AP-7

Plains
Darr Angell #4

2013
Annual Report

PLAINS
ALL AMERICAN

March 18, 2014

Mr. Jim Griswold
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Plains All American – 2013 Annual Monitoring Reports
4 Sites in Lea County, New Mexico

Dear Mr. Griswold:

Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation Division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring reports for the following sites:

Darr Angell #1	AP-007	Section 11, Township 15 South, Range 37 East, Lea County
Darr Angell #2	AP-007	Section 11, Township 15 South, Range 37 East, Lea County Section 14, Township 15 South, Range 37 East, Lea County
Darr Angell #4	AP-007	Section 11, Township 15 South, Range 37 East, Lea County Section 02, Township 15 South, Range 37 East, Lea County
Denton Station	1R-0234	Section 14, Township 15 South, Range 37 East, Lea County

Conestoga-Rovers & Associates (CRA) prepared these documents and has vouched for their accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the documents and interviewed CRA personnel in order to verify the accuracy and completeness of these documents. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Reports for the above facilities.

If you have any questions or require further information, please contact me at (575) 441-1099.

Sincerely,

Camille Bryant
Remediation Coordinator
Plains All American

CC: Geoff Leking, NMOCD, Hobbs, NM

Enclosures

Original

CONESTOGA-ROVERS & ASSOCIATES

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Final Report

2013 Annual Groundwater Monitoring Report

Darr Angell No. 4
NW 1/4, NE 1/4, Section 11, Township 15 South, Range 37 East
SW 1/4, SE 1/4, Section 2, Township 15 South, Range 37 East
Plains SRS Number: 2001-10876
NMOCD Reference Number: AP 007
Lea County, New Mexico

Prepared For:
Mr. Jeff Dann
Plains All American Pipeline, L.P.
333 Clay Street, Suite 1600
Houston, Texas 77002

Conestoga-Rovers & Associates
2135 South Loop, 250 West
Midland, Texas 79703

March 2014 • 074684 • Report No. 4

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Section 1.0 Introduction

This 2013 Annual Groundwater Monitoring Report presents data collected at the Darr Angell No. 4 location (hereafter referred to as the "Site") by Conestoga-Rovers & Associates (CRA) on behalf of Plains Pipeline, L.P. (Plains) in compliance with the New Mexico Oil Conservation Division (NMOCD) correspondence dated May 1998. This report presents groundwater assessment and remediation activities associated with quarterly gauging and sampling events (March, May, August and November) and bi-weekly light non-aqueous phase liquid (LNAPL) abatement activities which were performed during the 2013 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 (Figure 1). The Darr Angell No. 4 Pipeline Release 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 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 made to the NMOCD immediately. A Release Notification and Corrective Action Form (C-141) was submitted to the NMOCD dated 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. CRA assumed Site remediation and project management responsibilities on May 2, 2011.

Currently, there are 16 groundwater monitor wells (MW-1A and MW-2 through MW-16) and 13 product recovery wells (RW-1 through RW-13) on site. RW-2 and RW-10 were equipped with total fluid pumps for LNAPL recovery in the 1st and 2nd quarters. Pump malfunctions and needed repairs kept them down in the 3rd and 4th quarters and manual recovery was done instead. Both pumps were compressor driven. Monitor and recovery wells which exhibited LNAPL, but were not part of the automated recovery system, had LNAPL recovered manually. Recovered product is periodically transported to Wasson Station facility for reinjection into the Plains Pipeline system, and recovered groundwater is transported to a licensed disposal facility.

Section 2.0 Regulatory Framework

The New Mexico Oil Conservation Division (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 correspondence dated April 28, 2004 and was amended in NMOCD correspondence dated June 21, 2005.

NMOCD APPROVED SAMPLING SCHEDULE					
MW-1A	Annually	MW-11	Annually	RW-4	Quarterly
MW-2	Annually	MW-12	Annually	RW-5	Quarterly
MW-3	Quarterly	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			RW10	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	Quarterly	RW-13	Quarterly

Section 3.0 Groundwater Monitoring Activities

Quarterly groundwater monitoring event activities were conducted by CRA on March 4-7, May 28-30, August 27-29 and November 12-13. The Site is monitored with a network of 16 monitor wells and 13 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, 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 were collected using clean, disposable PVC bailers. Laboratory-supplied sample containers were then filled directly from the bailers. Groundwater 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 TraceAnalysis, Inc. in Midland, Texas for analysis of BTEX by EPA Method 8021B. The groundwater fluids recovered during the Site activities were containerized on site in properly labeled and sealed drums or poly tanks and disposed of at an approved salt water disposal (SWD) facility.

3.2 Groundwater Monitoring Results

All depth to groundwater measurements were recorded from the top of casing (TOC) of each well. However, 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 CRA during the March, May, August and November groundwater gauging events is presented in Table 1. Groundwater gradient maps for March, May, August and November 2013 are provided as Figures 3, 4, 5 and 6, respectively.

Corrected groundwater elevations ranged from 3,727.72 to 3,729.11 feet in March, from 3,727.59 to 3,728.90 feet in May, from 3,727.20 to 3,728.77 feet in August and from 3,727.65 to 3,728.62 feet in November 2013. LNAPL was encountered in nine wells during the March, August and November events (RW-1, RW-2, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12 and RW-13) and 10 wells during the May event (RW-1, RW-2, RW-5, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12 and RW-13) and were not sampled. LNAPL thickness ranged from 0.25 to 5.44 feet in March, from 0.03 to 5.64 feet in May, from 0.52 to 3.91 feet in August and from 0.71 to 2.96 feet in November 2013. The average groundwater flow direction is toward the east and appears to be consistent with historical data. The average groundwater gradient observed at the Site during the 2013 groundwater monitoring events was approximately 0.0014 feet/foot.

During the 2013 groundwater sampling events, benzene was not detected at concentrations above the laboratory reporting limit of 0.00100 mg/L in any of the wells sampled. Other BTEX constituents were detected above the laboratory reporting limit of 0.00100 mg/L only in one sample. Ethylbenzene was present at a concentration of 0.0294 mg/L and total xylenes were detected at 0.0132 mg/L in the sample

collected from RW-5 in March 2013. Monitor wells MW-3, MW-8, MW-12, MW-13, RW-3, RW-4 and RW-6 were not sampled during 2013, because these wells were dry during all sampling events. MW-2 was dry during the November sampling event. Groundwater BTEX analytical results are summarized in Table 2. There were no Polycyclic Aromatic Hydrocarbons (PAH) detections in the past year that needed re-sampling in 2013, but the historic data on the PAH results are summarized in Table 3. Groundwater BTEX concentration maps for the groundwater sampling events in March, May, August and November 2013 are presented as Figures 7, 8, 9 and 10, respectively. Copies of the certified laboratory reports and chain-of-custody documentation are attached in Appendix A.

Section 4.0 Corrective Action

CRA mobilized to the Site twice a week to gauge and manually recover product from wells not included in the automated LNAPL recovery system, but had product present in the fluids column. Wells which were equipped with total fluids pumps each quarter are identified on Figures 7, 8, 9 and 10. Inspections and maintenance of the operating systems on Site were also conducted weekly. This included inspections and maintenance of the compressor (i.e. oil changes, drain water), total fluids pumps (i.e. cleaning) and any other "housekeeping" needed at the Site to maintain the most efficient product recovery system possible. Periodically and as needed, CRA personnel adjusted the total fluids pump intervals in the wells in an effort to increase LNAPL recovery.

The 2013 abatement program has recovered approximately 1,004 gallons (24 barrels) of product. Approximately 16,237 gallons (386 barrels) of product have been recovered from the start of the product abatement program.

Section 5.0 Summary of Findings

Based on groundwater assessment monitoring and remedial activities performed by CRA at the Site in 2013, the following summary of findings is presented:

- CRA assumed remediation responsibility of the Site on May 2, 2011.
- The Site is monitored with a network of 16 groundwater monitor wells (MW-1 and MW-2 through MW-16) and 13 product recovery wells (RW-1 through RW-13).
- Select monitor and recovery wells are equipped with total fluid pumps for LNAPL recovery. All pumps are compressor driven and are periodically relocated depending on LNAPL thickness and product recovery rates in an effort to maximize product recovery at the Site.

- Product was manually recovered bi-weekly from wells which contained measureable product but were not equipped with total fluids pumps.
- The groundwater flow direction at the Site is to the east and appears to be consistent with historical data. The average groundwater gradient observed at the Site during the 2013 groundwater monitoring events was approximately 0.0014 feet/foot.
- LNAPL was encountered in nine wells during the March, August and November events (RW-1, RW-2, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12 and RW-13) and 10 wells during the May event (RW-1, RW-2, RW-5, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12 and RW-13) and were not sampled.
- LNAPL thickness ranged from 0.25 to 5.44 feet in March, from 0.03 to 5.64 feet in May, from 0.52 to 3.91 feet in August and from 0.71 to 2.96 feet in November 2013.
- During 2013 groundwater sampling events, benzene was not detected at concentrations above the laboratory reporting limit of 0.00100 mg/L in any of the wells sampled. Other BTEX constituents were detected above the laboratory reporting limit of 0.00100 mg/L only in one sample. Ethylbenzene was present at a concentration of 0.0294 mg/L and total xylenes were detected at 0.0132 mg/L in the sample collected from RW-5 in March 2013. MW-3, MW-8, MW-12, MW-13, RW-3, RW-4, and RW-6 were not sampled during 2013, because these wells were dry during all sampling events. MW-2 was dry during the November sampling event.
- CRA performed weekly inspections and maintenance of the product recovery system on Site. Wells with standing product in the fluids column were gauged and manually recovered twice a week.
- The 2013 abatement program recovered approximately 1,004 gallons (24 barrels) of product. Approximately 16,237 gallons (386 barrels) of product have been recovered from the start of the product abatement program.

Section 6.0 Recommendations

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

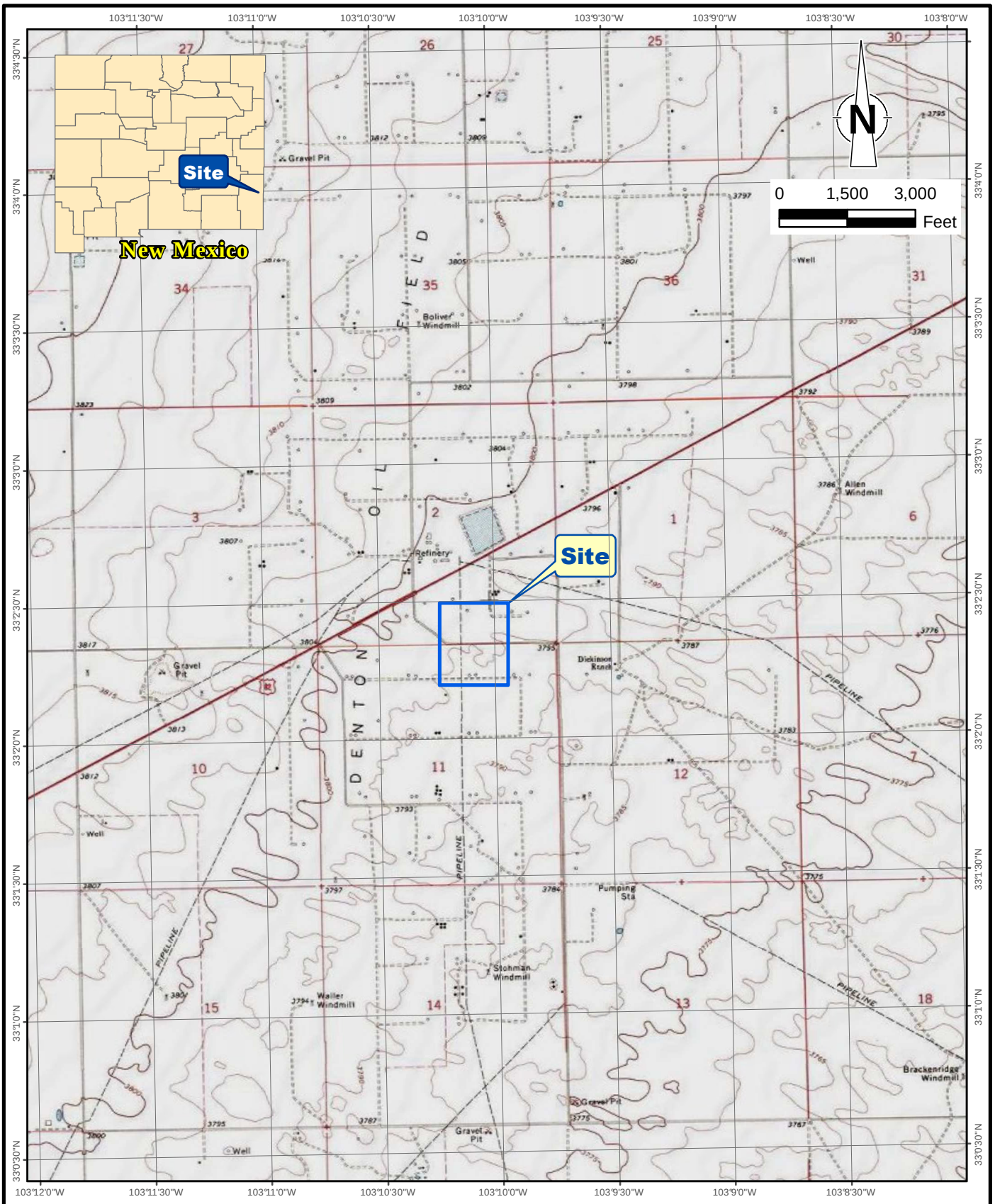
- Continue quarterly groundwater monitoring events in 2014 with annual reporting to the NMOCD.
- Continue bi-weekly LNAPL abatement in 2014 that includes quarterly rotations at the site with the Mobile Dual Phase Extraction (MDPE) trailer on all recovery wells with standing product.
- Install three monitor wells (MW-3R, RW-3R and RW-4R) to replace the dry wells, and possibly replace RW-1 due to an obstruction in the well.
- Add three recovery wells RW-14(to the west of RW-7), RW-15(to the west of RW-10) and RW-16(to the west of RW-4) to increase product recovery.
- Once LNAPL thickness in wells has declined to <0.01 feet, these new wells will be placed on a quarterly monitoring schedule and sampled for BTEX and PAH.

