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**Annual GW
Mon. Report**

Year:

2011

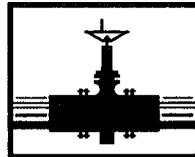
**2011 ANNUAL GROUNDWATER
MONITORING REPORT
VACUUM TO JAL 14" MAINLINE #3
LEA COUNTY, NEW MEXICO
UL-A, SECTION 35, T21S, R37E
NMOCD NO.: 1R - 455
PLAINS SRS NO.: 2003-00117**

RECEIVED

APR 2 2012

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**PLAINS
ALL AMERICAN**

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March 29, 2012

APR 2 2012

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

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: Plains All American – 2011 Annual Monitoring Reports
4 Sites in Lea County, New Mexico

Dear Mr. Hansen:

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:

Vacuum to Jal 14" Mainline #3	1R-455	Section 35, T21S, R37E, Lea County
Vacuum to Jal 14" Mainline #5	1R-0464	Section 2, T22S, R37E, Lea County
DS Hugh	1R-0463	Section 26, T21S, R37E, Lea County
Hugh Gathering	AP-0041	Section 11, T21S, R37E, Lea County

Earthcon 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 Earthcon 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,

Jason Henry
Remediation Coordinator
Plains All American

CC: Geoff Leking, NMOCD, Hobbs, NM

Enclosures

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1.0 INTRODUCTION AND OBJECTIVES

1.1 Objectives and Site Background

On May 8, 2003, a 14-inch steel pipeline at the EOTT Energy LLC (EOTT) Vacuum to Jal 14" Mainline # 3 Site (Vac to Jal #3, Site), SRS No. 2003-00117 released approximately three barrels of crude oil into the subsurface. The pipeline is currently owned by Plains Pipeline, L.P. (Plains). The site is located in unit letter A, NE¼ of the NE¼, Section 35, Township 21S, Range 37E, or more specifically at latitude 32°26'32.67" N and longitude 103°07'36.885" W in Lea County, New Mexico (**Figure 1**,). The release was apparently caused by internal corrosion and the pipeline was repaired and a New Mexico Oil Conservation Division (NMOCD) Release Notification Form C-141 was submitted.

This report summarizes the weekly groundwater gauging activities and the quarterly groundwater monitoring activities that took place during 2011.

1.2 Previous Remedial Responses and Environmental Investigations

The release was below the reportable quantity and was not initially reported to the NMOCD. The release was first investigated by Environmental Plus, Inc. (EPI) on May 23, 2003. Information was then reported to the NMOCD through the Release Notification Form C-141.

The irregularly-shaped, spill-impacted area was approximately 566 square feet, according to Mr. Pat McCasland with Environmental Plus, Inc. (EPI). As part of the initial remediation activities, affected soil was removed and stockpiled on site in June 2003. A total of 676 cubic yards of stockpiled soil was then transported to the Lea Station Land Farm for treatment, as reported on the NMOCD Form C-138 in April 2004 by EPI.

EarthCon Consultants, Inc. (EarthCon; formerly Premier Environmental Services, Inc.) continued to investigate the hydrocarbon impact on soil and groundwater. The results of the 2005 soil and groundwater investigations are detailed in a March 2006 *Site Investigation and Annual Report*, which was submitted to the NMOCD on behalf of Plains. During 2006, the affected area was further assessed and groundwater monitoring continued on a quarterly basis.

In May 2006, a *Soil Remediation Plan* was submitted to the NMOCD to address soil impacts at the site. Objectives of this risk-based *Soil Remediation Plan* were to isolate and control chemicals of concern (COCs) in the soil and to prevent further impact to groundwater. The *Soil Remediation Plan* was approved by the NMOCD in a correspondence dated June 1, 2006 to Plains.

In October 2006, excavation of impacted soil was completed in accordance with the *Soil Remediation Plan* to satisfy soil remediation goals and meet regulatory requirements. The excavation footprint and monitor well locations are shown in **Figure 2**.

The base of the excavation was over-excavated to an approximate depth of 5 feet below the bottom of the pipeline, and was graded with a high central area. A 20-mil high-density

polyethylene impermeable liner was placed at the base of the excavation, trimmed and then backfilled, and covered with a 6-inch-thick layer of clean imported topsoil. The slope facing away from the center of the excavation facilitates drainage of infiltrated water away from the residual hydrocarbon impacted soils underlying the liner. Details of soil remediation activities can be found in the *December 2006 Soil Closure Report*, submitted to the NMOCD.

On January 19 and 20 of 2010, an investigation consisting of installing two additional recovery wells RW-4 and RW-5 and one additional monitor well MW-8 was completed at the Site. Recovery wells RW-4 and RW-5 were installed as additional points to recover the phase separated hydrocarbons (PSH). Monitor well MW-8 was installed to better delineate the dissolved phase hydrocarbon plume.

The wells installed during the January 2010 Investigation were sampled on January 27, 2010 and analyzed for the NMOCD initial list of parameters for a new well. The analytical results for general chemistry showed iron and chloride concentrations in groundwater samples from monitor wells RW-4, RW-5, and MW-8, exceed their respective New Mexico Water Quality Control Commissions (NMWQCC) Human Health Standards for groundwater referred to in this report as New Mexico water quality standards (NMWQS). Aluminum concentrations exceeded NMWQS in the groundwater samples from monitor wells RW-4 and MW-8. For SVOC, ten parameters were detected above the laboratory MDLs from which only phenol was detected above the NMWQS in the groundwater sample collected from recovery well RW-5. Analysis for PAH compounds showed seven parameters detected above the MDLs from which only 1-methylnaphthalene was reported above the NMWQS in the groundwater sample collected from recovery well RW-4. Analysis for volatile compounds detected 15 compounds above the MDLs. Benzene, toluene and m,p-xylene concentrations in recovery well RW-4 and benzene in recovery well RW-5 exceeded their respective NMWQS. Due to matrix interference, nine VOC compounds were reported non-detect that have MDLs above their respective NMWQS.

1.3 Regulatory Framework

Based on standards outlined in New Mexico Administrative Code (NMAC), Title 20, Chapter 6, Part 2, the remediation criteria for groundwater at the site are as follows:

Constituent	Limit (mg/L)
Benzene	0.01
Ethylbenzene	0.75
Total Xylenes	0.62
PAHs ^{1,2}	0.03
Benzo-a-pyrene ²	0.0007

1 – PAHs: Total naphthalenes plus monomethylnaphthalenes

2 – PAH remediation standards will be used as target concentrations only upon PSH removal.

In addition to using the above values as the target cleanup goals for chemicals of concern (COC) concentrations in groundwater at the site, PSH removal is also an integral part of on-going remediation activities.

1.4 Limitations

EarthCon has examined and relied upon the file information provided by Plains and Environmental Plus, Inc. (EPI). EarthCon has not conducted an independent examination of the information contained in the Plains files; furthermore, we assume the genuineness of the documents reviewed and that the information provided in these documents to be true and accurate. EarthCon has prepared this report using the level of care and professionalism in the industry for similar projects under similar conditions. EarthCon will not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time this report was prepared. EarthCon believes the conclusions stated herein are factual, but no guarantee is made or implied.

2.0 GROUNDWATER ASSESSMENT AND RESULTS

2.1 Groundwater Sample Methodology

Activities conducted at the Vac to Jal Mainline #3 site in 2011 primarily consisted of gauging wells for groundwater levels, determining the presence or absence of PSH, recovering PSH using absorbent socks, hand bailing and submersible pumps in monitor wells. Groundwater sampling of wells not exhibiting PSH was completed to evaluate the extent of the dissolved-phase hydrocarbon plume.

Measurements of the depth to groundwater and product thickness in wells with hydrocarbon sheen or PSH were completed during the weekly PSH recovery and groundwater sampling events. Eight groundwater monitor wells (MW-1 through MW-8) and five recovery wells (RW-1 through RW-5) were gauged using an oil/water interface probe. The well locations are shown on **Figure 2**.

Groundwater level elevations and the presence of PSH, if any, were noted for each well. In cases where no measurable PSH was detected by the interface probe, the down-hole sensor of the probe was examined for the presence of PSH upon removal from the well. Five recovery wells RW-1, RW-2, RW-3, RW-4 and RW-5 and one monitor well MW-1 contained a measurable PSH thickness or hydrocarbon sheen during 2011 and were sampled annually. Starting in the second quarter of 2008, all recovery wells and monitor well(s) with PSH or sheen were required to be sampled annually and groundwater samples analyzed for BTEX constituents. Groundwater samples were collected from these wells containing PSH for BTEX in second quarter of 2011. Additional PAH groundwater samples were collected during the fourth quarter 2011 from MW-2, MW-3, and MW-8 per the request from the NMOCD on November 29, 2011.

Groundwater monitor wells not exhibiting PSH or hydrocarbon sheen were gauged monthly and sampled quarterly. After collecting and recording groundwater level and PSH thickness measurements, each well was purged with a clean electric submersible pump, and then groundwater samples were collected using a new dedicated disposable bailer.

Groundwater samples were poured directly from the disposable bailers into the appropriate laboratory-supplied sample containers. The sample containers were then packaged to prevent breakage, placed on ice in a cooler, and shipped to ALS Environmental of Houston, Texas for analysis. The groundwater samples were analyzed for BTEX by EPA Method SW 846-8021B and PAHs by EPA Method SW 8270.

2.2 Groundwater Gauging

Table 1 summarizes groundwater gauging (elevation and PSH thickness) measurements taken before each quarterly groundwater sampling event in 2011. In addition, weekly (or occasionally every other week) groundwater elevation and PSH thickness measurements were recorded

prior to and after PSH recovery and monthly measurements were taken from wells without PSH. Groundwater elevations and PSH thickness measurements were taken in one monitor well (MW-1) and five recovery wells (RW-1 through RW-5) during PSH recovery efforts. Groundwater elevation measurements were recorded monthly for seven monitor wells (MW-2 through MW-8) without PSH or hydrocarbon sheen. Complete historical groundwater elevation and PSH thickness measurements since September 14, 2005 are presented in **Table 2**.

2.3 Groundwater Gradient and Flow Direction

Using the groundwater gauging data as described in **Section 2.2** and summarized in **Tables 1** and **2**, groundwater gradient maps were prepared and are included as **Figures 3A** through **3D**. The calculated groundwater gradient and estimated groundwater flow direction are based on the gauging data obtained on February 23, June 2, August 30, and November 29, 2011 (see **Table 1**). The hydraulic gradient in 2011 ranged from 0.0043 to 0.0048 feet/foot (ft/ft), based on groundwater elevations measured between monitor wells MW-4 and MW-6. Groundwater generally flows to the east.

2.4 Groundwater Analytical Results

Groundwater at the site was sampled on February 23, June 2, August 30, and November 29 during 2011 from monitor wells MW-2 through MW-8 and analyzed for BTEX constituents using the United States Environmental Protection Agency (USEPA) Method 8021B (see **Figures 4A** through **4B**). Groundwater samples were collected in the second quarter from monitor well MW-1 and recovery wells RW-1 through RW-5 due to the presence of PSH. Analytical results reported for the groundwater samples collected at four wells (MW-4 through MW-7) displayed BTEX constituent concentrations below laboratory MDLs for all four quarters. Monitoring wells MW-2 and MW-3 exhibited concentrations of constituents above laboratory MDLs, but below NMOCD remediation criteria for all four quarters of groundwater monitoring. MW-1, MW-3, and recovery wells RW-1 through RW-5 exceeded the NMOCD criteria for benzene during the second quarter. Detections also exceeded the NMOCD for total xylenes in the second quarter groundwater sampling at RW-1 and RW-4.

The 2011 analytical results are presented in **Table 3**, and historical analytical results are presented in **Table 4**. **Table 2.1** below summarizes the COC concentrations in which NMOCD Remediation Criteria exceedances were observed in 2011. COC concentrations reported in exceedance of NMOCD standards are marked in **bold**.

Table 2.1 2011 COC NMOCD Exceedances						
Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
MW-1	06/02/11	1106109-01	2.7	0.030	0.64	0.56
MW-3	06/02/11	1106118-02	0.0130	<0.001	0.015	0.015
RW-1	06/02/11	1106109-02	0.150	0.011	0.069	0.100
RW-3	06/02/11	1106109-04	1.0	0.01	0.20	0.280
RW-4	06/02/11	1106109-05	0.17	0.22	0.27	0.630
RW-5	06/02/11	1106109-06	0.0280	0.0066	0.0390	0.044

In 2008, 2009, 2010, and 2011 NMOCD required Plains to analyze for BTEX and PAH constituents in the dissolved phase groundwater in wells with hydrocarbon sheen. To meet this requirement, groundwater samples were also collected from monitor well MW-1, and recovery wells RW-1, RW-2, RW-3, RW-4 and RW-5, during the second quarter of 2011 and were analyzed for BTEX constituents (see **Tables 3 and 4** for the analytical data). During the fourth quarter of 2011 PAH analysis was collected from wells MW-2, MW-3 and MW-8 (see **Table 5**).

During this sampling event, fluids (PSH and dissolved phase hydrocarbons) from the wells MW-1, RW-1, RW-2, RW-3, RW-4 and RW-5 were recovered prior to purging the well to collect the groundwater samples. The analytical results indicated the presence of benzene concentrations above the NMOCD remediation criteria of 0.01 mg/L in the following wells monitor well MW-1, and recovery wells RW-1, RW-3, RW-4 and RW-5). Toluene and ethylbenzene concentrations were not detected above the NMOCD remediation criteria in groundwater samples from recovery wells RW-1 through RW-5 and monitoring well MW-1 and total xylenes concentrations were detected above the NMOCD remediation criteria in groundwater samples from wells RW-1 and RW-4. A copy of the laboratory analytical data package is included in **Appendix A**.

2.5 Groundwater Waste Disposal

Purge water from well sampling at wells MW-1 through MW-8 and recovery wells RW-1 through RW-5 is placed in the 1100-gallon above ground storage tank. These liquids are vacuumed from the tank and transported via vacuum truck for offsite disposal by Key Energy Services of Hobbs, New Mexico.

3.0 PSH RECOVERY

3.1 PSH Recovery Methodology

In addition to collecting groundwater samples, EarthCon performed weekly visits to the site to gauge and recover PSH from the six wells with PSH/sheen (wells MW-1, RW-1, RW-2, RW-3, RW-4 and RW-5). Measurements to PSH and water levels were recorded during each site visit (see **Table 2**). PSH recovery activities were completed on a weekly basis using submersible pumps, hand bailer and/or absorbent socks. Routine PSH recovery activities typically consisted of the removal of less than 1 gallon of PSH and 10 to 20 gallons of groundwater with possible dissolved phase hydrocarbons from each well.

3.2 2011 PSH Recovery

During 2011, measurable PSH was observed in monitor well MW-1 and recovery wells RW-1 through RW-5. In general, decreasing trends in the PSH thickness data collected for these wells have been observed. Monthly recovery data for PSH and dissolved phase groundwater are presented in **Table 6**.

A general decreasing trend in the PSH thickness in monitor well MW-1 was observed starting early 2008. A thin PSH thickness was observed through most of 2011, with the maximum thickness of PSH only reaching 0.02 ft.

The PSH thickness observed in recovery well RW-1 indicated an increase during the third and fourth quarters of 2008, however, a general decreasing trend was observed beginning 2009 and continued through 2011. In fact, only one gauging event recorded a measurable PSH thickness at this well, 0.01 ft on July 13, 2011.

PSH thicknesses in recovery well RW-2 increased from a hydrocarbon sheen to a measurable thickness which was first observed in October 2008. A measurable PSH thickness was observed in recovery well RW-2 until June 2009 with a maximum thickness of 1.37 ft observed during the month of April 2009. A hydrocarbon sheen has been present since June of 2011, with only small measurable thicknesses recorded (maximum 0.02 ft) in the beginning of the year.

The PSH thickness in recovery well RW-3 has been also been reduced to a small measurable thickness, a sheen, or no detection at all in 2011. The maximum thickness recorded was 0.55 ft on August 3, 2011.

Recovery well RW-4, drilled in January 2010, contained a maximum PSH thickness of 0.10 ft on August 17, and an average of approximately 0.02 ft. The PSH thickness in recovery well RW-5 (also drilled in January 2010) ranged from non-measurable to 0.09 ft in 2011. The average PSH thickness observed was 0.01 ft.

3.2 PSH Waste Generated

Purged PSH and affected groundwater from monitoring well MW-1 and recovery wells RW-1 through RW-5 is placed in the 1,100 gallon above ground storage tank. These liquids are vacuumed from the tank and transported offsite for disposal by Key Energy Services of Hobbs, New Mexico. Key Energy Services removes the fluids and transports fluids, via vacuum truck for disposal as previously described in **Section 2.5**.

4.0 MONITORED NATURAL ATTENUATION

4.1 Regulatory Framework for Monitored Natural Attenuation

Monitored Natural Attenuation (MNA) is defined by the New Mexico Environmental Department in 20.5.13 NMAC as "a methodology for remediation that relies upon a variety of naturally occurring chemical, physical and biological processes to achieve target concentrations in a manner that is equally as protective of public health, safety and welfare, and the environment as other methods and that is accompanied by a program of monitoring to document the progress and results of the above mentioned processes."

As part of the MNA process several lines of evidence need to be evaluated, the general lines of evidence are listed below:

- **Primary Lines of Evidence (PLOE).** Relies on use of historical groundwater data that demonstrate a clear trend of stable or decreasing chemical of concern (COC) concentrations over time and with distance away from the source at appropriate monitoring or sampling points.
- **Secondary Lines of Evidence (SLOE).** Uses geochemical indicators to document certain geochemical signatures or "footprints" in the groundwater that demonstrate (indirectly) the type of natural attenuation process(es) occurring at the affected property and the destruction of COCs; or uses distance-based/time-based/biodegradation rate calculations to demonstrate attenuation.
- **Other Lines of Evidence (OLOE).** Most often consists of predictive modeling studies and other lab/field studies that demonstrate an understanding of the natural attenuation process(es) occurring at the affected property and their effectiveness in controlling PCLE zone migration and decreasing COC concentrations.

4.2 Groundwater Plume Stability and Monitored Natural Attenuation

Vac to Jal #3 site is currently undergoing Ricker Plume Stability Analysis. While samples are collected for monitored natural attenuation, insufficient data exists at this time to perform and reliable evaluation.

4.2.1 Ricker Plume Stability Analysis

The dissolved phase plume was evaluated by analyzing groundwater samples collected quarterly from seven monitor wells which did not contain PSH. Throughout 2011, benzene was detected above the NMOCD remediation criteria in monitor wells MW-1 and MW-3 and recovery wells RW-1, RW-3, RW-4, and RW-5. Benzene concentrations in groundwater samples

collected from monitor well MW-3 appear to be generally decreasing from the maximum concentration observed in 2008 which is located cross gradient of the excavated soil area (**Figure 2**). The groundwater samples collected from the remaining six wells on site reported benzene, toluene, ethylbenzene and total xylenes (BTEX) constituent concentrations either below the NMOCD remediation criteria or below the laboratory MDLs.

The benzene concentrations reported in the groundwater samples collected from the monitor wells down-gradient of the plume, MW-2 and MW-3, from 2006 to 2011 also indicate a general decrease in the benzene concentrations.

Understanding plume stability is an important step in the remedial planning process for a site. For instance, an increasing plume could potentially migrate to human or environmental receptors, whereas a stable or decreasing plume may not pose an imminent threat to human health and the environment. An introduction to Ricker Plume Stability Analysis and the basis for the plume evaluation at the site was presented in the 2009 Annual report.

This analysis was conducted in order to understand the overall stability of the benzene plume during 2008, 2009, 2010, and 2011, by characterizing plume area, average concentration, mass, and center of mass.

The Picker Plume Stability Analysis completed for the site to date include the development of benzene concentration isopleths maps for the years 2008, 2009, 2010, and 2011. In the development of benzene concentration isopleths maps, an average of the benzene concentrations reported in the four quarterly groundwater sampling events was used for all the wells with no PSH, specifically monitor wells MW-2 through MW-8. Since the wells with PSH were sampled only during the second quarter groundwater sampling events during 2008, 2009, 2010 and 2011, the benzene concentrations reported during this sampling event were used in plume evaluation. The plume characteristics such as plume area, plume average concentration, plume mass, and plume centers of mass were calculated for each of the three benzene plumes using numerical methods and engineering principles.

The benzene isopleths maps for 2008, 2009, 2010, and 2011 are presented in **Figures 5, 6, 7, and 8** respectively. Plume mass, plume area and average benzene concentration data for 2008 through 2011 are graphically presented and summarized in **Figure 9**. The plume centers of mass for the three years are presented in **Figure 10**. A slight shift in the plume center of mass in the down gradient groundwater flow direction was observed from 2008 to 2011.

The current area affected by the benzene plume in 2011 based on quarterly groundwater sampling events is approximately 0.30 acres, which is approximately 35 percent less than that of 2008, approximately 28 percent less than 2009, and 12 percent less than 2010. The total mass of the benzene plume in 2011 is approximately 183 lbs less than the total mass computed in 2008 which is about a 68 percent reduction during the three year period. **Table 4.1** below provides a summary of plume characteristics. The center of mass of the plume presented in **Figure 10** displays a shift to the west towards MW-1.

**Table 4.1 Summary of Plume
Stability Characteristics**

Date	Area (Acres)	Average Conc. (µg/l)	Mass (lbs)
2008	0.46	494	269
2009	0.42	374	185
2010	0.34	473	187
2011	0.3	241	86

The analytical data collected for the site (see **Table 3**) used for the Ricker Plume Stability Analysis indicate that the benzene plume emanating from the site has a decreasing trend in size and mass while the average concentration of benzene appears to be decreasing as well. The benzene concentrations reported during the quarterly groundwater sampling events from the down-gradient well, monitor well MW-2 and cross-gradient well MW-3 were also evaluated individually. Benzene concentrations reported in the groundwater samples collected from monitor well MW-2 were below the NMOCD remediation criteria during the fourth quarter of 2009 and further decreased to below the laboratory MDLs in the first quarter 2010 and remained below the laboratory MDLs throughout 2011. Reported benzene concentrations in the groundwater samples collected from monitor well MW-3 were above the NMOCD remediation criteria only during the second quarter of 2011. The plume characteristic, specifically the plume area and mass calculated, display a plume that has statistically decreasing trend.

