA

2 VOAs

Log-in-Review SMC

REMARKS:

RW-5-060515 is missing.

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

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TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

John Fergerson
GHD Services Inc.
2135 South Loop 250 West
Midland, TX, 79703

Report Date: August 24, 2015

Work Order: 15081805

Project Location: Lovington, NM
Project Name: Darr Angel #4
Project Number: 074684
SRS #: 2001-10876

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
402386	MW-3R-081315	water	2015-08-13	16:50	2015-08-17
402387	MW-12R-081315	water	2015-08-13	17:15	2015-08-17
402388	MW-14-081315	water	2015-08-13	17:35	2015-08-17
402389	MW-15-081315	water	2015-08-13	17:55	2015-08-17
402390	MW-16-081315	water	2015-08-13	18:15	2015-08-17
402391	RW-14-081315	water	2015-08-13	18:30	2015-08-17
402392	RW-15-081315	water	2015-08-13	18:45	2015-08-17
402393	Dup-1-081315	water	2015-08-13	00:00	2015-08-17

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

Report Contents

Case Narrative

Samples for project Darr Angel #4 were received by TraceAnalysis, Inc. on 2015-08-17 and assigned to work order 15081805. Samples for work order 15081805 were received intact at a temperature of 2.5 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	105082	2015-08-21 at 16:32	124270	2015-08-21 at 16:32

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15081805 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 402386 - MW-3R-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0961	mg/L	1	0.100	96	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0890	mg/L	1	0.100	89	73.8 - 120

Sample: 402387 - MW-12R-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	Qr	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0972	mg/L	1	0.100	97	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0879	mg/L	1	0.100	88	73.8 - 120

Sample: 402388 - MW-14-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0972	mg/L	1	0.100	97	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0871	mg/L	1	0.100	87	73.8 - 120

Sample: 402389 - MW-15-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0962	mg/L	1	0.100	96	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0848	mg/L	1	0.100	85	73.8 - 120

Sample: 402390 - MW-16-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0956	mg/L	1	0.100	96	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0861	mg/L	1	0.100	86	73.8 - 120

Sample: 402391 - RW-14-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Toluene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,U	1,2,3,4,5	<0.00100	mg/L	1	0.00100
Xylene	Qr	1,2,3,4,5	**0.00100**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0931	mg/L	1	0.100	93	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0835	mg/L	1	0.100	84	73.8 - 120

Sample: 402392 - RW-15-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr	1,2,3,4,5	**0.325**	mg/L	1	0.00100
Toluene	Qr	1,2,3,4,5	**0.0908**	mg/L	1	0.00100
Ethylbenzene	Qr	1,2,3,4,5	**0.163**	mg/L	1	0.00100
Xylene	Je,Qr	1,2,3,4,5	**0.763**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0958	mg/L	1	0.100	96	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0987	mg/L	1	0.100	99	73.8 - 120

Sample: 402393 - Dup-1-081315

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	Sample Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qr	1,2,3,4,5	**0.315**	mg/L	1	0.00100
Toluene	Qr	1,2,3,4,5	**0.0887**	mg/L	1	0.00100
Ethylbenzene	Qr	1,2,3,4,5	**0.176**	mg/L	1	0.00100
Xylene	Je,Qr	1,2,3,4,5	**0.761**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0969	mg/L	1	0.100	97	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.101	mg/L	1	0.100	101	73.8 - 120

Method Blanks

Method Blank (1) QC Batch: 124270

QC Batch:	124270	Date Analyzed:	2015-08-21	Analyzed By:	JS
Prep Batch:	105082	QC Preparation:	2015-08-21	Prepared By:	JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1,2,3,4,5	<0.000352	mg/L	0.001
Toluene		1,2,3,4,5	<0.000371	mg/L	0.001
Ethylbenzene		1,2,3,4,5	<0.000352	mg/L	0.001
Xylene		1,2,3,4,5	<0.000379	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0969	mg/L	1	0.100	97	76.9 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0877	mg/L	1	0.100	88	73.8 - 120

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 124270 | Date Analyzed: 2015-08-21 | Analyzed By: JS
Prep Batch: 105082 | QC Preparation: 2015-08-21 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.0934	mg/L	1	0.100	<0.000352	93	80 - 120
Toluene		1,2,3,4,5	0.0975	mg/L	1	0.100	<0.000371	98	80 - 120
Ethylbenzene		1,2,3,4,5	0.0976	mg/L	1	0.100	<0.000352	98	80 - 120
Xylene		1,2,3,4,5	0.289	mg/L	1	0.300	<0.000379	96	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.0910	mg/L	1	0.100	<0.000352	91	80 - 120	3	20
Toluene		1,2,3,4,5	0.0952	mg/L	1	0.100	<0.000371	95	80 - 120	2	20
Ethylbenzene		1,2,3,4,5	0.0951	mg/L	1	0.100	<0.000352	95	80 - 120	3	20
Xylene		1,2,3,4,5	0.281	mg/L	1	0.300	<0.000379	94	80 - 120	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.0978	0.0976	mg/L	1	0.100	98	98	76.9 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0929	0.0921	mg/L	1	0.100	93	92	73.8 - 120