All of which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

Kimberly Lambert
Project Manager

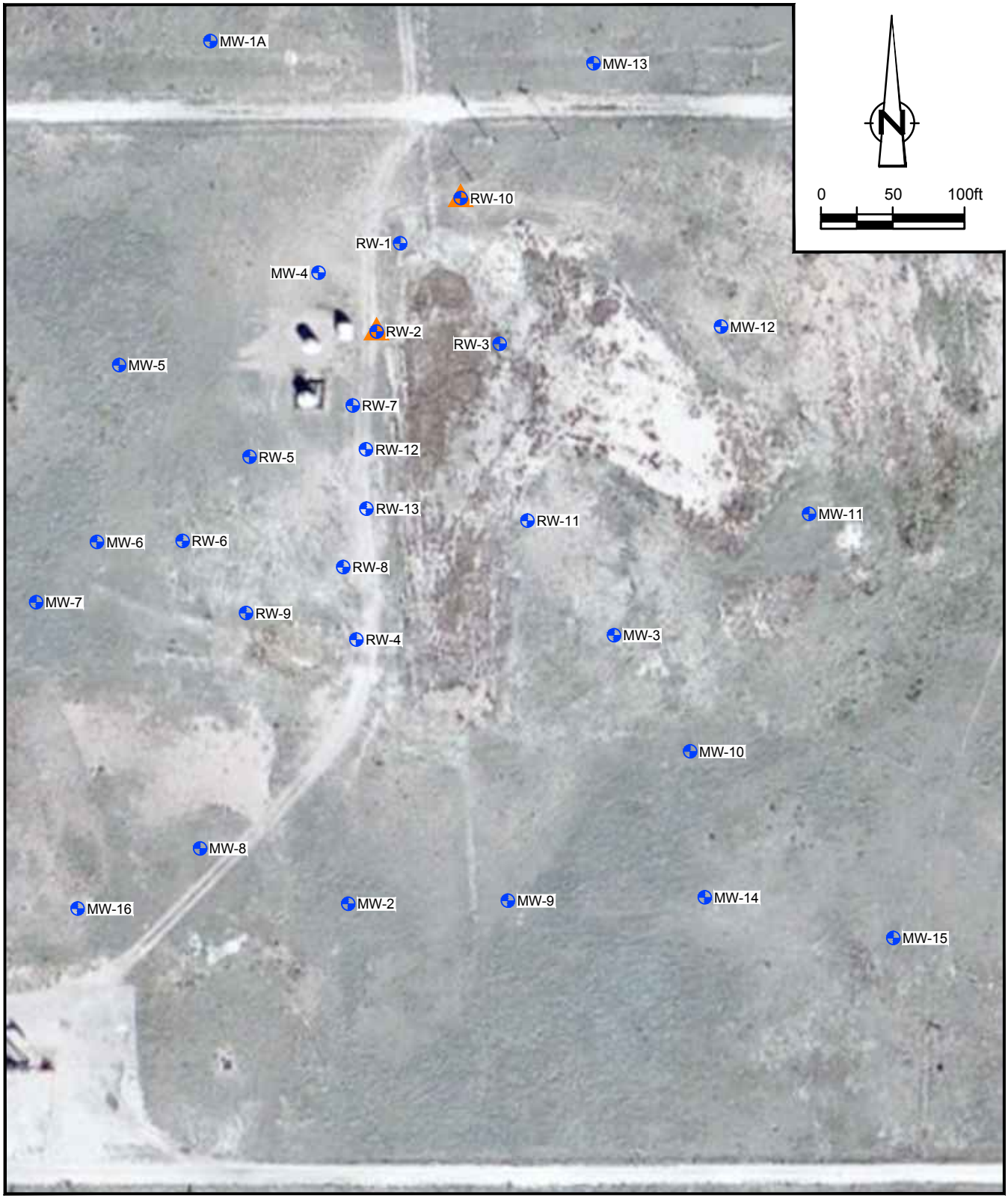
Thomas C. Larson, PG
Principal, Midland Operations Manager

Figures



RE: USGS 7.5 Minute Topographic Maps.

figure 1
SITE LOCATION MAP
DARR ANGELL NO. 4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.



LEGEND

- Well Location
- Well Equipped with Total Fluids Pump

figure 2

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

074684-02(004)GN-DL001 MAR 14/2014

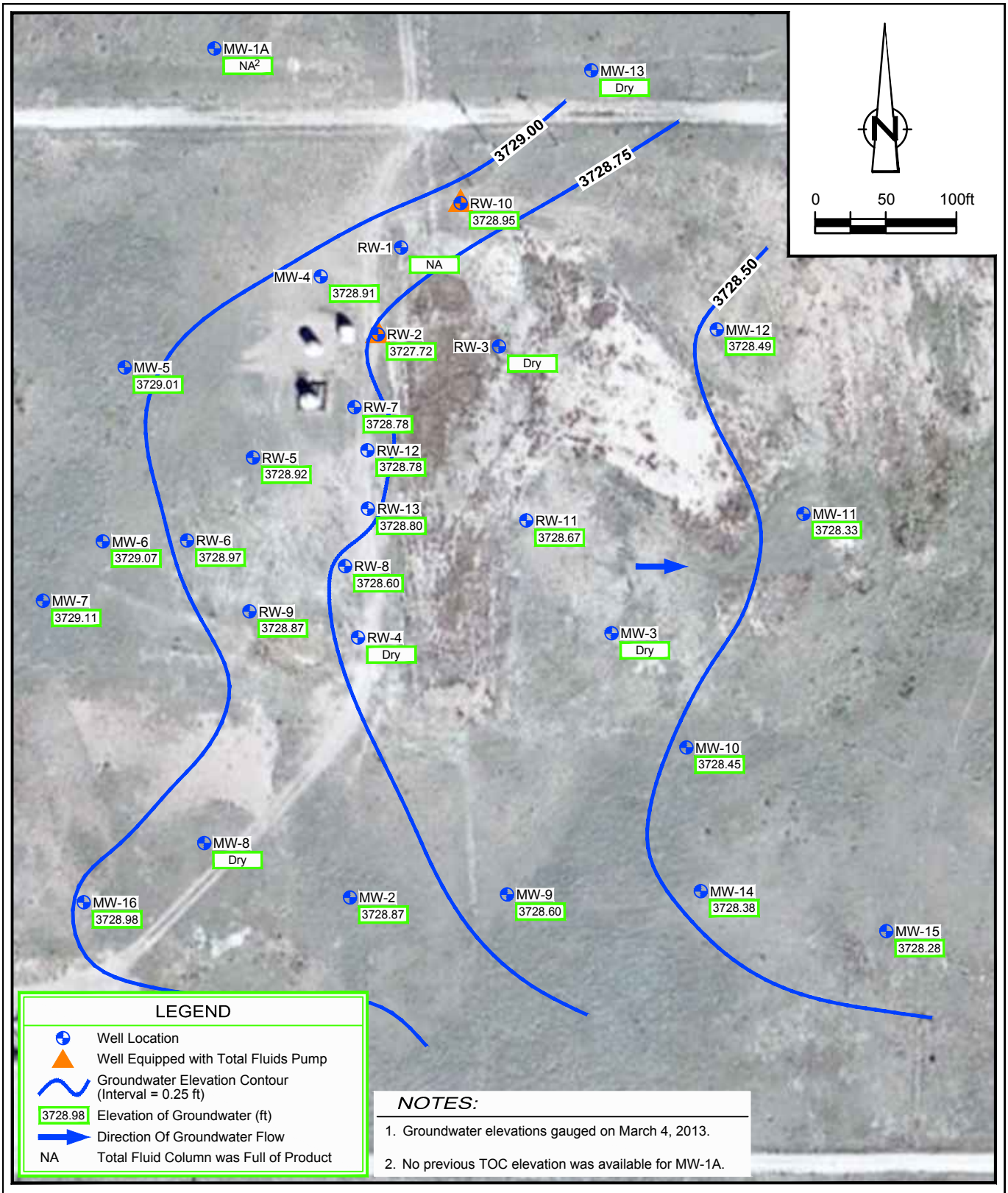


figure 3

GROUNDWATER GRADIENT MAP - MARCH 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

074684-02(004)GN-DL001 MAR 14/2014

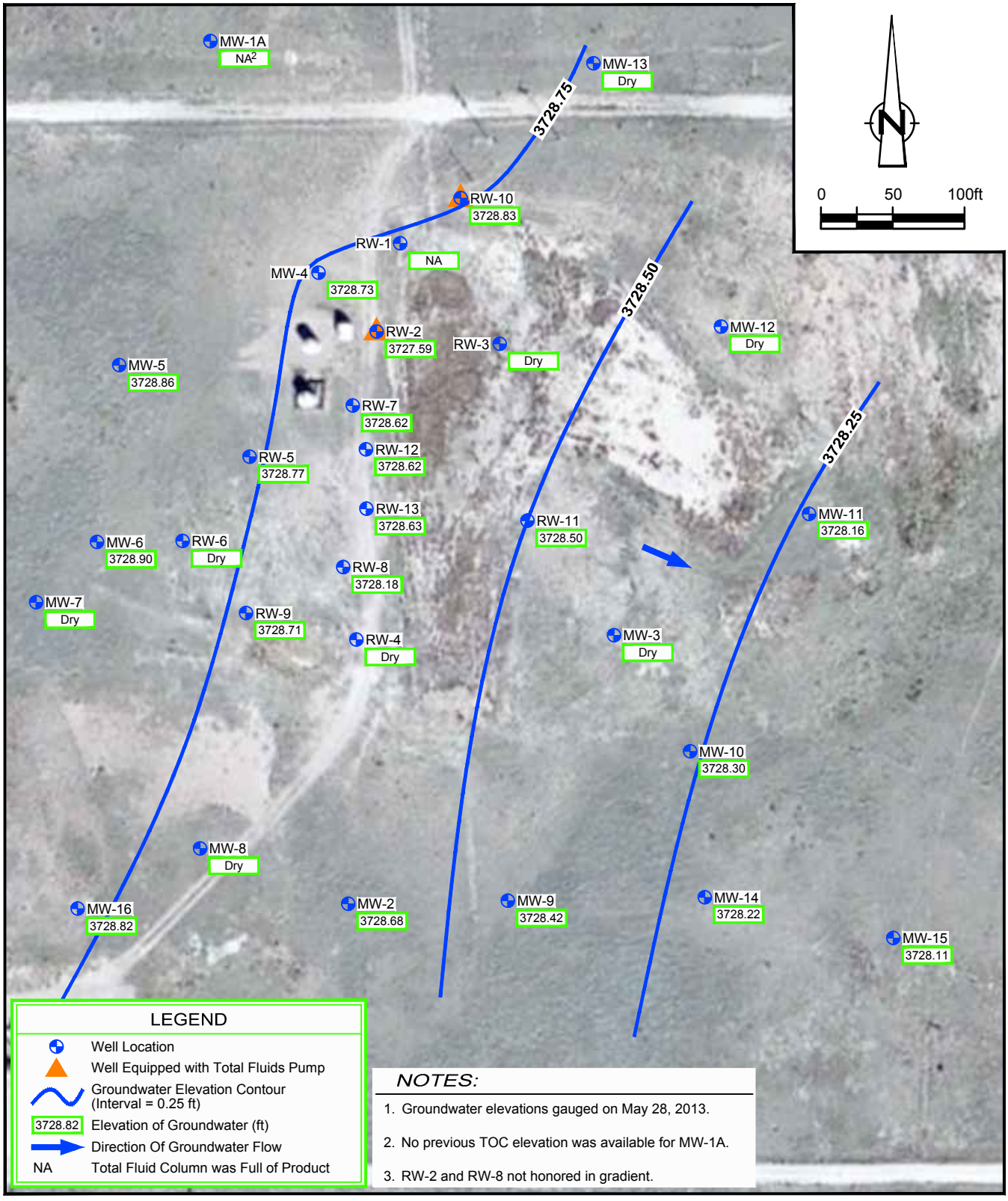


figure 4

GROUNDWATER GRADIENT MAP - MAY 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