PSH thicknesses also appear to be decreasing, as a likely result of PSH recovery activities. This trend correlates well with the decrease in the plume area and mass characteristics computed in 2011 when compared to 2008 indicating that there is an overall decreasing trend of contaminants in the groundwater at the site.

5.0 CONCLUSIONS

5.1 Findings

During 2011, groundwater monitoring was conducted on a quarterly basis and PSH recovery continued weekly through manual bailing, use of electric pumps, and with absorbent socks. This report documents the results of the quarterly groundwater sampling events on-going at the site, and the volume of PSH and dissolved phase hydrocarbon recovered in 2011. A summary of the results of these activities is as follows:

- Measurable PSH and/or hydrocarbon sheens were observed in recovery wells RW-1 through RW-5, and monitor well MW-1 during 2011. During 2011, measurable PSH thicknesses in these wells have been observed to be decreasing. The reduction in PSH thickness and the decrease in dissolved phase hydrocarbon concentrations is thought to be attributable to the removal of affected soils in the surface and shallow subsurface soil, placement of a liner in October 2006, and continued weekly removal of dissolved phase hydrocarbons with entrained PSH via manual bailing and natural attenuation.
- Approximately 1,000 gallons of dissolved phase hydrocarbons with entrained PSH were recovered from the six wells with PSH and/or hydrocarbon sheen on site.
- Benzene concentrations were reported to be detected above the NMOCD remediation criteria of 0.01 mg/L in only one monitoring well sample (MW-3) collected from wells without PSH (MW-2 through MW-8). This sample was collected during the second quarter of 2011 with a reported benzene concentration of 0.0130 mg/L. BTEX constituent concentrations reported in groundwater samples collected from the remaining monitor wells were all below the NMOCD remediation criteria.
- As anticipated, benzene concentrations reported in the groundwater samples collected from wells with PSH or hydrocarbons sheen, namely monitor well MW-1 and recovery wells RW-1 through RW-5, during the second quarter of 2011 were above the NMOCD remediation criteria with the exception of RW-2 which had detections of benzene below the NMOCD remediation criteria.
- Plume stability analysis was conducted to establish baseline benzene plume characteristics using the 2008, 2009, 2010, and 2011 benzene concentration data. Evaluation of the plume characteristics computed for 2011 indicated a decreasing plume area, and plume mass and the average plume benzene concentration. Additional sampling events will be necessary to establish the statistical significance of these trends.

5.2 Recommendations

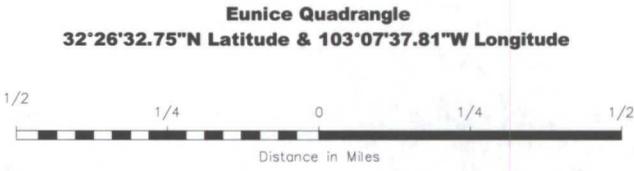
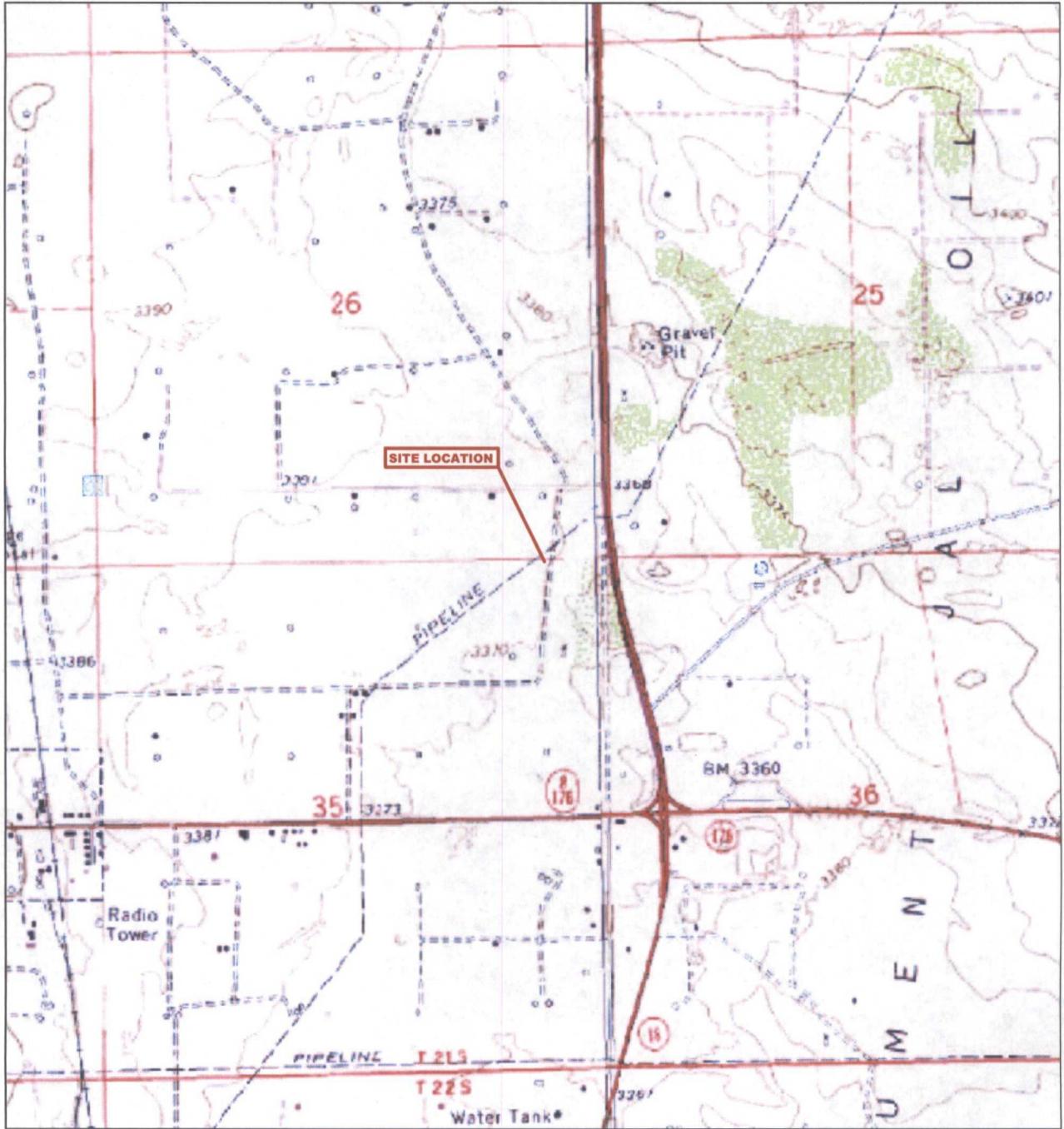
Based on PSH recovery and groundwater sampling completed during 2011 (and previously) at the site, EarthCon recommends the following:

- Continue weekly PSH recovery operations through removal of total fluids using manual bailers, electric pumps, and absorbent socks in wells with PSH as necessary, with monthly gauging and quarterly groundwater sampling to monitor hydrocarbons in groundwater.
- Based on a lack of detections of BTEX constituent concentrations in the groundwater samples collected from monitor wells MW-4, MW-5, MW-6 and MW-7 in the last 4 years, annual sampling of these wells is proposed. Quarterly sampling of wells MW-2, MW-3 and MW-8 will be continued and wells with PSH or sheen (MW-1, RW-1, RW-2, RW-3, RW-4, and RW-5) will be sampled annually.
- Plume stability analysis and data evaluation will be completed for the quarterly data obtained during the 2012 sampling events. A statistical trend analysis will also be performed using Mann-Kendall Test and regression analysis on the calculated plume characteristics to assess statistical significance of the benzene plume stability trends observed. A summary of the updated plume stability study will be presented in the 2012 Annual Report.

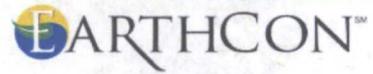
FIGURES

- Figure 1** Site Location Map
- Figure 2** Site Map
- Figure 3A** 1st Quarter 2011 - Groundwater Gradient Map, February 23, 2011
- Figure 3B** 2nd Quarter 2011 - Groundwater Gradient Map, June 2, 2011
- Figure 3C** 3rd Quarter 2011 - Groundwater Gradient Map, August 30, 2011
- Figure 3D** 4th Quarter 2011 - Groundwater Gradient Map, November 29, 2011
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- Figure 9** Plume Stability Analysis Summary 2008-2011
- Figure 10** Plume Center of Mass 2008-2011

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Eunice Quadrangle
32°26'32.75"N Latitude & 103°07'37.81"W Longitude

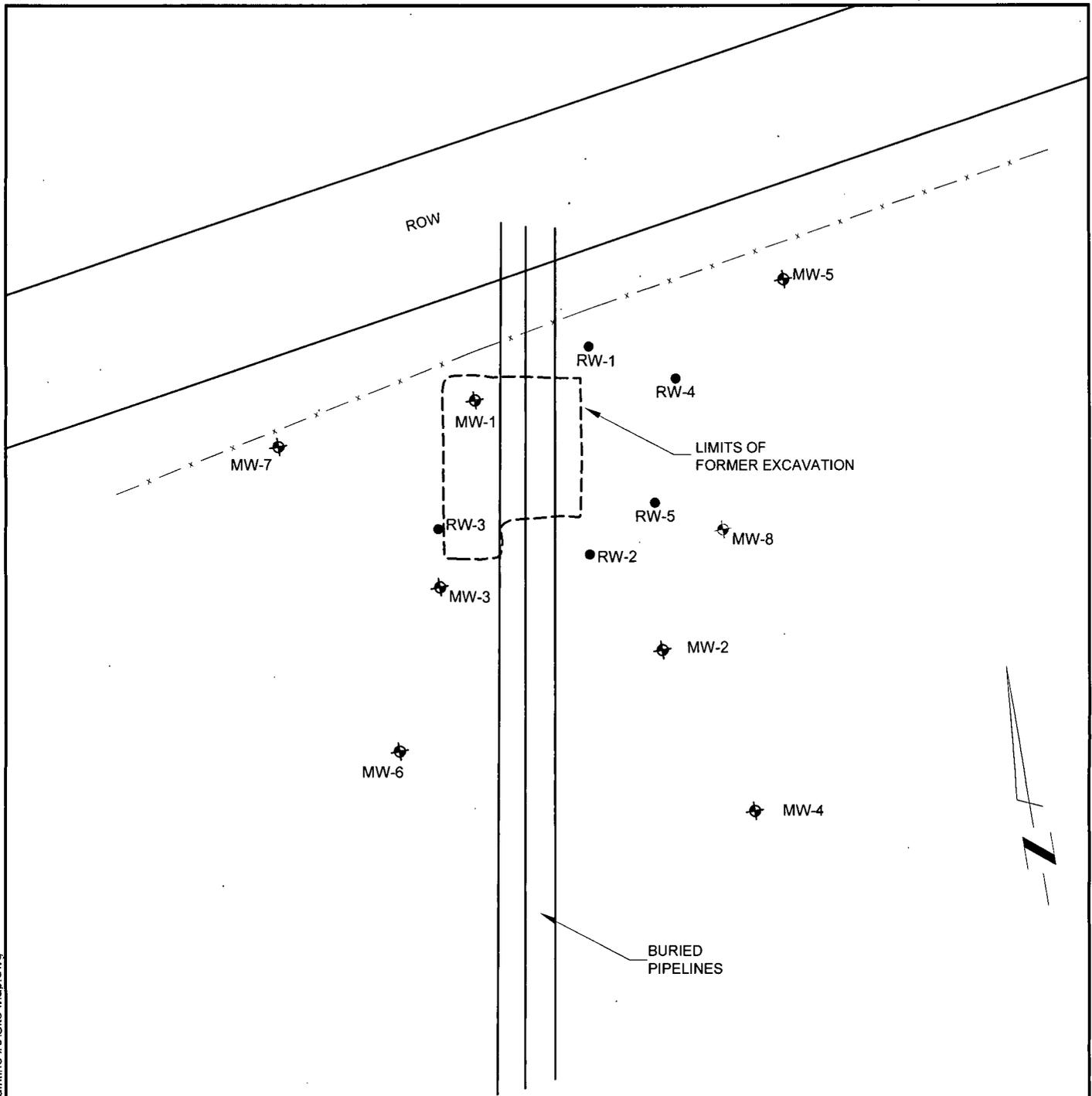


Environmental Challenges
BUSINESS SOLUTIONS

Figure 1
 Site Location Map
 Vacuum to Jal 14" Mainline #3
 SRS. No.: 2003-00117
 Plains Marketing, L.P.
 Lea County, New Mexico

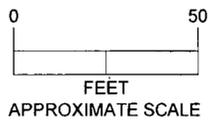
PROJ. NO: 205068.00

DATE: 1/12



LEGEND:

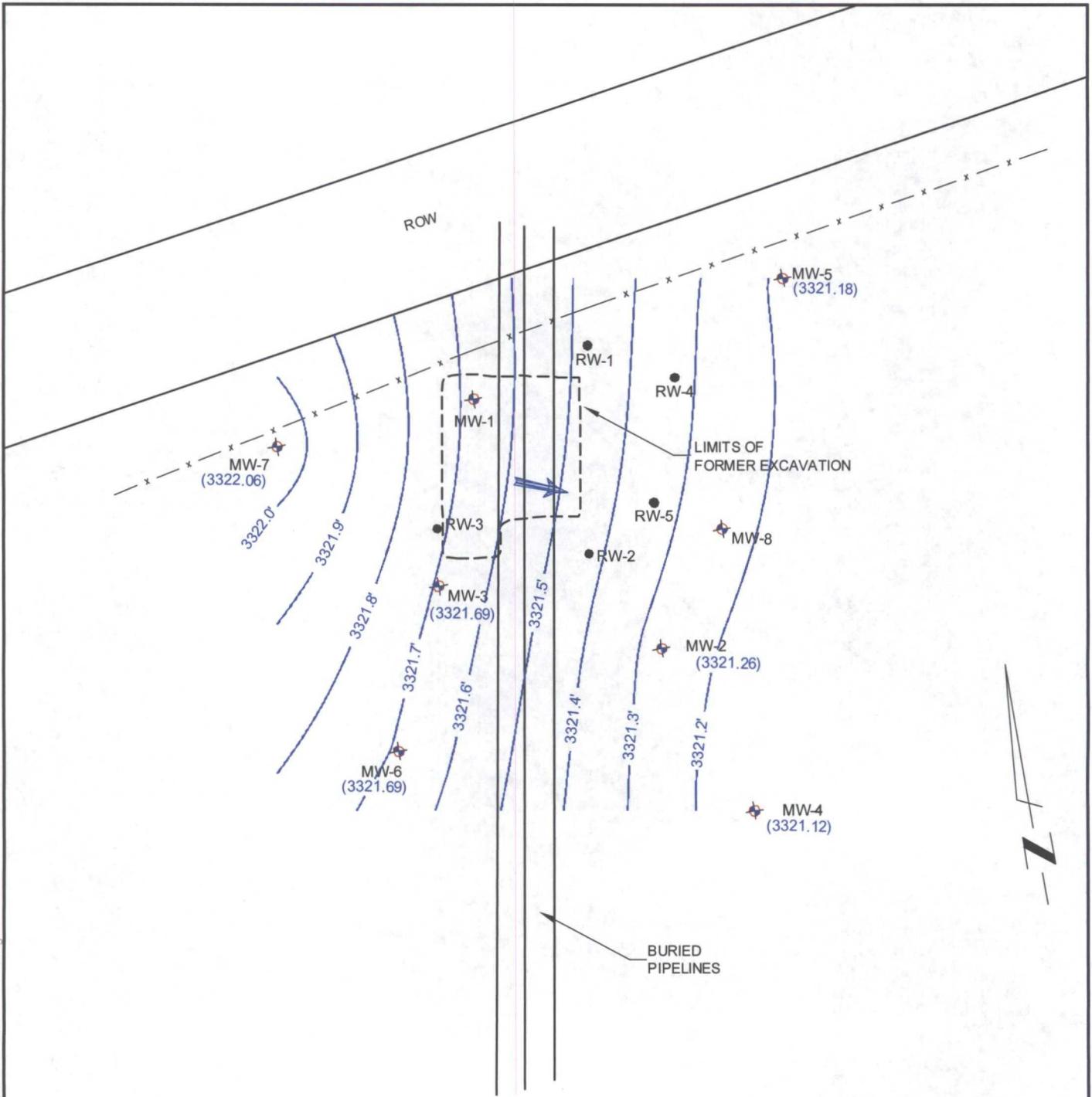
- RW-1 -Recovery Well Location
- ◆ MW-1 -Monitor Well Location



Environmental Challenges
BUSINESS SOLUTIONS

Figure 2
Site Map
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

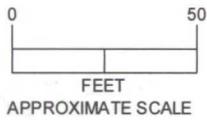
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LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➡ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.



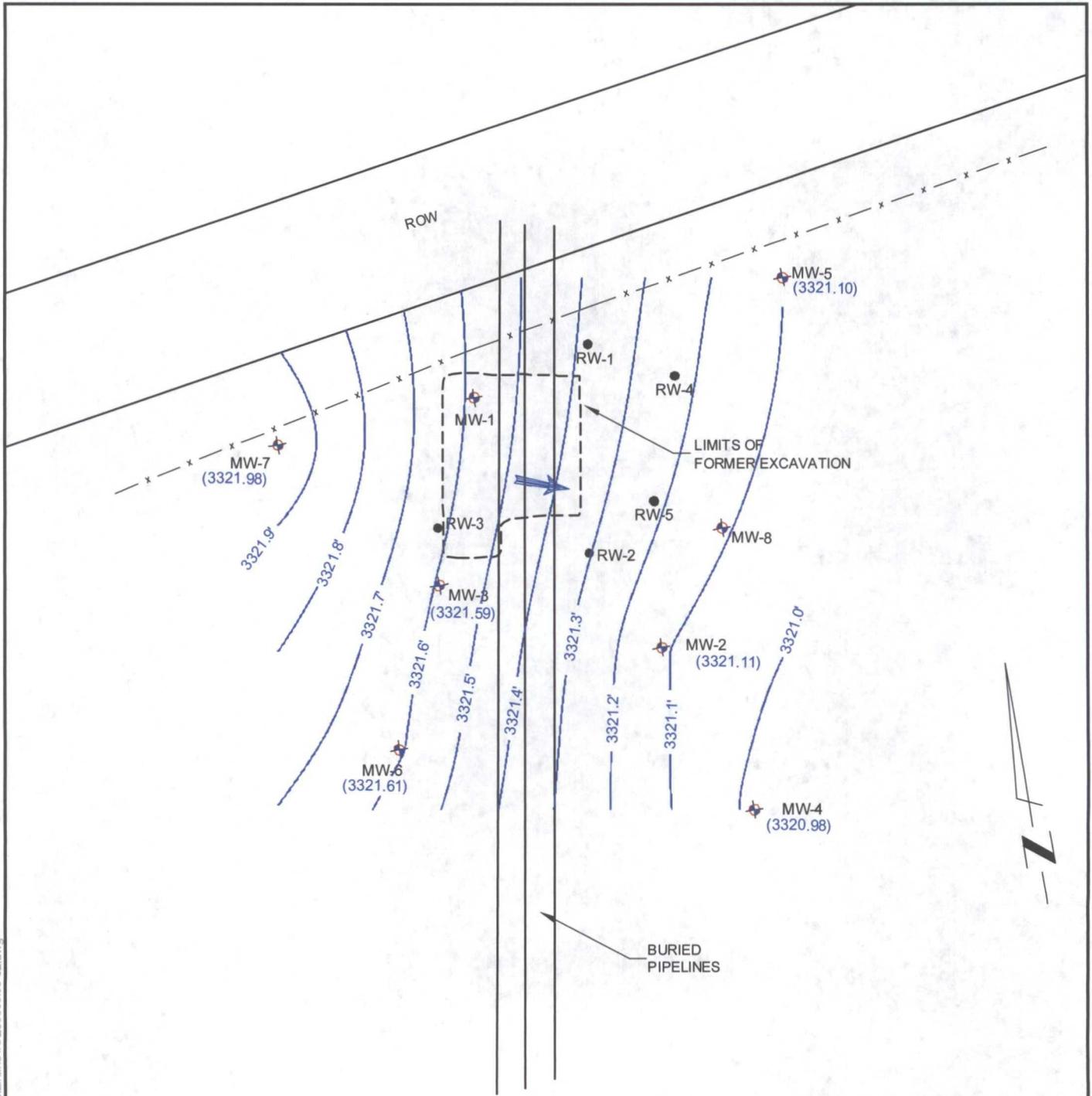
Environmental Challenges
BUSINESS SOLUTIONS

Figure 3A
 1st Quarter 2011 - Groundwater Gradient Map
 February 23, 2011
 Vacuum to Jal 14" Mainline #3
 SRS. No.: 2003-00117
 Plains Marketing, L.P.
 Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 12/11

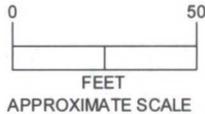
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LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➔ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.