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 402378

QC Batch: 124270 | Date Analyzed: 2015-08-21 | Analyzed By: JS
Prep Batch: 105082 | QC Preparation: 2015-08-21 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.0631	mg/L	1	0.100	<0.000352	63	10 - 162
Toluene		1,2,3,4,5	0.0653	mg/L	1	0.100	<0.000371	65	10 - 161
Ethylbenzene		1,2,3,4,5	0.0639	mg/L	1	0.100	<0.000352	64	10 - 160
Xylene		1,2,3,4,5	0.186	mg/L	1	0.300	<0.000379	62	10 - 165

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	Qr	1,2,3,4,5	0.0773	mg/L	1	0.100	<0.000352	77	10 - 162	20	20
Toluene	Qr	1,2,3,4,5	0.0800	mg/L	1	0.100	<0.000371	80	10 - 161	20	20
Ethylbenzene	Qr	1,2,3,4,5	0.0786	mg/L	1	0.100	<0.000352	79	10 - 160	21	20
Xylene	Qr	1,2,3,4,5	0.229	mg/L	1	0.300	<0.000379	76	10 - 165	21	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.0959	0.0961	mg/L	1	0.1	96	96	76.9 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0887	0.0897	mg/L	1	0.1	89	90	73.8 - 120

Calibration Standards

Standard (CCV-1)

QC Batch: 124270 | Date Analyzed: 2015-08-21 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0910	91	80 - 120	2015-08-21
Toluene		1,2,3,4,5	mg/L	0.100	0.0954	95	80 - 120	2015-08-21
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.0950	95	80 - 120	2015-08-21
Xylene		1,2,3,4,5	mg/L	0.300	0.281	94	80 - 120	2015-08-21

Standard (CCV-2)

QC Batch: 124270 | Date Analyzed: 2015-08-21 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0934	93	80 - 120	2015-08-21
Toluene		1,2,3,4,5	mg/L	0.100	0.0981	98	80 - 120	2015-08-21
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.0966	97	80 - 120	2015-08-21
Xylene		1,2,3,4,5	mg/L	0.300	0.284	95	80 - 120	2015-08-21

Standard (CCV-3)

QC Batch: 124270 | Date Analyzed: 2015-08-21 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0929	93	80 - 120	2015-08-21
Toluene		1,2,3,4,5	mg/L	0.100	0.0966	97	80 - 120	2015-08-21
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.0959	96	80 - 120	2015-08-21
Xylene		1,2,3,4,5	mg/L	0.300	0.284	95	80 - 120	2015-08-21

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-15-11	Lubbock
5		2014-018	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.

F	Description
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 1508185

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: GHD Services Inc — **Phone #:** 432-686-0086

Address: (Street, City, Zip) 2135 S. Loop 250 W. 79703 — **Fax #:** 432-6860196

Contact Person: John Ferguson — **E-mail:** JFerguson@GHD.com

Invoice to: (If different from above) Camille Bryant — CJBryant@PAALP.com

Project #: 074684 — **Project Name:**

Project Location (including state): Lovington — **Sampler Signature:**

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity	Na, Ca, Mg, K, TDS, EC					Turn Around Time if different from standard	Hold
402386	MW-3R-081315	3		X				X				X		8/13	1650		X																								
402387	MW-12R-081315	↓		↓				↓				↓		↓	1715		↓																										
402388	MW-14-081315														1735																												
402389	MW-15-081315														1755																												
402390	MW-16-081315														1815																												
402391	RW-14-081315														1830																												
402392	RW-15-081315														1845																												
402393	DUP-1-081315	↓		↓				↓				↓		↓	—		↓																										

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
	GHD	8/17/15	1610	Kaley	TA	8/17/15	16:10	INST 2.8 °C OBS 2.5 °C COR 2.4 °C
								INST ____ °C OBS ____ °C COR ____ °C
								INST ____ °C OBS ____ °C COR ____ °C

LAB USE ONLY

Intact Y / N

Headspace Y / N / NA

Log-in-Review ____

REMARKS:

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier # Carry in

ORIGINAL COPY

LAB Order ID # 1508185

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
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Company Name: GHD Services Inc — Phone #: 432-686-0086

Address: (Street, City, Zip) 2135 S. Loop 250 W. 79703 — Fax #: 432-6860186

Contact Person: John Ferguson — E-mail: JFerguson@GHD.com

Invoice to: (If different from above) Camille Bryant — CJBryant@PAALP.com

Project #: 074684 — Project Name:

Project Location (including state): Lovington — Sampler Signature:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
402386	MW-3R-081315	3	60	X				X				X		8-13	1650
402387	MW-12R-081315														1715
402388	MW-14-081315														1735
402389	MW-15-081315														1755
402390	MW-16-081315														1815
402391	RW-14-081315														1830
402392	RW-15-081315														1845
402393	DUP-1-081315														—

MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity	Na, Ca, Mg, K, TDS, EC						Turn Around Time if different from standard	Hold
	X																								

	Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
1	[signature]	GHD	8-17-15	1610	Kailey	TA	8/17/15	16:10	INST 2.5 °C
									OBS 3.2 °C
									COR °C
2	Kailey	TA	8/18/15	12:09					INST °C
									OBS °C
									COR °C
3					Brenda Ward	TA Lubbock	8/19/15	9:15	INST IR 4.3 °C
									OBS 4.1 °C
									COR 4.3 °C

LAB USE ONLY

Intact Y / N

Headspace Y / N / NA

Log-in-Review AS

REMARKS:

- Dry Weight Basis Required
- TRRP Report Required
- Check If Special Reporting Limits Are Needed

Carrier # Carry in 25822651

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

ORIGINAL COPY

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

John Fergerson
GHD Services Inc.
2135 South Loop 250 West
Midland, TX, 79703

Report Date: December 23, 2015

Work Order: 15120425

Project Location: Lovington, NM
Project Name: Darr Angel #4
Project Number: 074684
SRS #: 2001-10876

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
409496	MW-16-120315	water	2015-12-03	11:10	2015-12-04
409497	MW-14-120315	water	2015-12-03	11:25	2015-12-04
409498	MW-15-120315	water	2015-12-03	11:40	2015-12-04
409499	MW-3R-120315	water	2015-12-03	12:00	2015-12-04
409500	RW-15-120315	water	2015-12-03	12:20	2015-12-04
409501	RW-14-120315	water	2015-12-03	12:40	2015-12-04
409502	MW-12R-120315	water	2015-12-03	13:00	2015-12-04
409503	Dup-1-120315	water	2015-12-03	00:00	2015-12-04

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

Report Contents

Case Narrative

Samples for project Darr Angel #4 were received by TraceAnalysis, Inc. on 2015-12-04 and assigned to work order 15120425. Samples for work order 15120425 were received intact at a temperature of 2.9 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	107320	2015-12-07 at 14:50	126822	2015-12-08 at 09:56
BTEX	S 8021B	107342	2015-12-08 at 14:26	126869	2015-12-09 at 07:14
PAH	S 8270D	107639	2015-12-10 at 15:00	127169	2015-12-23 at 10:08

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15120425 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 409496 - MW-16-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126822	Date Analyzed:	2015-12-08	Analyzed By:	AK
Prep Batch:	107320	Sample Preparation:	2015-12-07	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0906	mg/L	1	0.100	91	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0865	mg/L	1	0.100	86	70 - 130

Sample: 409497 - MW-14-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126822	Date Analyzed:	2015-12-08	Analyzed By:	AK
Prep Batch:	107320	Sample Preparation:	2015-12-07	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0847	mg/L	1	0.100	85	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0833	mg/L	1	0.100	83	70 - 130

Sample: 409498 - MW-15-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126822	Date Analyzed:	2015-12-08	Analyzed By:	AK
Prep Batch:	107320	Sample Preparation:	2015-12-07	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0982	mg/L	1	0.100	98	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0930	mg/L	1	0.100	93	70 - 130

Sample: 409499 - MW-3R-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126822	Date Analyzed:	2015-12-08	Analyzed By:	AK
Prep Batch:	107320	Sample Preparation:	2015-12-07	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	5	<0.00100	mg/L	1	0.00100
Xylene	U	5	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0846	mg/L	1	0.100	85	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0864	mg/L	1	0.100	86	70 - 130

Sample: 409499 - MW-3R-120315

Laboratory:	Lubbock				
Analysis:	PAH	Analytical Method:	S 8270D	Prep Method:	S 3510C
QC Batch:	127169	Date Analyzed:	2015-12-23	Analyzed By:	MN
Prep Batch:	107639	Sample Preparation:	2015-12-10	Prepared By:	MN

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Naphthalene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
2-Methylnaphthalene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
1-Methylnaphthalene	U	1	<0.000199	mg/L	0.995	0.000200
Acenaphthylene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Acenaphthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Dibenzofuran	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Fluorene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Anthracene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Phenanthrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Fluoranthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Pyrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(a)anthracene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Chrysene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(b)fluoranthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(k)fluoranthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(a)pyrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Indeno(1,2,3-cd)pyrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Dibenzo(a,h)anthracene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(g,h,i)perylene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5			0.0259	mg/L	0.995	0.0800	32	10 - 120
2-Fluorobiphenyl Qsr	Qsr		0.0283	mg/L	0.995	0.0800	35	35.9 - 120
Terphenyl-d14			0.0527	mg/L	0.995	0.0800	66	23.2 - 120

Sample: 409500 - RW-15-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126869	Date Analyzed:	2015-12-09	Analyzed By:	AK
Prep Batch:	107342	Sample Preparation:	2015-12-08	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qr	5	**0.413**	mg/L	50	0.00100
Toluene	Qr	5	**0.0962**	mg/L	50	0.00100
Ethylbenzene	Qr	5	**0.220**	mg/L	50	0.00100
Xylene	Qr	5	**0.455**	mg/L	50	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.75	mg/L	50	5.00	95	70 - 130
4-Bromofluorobenzene (4-BFB)			4.31	mg/L	50	5.00	86	70 - 130

Sample: 409500 - RW-15-120315

Laboratory:	Lubbock				
Analysis:	PAH	Analytical Method:	S 8270D	Prep Method:	S 3510C
QC Batch:	127169	Date Analyzed:	2015-12-23	Analyzed By:	MN
Prep Batch:	107639	Sample Preparation:	2015-12-10	Prepared By:	MN