074684-02(004)GN-DL001 MAR 14/2014

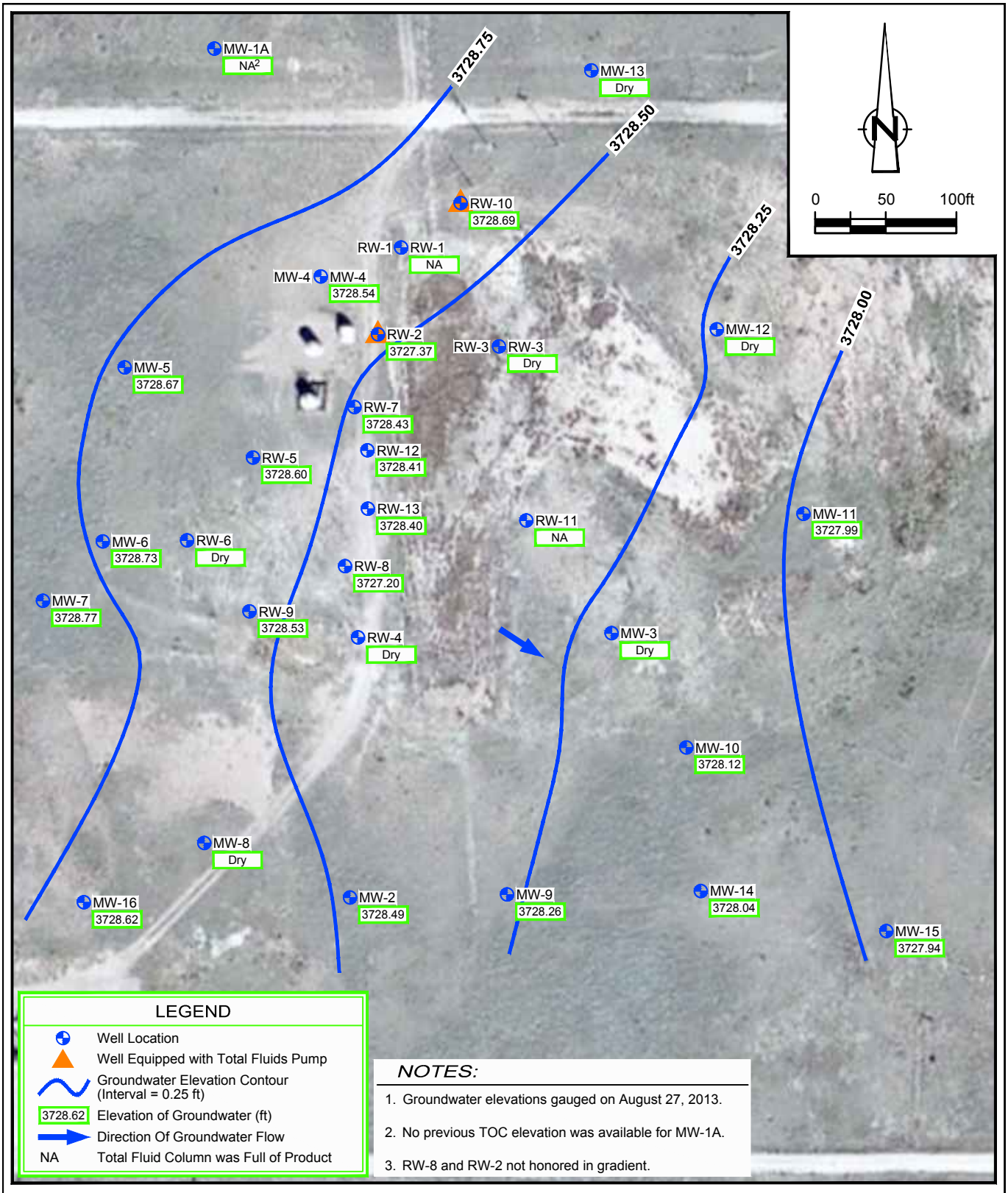


figure 5

GROUNDWATER GRADIENT MAP - AUGUST 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

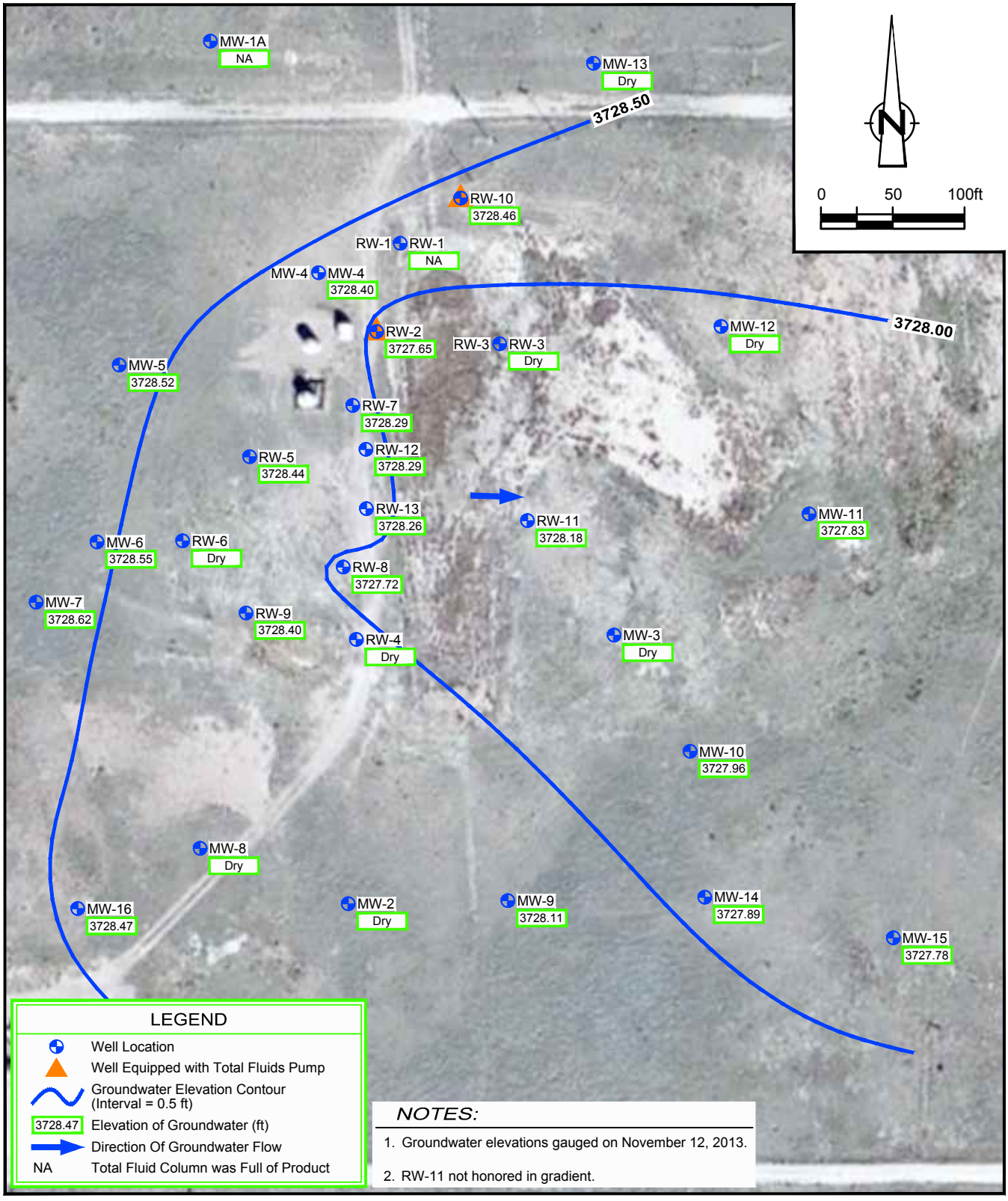


figure 6

GROUNDWATER GRADIENT MAP - NOVEMBER 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

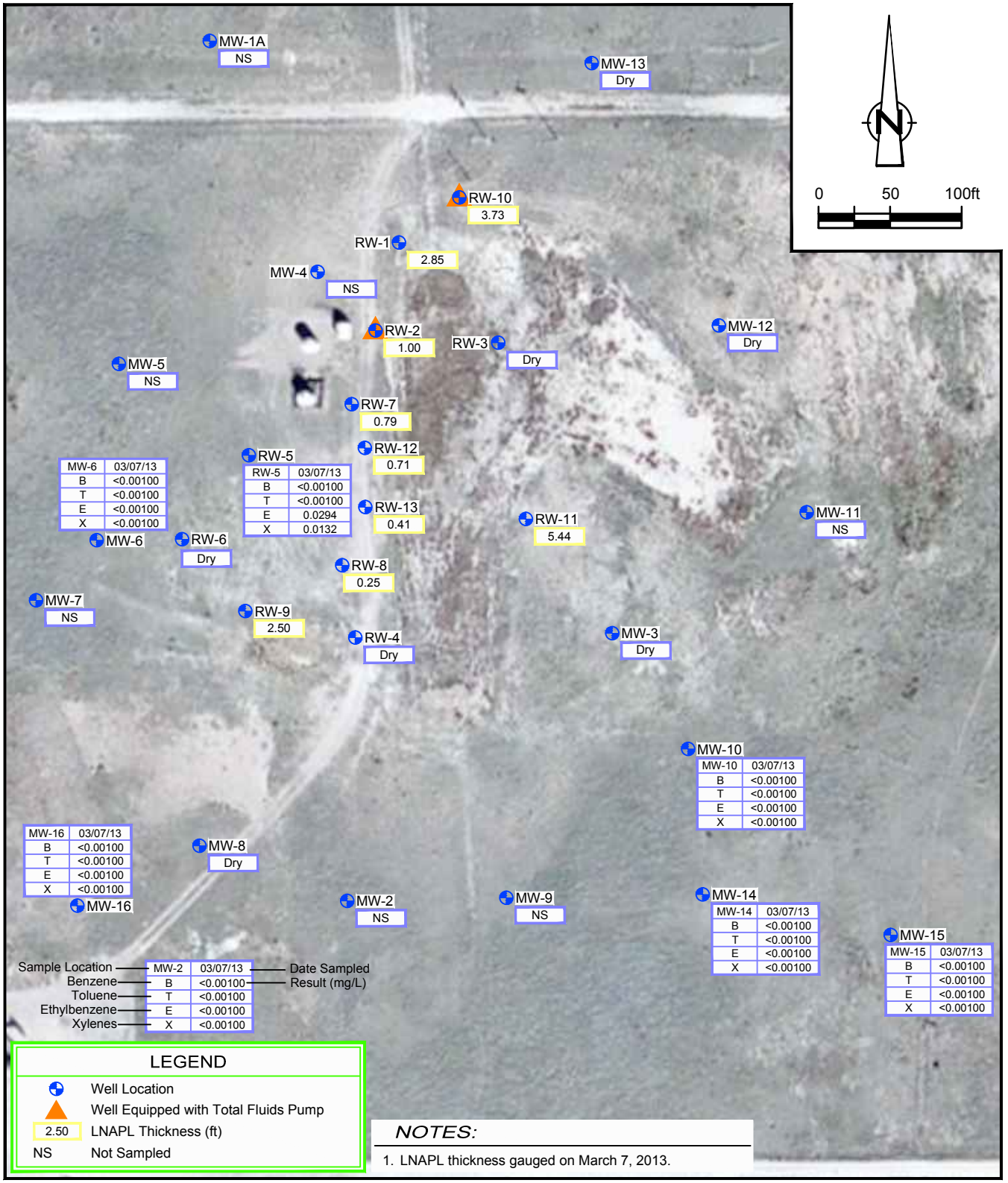


figure 7

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - MARCH 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