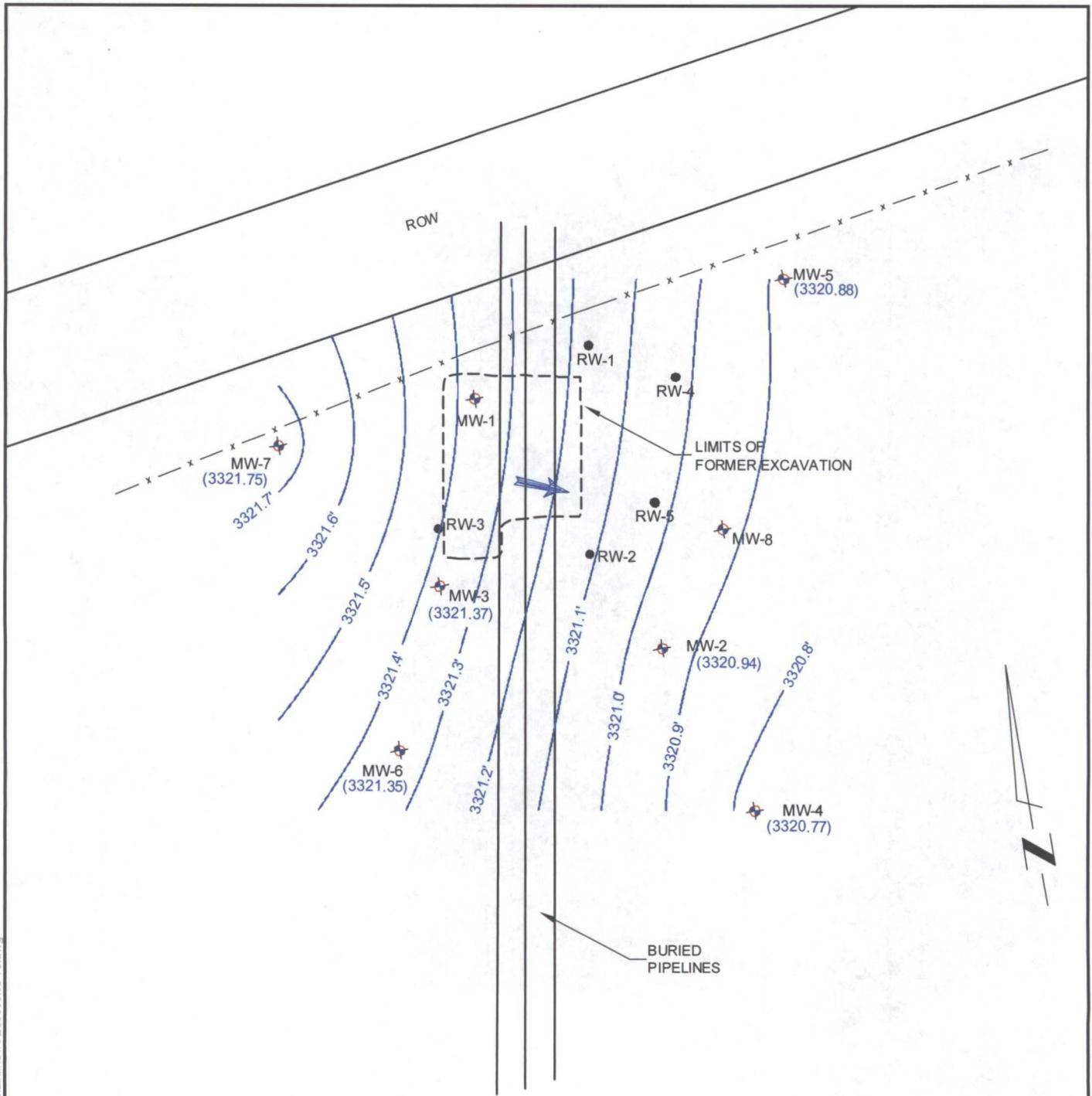


Environmental Challenges
BUSINESS SOLUTIONS

Figure 3B
2nd Quarter 2011 - Groundwater Gradient Map
June 2, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00 DATE: 12/11

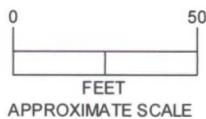
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LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➡ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.



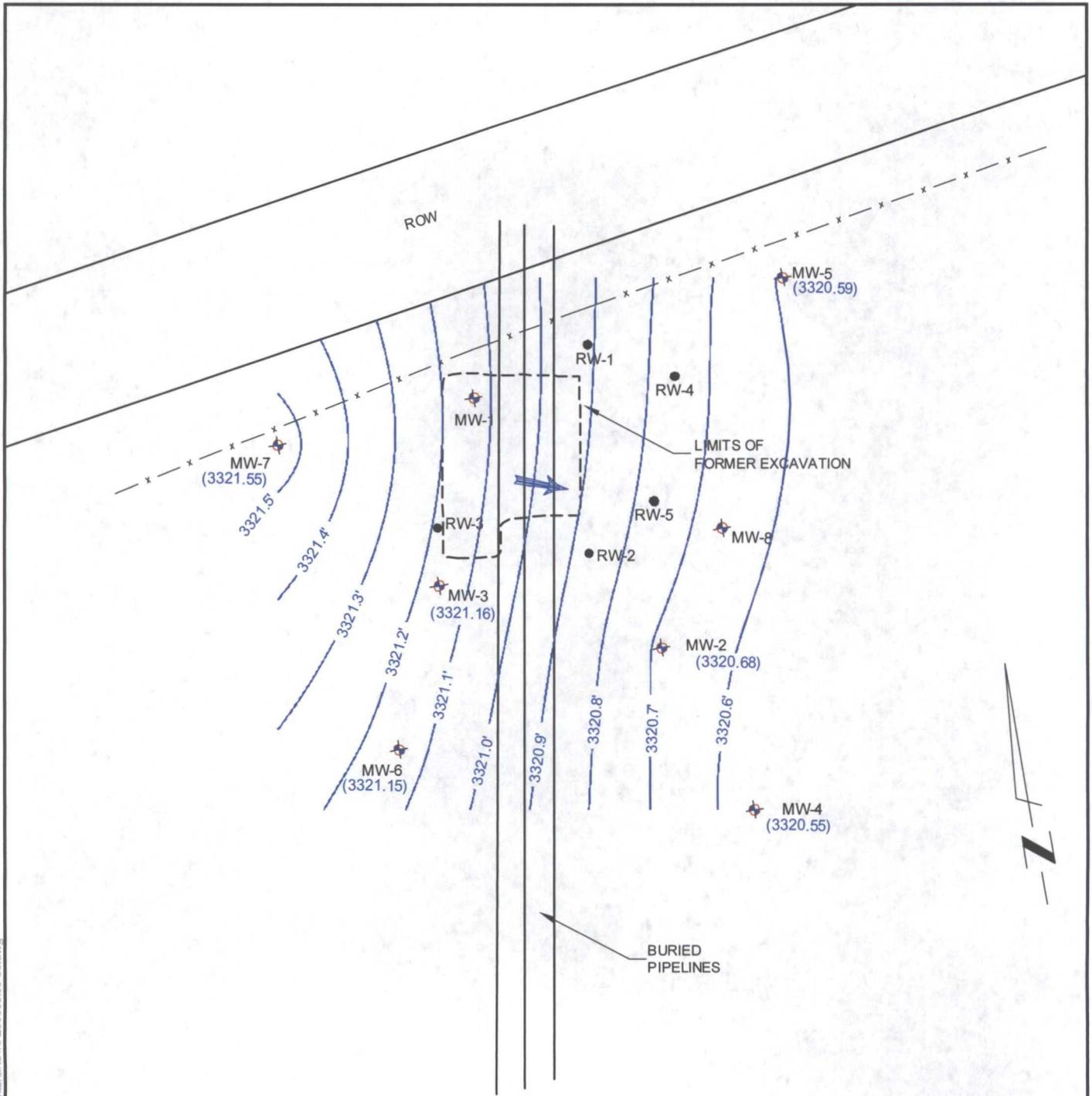
Environmental Challenges
BUSINESS SOLUTIONS

Figure 3C
3rd Quarter 2011 - Groundwater Gradient Map
August 30, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 10/11

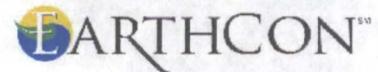
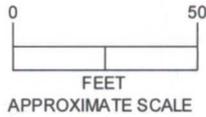
P:\PROJECT FILES\CAD Files\Vacuum to Jal 14 Mainline#3\2050688.00-83.dwg



LEGEND:

- RW-1 -Recovery Well Location
- ★ MW-1 -Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➡ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.



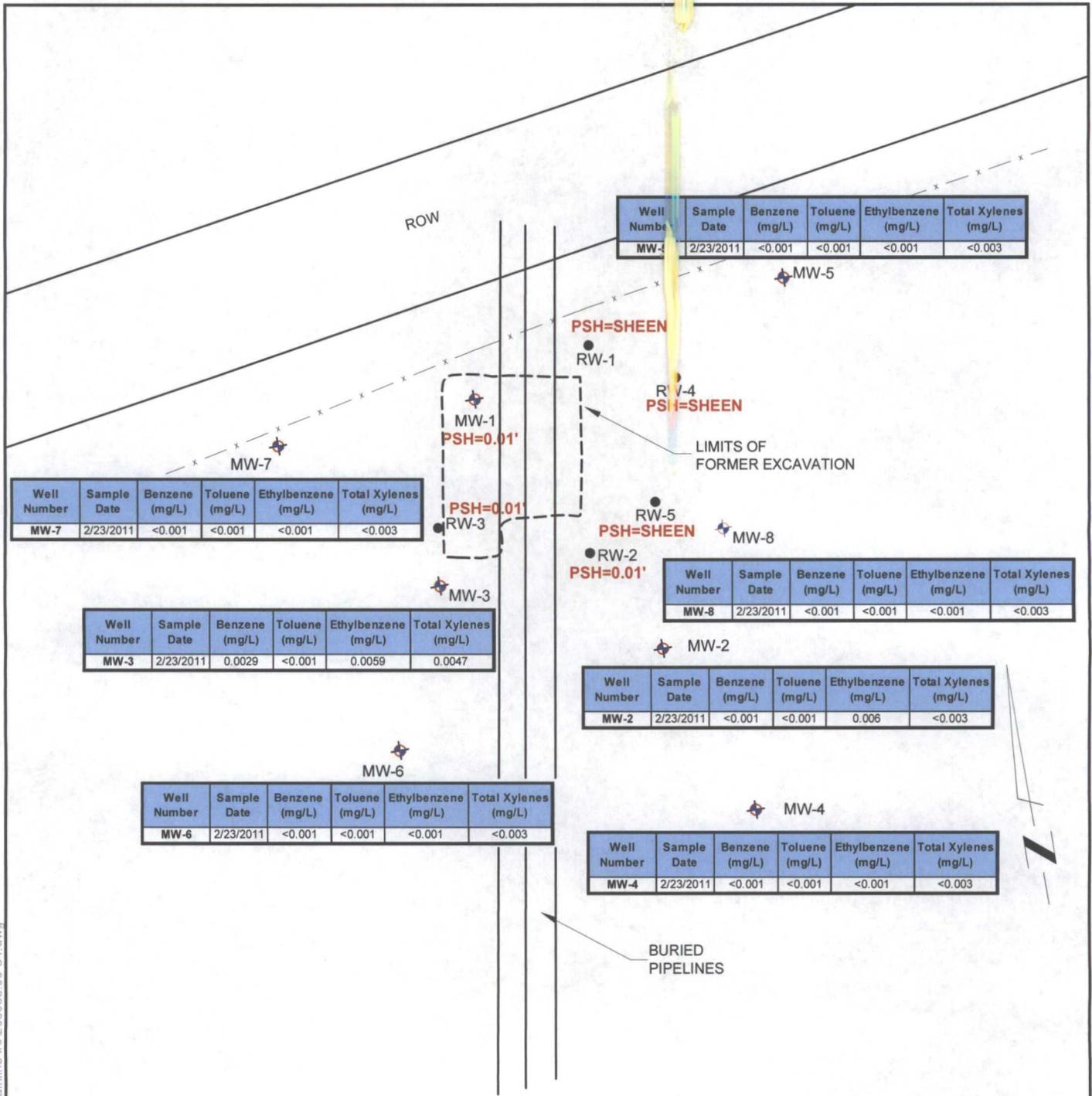
Environmental Challenges
BUSINESS SOLUTIONS

Figure 3D
4th Quarter 2011 - Groundwater Gradient Map
November 29, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 12/11

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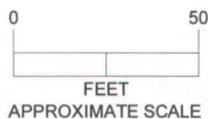


LEGEND:

- RW-1 -Recovery Well Location
- ◆ MW-1 -Monitor Well Location
- PSH=0.01' - Phase Separated Hydrocarbon Thickness (feet)

Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
NMOCD Remediation Criteria			
0.01	0.75	0.75	0.62

Concentrations in **BOLD** exceed the NMOCD Remediation Criteria Standards for the Site.



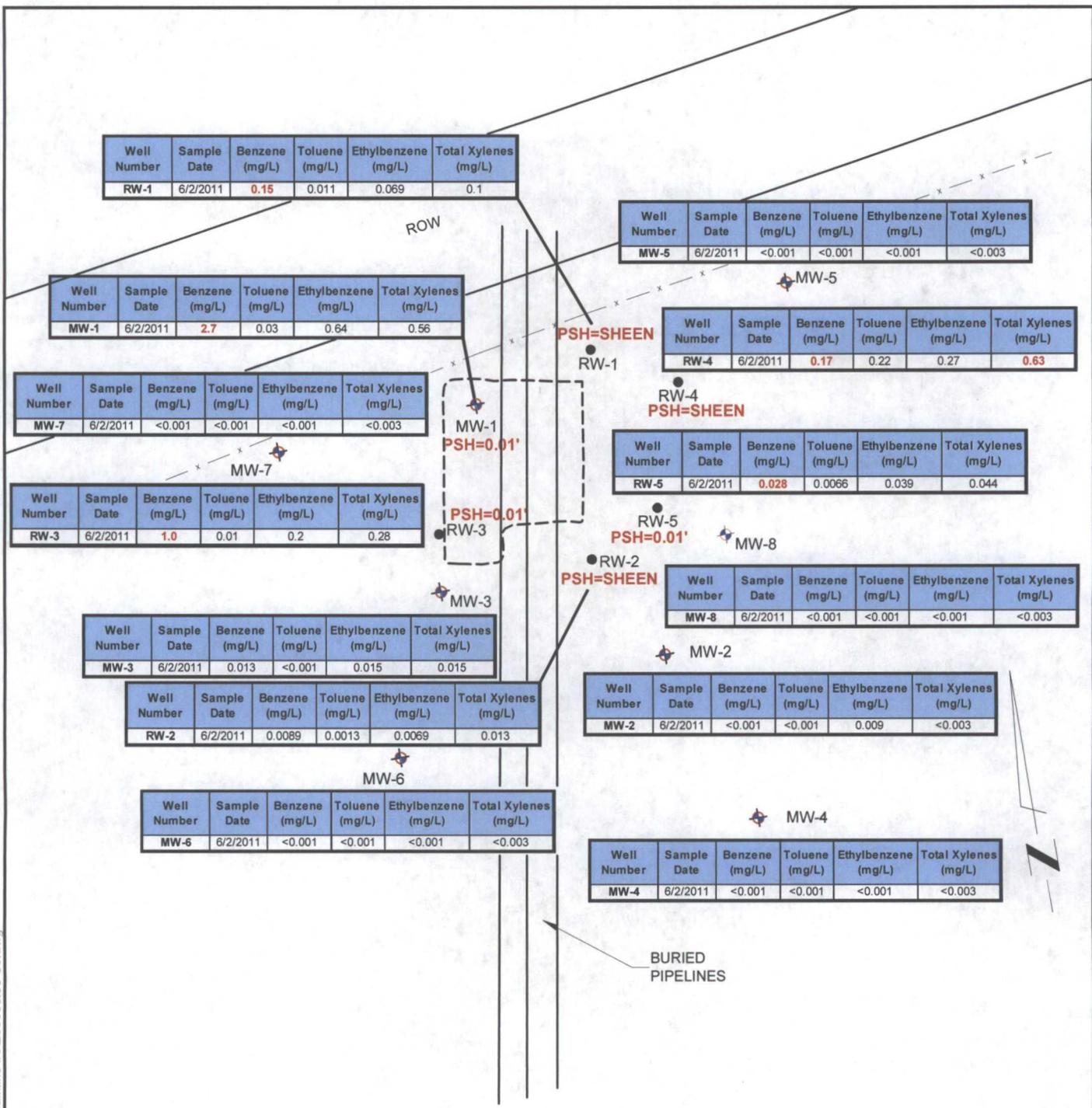
Environmental Challenges
BUSINESS SOLUTIONS

Figure 4A
1st Quarter 2011 - Groundwater Analytical Map
February 23, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Pipeline, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 12/11

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Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
RW-1	6/2/2011	0.15	0.011	0.069	0.1

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-5	6/2/2011	<0.001	<0.001	<0.001	<0.003

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-1	6/2/2011	2.7	0.03	0.64	0.56

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
RW-4	6/2/2011	0.17	0.22	0.27	0.63

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-7	6/2/2011	<0.001	<0.001	<0.001	<0.003

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
RW-5	6/2/2011	0.028	0.0066	0.039	0.044

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
RW-3	6/2/2011	1.0	0.01	0.2	0.28

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-8	6/2/2011	<0.001	<0.001	<0.001	<0.003

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-3	6/2/2011	0.013	<0.001	0.015	0.015

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-2	6/2/2011	<0.001	<0.001	0.009	<0.003

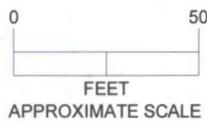
Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
RW-2	6/2/2011	0.0089	0.0013	0.0069	0.013

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-6	6/2/2011	<0.001	<0.001	<0.001	<0.003

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
MW-4	6/2/2011	<0.001	<0.001	<0.001	<0.003

LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- PSH=0.01' - Phase Separated Hydrocarbon Thickness (feet)



Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
0.01	0.75	0.75	0.62

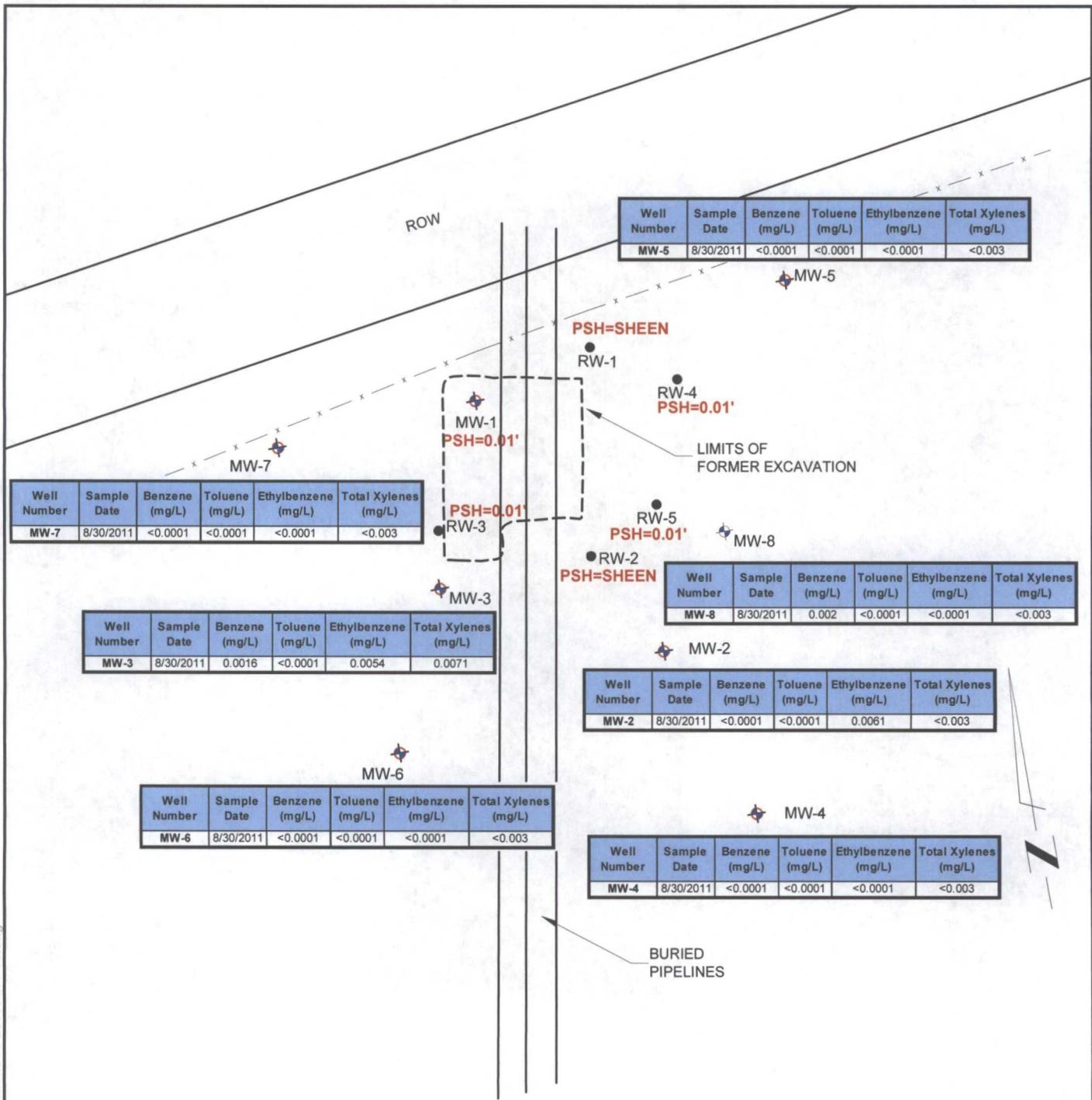
Concentrations in **BOLD** exceed the NMOCD Remediation Criteria Standards for the Site.



Figure 4B
 2nd Quarter 2011 - Groundwater Analytical Map
 June 2, 2011
 Vacuum to Jal 14" Mainline #3
 SRS. No.: 2003-00117
 Plains Pipeline, L.P.
 Lea County, New Mexico

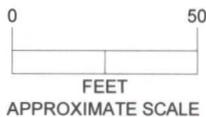
PROJ. NO: 205068.00 DATE: 12/11

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LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- PSH=0.01' - Phase Separated Hydrocarbon Thickness (feet)



Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
0.01	0.75	0.75	0.62

NMOC Remediation Criteria

Concentrations in **BOLD** exceed the NMOC Remediation Criteria Standards for the Site.