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Naphthalene		1,2,3,4,6	**0.00952**	mg/L	1	0.000200
2-Methylnaphthalene		1,2,3,4,6	**0.00569**	mg/L	1	0.000200
1-Methylnaphthalene		1	**0.0111**	mg/L	1	0.000200
Acenaphthylene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Acenaphthene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Dibenzofuran		1,2,3,4,6	**0.000980**	mg/L	1	0.000200
Fluorene		1,2,3,4,6	**0.00103**	mg/L	1	0.000200
Anthracene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Phenanthrene		1,2,3,4,6	**0.000442**	mg/L	1	0.000200
Fluoranthene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Pyrene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Benzo(a)anthracene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Chrysene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Benzo(a)pyrene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Dibenzo(a,h)anthracene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene	U	1,2,3,4,6	<0.000200	mg/L	1	0.000200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5			0.0441	mg/L	1	0.0800	55	10 - 120
2-Fluorobiphenyl			0.0531	mg/L	1	0.0800	66	35.9 - 120
Terphenyl-d14			0.0733	mg/L	1	0.0800	92	23.2 - 120

Sample: 409501 - RW-14-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126869	Date Analyzed:	2015-12-09	Analyzed By:	AK
Prep Batch:	107342	Sample Preparation:	2015-12-08	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qr	5	**0.0217**	mg/L	1	0.00100
Toluene	Qr,U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,U	5	<0.00100	mg/L	1	0.00100
Xylene	Qr	5	**0.00240**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0954	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0904	mg/L	1	0.100	90	70 - 130

Sample: 409501 - RW-14-120315

Laboratory:	Lubbock				
Analysis:	PAH	Analytical Method:	S 8270D	Prep Method:	S 3510C
QC Batch:	127169	Date Analyzed:	2015-12-23	Analyzed By:	MN
Prep Batch:	107639	Sample Preparation:	2015-12-10	Prepared By:	MN

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Naphthalene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
2-Methylnaphthalene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
1-Methylnaphthalene	U	1	<0.000198	mg/L	0.99	0.000200
Acenaphthylene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Acenaphthene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Dibenzofuran	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Fluorene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Anthracene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Phenanthrene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Fluoranthene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Pyrene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Benzo(a)anthracene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Chrysene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Benzo(b)fluoranthene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Benzo(k)fluoranthene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Benzo(a)pyrene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Indeno(1,2,3-cd)pyrene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200
Dibenzo(a,h)anthracene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200

continued ...

sample 409501 continued . . .

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzo(g,h,i)perylene	U	1,2,3,4,6	<0.000198	mg/L	0.99	0.000200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5			0.0241	mg/L	0.99	0.0800	30	10 - 120
2-Fluorobiphenyl	Qsr	Qsr	0.0266	mg/L	0.99	0.0800	33	35.9 - 120
Terphenyl-d14			0.0445	mg/L	0.99	0.0800	56	23.2 - 120

Sample: 409502 - MW-12R-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126822	Date Analyzed:	2015-12-08	Analyzed By:	AK
Prep Batch:	107320	Sample Preparation:	2015-12-07	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.00100	mg/L	1	0.00100
Toluene	U	5	<0.00100	mg/L	1	0.00100
Ethylbenzene		5	**0.00150**	mg/L	1	0.00100
Xylene		5	**0.00320**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0892	mg/L	1	0.100	89	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0915	mg/L	1	0.100	92	70 - 130

Sample: 409502 - MW-12R-120315

Laboratory:	Lubbock				
Analysis:	PAH	Analytical Method:	S 8270D	Prep Method:	S 3510C
QC Batch:	127169	Date Analyzed:	2015-12-23	Analyzed By:	MN
Prep Batch:	107639	Sample Preparation:	2015-12-10	Prepared By:	MN

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Naphthalene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
2-Methylnaphthalene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
1-Methylnaphthalene	U	1	<0.000199	mg/L	0.995	0.000200

continued . . .

sample 409502 continued . . .

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Acenaphthylene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Acenaphthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Dibenzofuran	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Fluorene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Anthracene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Phenanthrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Fluoranthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Pyrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(a)anthracene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Chrysene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(b)fluoranthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(k)fluoranthene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(a)pyrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Indeno(1,2,3-cd)pyrene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Dibenzo(a,h)anthracene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200
Benzo(g,h,i)perylene	U	1,2,3,4,6	<0.000199	mg/L	0.995	0.000200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5			0.0387	mg/L	0.995	0.0800	48	10 - 120
2-Fluorobiphenyl			0.0413	mg/L	0.995	0.0800	52	35.9 - 120
Terphenyl-d14			0.0599	mg/L	0.995	0.0800	75	23.2 - 120

Sample: 409503 - Dup-1-120315

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	126869	Date Analyzed:	2015-12-09	Analyzed By:	AK
Prep Batch:	107342	Sample Preparation:	2015-12-08	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qr	5	**0.422**	mg/L	50	0.00100
Toluene	Qr	5	**0.105**	mg/L	50	0.00100
Ethylbenzene	Qr	5	**0.178**	mg/L	50	0.00100
Xylene	Qr	5	**0.423**	mg/L	50	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.77	mg/L	50	5.00	95	70 - 130

continued . . .

sample continued . . .