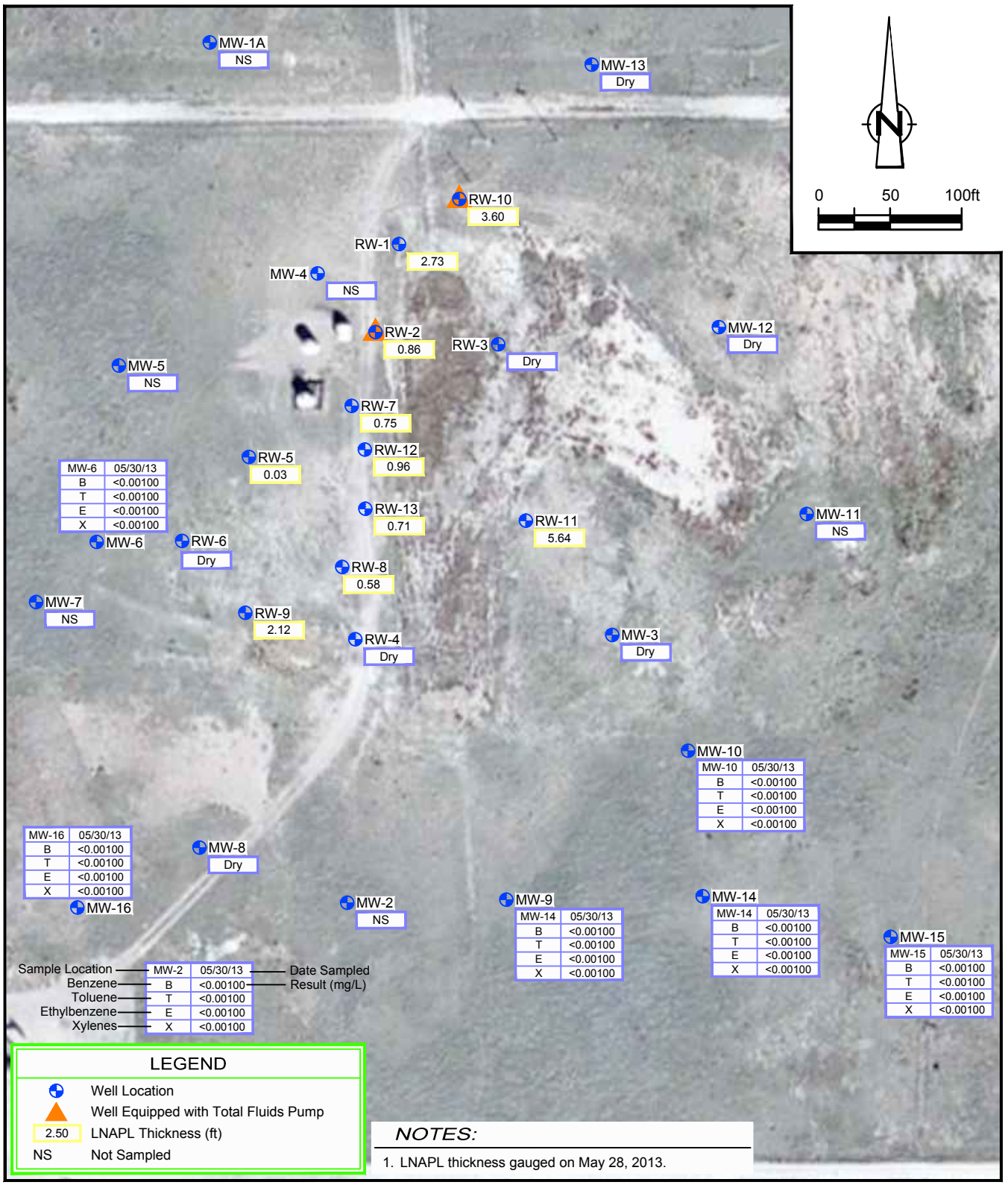


figure 8

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - MAY 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

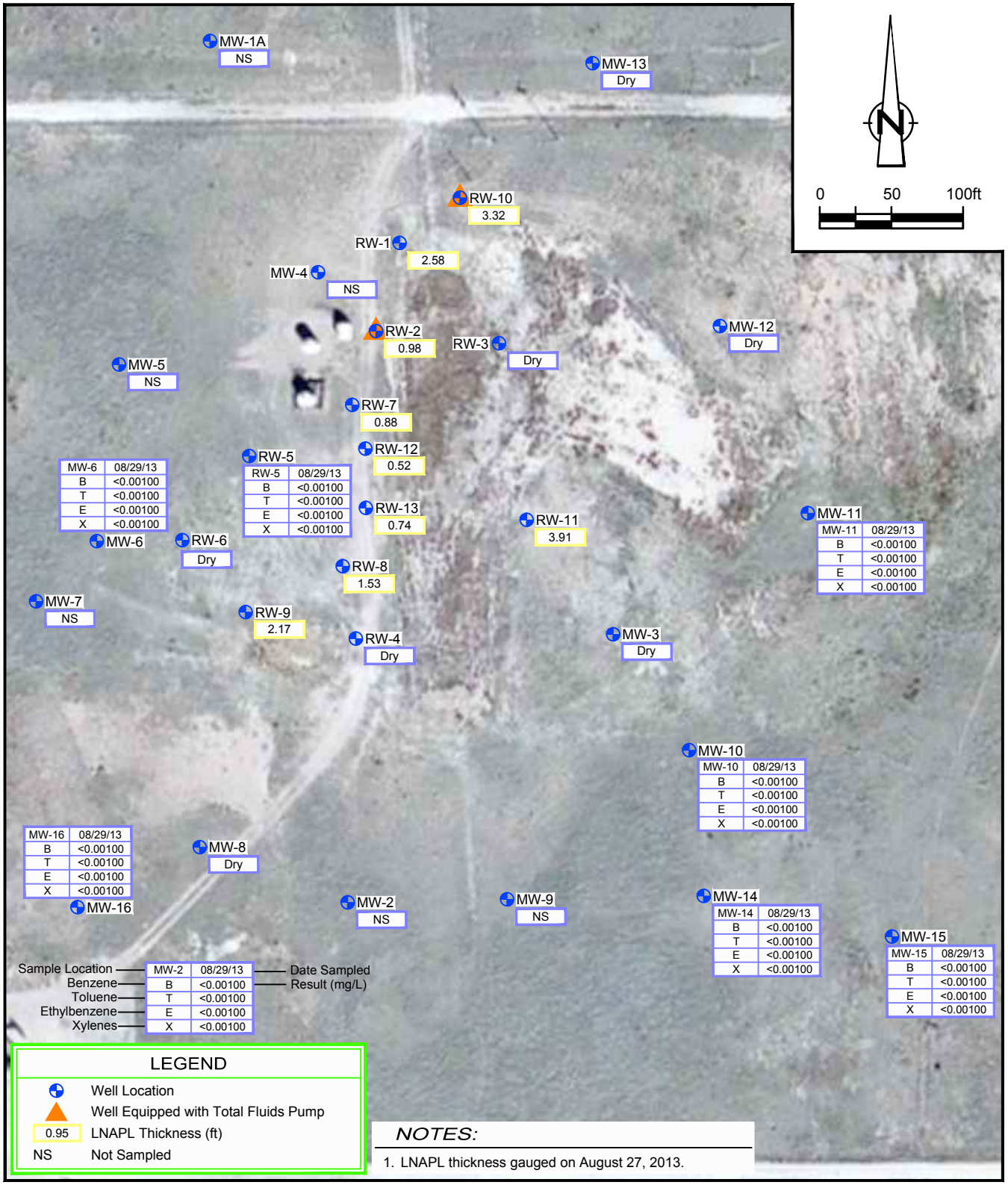


figure 9

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - AUGUST 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

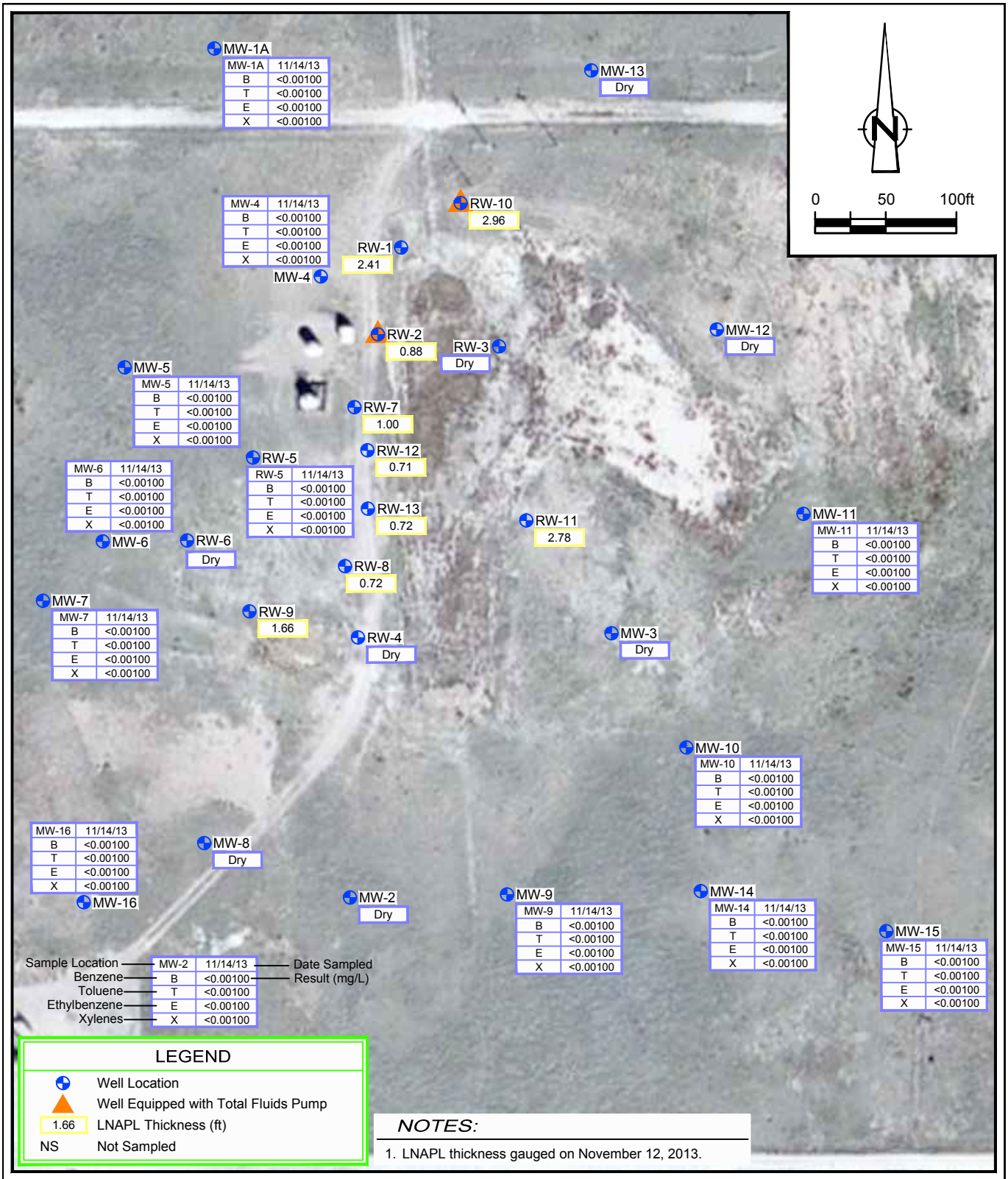


figure 10

LNAPL THICKNESS AND GROUNDWATER BTEX CONCENTRATION MAP - NOVEMBER 2013
DARR ANGELL No.4
LEA COUNTY, NEW MEXICO
Plains Pipeline L.P.

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	
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	
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	
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	

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-4 (cont.)	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	
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	
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	
	8/27/13	67.78	---	---	3728.73	69.22	
	11/12/13	67.96			3728.55	69.29	
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	
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	

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-8 (cont.)	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	
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	
	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	
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	
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	

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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	
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	
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	
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	

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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-15 (cont.)	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	
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	
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	
	8/27/13	---	68.30	2.58	NA*	70.88	
	11/12/13	---	68.49	2.41	NA*	70.90	
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	---	
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	

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GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
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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-3 (cont.)	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			68.3	
	11/12/13		DRY			68.31	
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	
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	
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	

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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-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	---	
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	3728.80	73.30	
	3/4/13	69.73	69.48	0.25	3728.60	---	
	5/28/13	70.15	69.57	0.58	3728.18	---	
	8/27/13	71.13	69.60	1.53	3727.20	---	
	11/12/13	70.61	69.89	0.72	3727.72	---	
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	---	
	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	---	
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	---	

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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-10 (cont.)	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	---	
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	---	
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	---	
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	---	

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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.
5. NA - Total fluids column was product.