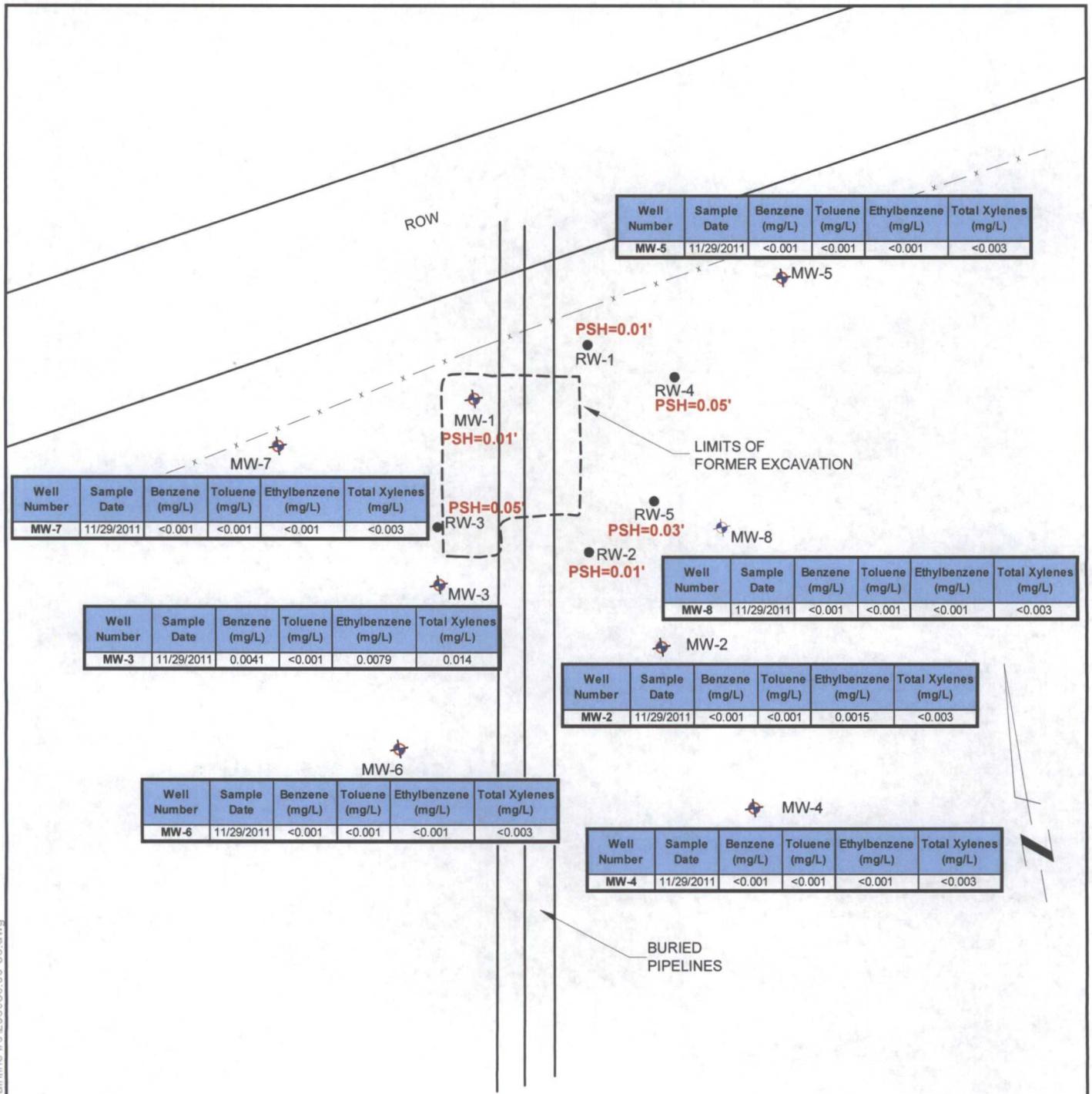
Environmental Challenges
BUSINESS SOLUTIONS

Figure 4C
3rd Quarter 2011 - Groundwater Analytical Map
August 30, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Pipeline, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

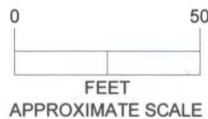
DATE: 12/11

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LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- PSH=0.01' - Phase Separated Hydrocarbon Thickness (feet)



Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
0.01	0.75	0.75	0.62

NMOCD Remediation Criteria

Concentrations in **BOLD** exceed the NMOCD Remediation Criteria Standards for the Site.



Environmental Challenges
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Figure 4D
4th Quarter 2011 - Groundwater Analytical Map
November 29, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Pipeline, L.P.
Lea County, New Mexico

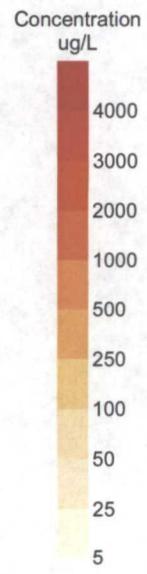
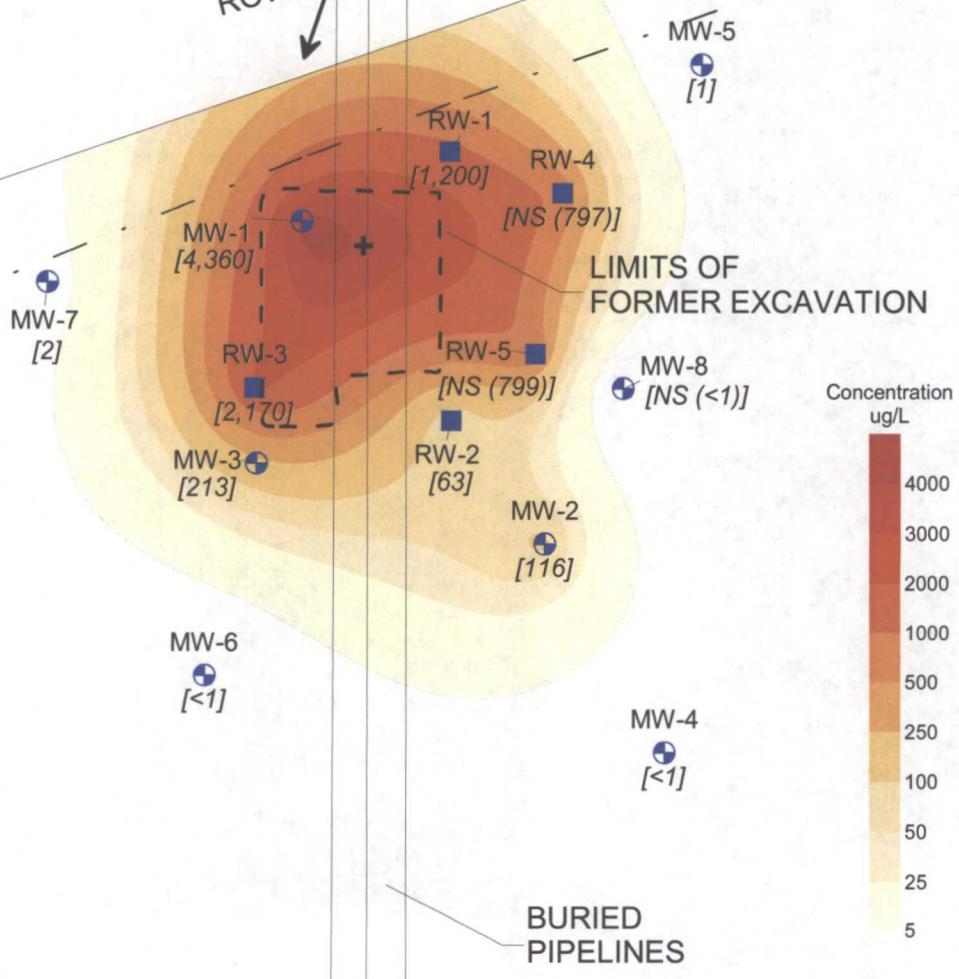
PROJ. NO: 205068.00

DATE: 12/11



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

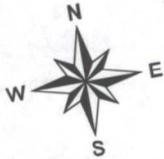
+ Plume Center of Mass

[2] Benzene Concentration (ug/L)

[NS (803)] Well Not Sampled, Assumed Concentration (ug/L)

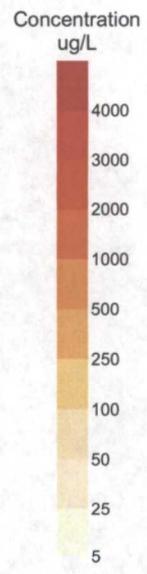
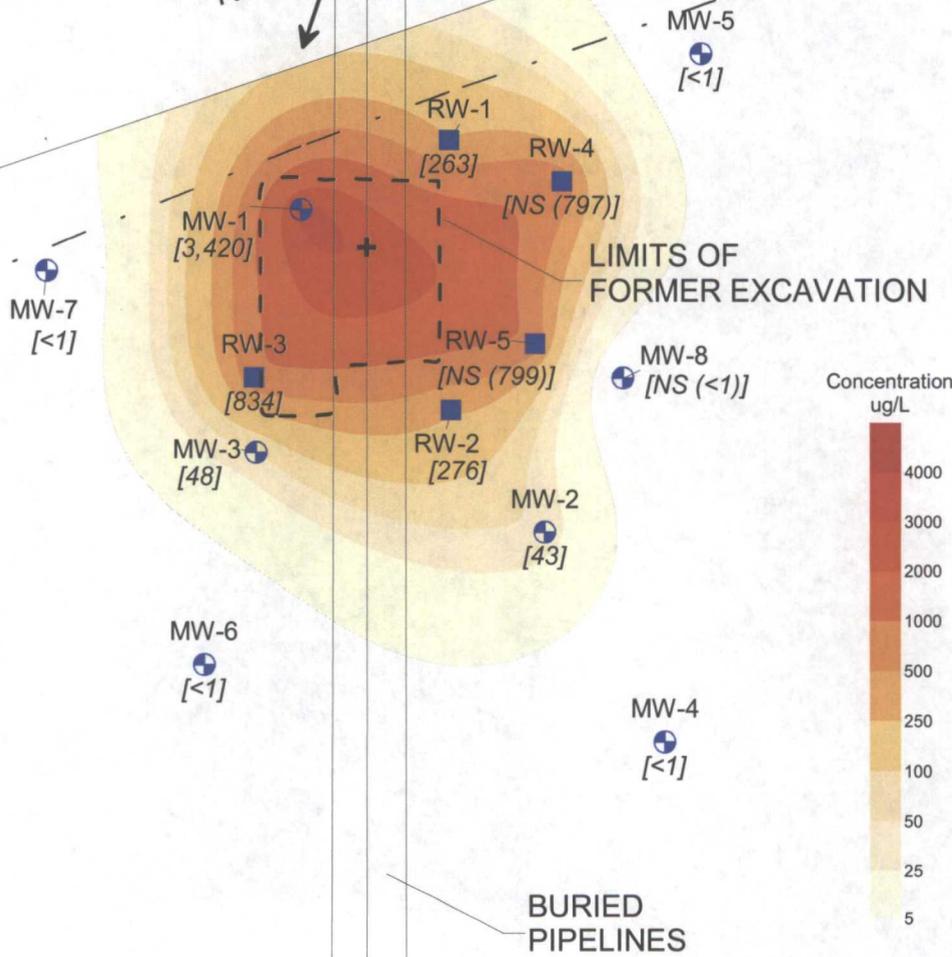


Figure 5
2008 - Benzene Isopleth Map
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

+ Plume Center of Mass

[2] Benzene Concentration (ug/L)

[NS (803)] Well Not Sampled, Assumed Concentration (ug/L)

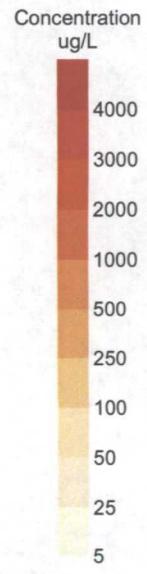
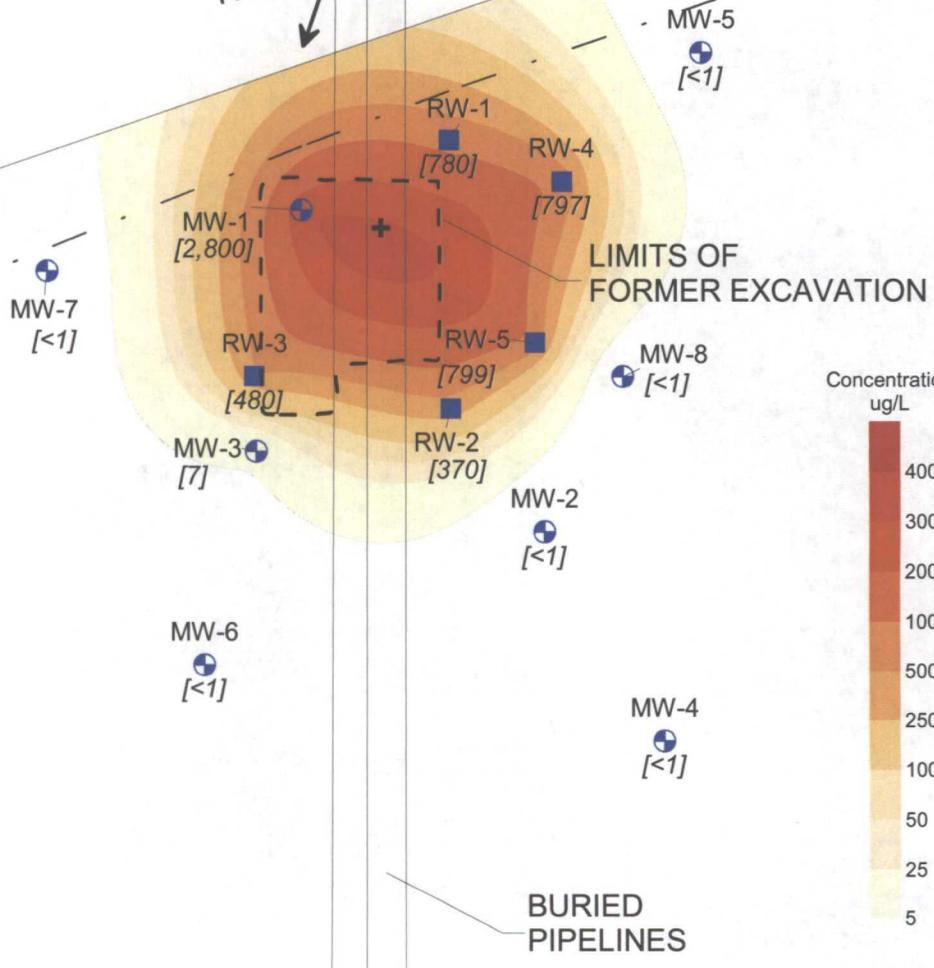


Figure 6
 2009 - Benzene Isopleth Map
 Plains Pipeline, L.P.
 Vacuum to Jal 14" Mainline #3
 SRS. No.: 2003-00117
 Lea County, New Mexico



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

+ Plume Center of Mass

[2] Benzene Concentration (ug/L)

[NS (803)] Well Not Sampled, Assumed Concentration (ug/L)

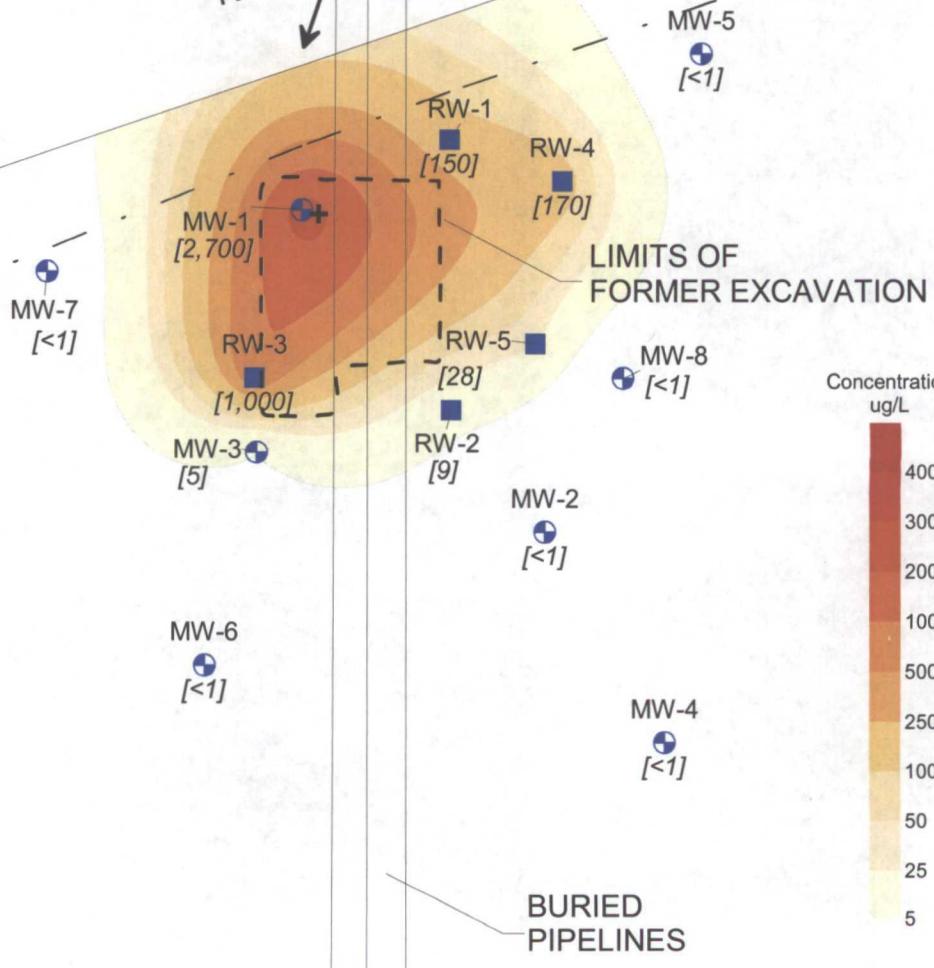


Figure 7
2010 - Benzene Isopleth Map
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

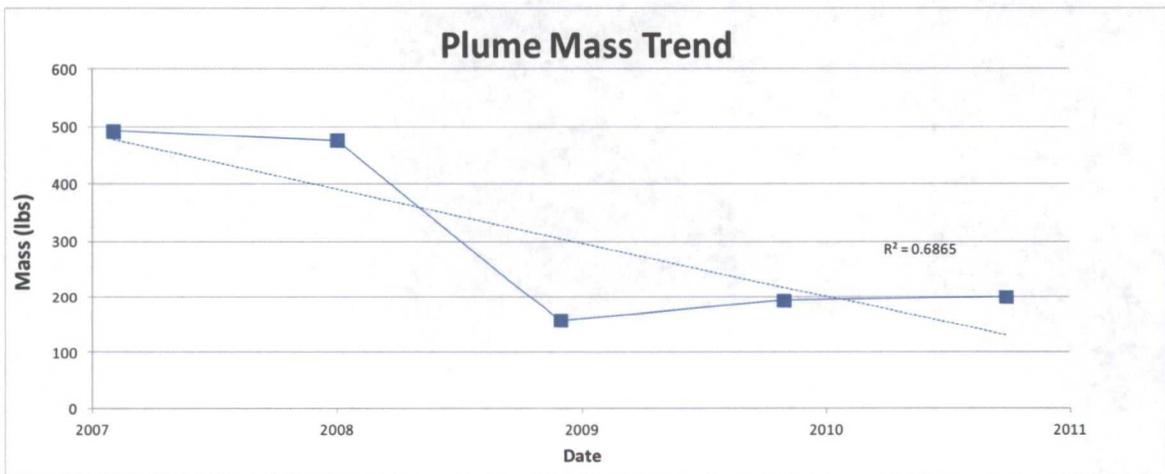
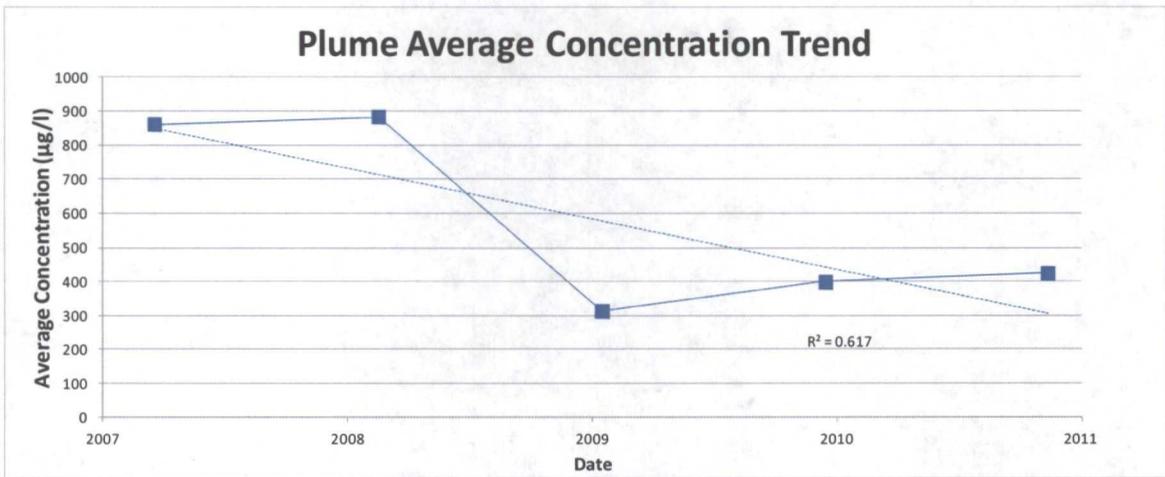
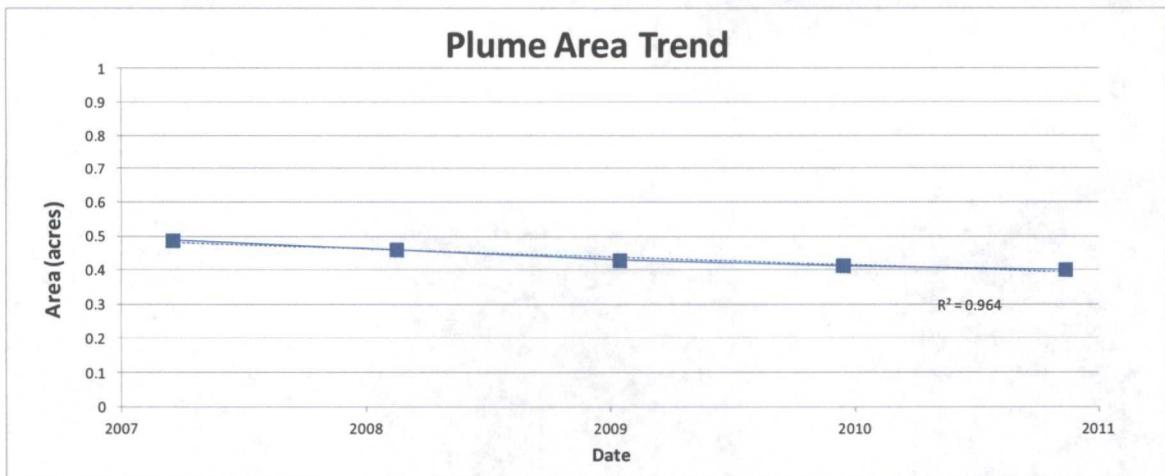
+ Plume Center of Mass