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)			4.43	mg/L	50	5.00	89	70 - 130

Method Blanks

Method Blank (1) QC Batch: 126822

QC Batch: 126822 | Date Analyzed: 2015-12-08 | Analyzed By: AK
Prep Batch: 107320 | QC Preparation: 2015-12-07 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		5	<0.000299	mg/L	0.001
Toluene		5	<0.000247	mg/L	0.001
Ethylbenzene		5	<0.000423	mg/L	0.001
Xylene		5	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0912	mg/L	1	0.100	91	70 - 130

Method Blank (1) QC Batch: 126869

QC Batch: 126869 | Date Analyzed: 2015-12-09 | Analyzed By: AK
Prep Batch: 107342 | QC Preparation: 2015-12-08 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		5	<0.000299	mg/L	0.001
Toluene		5	<0.000247	mg/L	0.001
Ethylbenzene		5	<0.000423	mg/L	0.001
Xylene		5	<0.000552	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0931	mg/L	1	0.100	93	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0875	mg/L	1	0.100	88	70 - 130

Method Blank (1) QC Batch: 127169

QC Batch: 127169 | Date Analyzed: 2015-12-23 | Analyzed By: MN
Prep Batch: 107639 | QC Preparation: 2015-12-10 | Prepared By: MN

Parameter	Flag	Cert	MDL Result	Units	RL
Naphthalene		1,2,3,4,6	<0.0000656	mg/L	0.0002
2-Methylnaphthalene		1,2,3,4,6	<0.0000516	mg/L	0.0002
1-Methylnaphthalene		1	<0.0000663	mg/L	0.0002
Acenaphthylene		1,2,3,4,6	<0.0000581	mg/L	0.0002
Acenaphthene		1,2,3,4,6	<0.0000332	mg/L	0.0002
Dibenzofuran		1,2,3,4,6	<0.0000607	mg/L	0.0002
Fluorene		1,2,3,4,6	<0.0000788	mg/L	0.0002
Anthracene		1,2,3,4,6	<0.0000321	mg/L	0.0002
Phenanthrene		1,2,3,4,6	<0.0000516	mg/L	0.0002
Fluoranthene		1,2,3,4,6	<0.0000638	mg/L	0.0002
Pyrene		1,2,3,4,6	<0.0000415	mg/L	0.0002
Benzo(a)anthracene		1,2,3,4,6	<0.0000721	mg/L	0.0002
Chrysene		1,2,3,4,6	<0.0000811	mg/L	0.0002
Benzo(b)fluoranthene		1,2,3,4,6	<0.0000710	mg/L	0.0002
Benzo(k)fluoranthene		1,2,3,4,6	<0.0000561	mg/L	0.0002
Benzo(a)pyrene		1,2,3,4,6	<0.0000418	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		1,2,3,4,6	<0.0000537	mg/L	0.0002
Dibenzo(a,h)anthracene		1,2,3,4,6	<0.0000562	mg/L	0.0002
Benzo(g,h,i)perylene		1,2,3,4,6	<0.0000519	mg/L	0.0002

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5			0.0309	mg/L	1	0.0800	39	10 - 120
2-Fluorobiphenyl			0.0362	mg/L	1	0.0800	45	35.9 - 120
Terphenyl-d14			0.0423	mg/L	1	0.0800	53	23.2 - 120

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 126822 | Date Analyzed: 2015-12-08 | Analyzed By: AK
Prep Batch: 107320 | QC Preparation: 2015-12-07 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.0975	mg/L	1	0.100	<0.000299	98	70 - 130
Toluene		5	0.0958	mg/L	1	0.100	<0.000247	96	70 - 130
Ethylbenzene		5	0.0941	mg/L	1	0.100	<0.000423	94	70 - 130
Xylene		5	0.266	mg/L	1	0.300	<0.000552	89	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.103	mg/L	1	0.100	<0.000299	103	70 - 130	6	20
Toluene		5	0.101	mg/L	1	0.100	<0.000247	101	70 - 130	5	20
Ethylbenzene		5	0.0983	mg/L	1	0.100	<0.000423	98	70 - 130	4	20
Xylene		5	0.281	mg/L	1	0.300	<0.000552	94	70 - 130	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0933	0.0930	mg/L	1	0.100	93	93	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0886	0.0938	mg/L	1	0.100	89	94	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 126869 | Date Analyzed: 2015-12-09 | Analyzed By: AK
Prep Batch: 107342 | QC Preparation: 2015-12-08 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.0487	mg/L	1	0.0500	<0.000299	97	70 - 130
Toluene		5	0.0460	mg/L	1	0.0500	<0.000247	92	70 - 130
Ethylbenzene		5	0.0400	mg/L	1	0.0500	<0.000423	80	70 - 130
Xylene		5	0.118	mg/L	1	0.150	<0.000552	79	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param		F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	[1] Qr	Qr	5	0.0606	mg/L	1	0.0500	<0.000299	121	70 - 130	22	20
Toluene	Qr	Qr	5	0.0574	mg/L	1	0.0500	<0.000247	115	70 - 130	22	20
Ethylbenzene	Qr	Qr	5	0.0524	mg/L	1	0.0500	<0.000423	105	70 - 130	27	20
Xylene	Qr	Qr	5	0.157	mg/L	1	0.150	<0.000552	105	70 - 130	28	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0920	0.0905	mg/L	1	0.100	92	90	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0815	0.0855	mg/L	1	0.100	82	86	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 127169 | Date Analyzed: 2015-12-23 | Analyzed By: MN
Prep Batch: 107639 | QC Preparation: 2015-12-10 | Prepared By: MN