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*	*Total BTEX*
New Mexico Oil Conservation Division Regulatory Limits						
		0.01	*0.75*	*0.75*	*0.62*	*0.05*
MW-1A	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-2	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-3	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-4	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-5	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-6	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-7	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-8	3/2/11	<0.00100	<0.00100	**0.00760**	**0.0210**	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	**0.00700**	**0.00700**
MW-9	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<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*	*Total BTEX*
New Mexico Oil Conservation Division Regulatory Limits						
		0.01	*0.75*	*0.75*	*0.62*	*0.05*
MW-10	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-11	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-12	12/1/11	**0.210**	<0.00500	**0.0147**	<0.00500	**0.225**
	6/7/12	**0.303**	0.134	**0.397**	**1.2**	**2.034**
MW-14	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
MW-15	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<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*	*Total BTEX*
New Mexico Oil Conservation Division Regulatory Limits						
		0.01	*0.75*	*0.75*	*0.62*	*0.05*
MW-16	3/2/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/15/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/13/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/1/11	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	6/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	9/12/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	12/7/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	3/7/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	5/30/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
RW-5	3/2/11	**0.00830**	<0.00100	**0.0206**	**0.0360**	**0.0649**
	6/15/11	**0.0109**	<0.00100	<0.00100	<0.00100	**0.0109**
	9/13/11	**0.0151**	**0.00850**	**0.247**	**0.382**	**0.6526**
	12/1/11	<0.00100	**0.0478**	**0.354**	**0.758**	**1.1598**
	3/7/12	**0.0548**	**0.0550**	**0.268**	**0.675**	**1.0528**
	6/7/12	<0.00100	**0.0092**	**0.220**	**0.592**	**0.8212**
	9/12/12	**0.0337**	<0.00100	**0.111**	**0.289**	**0.4337**
	12/7/12	<0.00100	<0.00100	**0.0498**	**0.0488**	**0.0986**
	3/7/13	<0.00100	<0.00100	**0.0294**	**0.0132**	**0.0426**
	8/29/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	11/14/13	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
RW-6	12/1/11	**0.0794**	**0.129**	**0.639**	**1.75**	**2.5974**
RW-8	12/1/11	**1.21**	**1.57**	**0.685**	**2.55**	**6.0150**
	6/7/12	**1.55**	**0.184**	**0.520**	**1.90**	**4.1540**
RW-12	6/7/12	**0.303**	**0.134**	**0.397**	**1.20**	**2.0340**
RW-13	3/2/11	**1.21**	**0.910**	**0.914**	**2.15**	**5.1840**
	12/1/11	**1.08**	**0.219**	**0.311**	**0.776**	**2.3860**

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*	*Total BTEX*
New Mexico Oil Conservation Division Regulatory Limits						
		0.01	*0.75*	*0.75*	*0.62*	*0.05*

Notes:

1. Shaded cells indicate New Mexico Oil Conserrvation 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																		
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-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-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																		

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-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																		
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-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-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**
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
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																		
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																		
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																		

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																		
RW-10	11/23/10	Not sampled as part of Quarterly Monitoring Event																		
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																		
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																		
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																		

Notes:

1. Shaded cells indicate New Mexico Oil Conservation Division Regulatory Limit exceedance.
2. **Bold** indicates detection.
3. BTEX analyses by EPA Method 8021B.
4. Results shown in mg/L.
5. 2008 through 2010 analytical results collected by NOVA.

Appendices

Appendix A
Certified Laboratory Reports

Summary Report

Todd Wells
CRA-Midland
2135 South Loop 250 West
Midland, TX 79703

Report Date: March 18, 2013

Work Order: 13030733

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
Project Number: 074684
SRS #: 2001-10876

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
322756	MW-14 030713	water	2013-03-07	12:00	2013-03-07
322757	MW-15 030713	water	2013-03-07	12:05	2013-03-07
322758	MW-10 030713	water	2013-03-07	12:10	2013-03-07
322759	Dup.-2 030713	water	2013-03-07	00:00	2013-03-07
322760	MW-16 030713	water	2013-03-07	12:20	2013-03-07
322761	MW-6 030713	water	2013-03-07	12:25	2013-03-07
322762	RW-5 030713	water	2013-03-07	12:30	2013-03-07

	BTEX			
Sample - Field Code	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
322756 - MW-14 030713	<0.00100	<0.00100	<0.00100	<0.00100
322757 - MW-15 030713	<0.00100	<0.00100	<0.00100	<0.00100
322758 - MW-10 030713	<0.00100	<0.00100	<0.00100	<0.00100
322759 - Dup.-2 030713	<0.00100	<0.00100	<0.00100	<0.00100
322760 - MW-16 030713	<0.00100	<0.00100	<0.00100	<0.00100
322761 - MW-6 030713	<0.00100	<0.00100	<0.00100	<0.00100
322762 - RW-5 030713	<0.00100	<0.00100	**0.0294**	**0.0132**

This is only a summary. Please, refer to the complete report package for quality control data.

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

Todd Wells
CRA-Midland
2135 South Loop 250 West
Midland, TX, 79703

Report Date: March 18, 2013

Work Order: 13030733

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
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
322756	MW-14 030713	water	2013-03-07	12:00	2013-03-07
322757	MW-15 030713	water	2013-03-07	12:05	2013-03-07
322758	MW-10 030713	water	2013-03-07	12:10	2013-03-07
322759	Dup.-2 030713	water	2013-03-07	00:00	2013-03-07
322760	MW-16 030713	water	2013-03-07	12:20	2013-03-07
322761	MW-6 030713	water	2013-03-07	12:25	2013-03-07
322762	RW-5 030713	water	2013-03-07	12:30	2013-03-07

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.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project Darr Angel #4 Site were received by TraceAnalysis, Inc. on 2013-03-07 and assigned to work order 13030733. Samples for work order 13030733 were received intact without headspace and at a temperature of 19.7 C. Samples were received straight from the field on ice.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	84441	2013-03-13 at 13:51	99671	2013-03-13 at 13:52
BTEX	S 8021B	84538	2013-03-18 at 12:14	99781	2013-03-18 at 12:19

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 13030733 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: 322756 - MW-14 030713

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99671	Date Analyzed:	2013-03-13	Analyzed By:	AH
Prep Batch:	84441	Sample Preparation:	2013-03-12	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0965	mg/L	1	0.100	96	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0901	mg/L	1	0.100	90	70 - 130

Sample: 322757 - MW-15 030713

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99671	Date Analyzed:	2013-03-13	Analyzed By:	AH
Prep Batch:	84441	Sample Preparation:	2013-03-12	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0976	mg/L	1	0.100	98	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0915	mg/L	1	0.100	92	70 - 130

Sample: 322758 - MW-10 030713

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99671	Date Analyzed:	2013-03-13	Analyzed By:	AH
Prep Batch:	84441	Sample Preparation:	2013-03-12	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0978	mg/L	1	0.100	98	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0904	mg/L	1	0.100	90	70 - 130

Sample: 322759 - Dup.-2 030713

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99671	Date Analyzed:	2013-03-13	Analyzed By:	AH
Prep Batch:	84441	Sample Preparation:	2013-03-12	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0984	mg/L	1	0.100	98	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0917	mg/L	1	0.100	92	70 - 130

Sample: 322760 - MW-16 030713

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99671	Date Analyzed:	2013-03-13	Analyzed By:	AH
Prep Batch:	84441	Sample Preparation:	2013-03-12	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0977	mg/L	1	0.100	98	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0909	mg/L	1	0.100	91	70 - 130

Sample: 322761 - MW-6 030713

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99671	Date Analyzed:	2013-03-13	Analyzed By:	AH
Prep Batch:	84441	Sample Preparation:	2013-03-12	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0980	mg/L	1	0.100	98	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0916	mg/L	1	0.100	92	70 - 130

Sample: 322762 - RW-5 030713

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99781	Date Analyzed:	2013-03-18	Analyzed By:	AH
Prep Batch:	84538	Sample Preparation:	2013-03-18	Prepared By:	AH

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Benzene	U	1	<0.00100		mg/L	1	0.00100
Toluene	U	1	<0.00100		mg/L	1	0.00100
Ethylbenzene		1	**0.0294**		mg/L	1	0.00100
Xylene		1	**0.0132**		mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0941	mg/L	1	0.100	94	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0987	mg/L	1	0.100	99	70 - 130

Method Blanks

Method Blank (1) QC Batch: 99671

QC Batch: 99671 | Date Analyzed: 2013-03-13 | Analyzed By: AH
Prep Batch: 84441 | QC Preparation: 2013-03-13 | Prepared By: AH

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000200	mg/L	0.001
Toluene		1	<0.000300	mg/L	0.001
Ethylbenzene		1	<0.000400	mg/L	0.001
Xylene		1	<0.00120	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0974	mg/L	1	0.100	97	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0908	mg/L	1	0.100	91	70 - 130

Method Blank (1) QC Batch: 99781

QC Batch: 99781 | Date Analyzed: 2013-03-18 | Analyzed By: AH
Prep Batch: 84538 | QC Preparation: 2013-03-18 | Prepared By: AH

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000200	mg/L	0.001
Toluene		1	<0.000300	mg/L	0.001
Ethylbenzene		1	<0.000400	mg/L	0.001
Xylene		1	<0.00120	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0966	mg/L	1	0.100	97	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0903	mg/L	1	0.100	90	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 99671 | Date Analyzed: 2013-03-13 | Analyzed By: AH
Prep Batch: 84441 | QC Preparation: 2013-03-13 | Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.103	mg/L	1	0.100	<0.000200	103	70 - 130
Toluene		1	0.101	mg/L	1	0.100	<0.000300	101	70 - 130
Ethylbenzene		1	0.102	mg/L	1	0.100	<0.000400	102	70 - 130
Xylene		1	0.302	mg/L	1	0.300	<0.00120	101	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	0.111	mg/L	1	0.100	<0.000200	111	70 - 130	8	20
Toluene		1	0.109	mg/L	1	0.100	<0.000300	109	70 - 130	8	20
Ethylbenzene		1	0.110	mg/L	1	0.100	<0.000400	110	70 - 130	8	20
Xylene		1	0.327	mg/L	1	0.300	<0.00120	109	70 - 130	8	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)	0.0974	0.0970	mg/L	1	0.100	97	97	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0922	0.0912	mg/L	1	0.100	92	91	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 99781 | Date Analyzed: 2013-03-18 | Analyzed By: AH
Prep Batch: 84538 | QC Preparation: 2013-03-18 | Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.106	mg/L	1	0.100	<0.000200	106	70 - 130
Toluene		1	0.104	mg/L	1	0.100	<0.000300	104	70 - 130
Ethylbenzene		1	0.108	mg/L	1	0.100	<0.000400	108	70 - 130
Xylene		1	0.321	mg/L	1	0.300	<0.00120	107	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	0.0999	mg/L	1	0.100	<0.000200	100	70 - 130	6	20
Toluene		1	0.0992	mg/L	1	0.100	<0.000300	99	70 - 130	5	20
Ethylbenzene		1	0.102	mg/L	1	0.100	<0.000400	102	70 - 130	6	20
Xylene		1	0.303	mg/L	1	0.300	<0.00120	101	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)	0.0978	0.0957	mg/L	1	0.100	98	96	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0938	0.0902	mg/L	1	0.100	94	90	70 - 130

Matrix Spike (MS-1) Spiked Sample: 322756

QC Batch: 99671 | Date Analyzed: 2013-03-13 | Analyzed By: AH
Prep Batch: 84441 | QC Preparation: 2013-03-13 | Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.108	mg/L	1	0.100	<0.000200	108	70 - 130
Toluene		1	0.105	mg/L	1	0.100	<0.000300	105	70 - 130
Ethylbenzene		1	0.105	mg/L	1	0.100	<0.000400	105	70 - 130
Xylene		1	0.313	mg/L	1	0.300	<0.00120	104	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		1	0.106	mg/L	1	0.100	<0.000200	106	70 - 130	2	20
Toluene		1	0.104	mg/L	1	0.100	<0.000300	104	70 - 130	1	20
Ethylbenzene		1	0.105	mg/L	1	0.100	<0.000400	105	70 - 130	0	20
Xylene		1	0.312	mg/L	1	0.300	<0.00120	104	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)	0.0967	0.0969	mg/L	1	0.1	97	97	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0922	0.0917	mg/L	1	0.1	92	92	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 99671 | Date Analyzed: 2013-03-13 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0892	89	80 - 120	2013-03-13
Toluene		1	mg/L	0.100	0.0876	88	80 - 120	2013-03-13
Ethylbenzene		1	mg/L	0.100	0.0878	88	80 - 120	2013-03-13
Xylene		1	mg/L	0.300	0.261	87	80 - 120	2013-03-13

Standard (CCV-2)

QC Batch: 99671 | Date Analyzed: 2013-03-13 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0846	85	80 - 120	2013-03-13
Toluene		1	mg/L	0.100	0.0830	83	80 - 120	2013-03-13
Ethylbenzene		1	mg/L	0.100	0.0834	83	80 - 120	2013-03-13
Xylene		1	mg/L	0.300	0.248	83	80 - 120	2013-03-13

Standard (CCV-3)

QC Batch: 99671 | Date Analyzed: 2013-03-13 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.107	107	80 - 120	2013-03-13
Toluene		1	mg/L	0.100	0.105	105	80 - 120	2013-03-13
Ethylbenzene		1	mg/L	0.100	0.106	106	80 - 120	2013-03-13
Xylene		1	mg/L	0.300	0.317	106	80 - 120	2013-03-13

Standard (CCV-1)

QC Batch: 99781 | Date Analyzed: 2013-03-18 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0849	85	80 - 120	2013-03-18
Toluene		1	mg/L	0.100	0.0847	85	80 - 120	2013-03-18
Ethylbenzene		1	mg/L	0.100	0.0876	88	80 - 120	2013-03-18
Xylene		1	mg/L	0.300	0.262	87	80 - 120	2013-03-18

Standard (CCV-2)

QC Batch: 99781 | Date Analyzed: 2013-03-18 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0833	83	80 - 120	2013-03-18
Toluene		1	mg/L	0.100	0.0827	83	80 - 120	2013-03-18
Ethylbenzene		1	mg/L	0.100	0.0849	85	80 - 120	2013-03-18
Xylene		1	mg/L	0.300	0.255	85	80 - 120	2013-03-18