[2] Benzene Concentration (ug/L)

[NS (803)] Well Not Sampled, Assumed Concentration (ug/L)



Figure 8
 2011 - Benzene Isopleth Map
 Plains Pipeline, L.P.
 Vacuum to Jal 14" Mainline #3
 SRS. No.: 2003-00117
 Lea County, New Mexico



Summary of Plume Stability Characteristics

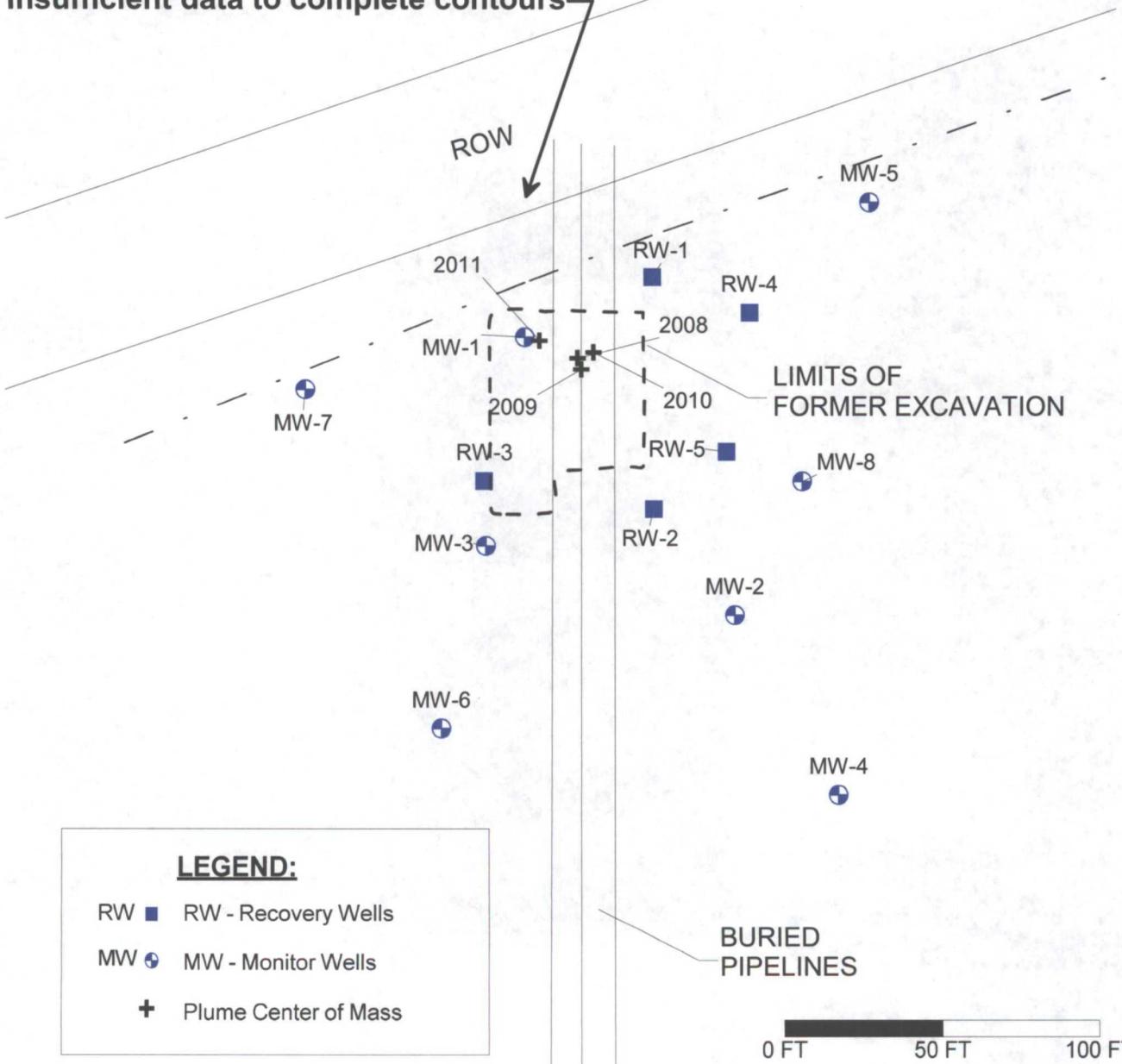
Date	Area (Acres)	Average Conc. (µg/l)	Mass (lbs)
2008	0.46	494	269
2009	0.42	374	185
2010	0.34	473	187
2011	0.30	241	86



Figure 9
 Plume Stability Analysis
 Summary 2008-2011
 Plains Pipeline, L.P.
 Vacuum to Jal 14" Mainline #3
 SRS. No.: 2003-00117
 Lea County, New Mexico

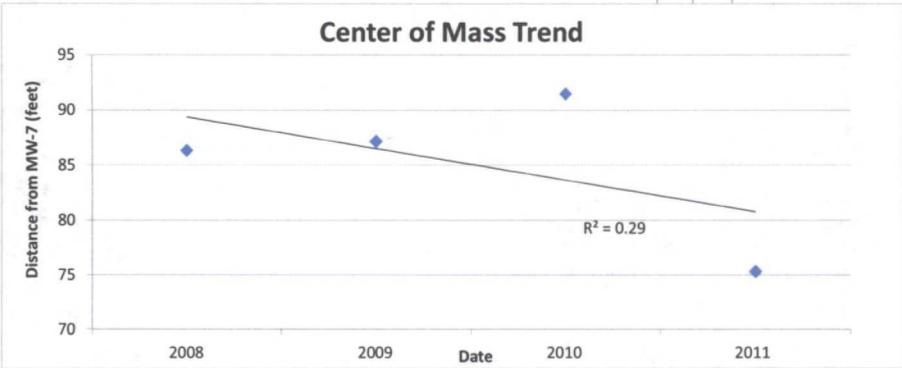


Insufficient data to complete contours



LEGEND:

- RW ■ RW - Recovery Wells
- MW ⊕ MW - Monitor Wells
- + Plume Center of Mass



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Figure 10
 Center of Mass Summary
 2008-2011
 Plains Pipeline, L.P.
 Vacuum to Jal 14" Mainline #3
 SRS. No.: 2003-00117
 Lea County, New Mexico

PROJ. NO: 205068.00 | DN: KMG | DATE: 1/12

TABLES

- Table 1** **2011 Monitor Well Survey Data and Groundwater Elevations**
- Table 2** **Historical Monitor Well Survey Data and Groundwater Elevations**
- Table 3** **2011 Groundwater Analytical Results**
- Table 4** **Historical Groundwater Analytical Results**
- Table 5** **Groundwater Analytical Results for Polynuclear Aromatic Hydrocarbons (PAHs) from wells with PSH/Sheen**
- Table 6** **2011 Monthly PSH and Dissolved Phase Groundwater Recovery Data**

TABLE 1
2011 MONITOR WELL SURVEY DATA AND GROUNDWATER ELEVATIONS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal 14" Mainline #3
 Lea County, New Mexico

Well Number	Date Measured	Top of Casing Elevation (ft)	Total Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	PSH Thickness (ft)	Recovery Method	Recovery		Corrected Groundwater Elevation (ft)	Comments
								PSH	H ₂ O		
MW-1	02/23/11	3362.64	55.60	47.98	47.99	0.01	Hand Bailed	0.10	9.90	3314.66	
MW-1	06/02/11	3362.64	55.60	48.13	48.14	0.01	NA	NA	NA	3314.51	
MW-1	08/30/11	3362.64	55.60	48.35	48.36	0.01	NA	NA	NA	3314.29	
MW-1	11/29/11	3362.64	55.60	48.57	48.58	0.01	NA	NA	NA	3314.07	
MW-2	02/23/11	3367.00	56.30	NA	45.74	NA	NA	NA	NA	3321.26	Sampled
MW-2	06/02/11	3367.00	56.30	NA	45.89	NA	NA	NA	NA	3321.11	Sampled
MW-2	08/30/11	3367.00	56.30	NA	46.06	NA	NA	NA	NA	3320.94	Sampled
MW-2	11/29/11	3367.00	56.30	NA	46.32	NA	NA	NA	NA	3320.68	Sampled
MW-3	02/23/11	3369.1	56.18	NA	47.41	NA	NA	NA	NA	3321.69	Sampled
MW-3	06/02/11	3369.1	56.18	NA	47.51	NA	NA	NA	NA	3321.59	Sampled
MW-3	08/30/11	3369.1	56.18	NA	47.73	NA	NA	NA	NA	3321.37	Sampled
MW-3	11/29/11	3369.1	56.18	NA	47.94	NA	NA	NA	NA	3321.16	Sampled
MW-4	02/23/11	3365.12	59.40	NA	44.00	NA	NA	NA	NA	3321.12	Sampled
MW-4	06/02/11	3365.12	59.40	NA	44.14	NA	NA	NA	NA	3320.98	Sampled
MW-4	08/30/11	3365.12	59.40	NA	44.35	NA	NA	NA	NA	3320.77	Sampled
MW-4	11/29/11	3365.12	59.40	NA	44.57	NA	NA	NA	NA	3320.55	Sampled
MW-5	02/23/11	3364.74	53.03	NA	43.56	NA	NA	NA	NA	3321.18	Sampled
MW-5	06/02/11	3364.74	53.03	NA	43.64	NA	NA	NA	NA	3321.10	Sampled
MW-5	08/30/11	3364.74	53.03	NA	43.86	NA	NA	NA	NA	3320.88	Sampled
MW-5	11/29/11	3364.74	53.03	NA	44.15	NA	NA	NA	NA	3320.59	Sampled
MW-6	02/23/11	3368.96	59.21	NA	47.27	NA	NA	NA	NA	3321.69	Sampled
MW-6	06/02/11	3368.96	59.21	NA	47.35	NA	NA	NA	NA	3321.61	Sampled
MW-6	08/30/11	3368.96	59.21	NA	47.61	NA	NA	NA	NA	3321.35	Sampled
MW-6	11/29/11	3368.96	59.21	NA	47.81	NA	NA	NA	NA	3321.15	Sampled

TABLE 1
2011 MONITOR WELL SURVEY DATA AND GROUNDWATER ELEVATIONS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal 14" Mainline #3
 Lea County, New Mexico

Well Number	Date Measured	Top of Casing Elevation (ft)	Total Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	PSH Thickness (ft)	Recovery Method	Recovery		Corrected Groundwater Elevation (ft)	Comments
MW-7	02/23/11	3370.25	59.69	NA	48.19	NA	NA	NA	NA	3322.06	Sampled
MW-7	06/02/11	3370.25	59.69	NA	48.27	NA	NA	NA	NA	3321.98	Sampled
MW-7	08/30/11	3370.25	59.69	NA	48.50	NA	NA	NA	NA	3321.75	Sampled
MW-7	11/29/11	3370.25	59.69	NA	48.70	NA	NA	NA	NA	3321.55	Sampled
MW-8	02/23/11	NS	59.53	NA	43.84	NA	NA	NA	NA	NS	Sampled
MW-8	06/02/11	NS	59.53	NA	43.94	NA	NA	NA	NA	NS	Sampled
MW-8	08/30/11	NS	59.53	NA	44.19	NA	NA	NA	NA	NS	Sampled
MW-8	11/29/11	NS	59.53	NA	44.39	NA	NA	NA	NA	NS	Sampled
RW-1	02/23/11	3368.12	58.70	ND	46.60	ND	NA	NA	NA	3321.52	
RW-1	06/02/11	3368.12	58.70	ND	46.16	ND	NA	NA	NA	3321.96	Sampled
RW-1	08/30/11	3368.12	58.70	Sheen	46.99	Sheen	NA	NA	NA	3321.13	
RW-1	11/29/11	3368.12	58.70	47.17	47.18	0.01	NA	NA	NA	3320.95	
RW-2	02/23/11	3398.32	58.98	46.91	46.92	0.01	NA	NA	NA	3351.41	
RW-2	06/02/11	3398.32	58.98	Sheen	47.08	Sheen	NA	NA	NA	3351.24	Sampled
RW-2	08/30/11	3398.32	58.98	Sheen	47.32	Sheen	NA	NA	NA	3351.00	
RW-2	11/29/11	3398.32	58.98	47.52	47.53	0.01	NA	NA	NA	3350.80	
RW-3	02/23/11	3369.05	59.57	47.35	47.36	0.01	NA	NA	NA	3321.70	
RW-3	06/02/11	3369.05	59.57	47.51	47.52	0.01	NA	NA	NA	3321.54	Sampled
RW-3	08/30/11	3369.05	59.57	47.74	47.75	0.01	NA	NA	NA	3321.31	
RW-3	11/29/11	3369.05	59.57	47.95	48.00	0.05	NA	NA	NA	3321.09	
RW-4	02/23/11	NS	57.63	46.06	46.07	0.01	Pumped	0.20	9.80	NS	
RW-4	06/02/11	NS	57.63	Sheen	46.24	Sheen	NA	NA	NA	NS	Sampled
RW-4	08/30/11	NS	57.63	46.46	46.47	0.01		0.10	4.90	NS	
RW-4	11/29/11	NS	57.63	46.65	46.70	0.05	NA	NA	NA	NS	

TABLE 1
2011 MONITOR WELL SURVEY DATA AND GROUNDWATER ELEVATIONS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal 14" Mainline #3
 Lea County, New Mexico

Well Number	Date Measured	Top of Casing Elevation (ft)	Total Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	PSH Thickness (ft)	Recovery Method	Recovery		Corrected Groundwater Elevation (ft)	Comments
RW-5	02/23/11	NS	59.73	ND	46.92	ND	Pumped	0.10	9.90	NS	
RW-5	06/02/11	NS	59.73	47.09	47.10	0.01	NA	NA	NA	NS	Sampled
RW-5	08/30/11	NS	59.73	47.32	47.33	0.01		0.10	4.90	NS	
RW-5	11/29/11	NS	59.73	47.52	47.55	0.03	NA	NA	NA	NS	

NA: Not Applicable
 ND: Not Detected
 NS: Not Surveyed

TABLE 2

Historical Monitor Well Survey Data and Groundwater Elevations

Available on CD attached to back cover

TABLE 3
2011 GROUNDWATER ANALYTICAL RESULTS
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
MW-1	06/02/11	1106109-01	2.7	0.030	0.64	0.56
MW-2	02/23/11	1102702-01	<0.001	<0.001	0.0060	<0.003
MW-2	06/02/11	1106118-01	<0.001	<0.001	0.0090	<0.003
MW-2	08/30/11	11081012-01	<0.001	<0.001	0.0061	<0.003
MW-2	11/29/11	1111902-01	<0.001	<0.001	0.0015	<0.003
MW-3	02/23/11	1102702-02	0.0029	<0.001	0.0059	0.0047
MW-3	06/02/11	1106118-02	0.0130	<0.001	0.015	0.015
MW-3	08/30/11	11081012-02	0.0016	<0.001	0.0054	0.0071
MW-3	11/29/11	1111902-02	0.0041	<0.001	0.0079	0.014
MW-4	02/23/11	1102702-03	<0.001	<0.001	<0.001	<0.003
MW-4	06/02/11	1106118-03	<0.001	<0.001	<0.001	<0.003
MW-4	08/30/11	11081012-03	<0.001	<0.001	<0.001	<0.003
MW-4	11/29/11	1111902-03	<0.001	<0.001	<0.001	<0.003
MW-5	02/23/11	1102702-04	<0.001	<0.001	<0.001	<0.003
MW-5	06/02/11	1106118-04	<0.001	<0.001	<0.001	<0.003
MW-5	08/30/11	11081012-04	<0.001	<0.001	<0.001	<0.003
MW-5	11/29/11	1111902-04	<0.001	<0.001	<0.001	<0.003
MW-6	02/23/11	1102702-05	<0.001	<0.001	<0.001	<0.003
MW-6	06/02/11	1106118-05	<0.001	<0.001	<0.001	<0.003
MW-6	08/30/11	11081012-05	<0.001	<0.001	<0.001	<0.003
MW-6	11/29/11	1111902-05	<0.001	<0.001	<0.001	<0.003
MW-7	02/23/11	1102702-06	<0.001	<0.001	<0.001	<0.003
MW-7	06/02/11	1106118-06	<0.001	<0.001	<0.001	<0.003
MW-7	08/30/11	11081012-06	<0.001	<0.001	<0.001	<0.003
MW-7	11/29/11	1111902-06	<0.001	<0.001	<0.001	<0.003
MW-8	02/23/11	1102702-07	<0.001	<0.001	<0.001	<0.003
MW-8	06/02/11	1106118-07	<0.001	<0.001	<0.001	<0.003
MW-8	08/30/11	11081012-07	0.0020	<0.001	<0.001	<0.003
MW-8	11/29/11	1111902-07	<0.001	<0.001	<0.001	<0.003
RW-1	06/02/11	1106109-02	0.150	0.011	0.069	0.100
RW-2	06/02/11	1106109-03	0.0089	0.0013	0.0069	0.013

TABLE 3
2011 GROUNDWATER ANALYTICAL RESULTS
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
RW-3	06/02/11	1106109-04	1.0	0.01	0.20	0.280
RW-4	06/02/11	1106109-05	0.17	0.22	0.27	0.630
RW-5	06/02/11	1106109-06	0.0280	0.0066	0.0390	0.044

< = Not Detected at the reporting limit.

MDL = Method detection limit

SDL = Sample detection limit

NMOCD - New Mexico Oil Conservation Division

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
MW-1	5/20/2008	T22267-1	4.36	1.47	0.80	1.20
MW-1	5/20/2009	9052216	3.42	0.03 J	0.60	0.64
MW-1	5/12/2010	1005477-01	2.80	0.17	0.70	1.00
MW-1	06/02/11	1106109-01	2.7	0.030	0.64	0.56
MW-2	03/28/06	T13037-1	0.243	0.00750	0.04570	0.09390
MW-2	06/15/06	T13863-1	0.333	0.00330 J	0.01960	0.01040
MW-2	09/12/06	T14672-1	0.178	<0.00020	0.01780	0.00940
MW-2	12/06/06	T15622-1	0.21400 ^a	<0.00020	0.01850	0.00800
MW-2	02/28/07	T16496-1	0.18600 ^a	<0.00020	0.01410	0.00150
MW-2	05/30/07	T17641-1	0.27000 ^a	<0.00023	0.01880	0.00290
MW-2	09/07/07	T18808-1	0.00210	<0.00023	<0.00035	0.00680
MW-2	11/13/07	T19744-1	<0.0005	<0.0005	<0.0005	<0.001
MW-2	02/28/08	T21043-1	<0.00021	<0.00023	<0.00035	0.00150 J
MW-2	05/20/08	T22267-2	0.27800 ^a	<0.00023	0.03200	0.00069 J
MW-2	08/20/08	T23512-1	0.01080	<0.0005	<0.0005	<0.001
MW-2	11/20/08	180209	0.176	<0.00100	0.00630	<0.00100
MW-2	02/18/09	9021907	0.117	<0.00100	<0.00100	<0.00100
MW-2	05/20/09	9052216	0.0357	<0.000188	0.00050 J	<0.000163
MW-2	08/27/09	9083116	0.0172	<0.000188	0.0011	<0.000163
MW-2	11/18/09	215423	0.0007 J	<0.000332	<0.00023	<0.000143
MW-2	02/09/10	222042	<0.000371	<0.000400	0.0012	<0.000379
MW-2	05/12/10	1005477-02	<0.001	<0.001	0.0041	<0.003
MW-2	08/26/10	1008902-01	<0.001	<0.001	0.0033	<0.003
MW-2	11/18/10	1011750-01	<0.001	<0.001	0.0036	<0.003
MW-2	02/23/11	1102702-01	<0.001	<0.001	0.0060	<0.003
MW-2	06/02/11	1106118-01	<0.001	<0.001	0.0090	<0.003
MW-2	08/30/11	11081012-01	<0.001	<0.001	0.0061	<0.003
MW-2	11/29/11	1111902-01	<0.001	<0.001	0.0015	<0.003
MW-3	03/28/06	T13037-2	0.501	0.07580	0.05180	0.06270
MW-3	06/15/06	T13863-2	0.432	<0.0018	0.06030	0.04530
MW-3	09/12/06	T14672-2	0.0612	<0.00020	0.00490	<0.00036
MW-3	12/06/06	T15622-2	0.19000 ^a	0.00110	0.02470	0.00360
MW-3	02/28/07	T16496-2	0.05830	0.00054 J	0.00520	0.00360
MW-3	05/30/07	T17641-2	0.05620	<0.00023	0.00410	<0.00055
MW-3	09/07/07	T18808-2	<0.00021	<0.00023	0.00790	<0.00055
MW-3	11/13/07	T19744-2	<0.0005	<0.0005	<0.0005	<0.001
MW-3	02/28/08	T21043-2	<0.00021	<0.00023	<0.00035	<0.00055
MW-3	05/20/08	T22267-3	0.74800 ^a	0.00030 J	0.06190	0.00084 J
MW-3	08/20/08	T23512-2	0.0459	<0.0005	0.0021	<0.001
MW-3	11/20/08	180210	0.0575	0.0268	0.0152	0.0875
MW-3	02/18/09	9021907	0.0070	0.0025	<0.00100	<0.00100
MW-3	05/20/09	9052216	0.1660	0.1820	0.1050	0.2120
MW-3	08/27/09	9083116	0.0096	0.0248	0.0123	0.0189