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Naphthalene		1,2,3,4,6	0.0653	mg/L	1	0.0800	<0.0000656	82	49.7 - 120
2-Methylnaphthalene		1,2,3,4,6	0.0682	mg/L	1	0.0800	<0.0000516	85	44.6 - 120
1-Methylnaphthalene		1	0.0709	mg/L	1	0.0800	<0.0000663	89	10 - 189
Acenaphthylene		1,2,3,4,6	0.0689	mg/L	1	0.0800	<0.0000581	86	40.9 - 120
Acenaphthene		1,2,3,4,6	0.0681	mg/L	1	0.0800	<0.0000332	85	49.9 - 120
Dibenzofuran		1,2,3,4,6	0.0617	mg/L	1	0.0800	<0.0000607	77	34 - 120
Fluorene		1,2,3,4,6	0.0654	mg/L	1	0.0800	<0.0000788	82	49.7 - 120
Anthracene		1,2,3,4,6	0.0612	mg/L	1	0.0800	<0.0000321	76	11.4 - 155
Phenanthrene		1,2,3,4,6	0.0642	mg/L	1	0.0800	<0.0000516	80	41 - 120
Fluoranthene		1,2,3,4,6	0.0596	mg/L	1	0.0800	<0.0000638	74	35.7 - 120
Pyrene		1,2,3,4,6	0.0814	mg/L	1	0.0800	<0.0000415	102	19.5 - 139
Benzo(a)anthracene		1,2,3,4,6	0.0648	mg/L	1	0.0800	<0.0000721	81	53.4 - 120
Chrysene		1,2,3,4,6	0.133	mg/L	1	0.0800	<0.0000811	166	10 - 170
Benzo(b)fluoranthene		1,2,3,4,6	0.0634	mg/L	1	0.0800	<0.0000710	79	29.2 - 120
Benzo(k)fluoranthene		1,2,3,4,6	0.0808	mg/L	1	0.0800	<0.0000561	101	23.4 - 120
Benzo(a)pyrene		1,2,3,4,6	0.0724	mg/L	1	0.0800	<0.0000418	90	23.4 - 120
Indeno(1,2,3-cd)pyrene		1,2,3,4,6	0.0835	mg/L	1	0.0800	<0.0000537	104	10 - 129
Dibenzo(a,h)anthracene	Qs	Qs 1,2,3,4,6	0.198	mg/L	1	0.0800	<0.0000562	248	10 - 174
Benzo(g,h,i)perylene		1,2,3,4,6	0.0824	mg/L	1	0.0800	<0.0000519	103	30.6 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Naphthalene		1,2,3,4,6	0.0693	mg/L	1	0.0800	<0.0000656	87	49.7 - 120	6	20

continued . . .

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
2-Methylnaphthalene		1,2,3,4,6	0.0706	mg/L	1	0.0800	<0.0000516	88	44.6 - 120	3	20
1-Methylnaphthalene		1	0.0726	mg/L	1	0.0800	<0.0000663	91	10 - 189	2	20
Acenaphthylene		1,2,3,4,6	0.0721	mg/L	1	0.0800	<0.0000581	90	40.9 - 120	4	20
Acenaphthene		1,2,3,4,6	0.0708	mg/L	1	0.0800	<0.0000332	88	49.9 - 120	4	20
Dibenzofuran		1,2,3,4,6	0.0653	mg/L	1	0.0800	<0.0000607	82	34 - 120	6	20
Fluorene		1,2,3,4,6	0.0693	mg/L	1	0.0800	<0.0000788	87	49.7 - 120	6	20
Anthracene		1,2,3,4,6	0.0635	mg/L	1	0.0800	<0.0000321	79	11.4 - 155	4	20
Phenanthrene		1,2,3,4,6	0.0690	mg/L	1	0.0800	<0.0000516	86	41 - 120	7	20
Fluoranthene		1,2,3,4,6	0.0628	mg/L	1	0.0800	<0.0000638	78	35.7 - 120	5	20
Pyrene		1,2,3,4,6	0.0859	mg/L	1	0.0800	<0.0000415	107	19.5 - 139	5	20
Benzo(a)anthracene		1,2,3,4,6	0.0675	mg/L	1	0.0800	<0.0000721	84	53.4 - 120	4	20
Chrysene	Qs	Qs 1,2,3,4,6	0.138	mg/L	1	0.0800	<0.0000811	172	10 - 170	4	20
Benzo(b)fluoranthene		1,2,3,4,6	0.0687	mg/L	1	0.0800	<0.0000710	86	29.2 - 120	8	20
Benzo(k)fluoranthene		1,2,3,4,6	0.0873	mg/L	1	0.0800	<0.0000561	109	23.4 - 120	8	20
Benzo(a)pyrene		1,2,3,4,6	0.0785	mg/L	1	0.0800	<0.0000418	98	23.4 - 120	8	20
Indeno(1,2,3-cd)pyrene		1,2,3,4,6	0.0875	mg/L	1	0.0800	<0.0000537	109	10 - 129	5	20
Dibenzo(a,h)anthracene	Qs	Qs 1,2,3,4,6	0.214	mg/L	1	0.0800	<0.0000562	268	10 - 174	8	20
Benzo(g,h,i)perylene		1,2,3,4,6	0.0908	mg/L	1	0.0800	<0.0000519	114	30.6 - 120	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Nitrobenzene-d5	0.0611	0.0652	mg/L	1	0.0800	76	82	10 - 120
2-Fluorobiphenyl	0.0691	0.0722	mg/L	1	0.0800	86	90	35.9 - 120
Terphenyl-d14	0.0835	0.0885	mg/L	1	0.0800	104	111	23.2 - 120