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	NELAP	T104704392-12-4	Midland

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.
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 # 130730733

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

Company Name: CRA — **Phone #:** 686-0086

Address: (Street, City, Zip) 2135 S. Loop 250 W. Midland TX 79703 — **Fax #:** 686-0186

Contact Person: Todd Wells — **E-mail:** twells@craworld.com

Invoice to: (If different from above) Jason Henry Plains Pipeline — SAP# 2001-10876

Project #: 074684 — **Project Name:** Darr Ansell #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
322756	MW-14 030713	3	40mL	X					X							3-7-13	1200
757	MW-15 030713	3	40mL	X					X							3-7-13	1205
758	MW-10 030713	3	40mL	X					X							3-7-13	1210
759	DUP-2 030713	3	40mL	X					X							3-7-13	
760	MW-16 030713	3	40mL	X					X							3-7-13	1220
761	MW-6 030713	3	40mL	X					X							3-7-13	1225
762	RW-5 030713	3	40mL	X					X							3-7-13	1230

ANALYSIS REQUEST	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)		
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:	
	CRA	3-7-13	1546		TA	3/7/13	1546	INST N/A OBS 19.7 °C COR 19.7 °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: Straight from field
Midland AA

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

Carrier #

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

ORIGINAL COPY

Summary Report

Todd Wells
CRA-Midland
2135 South Loop 250 West
Midland, TX 79703

Report Date: June 13, 2013

Work Order: 13053124

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
Project Number: 074684
SRS #: 2001-10876

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
330662	MW-6 053013	water	2013-05-30	12:20	2013-05-31
330663	MW-9 053013	water	2013-05-30	12:30	2013-05-31
330664	MW-10 053013	water	2013-05-30	12:40	2013-05-31
330665	MW-14 053013	water	2013-05-30	12:50	2013-05-31
330666	MW-15 053013	water	2013-05-30	13:00	2013-05-31
330667	MW-16 053013	water	2013-05-30	13:20	2013-05-31
330668	Dup.-2 053013	water	2013-05-30	00:00	2013-05-31

	BTEX			
Sample - Field Code	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
330662 - MW-6 053013	<0.00100	<0.00100	<0.00100	<0.00100
330663 - MW-9 053013	<0.00100	<0.00100	<0.00100	<0.00100
330664 - MW-10 053013	<0.00100	<0.00100	<0.00100	<0.00100
330665 - MW-14 053013	<0.00100	<0.00100	<0.00100	<0.00100
330666 - MW-15 053013	<0.00100	<0.00100	<0.00100	<0.00100
330667 - MW-16 053013	<0.00100	<0.00100	<0.00100	<0.00100
330668 - Dup.-2 053013	**0.314**	<0.00100	**0.0328**	**0.0529**

This is only a summary. Please, refer to the complete report package for quality control data.

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

Todd Wells
CRA-Midland
2135 South Loop 250 West
Midland, TX, 79703

Report Date: June 13, 2013

Work Order: 13053124

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
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
330662	MW-6 053013	water	2013-05-30	12:20	2013-05-31
330663	MW-9 053013	water	2013-05-30	12:30	2013-05-31
330664	MW-10 053013	water	2013-05-30	12:40	2013-05-31
330665	MW-14 053013	water	2013-05-30	12:50	2013-05-31
330666	MW-15 053013	water	2013-05-30	13:00	2013-05-31
330667	MW-16 053013	water	2013-05-30	13:20	2013-05-31
330668	Dup.-2 053013	water	2013-05-30	00:00	2013-05-31

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.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project Darr Angel #4 Site were received by TraceAnalysis, Inc. on 2013-05-31 and assigned to work order 13053124. Samples for work order 13053124 were received intact without headspace and at a temperature of 3.1 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	86628	2013-06-10 at 15:30	102245	2013-06-13 at 10:32

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 13053124 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: 330662 - MW-6 053013

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	Sample Preparation:	2013-06-10	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0837	mg/L	1	0.100	84	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0856	mg/L	1	0.100	86	70 - 130

Sample: 330663 - MW-9 053013

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	Sample Preparation:	2013-06-10	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0799	mg/L	1	0.100	80	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0812	mg/L	1	0.100	81	70 - 130

Sample: 330664 - MW-10 053013

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	Sample Preparation:	2013-06-10	Prepared By:	KC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<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)			0.0931	mg/L	1	0.100	93	70 - 130

Sample: 330665 - MW-14 053013

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	Sample Preparation:	2013-06-10	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0824	mg/L	1	0.100	82	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0826	mg/L	1	0.100	83	70 - 130

Sample: 330666 - MW-15 053013

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	Sample Preparation:	2013-06-10	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0818	mg/L	1	0.100	82	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0826	mg/L	1	0.100	83	70 - 130

Sample: 330667 - MW-16 053013

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	Sample Preparation:	2013-06-10	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0820	mg/L	1	0.100	82	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0832	mg/L	1	0.100	83	70 - 130

Sample: 330668 - Dup.-2 053013

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	Sample Preparation:	2013-06-10	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**0.314**	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene		1	**0.0328**	mg/L	1	0.00100
Xylene		1	**0.0529**	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0807	mg/L	1	0.100	81	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0924	mg/L	1	0.100	92	70 - 130

Method Blanks

Method Blank (1) QC Batch: 102245

QC Batch:	102245	Date Analyzed:	2013-06-13	Analyzed By:	KC
Prep Batch:	86628	QC Preparation:	2013-06-10	Prepared By:	KC

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000200	mg/L	0.001
Toluene		1	<0.000300	mg/L	0.001
Ethylbenzene		1	<0.000400	mg/L	0.001
Xylene		1	<0.00120	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0832	mg/L	1	0.100	83	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0844	mg/L	1	0.100	84	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 102245 | Date Analyzed: 2013-06-13 | Analyzed By: KC
Prep Batch: 86628 | QC Preparation: 2013-06-10 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0899	mg/L	1	0.100	<0.000200	90	70 - 130
Toluene		1	0.0923	mg/L	1	0.100	<0.000300	92	70 - 130
Ethylbenzene		1	0.0889	mg/L	1	0.100	<0.000400	89	70 - 130
Xylene		1	0.259	mg/L	1	0.300	<0.00120	86	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	0.0917	mg/L	1	0.100	<0.000200	92	70 - 130	2	20
Toluene		1	0.0937	mg/L	1	0.100	<0.000300	94	70 - 130	2	20
Ethylbenzene		1	0.0907	mg/L	1	0.100	<0.000400	91	70 - 130	2	20
Xylene		1	0.265	mg/L	1	0.300	<0.00120	88	70 - 130	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)	0.0859	0.0822	mg/L	1	0.100	86	82	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0883	0.0862	mg/L	1	0.100	88	86	70 - 130

Matrix Spike (MS-1) Spiked Sample: 330651

QC Batch: 102245 | Date Analyzed: 2013-06-13 | Analyzed By: KC
Prep Batch: 86628 | QC Preparation: 2013-06-10 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0742	mg/L	1	0.100	<0.000200	74	70 - 130
Toluene		1	0.0758	mg/L	1	0.100	<0.000300	76	70 - 130
Ethylbenzene		1	0.0730	mg/L	1	0.100	<0.000400	73	70 - 130
Xylene		1	0.213	mg/L	1	0.300	<0.00120	71	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		1	0.0900	mg/L	1	0.100	<0.000200	90	70 - 130	19	20
Toluene		1	0.0926	mg/L	1	0.100	<0.000300	93	70 - 130	20	20
Ethylbenzene		1	0.0891	mg/L	1	0.100	<0.000400	89	70 - 130	20	20
Xylene		1	0.260	mg/L	1	0.300	<0.00120	87	70 - 130	20	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)	0.0794	0.0786	mg/L	1	0.1	79	79	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0851	0.0828	mg/L	1	0.1	85	83	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 102245 | Date Analyzed: 2013-06-13 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0836	84	80 - 120	2013-06-13
Toluene		1	mg/L	0.100	0.0868	87	80 - 120	2013-06-13
Ethylbenzene		1	mg/L	0.100	0.0841	84	80 - 120	2013-06-13
Xylene		1	mg/L	0.300	0.245	82	80 - 120	2013-06-13

Standard (CCV-2)

QC Batch: 102245 | Date Analyzed: 2013-06-13 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0885	88	80 - 120	2013-06-13
Toluene		1	mg/L	0.100	0.0909	91	80 - 120	2013-06-13
Ethylbenzene		1	mg/L	0.100	0.0881	88	80 - 120	2013-06-13
Xylene		1	mg/L	0.300	0.256	85	80 - 120	2013-06-13

Standard (CCV-3)

QC Batch: 102245 | Date Analyzed: 2013-06-13 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0884	88	80 - 120	2013-06-13
Toluene		1	mg/L	0.100	0.0916	92	80 - 120	2013-06-13
Ethylbenzene		1	mg/L	0.100	0.0885	88	80 - 120	2013-06-13
Xylene		1	mg/L	0.300	0.257	86	80 - 120	2013-06-13

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	NELAP	T104704392-12-4	Midland

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.
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 # 13053124

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

Company Name: CRA	**Phone #:** 432-686-0086
Address: (Street, City, Zip) 2135 S. Loop 250 W. Midland Tx	**Fax #:** 686-0184
Contact Person: Todd Wells	**E-mail:** twells@craworld.com
Invoice to: (If different from above) Jason Henry Plains All American	SRS# 2001-10876
Project #: 074684	**Project Name:** Dan Angell #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	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
330662	MW-6 053013	3	40mL	X				X						5-30-13	1220		X																								
330663	MW-9 053013	3	40mL	X				X						5-30	1230		X																								
330664	MW-10 053013	3	40mL	X				X						5-30	1240		X																								
330665	MW-14 053013	3	40mL	X				X						5-30	1250		X																								
330666	MW-15 053013	3	40mL	X				X						5-30	1300		X																								
330667	MW-16 053013	3	40mL	X				X						5-30	1320		X																								
330668	Dup-2 053013	3	40mL	X				X						5-30			X																								

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
C. Lerma	CRA	5/31/13	9:15	Chase Williams	TTA	5/31/13	9:15	INST ____ OBS 3.1 °C COR ____ °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:

- ☐ 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 # ____

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

Work Order Receipt

Order

Work Order	13053124
Receive Date	2013-05-31 at 09:15
Requestor	Todd Wells - CRA
Invoicing	ENV-00 Accounts Payable - Plains All American Pipeline, L. P.
Purchase Order	N/A
Project	074684
	Project Location = Lea Co., NM
	Project Name = Darr Angel #4 Site
	Project Number = 074684
	SRS # = 2001-10876
Information	
	Intact = yes
	Headspace = no
	Temperature = 3.1
	Air Bill = carry in
	Report = Regular Report
Comment	N/A

Samples

Sample	Field Code	Priority	Matrix	Collect Date	Collect Time	Quantity
330662	MW-6 053013	Normal	water	2013-05-30	12:20	1
330663	MW-9 053013	Normal	water	2013-05-30	12:30	1
330664	MW-10 053013	Normal	water	2013-05-30	12:40	1
330665	MW-14 053013	Normal	water	2013-05-30	12:50	1
330666	MW-15 053013	Normal	water	2013-05-30	13:00	1
330667	MW-16 053013	Normal	water	2013-05-30	13:20	1
330668	Dup.-2 053013	Normal	water	2013-05-30	00:00	1

Work Order Receipt

Sample	Test	Method	Prep	Priority
330662	BTEX	S 8021B	S 5030B	Normal
330663	BTEX	S 8021B	S 5030B	Normal
330664	BTEX	S 8021B	S 5030B	Normal
330665	BTEX	S 8021B	S 5030B	Normal
330666	BTEX	S 8021B	S 5030B	Normal
330667	BTEX	S 8021B	S 5030B	Normal
330668	BTEX	S 8021B	S 5030B	Normal

LAB Order ID # 13053124

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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2501 Mayes Rd., Ste 100
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Company Name: CRA	**Phone #:** 432-686-0086
Address: (Street, City, Zip) 2135 S. Loop 250 W. Midland Tx	**Fax #:** 686-0184
Contact Person: Todd Wells	**E-mail:** twells@craworld.com
Invoice to: (If different from above) Jason Henry Plains All American	SRS# 2001-10876
Project #: 074684	**Project Name:** Dan Angell #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	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
330662	MW-6 053013	3	40mL	X				X						5-30-13	1220		X																								
330663	MW-9 053013	3	40mL	X				X						5-30	1230		X																								
330664	MW-10 053013	3	40mL	X				X						5-30	1240		X																								
330665	MW-14 053013	3	40mL	X				X						5-30	1250		X																								
330666	MW-15 053013	3	40mL	X				X						5-30	1300		X																								
330667	MW-16 053013	3	40mL	X				X						5-30	1320		X																								
330668	Dup-2 053013	3	40mL	X				X						5-30			X																								

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
C. Lerma	CRA	5/31/13	9:15	Chase Williams	TTA	5/31/13	9:15	INST ____ OBS 3.1 °C COR ____ °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:

- ☐ 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 # ____

ORIGINAL COPY

Summary Report

Todd Wells
CRA-Midland
2135 South Loop 250 West
Midland, TX 79703

Report Date: September 12, 2013

Work Order: 13083038

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
Project Number: 074684
SRS #: 2001-10876

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
340685	Dup-1 082913	water	2013-08-29	00:00	2013-08-30
340686	MW-6 082913	water	2013-08-29	09:55	2013-08-30
340687	MW-10 082913	water	2013-08-29	10:00	2013-08-30
340688	MW-11 082913	water	2013-08-29	09:45	2013-08-30
340689	MW-14 082913	water	2013-08-29	10:05	2013-08-30
340690	MW-15 082913	water	2013-08-29	10:15	2013-08-30
340691	MW-16 082913	water	2013-08-29	10:25	2013-08-30
340692	RW-5 082913	water	2013-08-29	10:35	2013-08-30

	BTEX			
Sample - Field Code	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
340685 - Dup-1 082913	<0.00100	<0.00100	<0.00100	<0.00100
340686 - MW-6 082913	<0.00100	<0.00100	<0.00100	<0.00100
340687 - MW-10 082913	<0.00100	<0.00100	<0.00100	<0.00100
340688 - MW-11 082913	<0.00100	<0.00100	<0.00100	<0.00100
340689 - MW-14 082913	<0.00100	<0.00100	<0.00100	<0.00100
340690 - MW-15 082913	<0.00100	<0.00100	<0.00100	<0.00100
340691 - MW-16 082913	<0.00100 Qr,Qs	<0.00100 Qr,Qs	<0.00100 Qr,Qs	<0.00100 Qr,Qs
340692 - RW-5 082913	<0.00100 Qr,Qs	<0.00100 Qr,Qs	<0.00100 Qr,Qs	<0.00100 Qr,Qs

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
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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

Todd Wells
CRA-Midland
2135 South Loop 250 West
Midland, TX, 79703

Report Date: September 12, 2013

Work Order: 13083038

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
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
340685	Dup-1 082913	water	2013-08-29	00:00	2013-08-30
340686	MW-6 082913	water	2013-08-29	09:55	2013-08-30
340687	MW-10 082913	water	2013-08-29	10:00	2013-08-30
340688	MW-11 082913	water	2013-08-29	09:45	2013-08-30
340689	MW-14 082913	water	2013-08-29	10:05	2013-08-30
340690	MW-15 082913	water	2013-08-29	10:15	2013-08-30
340691	MW-16 082913	water	2013-08-29	10:25	2013-08-30
340692	RW-5 082913	water	2013-08-29	10:35	2013-08-30

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.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project Darr Angel #4 Site were received by TraceAnalysis, Inc. on 2013-08-30 and assigned to work order 13083038. Samples for work order 13083038 were received intact without headspace and at a temperature of 7.9 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	88826	2013-09-09 at 12:32	104917	2013-09-11 at 07:38
BTEX	S 8021B	88958	2013-09-10 at 12:03	104918	2013-09-11 at 07:43

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 13083038 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: 340685 - Dup-1 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104917	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88826	Sample Preparation:	2013-09-09	Prepared By:	AK

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

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)			0.0976	mg/L	1	0.100	98	70 - 130

Sample: 340686 - MW-6 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104917	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88826	Sample Preparation:	2013-09-09	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.105	mg/L	1	0.100	105	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0996	mg/L	1	0.100	100	70 - 130

Sample: 340687 - MW-10 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104917	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88826	Sample Preparation:	2013-09-09	Prepared By:	AK

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

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)			0.0975	mg/L	1	0.100	98	70 - 130

Sample: 340688 - MW-11 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104917	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88826	Sample Preparation:	2013-09-09	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0802	mg/L	1	0.100	80	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0863	mg/L	1	0.100	86	70 - 130

Sample: 340689 - MW-14 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104917	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88826	Sample Preparation:	2013-09-09	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.103	mg/L	1	0.100	103	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0975	mg/L	1	0.100	98	70 - 130

Sample: 340690 - MW-15 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104917	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88826	Sample Preparation:	2013-09-09	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0707	mg/L	1	0.100	71	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0725	mg/L	1	0.100	72	70 - 130

Sample: 340691 - MW-16 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104918	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88958	Sample Preparation:	2013-09-10	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qr,Qs,U	1	<0.00100	mg/L	1	0.00100
Toluene	Qr,Qs,U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,Qs,U	1	<0.00100	mg/L	1	0.00100
Xylene	Qr,Qs,U	1	<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)			0.0891	mg/L	1	0.100	89	70 - 130

Sample: 340692 - RW-5 082913

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	104918	Date Analyzed:	2013-09-11	Analyzed By:	AK
Prep Batch:	88958	Sample Preparation:	2013-09-10	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qr,Qs,U	1	<0.00100	mg/L	1	0.00100
Toluene	Qr,Qs,U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qr,Qs,U	1	<0.00100	mg/L	1	0.00100
Xylene	Qr,Qs,U	1	<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)			0.0891	mg/L	1	0.100	89	70 - 130

Method Blanks

Method Blank (1) QC Batch: 104917

QC Batch: 104917 | Date Analyzed: 2013-09-11 | Analyzed By: AK
Prep Batch: 88826 | QC Preparation: 2013-09-09 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000200	mg/L	0.001
Toluene		1	<0.000300	mg/L	0.001
Ethylbenzene		1	<0.000400	mg/L	0.001
Xylene		1	<0.00120	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0920	mg/L	1	0.100	92	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0906	mg/L	1	0.100	91	70 - 130

Method Blank (1) QC Batch: 104918

QC Batch: 104918 | Date Analyzed: 2013-09-11 | Analyzed By: AK
Prep Batch: 88958 | QC Preparation: 2013-09-10 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000200	mg/L	0.001
Toluene		1	<0.000300	mg/L	0.001
Ethylbenzene		1	<0.000400	mg/L	0.001
Xylene		1	<0.00120	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0998	mg/L	1	0.100	100	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0984	mg/L	1	0.100	98	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 104917 | Date Analyzed: 2013-09-11 | Analyzed By: AK
Prep Batch: 88826 | QC Preparation: 2013-09-09 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0882	mg/L	1	0.100	<0.000200	88	70 - 130
Toluene		1	0.0879	mg/L	1	0.100	<0.000300	88	70 - 130
Ethylbenzene		1	0.0832	mg/L	1	0.100	<0.000400	83	70 - 130
Xylene		1	0.255	mg/L	1	0.300	<0.00120	85	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	0.0910	mg/L	1	0.100	<0.000200	91	70 - 130	3	20
Toluene		1	0.0903	mg/L	1	0.100	<0.000300	90	70 - 130	3	20
Ethylbenzene		1	0.0864	mg/L	1	0.100	<0.000400	86	70 - 130	4	20
Xylene		1	0.264	mg/L	1	0.300	<0.00120	88	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)	0.0957	0.0967	mg/L	1	0.100	96	97	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0980	0.0964	mg/L	1	0.100	98	96	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 104918 | Date Analyzed: 2013-09-11 | Analyzed By: AK
Prep Batch: 88958 | QC Preparation: 2013-09-10 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0849	mg/L	1	0.100	<0.000200	85	70 - 130
Toluene		1	0.0846	mg/L	1	0.100	<0.000300	85	70 - 130
Ethylbenzene		1	0.0817	mg/L	1	0.100	<0.000400	82	70 - 130
Xylene		1	0.251	mg/L	1	0.300	<0.00120	84	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	0.0872	mg/L	1	0.100	<0.000200	87	70 - 130	3	20
Toluene		1	0.0873	mg/L	1	0.100	<0.000300	87	70 - 130	3	20
Ethylbenzene		1	0.0845	mg/L	1	0.100	<0.000400	84	70 - 130	3	20
Xylene		1	0.258	mg/L	1	0.300	<0.00120	86	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)	0.0900	0.0921	mg/L	1	0.100	90	92	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0938	0.0974	mg/L	1	0.100	94	97	70 - 130

Matrix Spike (xMS-1) Spiked Sample: 340547

QC Batch: 104917 | Date Analyzed: 2013-09-11 | Analyzed By: AK
Prep Batch: 88826 | QC Preparation: 2013-09-09 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	4.56	mg/L	50	5.00	<0.0100	91	70 - 130
Toluene		1	4.53	mg/L	50	5.00	<0.0150	91	70 - 130
Ethylbenzene		1	4.30	mg/L	50	5.00	<0.0200	86	70 - 130
Xylene		1	13.1	mg/L	50	15.0	<0.0600	87	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		1	4.23	mg/L	50	5.00	<0.0100	85	70 - 130	15	20
Toluene		1	4.21	mg/L	50	5.00	<0.0150	84	70 - 130	7	20
Ethylbenzene		1	4.00	mg/L	50	5.00	<0.0200	80	70 - 130	7	20
Xylene		1	12.1	mg/L	50	15.0	<0.0600	81	70 - 130	8	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)	4.84	4.70	mg/L	50	5	97	94	70 - 130
4-Bromofluorobenzene (4-BFB)	4.96	4.80	mg/L	50	5	99	96	70 - 130

Matrix Spike (MS-1) Spiked Sample: 340701

QC Batch: 104918 | Date Analyzed: 2013-09-11 | Analyzed By: AK
Prep Batch: 88958 | QC Preparation: 2013-09-10 | Prepared By: AK

Param		F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	Qs	Qs	1	0.0226	mg/L	1	0.100	<0.000200	23	70 - 130
Toluene	Qs	Qs	1	0.0239	mg/L	1	0.100	<0.000300	24	70 - 130
Ethylbenzene	Qs	Qs	1	0.0249	mg/L	1	0.100	<0.000400	25	70 - 130
Xylene	Qs	Qs	1	0.0756	mg/L	1	0.300	<0.00120	25	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	Qr,Qs	Qr,Qs	1	0.0307	mg/L	1	0.100	<0.000200	31	70 - 130	30	20
Toluene	Qr,Qs	Qr,Qs	1	0.0307	mg/L	1	0.100	<0.000300	31	70 - 130	25	20
Ethylbenzene	Qr,Qs	Qr,Qs	1	0.0307	mg/L	1	0.100	<0.000400	31	70 - 130	21	20
Xylene	Qr,Qs	Qr,Qs	1	0.0925	mg/L	1	0.300	<0.00120	31	70 - 130	20	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)	Qsr	Qsr	0.00	0.00	mg/L	1	0.1	0	0	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	0.0290	0.0297	mg/L	1	0.1	29	30	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 104917 | Date Analyzed: 2013-09-11 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0850	85	80 - 120	2013-09-11
Toluene		1	mg/L	0.100	0.0860	86	80 - 120	2013-09-11
Ethylbenzene		1	mg/L	0.100	0.0813	81	80 - 120	2013-09-11
Xylene		1	mg/L	0.300	0.248	83	80 - 120	2013-09-11

Standard (CCV-2)

QC Batch: 104917 | Date Analyzed: 2013-09-11 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0902	90	80 - 120	2013-09-11
Toluene		1	mg/L	0.100	0.0896	90	80 - 120	2013-09-11
Ethylbenzene		1	mg/L	0.100	0.0850	85	80 - 120	2013-09-11
Xylene		1	mg/L	0.300	0.259	86	80 - 120	2013-09-11

Standard (CCV-3)

QC Batch: 104917 | Date Analyzed: 2013-09-11 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0860	86	80 - 120	2013-09-11
Toluene		1	mg/L	0.100	0.0861	86	80 - 120	2013-09-11
Ethylbenzene		1	mg/L	0.100	0.0825	82	80 - 120	2013-09-11
Xylene		1	mg/L	0.300	0.252	84	80 - 120	2013-09-11

Standard (CCV-1)

QC Batch: 104918 | Date Analyzed: 2013-09-11 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0860	86	80 - 120	2013-09-11
Toluene		1	mg/L	0.100	0.0861	86	80 - 120	2013-09-11
Ethylbenzene		1	mg/L	0.100	0.0825	82	80 - 120	2013-09-11
Xylene		1	mg/L	0.300	0.252	84	80 - 120	2013-09-11

Standard (CCV-2)

QC Batch: 104918 | Date Analyzed: 2013-09-11 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0890	89	80 - 120	2013-09-11
Toluene		1	mg/L	0.100	0.0901	90	80 - 120	2013-09-11
Ethylbenzene		1	mg/L	0.100	0.0845	84	80 - 120	2013-09-11
Xylene		1	mg/L	0.300	0.262	87	80 - 120	2013-09-11

Standard (CCV-3)

QC Batch: 104918 | Date Analyzed: 2013-09-11 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0915	92	80 - 120	2013-09-11
Toluene		1	mg/L	0.100	0.0914	91	80 - 120	2013-09-11
Ethylbenzene		1	mg/L	0.100	0.0875	88	80 - 120	2013-09-11
Xylene		1	mg/L	0.300	0.268	89	80 - 120	2013-09-11

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	NELAP	T104704392-12-4	Midland

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.
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 # 1308 3038