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
MW-3	11/18/09	215424	0.0096	0.00700	0.0115	0.0184
MW-3	02/09/10	222043	<0.000371	<0.000400	0.0011	0.0007 J
MW-3	05/12/10	1005477-03	0.0170	<0.001	0.027	0.016
MW-3	08/26/10	1008902-02	0.0084	<0.001	0.0360	0.0250
MW-3	11/18/10	1011750-02	0.0030	<0.001	0.0046	0.00340
MW-3	02/23/11	1102702-02	0.0029	<0.001	0.0059	0.0047
MW-3	06/02/11	1106118-02	0.0130	<0.001	0.015	0.015
MW-3	08/30/11	11081012-02	0.0016	<0.001	0.0054	0.0071
MW-3	11/29/11	1111902-02	0.0041	<0.001	0.0079	0.014
MW-4	03/28/06	T13037-3	<0.00038	<0.00036	<0.00035	<0.00072
MW-4	06/15/06	T13863-3	<0.00038	<0.00036	<0.00035	<0.00072
MW-4	09/12/06	T14672-3	<0.00035	<0.00020	<0.00033	<0.00036
MW-4	12/06/06	T15622-3	<0.00035	<0.00020	<0.00033	<0.00036
MW-4	02/28/07	T16496-3	<0.00035	<0.00020	<0.00033	<0.00036
MW-4	05/30/07	T17641-3	<0.00021	<0.00023	<0.00035	<0.00055
MW-4	09/07/07	T18808-3	<0.00021	<0.00023	<0.00035	<0.00055
MW-4	11/13/07	T19744-3	<0.0005	<0.0005	<0.0005	<0.001
MW-4	02/28/08	T21043-3	<0.00021	<0.00023	<0.00035	<0.00055
MW-4	05/20/08	T22267-4	<0.00021	<0.00023	<0.00035	<0.00055
MW-4	08/20/08	T23512-3	<0.0005	<0.0005	<0.0005	<0.001
MW-4	11/20/08	180211	<0.00100	<0.00100	<0.00100	<0.00100
MW-4	02/18/09	9021907	<0.00100	<0.00100	<0.00100	<0.00100
MW-4	05/20/09	9052216	<0.000149	<0.000188	<0.000178	<0.000163
MW-4	08/27/09	9083116	<0.000149	<0.000188	<0.000178	<0.000163
MW-4	11/18/09	215425	<0.000160	<0.000332	<0.000230	<0.000143
MW-4	02/09/10	222044	<0.000371	<0.000400	<0.000430	<0.000379
MW-4	05/12/10	1005477-04	<0.001	<0.001	<0.001	<0.003
MW-4	08/26/10	1008902-03	<0.001	<0.001	<0.001	<0.003
MW-4	11/18/10	1011750-03	<0.001	<0.001	<0.001	<0.003
MW-4	02/23/11	1102702-03	<0.001	<0.001	<0.001	<0.003
MW-4	06/02/11	1106118-03	<0.001	<0.001	<0.001	<0.003
MW-4	08/30/11	11081012-03	<0.001	<0.001	<0.001	<0.003
MW-4	11/29/11	1111902-03	<0.001	<0.001	<0.001	<0.003
MW-5	03/28/06	T13037-4	<0.00038	<0.00036	<0.00035	<0.00072
MW-5	06/15/06	T13863-4	<0.00038	<0.00036	<0.00035	<0.00072
MW-5	09/12/06	T14672-4	<0.00035	<0.00020	<0.00033	<0.00036
MW-5	12/06/06	T15622-4	<0.00035	<0.00020	<0.00033	<0.00036
MW-5	02/28/07	T16496-4	<0.00035	<0.00020	<0.00033	<0.00036
MW-5	05/30/07	T17641-4	<0.00021	<0.00023	<0.00035	<0.00055

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal Mainline #3
Lea County, New Mexico

Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
MW-5	09/07/07	T18808-4	<0.00021	<0.00023	<0.00035	<0.00055
MW-5	11/13/07	T19744-4	<0.0005	<0.0005	<0.0005	<0.001
MW-5	02/28/08	T21043-4	<0.00021	<0.00023	0.00210	<0.00055
MW-5	05/20/08	T22267-5	0.00120	<0.00023	<0.00035	<0.00055
MW-5	08/20/08	T23512-4	<0.0005	<0.0005	<0.0005	<0.001
MW-5	11/20/08	180212	<0.00100	<0.00100	<0.00100	<0.00100
MW-5	02/18/09	9021907	<0.00100	<0.00100	<0.00100	<0.00100
MW-5	05/20/09	9052216	<0.000149	<0.000188	<0.000178	<0.000163
MW-5	08/27/09	9083116	<0.000149	<0.000188	<0.000178	<0.000163
MW-5	11/18/09	215426	<0.000160	<0.000332	<0.000230	<0.000143
MW-5	02/09/10	222045	<0.000208	<0.000208	0.0010	0.0013
MW-5	05/12/10	1005477-05	<0.001	<0.001	0.0018	<0.003
MW-5	08/26/10	1008902-04	<0.001	<0.001	<0.001	<0.003
MW-5	11/18/10	1011750-04	<0.001	<0.001	<0.001	<0.003
MW-5	02/23/11	1102702-04	<0.001	<0.001	<0.001	<0.003
MW-5	06/02/11	1106118-04	<0.001	<0.001	<0.001	<0.003
MW-5	08/30/11	11081012-04	<0.001	<0.001	<0.001	<0.003
MW-5	11/29/11	1111902-04	<0.001	<0.001	<0.001	<0.003
MW-6	03/28/06	T13037-5	<0.00038	<0.00036	<0.00035	<0.00072
MW-6	06/15/06	T13863-5	<0.00038	<0.00036	<0.00035	<0.00072
MW-6	09/12/06	T14672-5	<0.00035	<0.00020	<0.00033	<0.00036
MW-6	12/06/06	T15622-5	<0.00035	<0.00020	<0.00033	<0.00036
MW-6	02/28/07	T16496-5	<0.00035	<0.00020	<0.00033	<0.00036
MW-6	05/30/07	T17641-5	<0.00021	<0.00023	<0.00035	<0.00055
MW-6	09/07/07	T18808-5	<0.00021	<0.00023	<0.00035	<0.00055
MW-6	11/13/07	T19744-5	<0.0005	<0.0005	<0.0005	<0.001
MW-6	02/28/08	T21043-5	<0.00021	<0.00023	<0.00035	<0.00055
MW-6	05/20/08	T22267-8	<0.00021	<0.00023	<0.00035	<0.00055
MW-6	08/20/08	T23512-5	<0.0005	<0.0005	<0.0005	<0.001
MW-6	11/20/08	180213	<0.00100	<0.00100	<0.00100	<0.00100
MW-6	02/18/09	9021907	<0.00100	<0.00100	<0.00100	<0.00100
MW-6	05/20/09	9052216	<0.000149	<0.000188	<0.000178	0.0002 J
MW-6	08/27/09	9083116	<0.000149	<0.000188	<0.000178	<0.000163
MW-6	11/18/09	215427	<0.000160	<0.000332	<0.000230	<0.000143
MW-6	02/09/10	222046	<0.000208	<0.000208	<0.000303	<0.000326
MW-6	05/12/10	1005477-06	<0.001	<0.001	<0.001	<0.003
MW-6	08/26/10	1008902-05	<0.001	<0.001	<0.001	<0.003
MW-6	11/18/10	1011750-05	<0.001	<0.001	<0.001	<0.003
MW-6	02/23/11	1102702-05	<0.001	<0.001	<0.001	<0.003
MW-6	06/02/11	1106118-05	<0.001	<0.001	<0.001	<0.003
MW-6	08/30/11	11081012-05	<0.001	<0.001	<0.001	<0.003
MW-6	11/29/11	1111902-05	<0.001	<0.001	<0.001	<0.003

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
MW-7	03/28/06	T13037-6	<0.00038	<0.00036	<0.00035	<0.00072
MW-7	06/15/06	T13863-6	<0.00038	<0.00036	<0.00035	<0.00072
MW-7	09/12/06	T14672-6	<0.00035	<0.00020	<0.00033	<0.00036
MW-7	12/06/06	T15622-6	<0.00035	<0.00020	<0.00033	<0.00036
MW-7	02/28/07	T16496-6	<0.00035	<0.00020	<0.00033	<0.00036
MW-7	05/30/07	T17641-6	<0.00021	<0.00023	<0.00035	<0.00055
MW-7	09/07/07	T18808-6	<0.00021	<0.00023	<0.00035	<0.00055
MW-7	11/13/07	T19744-6	<0.0005	<0.0005	<0.0005	<0.001
MW-7	02/28/08	T21043-6	<0.00021	<0.00023	<0.00035	<0.00055
MW-7	05/20/08	T22267-7	0.00650	<0.00023 *	0.00060 J*	<0.00055 *
MW-7	08/20/08	T23512-6	0.00110	<0.0005	<0.0005	<0.001
MW-7	11/20/08	180214	<0.00100	<0.00100	<0.00100	<0.00100
MW-7	02/18/09	187838	<0.00100	<0.00100	<0.00100	<0.00100
MW-7	05/20/09	9052216	<0.000149	<0.000188	<0.000178	<0.000163
MW-7	08/27/09	9083116	<0.000149	<0.000188	<0.000178	<0.000163
MW-7	11/18/09	215428	<0.000160	<0.000332	<0.000230	<0.000143
MW-7	02/09/10	222047	<0.000208	<0.000208	<0.000303	<0.000326
MW-7	05/12/10	1005477-07	<0.001	<0.001	<0.001	<0.003
MW-7	08/26/10	1008902-06	<0.001	<0.001	<0.001	<0.003
MW-7	11/18/10	1011750-06	<0.001	<0.001	<0.001	<0.003
MW-7	02/23/11	1102702-06	<0.001	<0.001	<0.001	<0.003
MW-7	06/02/11	1106118-06	<0.001	<0.001	<0.001	<0.003
MW-7	08/30/11	11081012-06	<0.001	<0.001	<0.001	<0.003
MW-7	11/29/11	1111902-06	<0.001	<0.001	<0.001	<0.003
MW-8	05/12/10	1005477-08	<0.001	<0.001	<0.001	<0.003
MW-8	08/26/10	1008902-07	<0.001	<0.001	<0.001	<0.003
MW-8	11/18/10	1011750-07	<0.001	<0.001	<0.001	<0.003
MW-8	02/23/11	1102702-07	<0.001	<0.001	<0.001	<0.003
MW-8	06/02/11	1106118-07	<0.001	<0.001	<0.001	<0.003
MW-8	08/30/11	11081012-07	0.0020	<0.001	<0.001	<0.003
MW-8	11/29/11	1111902-07	<0.001	<0.001	<0.001	<0.003
RW-1	5/20/2008	T22267-6	1.2	0.603	0.283	0.541
RW-1	5/20/2009	9052216	0.263	0.105	0.0636	0.143
RW-1	5/12/2010	1005477-09	0.78	0.78	0.53	1.1
RW-1	06/02/11	1106109-02	0.150	0.011	0.069	0.100
RW-2	5/20/2008	T22267-10	0.0628	0.0568	0.0594	0.112
RW-2	5/20/2009	9052216	0.276	0.0184	0.14	0.25
RW-2	5/12/2010	1005477-10	0.37	0.26	0.3	0.55
RW-2	06/02/11	1106109-03	0.009	0.0013	0.0069	0.013
RW-3	5/20/2008	T22267-9	2.17	0.239	0.403	0.345
RW-3	5/20/2009	9052216	0.834	0.0437	0.122	0.142

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

Well Number	Sample Date	Sample ID	SW 846-8021B			
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
			NMOCD Remediation Criteria			
			0.01	0.75	0.75	0.62
RW-3	5/12/2010	1005477-11	0.48	0.034	0.12	0.21
RW-3	06/02/11	1106109-04	1.000	0.01	0.2000	0.280
RW-4	5/12/2010	1005477-12	0.79	0.93	0.56	1.2
RW-4	06/02/11	1106109-05	0.1700	0.22	0.27	0.630
RW-5	5/12/2010	1005477-13	0.85	0.34	0.22	0.35
RW-5	06/02/11	1106109-06	0.0280	0.01	0.04	0.044

< = Not Detected at the reporting limit.

U= Analyzed but not detected above the MDL.

J = Analyte detected below quantitation limit (Detected below MDL but above SDL.)

MDL = Method detection limit

SDL = Sample detection limit

Bold indicates that analyte concentration above NMOCD Remediation

^a = Results from run 2; DF - 5

* Values reported from Run #2 as carry over was reported in Run #1.

NMOCD - New Mexico Oil Conservation Division

TABLE 5
GROUNDWATER ANALYTICAL RESULTS FOR
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) FROM WELLS WITH PSH/SHEEN
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

Monitoring Well	Sample Date	Lab Report #	Naphthalene	Acenaphthylene	Acenaphthene	Flourene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[a]-anthracene	Chrysene	Benzo[b]-fluoranthene	Benzo[a]-pyrene	Dibenzofuran	Dibenz[a,h]-anthracene	Benzo[g,h,i]-perylene	Benzo[k]fluoranthene	1-Methylnaphthalene	2-Methylnaphthalene	Total methylnaphthalene	TPH-GRO (C6-C10)	TPH (C10-C28)	TPH (C28-C30)
Units			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
Other regulatory limits (Tap Water*)			***		365	243	0.91	1100	1830	1460	183	0.91	29.1	0.91	0.7**		0.091		9.1			***			
MW-1	5/20/2008	T22301-1	150	<16	<15	35.5 J	<24	39.7 J	<18	<16	<11	<14	<13	<15	<16	NA	<13	<25	<16	NA	28.5	28.5	41.5	137	NA
MW-1	5/20/2009	9052216	26	<0.0717	<0.133	2.02	<0.0812	2.68	<0.0819	<0.0892	<0.0465	<0.0307	<0.0926	<0.0640	<0.0513	3.03	<0.0566	<0.0637	<0.0776	24.4	20.1	44.5	6.82	17.8	NA
MW-1	5/12/2010	1005477-01	42	0.56	1.2	2.1	<0.2	4	<0.2	<0.2	<0.2	<0.2	0.5	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA	NA	31	35	6.4
MW-2	12/7/2011	1112251-01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA
MW-3	12/7/2011	1112251-02	0.00023	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA
MW-8	12/7/2011	1112251-03	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA
RW-1	5/20/2008	T22301-2	34.5	<1.6	<1.5	5.1	<2.4	4.1 J	<1.8	<1.6	<1.1	<1.4	<1.3	<1.5	<1.6	NA	<1.3	<2.5	<1.6	NA	37.1	37.1	15.6	9.76	
RW-1	5/20/2009	9052216	205a	<0.756	<1.40	<0.560	<0.856	68.3	<0.863	<0.940	<0.490	<0.323	<0.975	<0.674	<0.541	51.9	<0.596	<0.671	<0.818	425	449a	874	2.22	60.8	
RW-1	5/12/2010	1005477-09	24	0.43	<0.2	2.3	<0.2	4	<0.2	<0.2	<0.2	<0.2	0.49	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA	NA	80	120	21
RW-2	5/20/2008	T22301-3	4.8 J	<1.6	<1.5	<2.1	<2.4	<1.6	<1.8	<1.6	<1.1	<1.4	<1.3	<1.5	<1.6	NA	<1.3	<2.5	<1.6	NA	4.3 J	4.3 J	1.28	0.737	
RW-2	5/20/2009	9052216	25.7	<0.355	<0.657	<0.263	<0.402	8.6	<0.406	<0.442	<0.230	<0.152	<0.458	<0.317	<0.254	6.7	<0.280	<0.315	<0.384	43.7	44.2	87.9	2.81	56.5	
RW-2	5/12/2010	1005477-10	38	<0.2	1.1	1.9	<0.2	4.7	0.4	<0.2	<0.2	<0.2	0.49	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA		12	15	3.1
RW-3	5/20/2008	T22301-4	23.1	<1.6	<1.5	<2.1	<2.4	<1.6	<1.8	<1.6	<1.1	<1.4	<1.3	<1.5	<1.6	NA	<1.3	<2.5	<1.6	NA	20.1	20.1	15.5	2.92	
RW-3	5/20/2009	9052216	6.11	<0.0703	<0.130	0.63	<0.0797	0.77	<0.0803	<0.0875	<0.0456	<0.0301	<0.0908	<0.0627	<0.0503	0.877	<0.0555	<0.0624	<0.0761	6.41	4.23	10.64	1.56 J	<0.876	
RW-3	5/12/2010	1005477-11	15	<0.2	<0.2	0.89	<0.2	1.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA		3.9	3.1	<0.48
RW-4	5/12/2010	1005477-12	43	<0.2	0.4	2.1	<0.2	3.5	<0.2	<0.2	<0.2	<0.2	0.44	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA	NA	40	48	7.8
RW-5	5/12/2010	1005477-13	9.6	<0.2	<0.2	0.74	<0.2	0.86	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	NA	NA	7.8	3.8	<0.47

< = Not Detected
J = Analyte detected below quantitation limit (Detected below MDL but above SDL.)
MDL = Method detection limit
SDL = Sample detection limit
Tap Water* = NMED Tap Water Soil screening levels for residential scenarios.
*** = NM Water Quality Standard for PAHs is 30µg/L for total naphthalenes plus monomethylnaphthalenes (total methylnaphthalenes)
** = NM Water Quality Standard
Bold indicates that analyte concentration above NMOCD Remediation
^aEstimated concentration value greater than standard range.
^bEstimated concentration value greater than standard range.
NA - Not requested for analysis
NMED - New Mexico Environment Department
NMOCD - New Mexico Oil Conservation Division

TABLE 6
2011 MONTHLY PSH AND DISSOLVED PHASE GROUNDWATER RECOVERY DATA
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

Month	Volume of PSH recovered in gallons	Volume of dissolved phase groundwater recovered in gallons
January	1.05	113.70
February	1.20	123.80
March	1.70	146.30
April	1.40	103.60
May	1.40	168.60
June	1.60	113.80
July	1.20	103.80
August	1.30	93.70
September	1.30	63.70
October	0.75	134.00
November	1.20	98.80
December	0.70	64.30
Total	14.80	1328.10

Appendix A

2011 Laboratory Analytical Reports

1st Quarter – Laboratory ID# 1102702

2nd Quarter – Laboratory ID# 1106118

3rd Quarter – Laboratory ID# 11081012

4th Quarter – Laboratory ID# 1111902

Chain of Custody Documentation



03-Mar-2011

Chan Patel
Premier Environmental Services
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (770) 973-7395

Re: Vacuum to Jal #3

Work Order: 1102702

Dear Chan,

ALS Environmental received 8 samples on 24-Feb-2011 08:50 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager



Certificate No: TX: T104704231-10-3

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Work Order: 1102702

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1102702-01	MW2	Water		2/23/2011 13:05	2/24/2011 08:50	<input type="checkbox"/>
1102702-02	MW3	Water		2/23/2011 13:20	2/24/2011 08:50	<input type="checkbox"/>
1102702-03	MW4	Water		2/23/2011 12:55	2/24/2011 08:50	<input type="checkbox"/>
1102702-04	MW5	Water		2/23/2011 13:25	2/24/2011 08:50	<input type="checkbox"/>
1102702-05	MW6	Water		2/23/2011 13:00	2/24/2011 08:50	<input type="checkbox"/>
1102702-06	MW7	Water		2/23/2011 13:10	2/24/2011 08:50	<input type="checkbox"/>
1102702-07	MW8	Water		2/23/2011 13:15	2/24/2011 08:50	<input type="checkbox"/>
1102702-08	Trip Blank	Water		2/23/2011	2/24/2011 08:50	<input type="checkbox"/>

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Work Order: 1102702

Case Narrative

Batch R106038 BTEX (Sample 1102702-04)MS/MSD Recovery outside control limits on Ehtylbenzene. RPD ok.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW2

Lab ID: 1102702-01

Collection Date: 2/23/2011 01:05 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	3/1/2011 09:57 AM
Toluene	ND		0.0010	mg/L	1	3/1/2011 09:57 AM
Ethylbenzene	0.0060		0.0010	mg/L	1	3/1/2011 09:57 AM
Xylenes, Total	ND		0.0030	mg/L	1	3/1/2011 09:57 AM
Surr: 4-Bromofluorobenzene	108		77-129	%REC	1	3/1/2011 09:57 AM
Surr: Trifluorotoluene	99.4		75-130	%REC	1	3/1/2011 09:57 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Sample ID: MW3
Collection Date: 2/23/2011 01:20 PM

Work Order: 1102702
Lab ID: 1102702-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	0.0029		0.0010	mg/L	1	3/1/2011 12:39 PM
Toluene	ND		0.0010	mg/L	1	3/1/2011 12:39 PM
Ethylbenzene	0.0059		0.0010	mg/L	1	3/1/2011 12:39 PM
Xylenes, Total	0.0047		0.0030	mg/L	1	3/1/2011 12:39 PM
Surr: 4-Bromofluorobenzene	115		77-129	%REC	1	3/1/2011 12:39 PM
Surr: Trifluorotoluene	101		75-130	%REC	1	3/1/2011 12:39 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Sample ID: MW4
Collection Date: 2/23/2011 12:55 PM

Work Order: 1102702
Lab ID: 1102702-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	3/1/2011 12:57 PM
Toluene	ND		0.0010	mg/L	1	3/1/2011 12:57 PM
Ethylbenzene	ND		0.0010	mg/L	1	3/1/2011 12:57 PM
Xylenes, Total	ND		0.0030	mg/L	1	3/1/2011 12:57 PM
Surr: 4-Bromofluorobenzene	103		77-129	%REC	1	3/1/2011 12:57 PM
Surr: Trifluorotoluene	99.9		75-130	%REC	1	3/1/2011 12:57 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Sample ID: MW5
Collection Date: 2/23/2011 01:25 PM

Work Order: 1102702
Lab ID: 1102702-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	3/1/2011 11:10 AM
Toluene	ND		0.0010	mg/L	1	3/1/2011 11:10 AM
Ethylbenzene	ND		0.0010	mg/L	1	3/1/2011 11:10 AM
Xylenes, Total	ND		0.0030	mg/L	1	3/1/2011 11:10 AM
<i>Surr: 4-Bromofluorobenzene</i>	106		77-129	%REC	1	3/1/2011 11:10 AM
<i>Surr: Trifluorotoluene</i>	100		75-130	%REC	1	3/1/2011 11:10 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Sample ID: MW6
Collection Date: 2/23/2011 01:00 PM