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 409496

QC Batch: 126822 | Date Analyzed: 2015-12-08 | Analyzed By: AK
Prep Batch: 107320 | QC Preparation: 2015-12-07 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.106	mg/L	1	0.100	<0.000299	106	70 - 130
Toluene		5	0.104	mg/L	1	0.100	<0.000247	104	70 - 130
Ethylbenzene		5	0.0993	mg/L	1	0.100	<0.000423	99	70 - 130
Xylene		5	0.287	mg/L	1	0.300	<0.000552	96	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.109	mg/L	1	0.100	<0.000299	109	70 - 130	3	20
Toluene		5	0.105	mg/L	1	0.100	<0.000247	105	70 - 130	1	20
Ethylbenzene		5	0.0998	mg/L	1	0.100	<0.000423	100	70 - 130	0	20
Xylene		5	0.286	mg/L	1	0.300	<0.000552	95	70 - 130	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0923	0.0912	mg/L	1	0.1	92	91	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0903	0.0895	mg/L	1	0.1	90	90	70 - 130

Matrix Spike (MS-1) Spiked Sample: 409525

QC Batch: 126869 | Date Analyzed: 2015-12-09 | Analyzed By: AK
Prep Batch: 107342 | QC Preparation: 2015-12-08 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	0.0933	mg/L	1	0.100	<0.000299	93	70 - 130
Toluene		5	0.0861	mg/L	1	0.100	<0.000247	86	70 - 130
Ethylbenzene		5	0.0775	mg/L	1	0.100	<0.000423	78	70 - 130
Xylene		5	0.229	mg/L	1	0.300	<0.000552	76	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	0.0933	mg/L	1	0.100	<0.000299	93	70 - 130	0	20
Toluene		5	0.0883	mg/L	1	0.100	<0.000247	88	70 - 130	2	20
Ethylbenzene		5	0.0790	mg/L	1	0.100	<0.000423	79	70 - 130	2	20
Xylene		5	0.233	mg/L	1	0.300	<0.000552	78	70 - 130	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0826	0.0770	mg/L	1	0.1	83	77	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0868	0.0817	mg/L	1	0.1	87	82	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 126822 | Date Analyzed: 2015-12-08 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.0926	93	80 - 120	2015-12-08
Toluene		5	mg/L	0.100	0.0896	90	80 - 120	2015-12-08
Ethylbenzene		5	mg/L	0.100	0.0888	89	80 - 120	2015-12-08
Xylene		5	mg/L	0.300	0.250	83	80 - 120	2015-12-08

Standard (CCV-2)

QC Batch: 126822 | Date Analyzed: 2015-12-08 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.103	103	80 - 120	2015-12-08
Toluene		5	mg/L	0.100	0.0956	96	80 - 120	2015-12-08
Ethylbenzene		5	mg/L	0.100	0.0849	85	80 - 120	2015-12-08
Xylene		5	mg/L	0.300	0.243	81	80 - 120	2015-12-08

Standard (CCV-1)

QC Batch: 126869 | Date Analyzed: 2015-12-09 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.0963	96	80 - 120	2015-12-09
Toluene		5	mg/L	0.100	0.0944	94	80 - 120	2015-12-09
Ethylbenzene		5	mg/L	0.100	0.0868	87	80 - 120	2015-12-09
Xylene		5	mg/L	0.300	0.250	83	80 - 120	2015-12-09

Standard (CCV-2)

QC Batch: 126869 | Date Analyzed: 2015-12-09 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/L	0.100	0.104	104	80 - 120	2015-12-09
Toluene		5	mg/L	0.100	0.101	101	80 - 120	2015-12-09
Ethylbenzene		5	mg/L	0.100	0.0907	91	80 - 120	2015-12-09
Xylene		5	mg/L	0.300	0.262	87	80 - 120	2015-12-09

Standard (CCV-1)

QC Batch: 127169 | Date Analyzed: 2015-12-23 | Analyzed By: MN

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		1,2,3,4,6	mg/L	60.0	58.6	98	80 - 120	2015-12-23
2-Methylnaphthalene		1,2,3,4,6	mg/L	60.0	59.3	99	80 - 120	2015-12-23
1-Methylnaphthalene		1	mg/L	60.0	60.0	100	80 - 120	2015-12-23
Acenaphthylene		1,2,3,4,6	mg/L	60.0	60.8	101	80 - 120	2015-12-23
Acenaphthene		1,2,3,4,6	mg/L	60.0	60.8	101	80 - 120	2015-12-23
Dibenzofuran		1,2,3,4,6	mg/L	60.0	62.3	104	80 - 120	2015-12-23
Fluorene		1,2,3,4,6	mg/L	60.0	63.2	105	80 - 120	2015-12-23
Anthracene		1,2,3,4,6	mg/L	60.0	56.8	95	80 - 120	2015-12-23
Phenanthrene		1,2,3,4,6	mg/L	60.0	57.1	95	80 - 120	2015-12-23
Fluoranthene		1,2,3,4,6	mg/L	60.0	51.1	85	80 - 120	2015-12-23
Pyrene		1,2,3,4,6	mg/L	60.0	69.2	115	80 - 120	2015-12-23
Benzo(a)anthracene		1,2,3,4,6	mg/L	60.0	56.6	94	80 - 120	2015-12-23
Chrysene		1,2,3,4,6	mg/L	60.0	57.6	96	80 - 120	2015-12-23
Benzo(b)fluoranthene		1,2,3,4,6	mg/L	60.0	51.7	86	80 - 120	2015-12-23
Benzo(k)fluoranthene		1,2,3,4,6	mg/L	60.0	64.6	108	80 - 120	2015-12-23
Benzo(a)pyrene		1,2,3,4,6	mg/L	60.0	55.0	92	80 - 120	2015-12-23
Indeno(1,2,3-cd)pyrene		1,2,3,4,6	mg/L	60.0	52.0	87	80 - 120	2015-12-23
Dibenzo(a,h)anthracene		1,2,3,4,6	mg/L	60.0	50.1	84	80 - 120	2015-12-23
Benzo(g,h,i)perylene		1,2,3,4,6	mg/L	60.0	52.5	88	80 - 120	2015-12-23