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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El Paso, Texas 79922
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BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Company Name: CRA
Phone #: 432-686-0086
Address: (Street, City, Zip) 2135 S. Loop 250 W. Midland TX
Fax #: 686-0186
Contact Person: Todd Wells
E-mail: twells@craworld.com
Invoice to: (If different from above) Jason Henry c/o Plains All American
Project #: 074684
Project Name: DARR Ansell #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
340683	DUP-1 082913	3	40mL	X				X						8-29-13	
686	MW-6 082913	3	40mL	X				X						8-29-13	955
687	MW-10 082913	3	40mL	X				X						8-29-13	1000
688	MW-11 082913	3	40mL	X				X						8-29-13	945
689	MW-14 082913	3	40mL	X				X						8-29-13	1005
690	MW-15 082913	3	40mL	X				X						8-29-13	1015
691	MW-16 082913	3	40mL	X				X						8-29-13	1025
692	RW 5														10:35

ANALYSIS REQUEST columns: MTBE 8021 / 602 / 8260 / 624; BTEX 8021B / 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

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
	CRA	8-30-13	1303	Chase Williams T/PT		8/30/13	1303	INST T.C OBS 5.0 °C COR 4.9 °C
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST ____ °C OBS ____ °C COR ____ °C
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST ____ °C OBS ____ °C COR ____ °C

LAB USE ONLY
Intact Y / N
Headspace Y / N / NA
Log-in-Review CW

REMARKS: Received Sample Labels On ice RW-5 not received

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

Midland - all

Carrier # Carry In

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

ORIGINAL COPY

Summary Report

Kimberly Vining Lambert
CRA-Midland
2135 South Loop 250 West
Midland, TX 79703

Report Date: November 20, 2013

Work Order: 13111542

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
Project Number: 074684
SRS #: 2001-10876

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
346779	MW16 111413	water	2013-11-14	15:00	2013-11-15
346780	MW9 111413	water	2013-11-14	15:15	2013-11-15
346781	MW14 111413	water	2013-11-14	15:30	2013-11-15
346782	MW15 111413	water	2013-11-14	15:45	2013-11-15
346783	MW10 111413	water	2013-11-14	16:00	2013-11-15
346784	MW11 111413	water	2013-11-14	16:15	2013-11-15
346785	MW1A 111413	water	2013-11-14	16:30	2013-11-15
346786	MW4 111413	water	2013-11-14	16:45	2013-11-15
346787	MW5 111413	water	2013-11-14	17:00	2013-11-15
346788	MW6 111413	water	2013-11-14	17:15	2013-11-15
346789	MW7 111413	water	2013-11-14	17:30	2013-11-15
346790	RW5 111413	water	2013-11-14	17:45	2013-11-15
346791	Dup4 111413	water	2013-11-14	00:00	2013-11-15

	BTEX			
Sample - Field Code	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
346779 - MW16 111413	<0.00100	<0.00100	<0.00100	<0.00100
346780 - MW9 111413	<0.00100	<0.00100	<0.00100	<0.00100
346781 - MW14 111413	<0.00100	<0.00100	<0.00100	<0.00100
346782 - MW15 111413	<0.00100	<0.00100	<0.00100	<0.00100
346783 - MW10 111413	<0.00100	<0.00100	<0.00100	<0.00100
346784 - MW11 111413	<0.00100	<0.00100	<0.00100	<0.00100
346785 - MW1A 111413	<0.00100	<0.00100	<0.00100	<0.00100
346786 - MW4 111413	<0.00100	<0.00100	<0.00100	<0.00100
346787 - MW5 111413	<0.00100	<0.00100	<0.00100	<0.00100
346788 - MW6 111413	<0.00100	<0.00100	<0.00100	<0.00100
346789 - MW7 111413	<0.00100	<0.00100	<0.00100	<0.00100

continued . . .

. . . continued

	BTEX			
	Benzene	Toluene	Ethylbenzene	Xylene
Sample - Field Code	(mg/L)	(mg/L)	(mg/L)	(mg/L)
346790 - RW5 111413	<0.00100	<0.00100	<0.00100	<0.00100
346791 - Dup4 111413	<0.00100	<0.00100	<0.00100	<0.00100

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

Kimberly Vining Lambert
CRA-Midland
2135 South Loop 250 West
Midland, TX, 79703

Report Date: November 20, 2013

Work Order: 13111542

Project Location: Lea Co., NM
Project Name: Darr Angel #4 Site
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
346779	MW16 111413	water	2013-11-14	15:00	2013-11-15
346780	MW9 111413	water	2013-11-14	15:15	2013-11-15
346781	MW14 111413	water	2013-11-14	15:30	2013-11-15
346782	MW15 111413	water	2013-11-14	15:45	2013-11-15
346783	MW10 111413	water	2013-11-14	16:00	2013-11-15
346784	MW11 111413	water	2013-11-14	16:15	2013-11-15
346785	MW1A 111413	water	2013-11-14	16:30	2013-11-15
346786	MW4 111413	water	2013-11-14	16:45	2013-11-15
346787	MW5 111413	water	2013-11-14	17:00	2013-11-15
346788	MW6 111413	water	2013-11-14	17:15	2013-11-15
346789	MW7 111413	water	2013-11-14	17:30	2013-11-15
346790	RW5 111413	water	2013-11-14	17:45	2013-11-15
346791	Dup4 111413	water	2013-11-14	00:00	2013-11-15

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.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project Darr Angel #4 Site were received by TraceAnalysis, Inc. on 2013-11-15 and assigned to work order 13111542. Samples for work order 13111542 were received intact without headspace and at a temperature of 12.0 C. Samples on ice.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	90495	2013-11-19 at 10:51	106902	2013-11-20 at 07:18

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 13111542 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: 346779 - MW16 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0946	mg/L	1	0.100	95	70 - 130

Sample: 346780 - MW9 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	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)			0.0941	mg/L	1	0.100	94	70 - 130

Sample: 346781 - MW14 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.109	mg/L	1	0.100	109	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0957	mg/L	1	0.100	96	70 - 130

Sample: 346782 - MW15 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0945	mg/L	1	0.100	94	70 - 130

Sample: 346783 - MW10 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	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)			0.0931	mg/L	1	0.100	93	70 - 130

Sample: 346784 - MW11 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	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)			0.0938	mg/L	1	0.100	94	70 - 130

Sample: 346785 - MW1A 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0941	mg/L	1	0.100	94	70 - 130

Sample: 346786 - MW4 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.105	mg/L	1	0.100	105	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0922	mg/L	1	0.100	92	70 - 130

Sample: 346787 - MW5 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	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)			0.0929	mg/L	1	0.100	93	70 - 130

Sample: 346788 - MW6 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0942	mg/L	1	0.100	94	70 - 130

Sample: 346789 - MW7 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0919	mg/L	1	0.100	92	70 - 130

Sample: 346790 - RW5 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	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)			0.0974	mg/L	1	0.100	97	70 - 130

Sample: 346791 - Dup4 111413

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	Sample Preparation:	2013-11-19	Prepared By:	AK

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0917	mg/L	1	0.100	92	70 - 130

Method Blanks

Method Blank (1) QC Batch: 106902

QC Batch:	106902	Date Analyzed:	2013-11-20	Analyzed By:	AK
Prep Batch:	90495	QC Preparation:	2013-11-19	Prepared By:	AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000200	mg/L	0.001
Toluene		1	<0.000300	mg/L	0.001
Ethylbenzene		1	<0.000400	mg/L	0.001
Xylene		1	<0.00120	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0934	mg/L	1	0.100	93	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 106902 | Date Analyzed: 2013-11-20 | Analyzed By: AK
Prep Batch: 90495 | QC Preparation: 2013-11-19 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0998	mg/L	1	0.100	<0.000200	100	70 - 130
Toluene		1	0.0991	mg/L	1	0.100	<0.000300	99	70 - 130
Ethylbenzene		1	0.0954	mg/L	1	0.100	<0.000400	95	70 - 130
Xylene		1	0.289	mg/L	1	0.300	<0.00120	96	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	0.100	mg/L	1	0.100	<0.000200	100	70 - 130	0	20
Toluene		1	0.0990	mg/L	1	0.100	<0.000300	99	70 - 130	0	20
Ethylbenzene		1	0.0965	mg/L	1	0.100	<0.000400	96	70 - 130	1	20
Xylene		1	0.291	mg/L	1	0.300	<0.00120	97	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)	0.0972	0.0943	mg/L	1	0.100	97	94	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0932	0.0891	mg/L	1	0.100	93	89	70 - 130

Matrix Spike (MS-1) Spiked Sample: 346780

QC Batch: 106902 | Date Analyzed: 2013-11-20 | Analyzed By: AK
Prep Batch: 90495 | QC Preparation: 2013-11-19 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.101	mg/L	1	0.100	<0.000200	101	70 - 130
Toluene		1	0.0994	mg/L	1	0.100	<0.000300	99	70 - 130
Ethylbenzene		1	0.0970	mg/L	1	0.100	<0.000400	97	70 - 130
Xylene		1	0.292	mg/L	1	0.300	<0.00120	97	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		1	0.0999	mg/L	1	0.100	<0.000200	100	70 - 130	1	20
Toluene		1	0.0985	mg/L	1	0.100	<0.000300	98	70 - 130	1	20
Ethylbenzene		1	0.0967	mg/L	1	0.100	<0.000400	97	70 - 130	0	20
Xylene		1	0.290	mg/L	1	0.300	<0.00120	97	70 - 130	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)	0.103	0.101	mg/L	1	0.1	103	101	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0985	0.0953	mg/L	1	0.1	98	95	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 106902 | Date Analyzed: 2013-11-20 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0990	99	80 - 120	2013-11-20
Toluene		1	mg/L	0.100	0.0971	97	80 - 120	2013-11-20
Ethylbenzene		1	mg/L	0.100	0.0955	96	80 - 120	2013-11-20
Xylene		1	mg/L	0.300	0.288	96	80 - 120	2013-11-20

Standard (CCV-2)

QC Batch: 106902 | Date Analyzed: 2013-11-20 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0988	99	80 - 120	2013-11-20
Toluene		1	mg/L	0.100	0.0977	98	80 - 120	2013-11-20
Ethylbenzene		1	mg/L	0.100	0.0948	95	80 - 120	2013-11-20
Xylene		1	mg/L	0.300	0.285	95	80 - 120	2013-11-20

Standard (CCV-3)

QC Batch: 106902 | Date Analyzed: 2013-11-20 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0980	98	80 - 120	2013-11-20
Toluene		1	mg/L	0.100	0.0966	97	80 - 120	2013-11-20
Ethylbenzene		1	mg/L	0.100	0.0938	94	80 - 120	2013-11-20
Xylene		1	mg/L	0.300	0.283	94	80 - 120	2013-11-20

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	NELAP	T104704392-13-7	Midland

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.
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 # 13111542

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: CRA Inc
Phone #: 432·686·0086
Address: (Street, City, Zip) 2135 South Loop, 250 West Midland, TX 79703
Fax #:
Contact Person: Kim Lambert
E-mail: klambert@craworld.com
Invoice to: (If different from above)
Project #: 074684
Project Name: Darr Angell #4
Project Location (including state): Lovington, NM
Sampler Signature: [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
346779	MW16111413	3		X				X				X		11/14/13	1500
780	MW9 111413	″		″				″				″		″	1515
781	MW14111413	″		″				″				″		″	1530
782	MW15111413	″		″				″				″		″	1545
783	MW10111413	″		″				″				″		″	1600
784	MW11111413	″		″				″				″		″	1615
785	MW1A111413	″		″				″				″		″	1630
786	MW4 111413	″		″				″				″		″	1645
787	MW5111413	″		″				″				″		″	1700
788	MW6111413	″		″				″				″		″	1715
789	MW7111413	″		″				″				″		″	1730

LAB #	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
346779		X																			
780		″																			
781		″																			
782		″																			
783		″																			
784		″																			
785		″																			
786		″																			
787		″																			
788		″																			
789		″																			

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
[signature]	CRA	11·15·13	14:40	[signature]	TA	11/15/13	14:40	INST KI / OBS 2.1 °C / COR 12.1 °C
								INST ___ / OBS ___ °C / COR ___ °C
								INST ___ / OBS ___ °C / COR ___ °C

LAB USE ONLY
Intact (Y) / N
Headspace Y / N / NA
Log-in-Review [initials]

REMARKS: Midland all

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

Carrier # Carg

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

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LAB Order ID #_____ Page 2 of 2

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
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Company Name: CRA Inc
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Address: (Street, City, Zip) 2135 SouthLoop, 250 west Midland, TX 79703
Fax #:
Contact Person: Kim Lambert
E-mail: klambert@crawrld.com
Invoice to:
(If different from above)
Project #: 074684
Project Name: Darr Angell #4
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(Circle or Specify Method No.)

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790	RW5111413	3		X				X				X		11/14/13	1745
791	DUP4111413	3		X				X				X		11/14/13	

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																									
	X																									

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
	CRA	11-15-13	11:41		TA	11/15/13	14:40	INST 12 °C OBS 12.1 °C COR 12.0 °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

Carrier # Darr

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