Work Order: 1102702
Lab ID: 1102702-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	3/1/2011 01:14 PM
Toluene	ND		0.0010	mg/L	1	3/1/2011 01:14 PM
Ethylbenzene	ND		0.0010	mg/L	1	3/1/2011 01:14 PM
Xylenes, Total	ND		0.0030	mg/L	1	3/1/2011 01:14 PM
Surr: 4-Bromofluorobenzene	103		77-129	%REC	1	3/1/2011 01:14 PM
Surr: Trifluorotoluene	100		75-130	%REC	1	3/1/2011 01:14 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Sample ID: MW7
Collection Date: 2/23/2011 01:10 PM

Work Order: 1102702
Lab ID: 1102702-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	3/1/2011 01:31 PM
Toluene	ND		0.0010	mg/L	1	3/1/2011 01:31 PM
Ethylbenzene	ND		0.0010	mg/L	1	3/1/2011 01:31 PM
Xylenes, Total	ND		0.0030	mg/L	1	3/1/2011 01:31 PM
Surr: 4-Bromofluorobenzene	103		77-129	%REC	1	3/1/2011 01:31 PM
Surr: Trifluorotoluene	100		75-130	%REC	1	3/1/2011 01:31 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services**Project:** Vacuum to Jal #3**Work Order:** 1102702**Sample ID:** MW8**Lab ID:** 1102702-07**Collection Date:** 2/23/2011 01:15 PM**Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	3/1/2011 01:49 PM
Toluene	ND		0.0010	mg/L	1	3/1/2011 01:49 PM
Ethylbenzene	ND		0.0010	mg/L	1	3/1/2011 01:49 PM
Xylenes, Total	ND		0.0030	mg/L	1	3/1/2011 01:49 PM
Surr: 4-Bromofluorobenzene	106		77-129	%REC	1	3/1/2011 01:49 PM
Surr: Trifluorotoluene	101		75-130	%REC	1	3/1/2011 01:49 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
 Work Order: 1102702
 Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: R106038 Instrument ID BTEX1 Method: SW8021B

MBLK		Sample ID: BBLKW3-022811-R106038				Units: µg/L		Analysis Date: 3/1/2011 06:30 AM			
Client ID:		Run ID: BTEX1_110228D				SeqNo: 2294082		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									
Surr: 4-Bromofluorobenzene	30.79	1.0	30	0	103	77-129	0				
Surr: Trifluorotoluene	30.23	1.0	30	0	101	75-130	0				

LCS		Sample ID: BLCSW3-022811-R106038				Units: µg/L		Analysis Date: 3/1/2011 05:55 AM			
Client ID:		Run ID: BTEX1_110228D				SeqNo: 2294081		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	20.2	1.0	20	0	101	77-126	0				
Toluene	20.6	1.0	20	0	103	80-124	0				
Ethylbenzene	20.96	1.0	20	0	105	76-125	0				
Xylenes, Total	61.48	3.0	60	0	102	79-124	0				
Surr: 4-Bromofluorobenzene	32.13	1.0	30	0	107	77-129	0				
Surr: Trifluorotoluene	30.68	1.0	30	0	102	75-130	0				

MS		Sample ID: 1102702-04AMS				Units: µg/L		Analysis Date: 3/1/2011 11:27 AM			
Client ID: MW5		Run ID: BTEX1_110228D				SeqNo: 2294099		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	24.23	1.0	20	0	121	77-126	0				
Toluene	24.77	1.0	20	0	124	80-124	0				
Ethylbenzene	25.14	1.0	20	0	126	76-125	0			S	
Xylenes, Total	72.97	3.0	60	0	122	79-124	0				
Surr: 4-Bromofluorobenzene	33.27	1.0	30	0	111	77-129	0				
Surr: Trifluorotoluene	31.21	1.0	30	0	104	75-130	0				

MSD		Sample ID: 1102702-04AMSD				Units: µg/L		Analysis Date: 3/1/2011 11:45 AM			
Client ID: MW5		Run ID: BTEX1_110228D				SeqNo: 2294100		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	23.68	1.0	20	0	118	77-126	24.23	2.27	20		
Toluene	24.76	1.0	20	0	124	80-124	24.77	0.0257	20		
Ethylbenzene	25.18	1.0	20	0	126	76-125	25.14	0.164	20	S	
Xylenes, Total	73.08	3.0	60	0	122	79-124	72.97	0.162	20		
Surr: 4-Bromofluorobenzene	33.49	1.0	30	0	112	77-129	33.27	0.651	20		
Surr: Trifluorotoluene	31.34	1.0	30	0	104	75-130	31.21	0.422	20		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Work Order: 1102702
Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: **R106038** Instrument ID **BTEX1** Method: **SW8021B**

The following samples were analyzed in this batch:

1102702-01A	1102702-02A	1102702-03A
1102702-04A	1102702-05A	1102702-06A
1102702-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Project: Vacuum to Jal #3
WorkOrder: 1102702

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter



ALS Laboratory Group
 10450 Stancliff Rd., Suite 210
 Houston, Texas 77099
 Tel. +1 281 530 5656
 Fax. +1 281 530 5887

Chain of Custody Form

ALS Laboratory Group
 3352 128th Ave.
 Holland, MI 49424-9263
 Tel: +1 616 399 6070
 Fax: +1 616 399 6185

Page 1 of 1

ALS Project Manager: _____ ALS Work Order #: 110 2702

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Vacuum to Jal #3	A	BTEX (8021)
Work Order		Project Number	<u>205068</u>	B	
Company Name	Premier Environmental Services	Bill To Company	Plains All America, LP	C	
Send Report To	Chan Patel	Invoice Attn		D	
Address	4800 Sugar Grove Blvd. Suite 390	Address	c/o ENV. Accounts Payable P.O. Box 4648	E	
City/State/Zip	Houston, TX 77477	City/State/Zip	Houston, TX 77210-4648	F	
Phone	(281) 240-5200	Phone	(713) 646-4610	G	
Fax	(281) 240-5201	Fax	(713) 646-4199	H	
e-Mail Address		e-Mail Address		I	
				J	

no.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW 2	2-23	1305	W	HCl	3	X										
2	MW 3		1320														
3	MW 4		1255														
4	MW 5		1325														
5	MW 6		1300														
6	MW 7		1310														
7	MW 8	↓	1315	↓	↓	↓	↓										
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>SHAWNE DILLER</u>		Shipment Method <u>FED EX</u>		Required Turnaround Time: (Check Box) <input type="checkbox"/> Std. 10 WK Days <input checked="" type="checkbox"/> 5 WK Days <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				Results Due Date: _____			
Relinquished by: <u>[Signature]</u>	Date: <u>2-23</u>	Time: <u>1730</u>	Received by: <u>[Signature]</u>	Notes: 5 Day TAT.							
Relinquished by: _____	Date: _____	Time: _____	Received by (Laboratory): <u>[Signature]</u>	Cooler ID: _____	Cooler Temp: _____	QC Package: (Check One Box Below)					
Logged by (Laboratory): _____	Date: _____	Time: _____	Checked by (Laboratory): _____	<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Check List <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other / EDD							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035											

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Sample Receipt Checklist

Client Name: PREMIER ENV

Date/Time Received: 24-Feb-11 08:50

Work Order: 1102702

Received by: SAY

Checklist completed by Salvador A. Yanez

24-Feb-11

Reviewed by:

eSignature

Date

eSignature

Date

Matrices: Water

Carrier name: FedEx

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s): 1.6c 002

Cooler(s)/Kit(s): 3803

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes: Trip Blank not on COC, Login w/ out Analysis.

Client Contacted: Date Contacted: Person Contacted: Contacted By: Regarding:

Comments:

CorrectiveAction:

1102707



ALS Environmental

10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 1-23-11 Time: 11:30
Name: John D. Smith
Company: ALS

FEB 02 11
VERMONT

77099
281530

Seal Broken By:

John D. Smith
1/24/11

This portion can be removed for Recipient's records.

to ALS FedEx Tracking Number 874763320431

Order's name ALS Phone 281 530 5656

Company ALS

Address 10450 Stancliff Rd., Suite 210

State TX ZIP 77099

Our Internal Billing Reference



08-Jun-2011

Chan Patel
Premier Environmental Services
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (770) 973-7395

Re: Vacuum to Jal #3

Work Order: 1106118

Dear Chan,

ALS Environmental received 8 samples on 03-Jun-2011 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Makenzie L. Henderson

Patricia L. Lynch
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Standilift Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 630-6656 | FAX (281) 630-6687

NOT RESPONSIBLE FOR ANY ANALYSES PERFORMED BY OTHER LABORATORIES

ALS Environmental

www.alsglobal.com

RIGHT SOLUTIONS. RIGHT PARTNER.

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Work Order: 1106118

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1106118-01	MW2	Water		6/2/2011 11:50	6/3/2011 09:00	<input type="checkbox"/>
1106118-02	MW3	Water		6/2/2011 11:15	6/3/2011 09:00	<input type="checkbox"/>
1106118-03	MW4	Water		6/2/2011 14:05	6/3/2011 09:00	<input type="checkbox"/>
1106118-04	MW5	Water		6/2/2011 14:15	6/3/2011 09:00	<input type="checkbox"/>
1106118-05	MW6	Water		6/2/2011 14:10	6/3/2011 09:00	<input type="checkbox"/>
1106118-06	MW7	Water		6/2/2011 10:50	6/3/2011 09:00	<input type="checkbox"/>
1106118-07	MW8	Water		6/2/2011 14:20	6/3/2011 09:00	<input type="checkbox"/>
1106118-08	Trip Blank	Water		6/2/2011	6/3/2011 09:00	<input type="checkbox"/>

ALS Environmental

Date: 10-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Case Narrative

No Exceptions.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Sample ID: MW2

Lab ID: 1106118-01

Collection Date: 6/2/2011 11:50 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	6/7/2011 12:26 PM
Toluene	ND		0.0010	mg/L	1	6/7/2011 12:26 PM
Ethylbenzene	0.0090		0.0010	mg/L	1	6/7/2011 12:26 PM
Xylenes, Total	ND		0.0030	mg/L	1	6/7/2011 12:26 PM
Surr: 4-Bromofluorobenzene	93.2		77-129	%REC	1	6/7/2011 12:26 PM
Surr: Trifluorotoluene	106		75-130	%REC	1	6/7/2011 12:26 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Sample ID: MW3
Collection Date: 6/2/2011 11:15 AM

Work Order: 1106118
Lab ID: 1106118-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	0.013		0.0010	mg/L	1	6/7/2011 12:44 PM
Toluene	ND		0.0010	mg/L	1	6/7/2011 12:44 PM
Ethylbenzene	0.015		0.0010	mg/L	1	6/7/2011 12:44 PM
Xylenes, Total	0.015		0.0030	mg/L	1	6/7/2011 12:44 PM
Surr: 4-Bromofluorobenzene	86.4		77-129	%REC	1	6/7/2011 12:44 PM
Surr: Trifluorotoluene	109		75-130	%REC	1	6/7/2011 12:44 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Sample ID: MW4

Collection Date: 6/2/2011 02:05 PM

Work Order: 1106118

Lab ID: 1106118-03

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	6/7/2011 01:02 PM
Toluene	ND		0.0010	mg/L	1	6/7/2011 01:02 PM
Ethylbenzene	ND		0.0010	mg/L	1	6/7/2011 01:02 PM
Xylenes, Total	ND		0.0030	mg/L	1	6/7/2011 01:02 PM
Surr: 4-Bromofluorobenzene	90.7		77-129	%REC	1	6/7/2011 01:02 PM
Surr: Trifluorotoluene	108		75-130	%REC	1	6/7/2011 01:02 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Sample ID: MW5

Lab ID: 1106118-04

Collection Date: 6/2/2011 02:15 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	6/7/2011 01:27 PM
Toluene	ND		0.0010	mg/L	1	6/7/2011 01:27 PM
Ethylbenzene	ND		0.0010	mg/L	1	6/7/2011 01:27 PM
Xylenes, Total	ND		0.0030	mg/L	1	6/7/2011 01:27 PM
Surr: 4-Bromofluorobenzene	93.0		77-129	%REC	1	6/7/2011 01:27 PM
Surr: Trifluorotoluene	107		75-130	%REC	1	6/7/2011 01:27 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Sample ID: MW6
Collection Date: 6/2/2011 02:10 PM

Work Order: 1106118
Lab ID: 1106118-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	6/7/2011 01:45 PM
Toluene	ND		0.0010	mg/L	1	6/7/2011 01:45 PM
Ethylbenzene	ND		0.0010	mg/L	1	6/7/2011 01:45 PM
Xylenes, Total	ND		0.0030	mg/L	1	6/7/2011 01:45 PM
Surr: 4-Bromofluorobenzene	89.5		77-129	%REC	1	6/7/2011 01:45 PM
Surr: Trifluorotoluene	105		75-130	%REC	1	6/7/2011 01:45 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Sample ID: MW7

Lab ID: 1106118-06

Collection Date: 6/2/2011 10:50 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	6/7/2011 02:08 PM
Toluene	ND		0.0010	mg/L	1	6/7/2011 02:08 PM
Ethylbenzene	ND		0.0010	mg/L	1	6/7/2011 02:08 PM
Xylenes, Total	ND		0.0030	mg/L	1	6/7/2011 02:08 PM
Surr: 4-Bromofluorobenzene	93.5		77-129	%REC	1	6/7/2011 02:08 PM
Surr: Trifluorotoluene	105		75-130	%REC	1	6/7/2011 02:08 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Sample ID: MW8

Lab ID: 1106118-07

Collection Date: 6/2/2011 02:20 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: KKP
Benzene	ND		0.0010	mg/L	1	6/7/2011 02:27 PM
Toluene	ND		0.0010	mg/L	1	6/7/2011 02:27 PM
Ethylbenzene	ND		0.0010	mg/L	1	6/7/2011 02:27 PM
Xylenes, Total	ND		0.0030	mg/L	1	6/7/2011 02:27 PM
Surr: 4-Bromofluorobenzene	86.8		77-129	%REC	1	6/7/2011 02:27 PM
Surr: Trifluorotoluene	105		75-130	%REC	1	6/7/2011 02:27 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services
Work Order: 1106118
Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: **R111018** Instrument ID **BTEX1** Method: **SW8021B**

MBLK		Sample ID: BBLKW1-060711-R111018				Units: µg/L		Analysis Date: 6/7/2011 11:25 AM		
Client ID:		Run ID: BTEX1_110607A			SeqNo: 2415501	Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	3.0								
<i>Surr: 4-Bromofluorobenzene</i>	26.18	1.0	30	0	87.3	77-129	0			
<i>Surr: Trifluorotoluene</i>	31.85	1.0	30	0	106	75-130	0			

LCS		Sample ID: BLCSW1-060711-R111018				Units: µg/L		Analysis Date: 6/7/2011 11:43 AM		
Client ID:		Run ID: BTEX1_110607A			SeqNo: 2415502	Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	17.39	1.0	20	0	86.9	77-126	0			
Toluene	17.59	1.0	20	0	87.9	80-124	0			
Ethylbenzene	18.23	1.0	20	0	91.1	76-125	0			
Xylenes, Total	54.25	3.0	60	0	90.4	79-124	0			
<i>Surr: 4-Bromofluorobenzene</i>	28.73	1.0	30	0	95.8	77-129	0			
<i>Surr: Trifluorotoluene</i>	32.36	1.0	30	0	108	75-130	0			

MS		Sample ID: 1106200-01AMS				Units: µg/L		Analysis Date: 6/7/2011 05:35 PM		
Client ID:		Run ID: BTEX1_110607A			SeqNo: 2415517	Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.23	1.0	20	0.8943	96.7	77-126	0			
Toluene	24.43	1.0	20	5.062	96.9	80-124	0			
Ethylbenzene	21.46	1.0	20	1.04	102	76-125	0			
Xylenes, Total	70.59	3.0	60	11.63	98.3	79-124	0			
<i>Surr: 4-Bromofluorobenzene</i>	28.86	1.0	30	0	96.2	77-129	0			
<i>Surr: Trifluorotoluene</i>	32.57	1.0	30	0	109	75-130	0			

MSD		Sample ID: 1106200-01AMS				Units: µg/L		Analysis Date: 6/7/2011 05:53 PM		
Client ID:		Run ID: BTEX1_110607A			SeqNo: 2415518	Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.05	1.0	20	0.8943	101	77-126	20.23	3.98	20	
Toluene	25.5	1.0	20	5.062	102	80-124	24.43	4.26	20	
Ethylbenzene	22.5	1.0	20	1.04	107	76-125	21.46	4.75	20	
Xylenes, Total	73.98	3.0	60	11.63	104	79-124	70.59	4.69	20	
<i>Surr: 4-Bromofluorobenzene</i>	30.39	1.0	30	0	101	77-129	28.86	5.16	20	
<i>Surr: Trifluorotoluene</i>	32.52	1.0	30	0	108	75-130	32.57	0.153	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Work Order: 1106118
Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: **R111018** Instrument ID **BTEX1** Method: **SW8021B**

The following samples were analyzed in this batch:

1106118-01A	1106118-02A	1106118-03A
1106118-04A	1106118-05A	1106118-06A
1106118-07A	1106118-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Project: Vacuum to Jal #3
WorkOrder: 1106118

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter



ALS Environmental
 10450 Stancliff Rd., Suite 210
 Houston, Texas 77099
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Chain of Custody Form

Page 1 of 1

COC ID: 33466

1106118

PREMIER ENV: Premier Environmental Services

Project: Vacuum to Jal #3



ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	Vacuum to Jal #3	A	BTEX (8021)
Work Order		Project Number		B	
Company Name	Premier Environmental Services	Bill To Company	Plains All America, LP	C	
Send Report To	Dhan Patel	Invoice Attn		D	
Address	4600 Sugar Grove Blvd.	Address	c/o ENV. Accounts Payable	E	
	Suite 390		P.O. Box 4648	F	
City/State/Zip	Houston, TX 77477	City/State/Zip	Houston, TX 77210-4648	G	
Phone	(281) 240-5200	Phone	(713) 646-4610	H	
Fax	(281) 240-5201	Fax	(713) 646-4199	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW 2	6-2	1150	W	HCl	3	X										
2	MW 3		1115														
3	MW 4		1405														
4	MW 5		1415														
5	MW 6		1410														
6	MW 7		1050														
7	MW 8	6-2	1420	W	HCl	3	X										
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Shane Diller</i> SHANE DILLER		Shipment Method MED EX		Required Turnaround Time: (Check Box) <input type="checkbox"/> Std 10 WK Days <input checked="" type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				Results Due Date:			
Relinquished by: <i>Shane Diller</i>	Date: 6-2	Time: 0730	Received by: <i>[Signature]</i>	Notes: 5 Day TAT.							
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>[Signature]</i> 6.3.11 0900	Cooler ID 1613	Cooler Temp.	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/RAW Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other / EDD							

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Environmental

Sample Receipt Checklist

Client Name: PREMIER ENV

Date/Time Received: 03-Jun-11 09:00

Work Order: 1106118

Received by: PMG

Checklist completed by Robert D. Harris 03-Jun-11
eSignature Date

Reviewed by: Patricia L. Lynch 06-Jun-11
eSignature Date

Matrices: waters
Carrier name: FedEx

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []

Temperature(s)/Thermometer(s): 1.3c 002

Cooler(s)/Kit(s): 1673

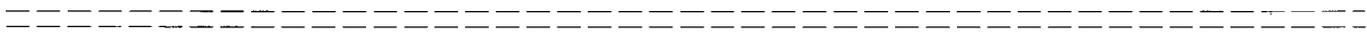
Water - VOA vials have zero headspace? Yes [checked] No [] No VOA vials submitted []

Water - pH acceptable upon receipt? Yes [] No [] N/A [checked]

pH adjusted? Yes [] No [] N/A [checked]

pH adjusted by:

Login Notes: Trip blank not on COC; logged in without analysis.



Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction:

1100110

edX Express **NEW Package US Airbill**

FedEx Tracking Number **8758 9495 2122**

From **Please print and press hard.**
Date **6-2-11** Sender's FedEx Account Number **205068** **RECEIVED BY ADDRESSEE ONLY**

Sender's Name **SHANE A. DILLER** Phone **430 230 3344**

Company **Premier**

Address **30 W. Industrial Loop I**

City **MIDLAND** State **TX** ZIP **79701**

Our Internal Billing Reference **205068 #1**

Recipient's Name **CLIENT SERVICES** Phone ()

Company **ALS LABORATORY GROUP**

Address **10450 STANCLIFF RD STE 210**

Address **HOUSTON** State **TX** ZIP **77099-4338**

City **HOUSTON** State **TX** ZIP **77099-4338**

0436296484

THE FED-EX US AIRBILL HAS CHANGED! SEE SECTION 7

0215 **Standard**

4 Express Package Service *To most locations. **Packages up to 150 lbs.**
NOTE: Service order has changed. Please select carefully. **For packages over 150 lbs., use the new FedEx Express Freight US Airbill.**

- FedEx First Overnight**
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Priority Overnight**
Next business morning * Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight**
Next business afternoon.* Saturday Delivery NOT available.
- NEW FedEx 2Day A.M.**
Second business morning.* Saturday Delivery NOT available.
- FedEx 2Day**
Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver**
Third business day.* Saturday Delivery NOT available.

- 5 Packaging** *Declared value limit \$500
- FedEx Envelope*
 - FedEx Pak*
 - FedEx Box
 - FedEx Tube
 - Other

6 Special Handling and Delivery Signature Options

- SATURDAY Delivery**
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver
- No Signature Required**
Package may be left without obtaining a signature for delivery
- Direct Signature**
Someone at recipient's address may sign for delivery. Fee applies
- Indirect Signature**
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies

Does this shipment contain dangerous goods?

One box must be checked.