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5			50.3	mg/L	1	60.0	84	-
2-Fluorobiphenyl			58.7	mg/L	1	60.0	98	-
Terphenyl-d14			65.8	mg/L	1	60.0	110	-

Standard (CCV-2)

QC Batch: 127169 | Date Analyzed: 2015-12-23 | Analyzed By: MN

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		1,2,3,4,6	mg/L	60.0	58.2	97	80 - 120	2015-12-23
2-Methylnaphthalene		1,2,3,4,6	mg/L	60.0	57.2	95	80 - 120	2015-12-23
1-Methylnaphthalene		1	mg/L	60.0	57.1	95	80 - 120	2015-12-23
Acenaphthylene		1,2,3,4,6	mg/L	60.0	61.5	102	80 - 120	2015-12-23
Acenaphthene		1,2,3,4,6	mg/L	60.0	60.4	101	80 - 120	2015-12-23
Dibenzofuran		1,2,3,4,6	mg/L	60.0	60.9	102	80 - 120	2015-12-23
Fluorene		1,2,3,4,6	mg/L	60.0	60.3	100	80 - 120	2015-12-23
Anthracene		1,2,3,4,6	mg/L	60.0	56.9	95	80 - 120	2015-12-23
Phenanthrene		1,2,3,4,6	mg/L	60.0	57.5	96	80 - 120	2015-12-23
Fluoranthene		1,2,3,4,6	mg/L	60.0	53.1	88	80 - 120	2015-12-23
Pyrene		1,2,3,4,6	mg/L	60.0	70.1	117	80 - 120	2015-12-23
Benzo(a)anthracene		1,2,3,4,6	mg/L	60.0	57.9	96	80 - 120	2015-12-23
Chrysene		1,2,3,4,6	mg/L	60.0	57.7	96	80 - 120	2015-12-23
Benzo(b)fluoranthene		1,2,3,4,6	mg/L	60.0	53.1	88	80 - 120	2015-12-23
Benzo(k)fluoranthene		1,2,3,4,6	mg/L	60.0	63.0	105	80 - 120	2015-12-23
Benzo(a)pyrene		1,2,3,4,6	mg/L	60.0	55.9	93	80 - 120	2015-12-23
Indeno(1,2,3-cd)pyrene		1,2,3,4,6	mg/L	60.0	53.1	88	80 - 120	2015-12-23
Dibenzo(a,h)anthracene		1,2,3,4,6	mg/L	60.0	51.8	86	80 - 120	2015-12-23
Benzo(g,h,i)perylene		1,2,3,4,6	mg/L	60.0	53.2	89	80 - 120	2015-12-23

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5			52.2	mg/L	1	60.0	87	-
2-Fluorobiphenyl			61.9	mg/L	1	60.0	103	-
Terphenyl-d14			68.1	mg/L	1	60.0	114	-

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-15-11	Lubbock
5	NELAP	T104704392-14-8	Midland
6		2015-066	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.

F	Description
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Result Comments

1 Use MS/MSD to show analysis is in control.

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 15120425

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: G4D Midland
Phone #: 432-686-0086
Address: (Street, City, Zip) 2135 S Loop 250W Midland, TX 79703
Fax #: 432-686-0186
Contact Person: John Persyn
E-mail: John.Persyn@G4D.com
Invoice to: (If different from above)
Project #: 074684
Project Name: Dam 4
Project Location (including state): Lovington, NM
Sampler Signature:

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity	Na, Ca, Mg, K, TDS, EC									Turn Around Time if different from standard	Hold
409496	mw-16-120315	3		X				X						12-3-15	1110		X																											
409497	mw-14-120315	3													1125																														
409498	mw-15-120315	3													1140																														
409499	mw-3R-120315	4													1200					X																										
409500	RW-15-120315	4													1220					X																										
409501	RW-14-120315	4													1240					X																										
409502	RW12R-120315	4													1300					X																										
409503	Dup-1-120315	3													-																														

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
	G4D	12-4-15	1545		TA	12-4-15	15:45	INST TR °C OBS 2.9 °C COR 2.8 °C
	TA	12-7-15	1358					INST ____ °C OBS ____ °C COR ____ °C
					TA	12/8/15	9:45	INST ____ °C OBS 1.5 °C COR 1.4 °C

LAB USE ONLY
Intact (Y) / N
Headspace Y / N / NA
Log-in-Review AS

REMARKS:

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Carrier # Carry In 45° 2T1776907

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

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