No **Yes As per attached Shipper's Declaration.** **Yes Shipper's Declaration not required**

Dry Ice Dry Ice, 6, UN 1845 _____ kg

Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment Bill to:

- Enter FedEx Acct. No. or Credit Card No. below.
- Sender Acct No. in Section 1 will be billed.**
 - Recipient**
 - Third Party**
 - Credit Card**
 - Cash/Check**

Total Packages _____ Total Weight _____ lbs Total Declared Value* _____ \$ _____ 00

*Our liability is limited to \$100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and on the current FedEx Service Guide, including terms that limit our liability.

Rev Date 11/10 • Part #183134 • ©1994-2010 FedEx • PRINTED IN U.S.A. SRS

611



07-Sep-2011

Chan Patel
EarthCon Consultants, Inc.
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (770) 973-7395

Re: Vac to Jal Mainline #3

Work Order: 11081012

Dear Chan,

ALS Environmental received 8 samples on 31-Aug-2011 09:05 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Makenzie L. Henderson

Patricia L. Lynch
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Standliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

EMAIL info@alsglobal.com | WEBSITE www.alsglobal.com | 800-451-4242



RIGHT SOLUTIONS. RIGHT PARTNER.

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Work Order: 11081012

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
11081012-01	MW2	Water		8/30/2011 15:20	8/31/2011 09:05	<input type="checkbox"/>
11081012-02	MW3	Water		8/30/2011 15:25	8/31/2011 09:05	<input type="checkbox"/>
11081012-03	MW4	Water		8/30/2011 15:30	8/31/2011 09:05	<input type="checkbox"/>
11081012-04	MW5	Water		8/30/2011 15:35	8/31/2011 09:05	<input type="checkbox"/>
11081012-05	MW6	Water		8/30/2011 15:40	8/31/2011 09:05	<input type="checkbox"/>
11081012-06	MW7	Water		8/30/2011 15:45	8/31/2011 09:05	<input type="checkbox"/>
11081012-07	MW8	Water		8/30/2011 15:50	8/31/2011 09:05	<input type="checkbox"/>
11081012-08	Trip Blank	Water		8/30/2011	8/31/2011 09:05	<input type="checkbox"/>

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW2
Collection Date: 8/30/2011 03:20 PM

Work Order: 11081012
Lab ID: 11081012-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	ND		0.0010	mg/L	1	9/6/2011 10:18 PM
Toluene	ND		0.0010	mg/L	1	9/6/2011 10:18 PM
Ethylbenzene	0.0061		0.0010	mg/L	1	9/6/2011 10:18 PM
Xylenes, Total	ND		0.0030	mg/L	1	9/6/2011 10:18 PM
Surr: 4-Bromofluorobenzene	93.3		77-129	%REC	1	9/6/2011 10:18 PM
Surr: Trifluorotoluene	113		75-130	%REC	1	9/6/2011 10:18 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 11081012

Sample ID: MW3

Lab ID: 11081012-02

Collection Date: 8/30/2011 03:25 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	0.0016		0.0010	mg/L	1	9/6/2011 10:36 PM
Toluene	ND		0.0010	mg/L	1	9/6/2011 10:36 PM
Ethylbenzene	0.0054		0.0010	mg/L	1	9/6/2011 10:36 PM
Xylenes, Total	0.0071		0.0030	mg/L	1	9/6/2011 10:36 PM
Surr: 4-Bromofluorobenzene	90.9		77-129	%REC	1	9/6/2011 10:36 PM
Surr: Trifluorotoluene	111		75-130	%REC	1	9/6/2011 10:36 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW4
Collection Date: 8/30/2011 03:30 PM

Work Order: 11081012
Lab ID: 11081012-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	ND		0.0010	mg/L	1	9/6/2011 10:53 PM
Toluene	ND		0.0010	mg/L	1	9/6/2011 10:53 PM
Ethylbenzene	ND		0.0010	mg/L	1	9/6/2011 10:53 PM
Xylenes, Total	ND		0.0030	mg/L	1	9/6/2011 10:53 PM
Surr: 4-Bromofluorobenzene	87.9		77-129	%REC	1	9/6/2011 10:53 PM
Surr: Trifluorotoluene	109		75-130	%REC	1	9/6/2011 10:53 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW5
Collection Date: 8/30/2011 03:35 PM

Work Order: 11081012
Lab ID: 11081012-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	ND		0.0010	mg/L	1	9/6/2011 11:11 PM
Toluene	ND		0.0010	mg/L	1	9/6/2011 11:11 PM
Ethylbenzene	ND		0.0010	mg/L	1	9/6/2011 11:11 PM
Xylenes, Total	ND		0.0030	mg/L	1	9/6/2011 11:11 PM
Surr: 4-Bromofluorobenzene	90.3		77-129	%REC	1	9/6/2011 11:11 PM
Surr: Trifluorotoluene	111		75-130	%REC	1	9/6/2011 11:11 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 11081012

Sample ID: MW6

Lab ID: 11081012-05

Collection Date: 8/30/2011 03:40 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	ND		0.0010	mg/L	1	9/6/2011 11:28 PM
Toluene	ND		0.0010	mg/L	1	9/6/2011 11:28 PM
Ethylbenzene	ND		0.0010	mg/L	1	9/6/2011 11:28 PM
Xylenes, Total	ND		0.0030	mg/L	1	9/6/2011 11:28 PM
Surr: 4-Bromofluorobenzene	90.2		77-129	%REC	1	9/6/2011 11:28 PM
Surr: Trifluorotoluene	114		75-130	%REC	1	9/6/2011 11:28 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW7
Collection Date: 8/30/2011 03:45 PM

Work Order: 11081012
Lab ID: 11081012-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	ND		0.0010	mg/L	1	9/6/2011 11:45 PM
Toluene	ND		0.0010	mg/L	1	9/6/2011 11:45 PM
Ethylbenzene	ND		0.0010	mg/L	1	9/6/2011 11:45 PM
Xylenes, Total	ND		0.0030	mg/L	1	9/6/2011 11:45 PM
Surr: 4-Bromofluorobenzene	87.4		77-129	%REC	1	9/6/2011 11:45 PM
Surr: Trifluorotoluene	110		75-130	%REC	1	9/6/2011 11:45 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW8
Collection Date: 8/30/2011 03:50 PM

Work Order: 11081012
Lab ID: 11081012-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	0.0020		0.0010	mg/L	1	9/7/2011 12:03 AM
Toluene	ND		0.0010	mg/L	1	9/7/2011 12:03 AM
Ethylbenzene	ND		0.0010	mg/L	1	9/7/2011 12:03 AM
Xylenes, Total	ND		0.0030	mg/L	1	9/7/2011 12:03 AM
Surr: 4-Bromofluorobenzene	89.0		77-129	%REC	1	9/7/2011 12:03 AM
Surr: Trifluorotoluene	112		75-130	%REC	1	9/7/2011 12:03 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.
 Work Order: 11081012
 Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: R115716 Instrument ID BTEX3 Method: SW8021B

MBLK		Sample ID: BBLKW2-090611-R115716				Units: µg/L		Analysis Date: 9/6/2011 10:01 PM			
Client ID:		Run ID: BTEX3_110906D				SeqNo: 2517232		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									
Surr: 4-Bromofluorobenzene	27.3	1.0	30	0	91	77-129	0				
Surr: Trifluorotoluene	34.19	1.0	30	0	114	75-130	0				

LCS		Sample ID: BLCSW2-110906-R115716				Units: µg/L		Analysis Date: 9/7/2011 10:12 AM			
Client ID:		Run ID: BTEX3_110906D				SeqNo: 2517252		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	19.11	1.0	20	0	95.5	77-126	0				
Toluene	19.59	1.0	20	0	98	80-124	0				
Ethylbenzene	18.87	1.0	20	0	94.3	76-125	0				
Xylenes, Total	56.18	3.0	60	0	93.6	79-124	0				
Surr: 4-Bromofluorobenzene	27.45	1.0	30	0	91.5	77-129	0				
Surr: Trifluorotoluene	34.74	1.0	30	0	116	75-130	0				

MS		Sample ID: 1109060-01AMS				Units: µg/L		Analysis Date: 9/7/2011 01:47 AM			
Client ID:		Run ID: BTEX3_110906D				SeqNo: 2517249		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	20.5	1.0	20	0	103	77-126	0				
Toluene	20.91	1.0	20	0	105	80-124	0				
Ethylbenzene	20.44	1.0	20	0	102	76-125	0				
Xylenes, Total	61.35	3.0	60	0	102	79-124	0				
Surr: 4-Bromofluorobenzene	28.23	1.0	30	0	94.1	77-129	0				
Surr: Trifluorotoluene	34.64	1.0	30	0	115	75-130	0				

MSD		Sample ID: 1109060-01AMSD				Units: µg/L		Analysis Date: 9/7/2011 02:04 AM			
Client ID:		Run ID: BTEX3_110906D				SeqNo: 2517250		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	20.66	1.0	20	0	103	77-126	20.5	0.769	20		
Toluene	21.6	1.0	20	0	108	80-124	20.91	3.24	20		
Ethylbenzene	21.51	1.0	20	0	108	76-125	20.44	5.13	20		
Xylenes, Total	63.51	3.0	60	0	106	79-124	61.35	3.46	20		
Surr: 4-Bromofluorobenzene	28.47	1.0	30	0	94.9	77-129	28.23	0.847	20		
Surr: Trifluorotoluene	35.75	1.0	30	0	119	75-130	34.64	3.16	20		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Work Order: 11081012
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R115716** Instrument ID **BTEX3** Method: **SW8021B**

The following samples were analyzed in this batch:

11081012-01A	11081012-02A	11081012-03A
11081012-04A	11081012-05A	11081012-06A
11081012-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
WorkOrder: 11081012

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter



ALS Environmental
 10450 Stancliff Rd., Suite 210
 Houston, Texas 77099
 Tel. +1 281 530 5656
 Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 1

COC ID: **24647**

11081012

PREMIER ENV: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3



ALS Project Manager:

Customer Information		Project Information		
Purchase Order		Project Name		A
Work Order		Project Number	205068	B
Company Name		Bill To Company		C
Send Report To		Invoice Attn		D
Address		Address		E
				F
City/State/Zip		City/State/Zip		G
Phone		Phone		H
Fax		Fax		I
e-Mail Address		e-Mail Address		J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW 2	8-30-11	15120	GW	HCL	3	x										
2	MW 3	8-30-11	15125														
3	MW 4	8-30-11	15130														
4	MW 5	8-30-11	15135														
5	MW 6	8-30-11	15140														
6	MW 7	8-30-11	15145														
7	MW 8	8-30-11	15150														
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Matt Grubbs Shane Miller</i>		Shipment Method <i>FedEx</i>		Required Turnaround Time: (Check Box)				Results Due Date:				
Relinquished by: <i>Matt Grubbs</i>	Date: <i>8-30-11</i>	Time: <i>17:00</i>	Received by: <i>FedEx</i>		Notes:							
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>8-31-11 0905</i>		Cooler ID: <i>3881</i>	Cooler Temp.:	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):									

Sample Receipt Checklist

Client Name: **PREMIER ENV**

Date/Time Received: **31-Aug-11 09:05**

Work Order: **11081012**

Received by: **PMG**

Checklist completed by Raymond N Gamba 31-Aug-11
eSignature Date

Reviewed by: Patricia L Lynch 03-Sep-11
eSignature Date

Matrices: Water

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes: Trip blank not on COC--logged in without analysis.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

W.O. # 11081012

ALS Environmental
 10450 Stancliff Rd., Suite 210
 Houston, Texas 77099
 Tel. +1 281 530 5656
 Fax. +1 281 530 5887

CUSTODY SEAL		Seal Broken By:
Date: <u>9-30-11</u>	Time: <u>17:30</u>	
Name: <u>Matt Grubbs</u>		Date:
Company: <u>EarthCon</u>		

• THIS PORTION MAY BE REMOVED FOR RECORD KEEPING PURPOSES.

FedEx Tracking Number **876698579720**

Sender's Name _____ Phone _____

Company _____

Address _____ Dept./Floor/Suite/Room _____

State _____ ZIP _____

Our Internal Billing Reference _____



09-Dec-2011

Kathleen Buxton
EarthCon Consultants, Inc.
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (281) 240-5201

Re: Vac to Jal Mainline #3

Work Order: 1111902

Dear Kathleen,

ALS Environmental received 8 samples on 30-Nov-2011 09:35 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Mary K. Knowles

Patricia L. Lynch
Project Manager



Certificate No: TX: T104704231-11-5

ADDRESS 10450 Standitt Rd, Suite 210 Houston, Texas 77059-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Work Order: 1111902

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1111902-01	MW-2	Water		11/29/2011 12:45	11/30/2011 09:35	<input type="checkbox"/>
1111902-02	MW-3	Water		11/29/2011 12:50	11/30/2011 09:35	<input type="checkbox"/>
1111902-03	MW-4	Water		11/29/2011 12:55	11/30/2011 09:35	<input type="checkbox"/>
1111902-04	MW-5	Water		11/29/2011 13:00	11/30/2011 09:35	<input type="checkbox"/>
1111902-05	MW-6	Water		11/29/2011 13:15	11/30/2011 09:35	<input type="checkbox"/>
1111902-06	MW-7	Water		11/29/2011 13:05	11/30/2011 09:35	<input type="checkbox"/>
1111902-07	MW-8	Water		11/29/2011 13:10	11/30/2011 09:35	<input type="checkbox"/>
1111902-08	Trip Blank - 110311-24	Water		11/29/2011	11/30/2011 09:35	<input type="checkbox"/>

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-2

Lab ID: 1111902-01

Collection Date: 11/29/2011 12:45 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: SMA
Benzene	ND		0.0010	mg/L	1	12/1/2011 09:54 PM
Toluene	ND		0.0010	mg/L	1	12/1/2011 09:54 PM
Ethylbenzene	0.0015		0.0010	mg/L	1	12/1/2011 09:54 PM
Xylenes, Total	ND		0.0030	mg/L	1	12/1/2011 09:54 PM
Surr: 4-Bromofluorobenzene	92.8		77-129	%REC	1	12/1/2011 09:54 PM
Surr: Trifluorotoluene	91.6		75-130	%REC	1	12/1/2011 09:54 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-3

Lab ID: 1111902-02

Collection Date: 11/29/2011 12:50 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: SMA
Benzene	0.0041		0.0010	mg/L	1	12/1/2011 10:11 PM
Toluene	ND		0.0010	mg/L	1	12/1/2011 10:11 PM
Ethylbenzene	0.0079		0.0010	mg/L	1	12/1/2011 10:11 PM
Xylenes, Total	0.014		0.0030	mg/L	1	12/1/2011 10:11 PM
Surr: 4-Bromofluorobenzene	99.3		77-129	%REC	1	12/1/2011 10:11 PM
Surr: Trifluorotoluene	96.3		75-130	%REC	1	12/1/2011 10:11 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW-4
Collection Date: 11/29/2011 12:55 PM

Work Order: 1111902
Lab ID: 1111902-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: SMA
Benzene	ND		0.0010	mg/L	1	12/1/2011 10:28 PM
Toluene	ND		0.0010	mg/L	1	12/1/2011 10:28 PM
Ethylbenzene	ND		0.0010	mg/L	1	12/1/2011 10:28 PM
Xylenes, Total	ND		0.0030	mg/L	1	12/1/2011 10:28 PM
Surr: 4-Bromofluorobenzene	89.7		77-129	%REC	1	12/1/2011 10:28 PM
Surr: Trifluorotoluene	90.0		75-130	%REC	1	12/1/2011 10:28 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW-5
Collection Date: 11/29/2011 01:00 PM

Work Order: 1111902
Lab ID: 1111902-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: SMA
Benzene	ND		0.0010	mg/L	1	12/1/2011 10:46 PM
Toluene	ND		0.0010	mg/L	1	12/1/2011 10:46 PM
Ethylbenzene	ND		0.0010	mg/L	1	12/1/2011 10:46 PM
Xylenes, Total	ND		0.0030	mg/L	1	12/1/2011 10:46 PM
Surr: 4-Bromofluorobenzene	88.9		77-129	%REC	1	12/1/2011 10:46 PM
Surr: Trifluorotoluene	89.9		75-130	%REC	1	12/1/2011 10:46 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-6

Lab ID: 1111902-05

Collection Date: 11/29/2011 01:15 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: SMA
Benzene	ND		0.0010	mg/L	1	12/1/2011 11:03 PM
Toluene	ND		0.0010	mg/L	1	12/1/2011 11:03 PM
Ethylbenzene	ND		0.0010	mg/L	1	12/1/2011 11:03 PM
Xylenes, Total	ND		0.0030	mg/L	1	12/1/2011 11:03 PM
Surr: 4-Bromofluorobenzene	90.1		77-129	%REC	1	12/1/2011 11:03 PM
Surr: Trifluorotoluene	88.7		75-130	%REC	1	12/1/2011 11:03 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW-7
Collection Date: 11/29/2011 01:05 PM

Work Order: 1111902
Lab ID: 1111902-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: SMA
Benzene	ND		0.0010	mg/L	1	12/1/2011 11:20 PM
Toluene	ND		0.0010	mg/L	1	12/1/2011 11:20 PM
Ethylbenzene	ND		0.0010	mg/L	1	12/1/2011 11:20 PM
Xylenes, Total	ND		0.0030	mg/L	1	12/1/2011 11:20 PM
Surr: 4-Bromofluorobenzene	90.3		77-129	%REC	1	12/1/2011 11:20 PM
Surr: Trifluorotoluene	89.4		75-130	%REC	1	12/1/2011 11:20 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Sample ID: MW-8
Collection Date: 11/29/2011 01:10 PM

Work Order: 1111902
Lab ID: 1111902-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: SMA
Benzene	ND		0.0010	mg/L	1	12/1/2011 11:37 PM
Toluene	ND		0.0010	mg/L	1	12/1/2011 11:37 PM
Ethylbenzene	ND		0.0010	mg/L	1	12/1/2011 11:37 PM
Xylenes, Total	ND		0.0030	mg/L	1	12/1/2011 11:37 PM
Surr: 4-Bromofluorobenzene	88.4		77-129	%REC	1	12/1/2011 11:37 PM
Surr: Trifluorotoluene	89.5		75-130	%REC	1	12/1/2011 11:37 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.**Project:** Vac to Jal Mainline #3**Sample ID:** Trip Blank - 110311-24**Collection Date:** 11/29/2011**Work Order:** 1111902**Lab ID:** 1111902-08**Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
BTEX			SW8021B			Analyst: JFT
Benzene	ND		0.0010	mg/L	1	12/5/2011 12:58 PM
Toluene	ND		0.0010	mg/L	1	12/5/2011 12:58 PM
Ethylbenzene	ND		0.0010	mg/L	1	12/5/2011 12:58 PM
Xylenes, Total	ND		0.0030	mg/L	1	12/5/2011 12:58 PM
Surr: 4-Bromofluorobenzene	94.3		77-129	%REC	1	12/5/2011 12:58 PM
Surr: Trifluorotoluene	84.9		75-130	%REC	1	12/5/2011 12:58 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.
Work Order: 1111902
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120084** Instrument ID **BTEX1** Method: **SW8021B**

MBLK		Sample ID: BBLKW2-111201-R120084			Units: µg/L		Analysis Date: 12/1/2011 09:36 PM			
Client ID:		Run ID: BTEX1_111201C			SeqNo: 2616312	Prep Date:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	3.0								
<i>Surr: 4-Bromofluorobenzene</i>	26.42	1.0	30	0	88.1	77-129	0			
<i>Surr: Trifluorotoluene</i>	26.81	1.0	30	0	89.4	75-130	0			

LCS		Sample ID: BLCSW2-111201-R120084			Units: µg/L		Analysis Date: 12/1/2011 08:45 PM			
Client ID:		Run ID: BTEX1_111201C			SeqNo: 2616309	Prep Date:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	22.33	1.0	20	0	112	77-126	0			
Toluene	22.25	1.0	20	0	111	80-124	0			
Ethylbenzene	22.14	1.0	20	0	111	76-125	0			
Xylenes, Total	66.09	3.0	60	0	110	79-124	0			
<i>Surr: 4-Bromofluorobenzene</i>	27.48	1.0	30	0	91.6	77-129	0			
<i>Surr: Trifluorotoluene</i>	27.87	1.0	30	0	92.9	75-130	0			

LCSD		Sample ID: BLCSDW2-111201-R120084			Units: µg/L		Analysis Date: 12/1/2011 09:02 PM			
Client ID:		Run ID: BTEX1_111201C			SeqNo: 2616310	Prep Date:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.99	1.0	20	0	110	77-126	22.33	1.51	20	
Toluene	21.9	1.0	20	0	110	80-124	22.25	1.59	20	
Ethylbenzene	21.73	1.0	20	0	109	76-125	22.14	1.87	20	
Xylenes, Total	65.02	3.0	60	0	108	79-124	66.09	1.64	20	
<i>Surr: 4-Bromofluorobenzene</i>	27.7	1.0	30	0	92.3	77-129	27.48	0.765	20	
<i>Surr: Trifluorotoluene</i>	27.97	1.0	30	0	93.2	75-130	27.87	0.358	20	

MS		Sample ID: 1111901-07AMS			Units: µg/L		Analysis Date: 12/2/2011 04:50 AM			
Client ID:		Run ID: BTEX1_111201C			SeqNo: 2616335	Prep Date:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	22.93	1.0	20	0	115	77-126	0			
Toluene	22.94	1.0	20	0	115	80-124	0			
Ethylbenzene	22.61	1.0	20	0	113	76-125	0			
Xylenes, Total	67.06	3.0	60	0	112	79-124	0			
<i>Surr: 4-Bromofluorobenzene</i>	27.2	1.0	30	0	90.7	77-129	0			
<i>Surr: Trifluorotoluene</i>	27.23	1.0	30	0	90.8	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Work Order: 1111902
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120084** Instrument ID: **BTEX1** Method: **SW8021B**

MSD		Sample ID: 1111901-07AMSD			Units: µg/L			Analysis Date: 12/2/2011 05:07 AM		
Client ID:		Run ID: BTEX1_111201C			SeqNo: 2616336		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	23.06	1.0	20	0	115	77-126	22.93	0.561	20	
Toluene	23.04	1.0	20	0	115	80-124	22.94	0.439	20	
Ethylbenzene	22.73	1.0	20	0	114	76-125	22.61	0.508	20	
Xylenes, Total	67.36	3.0	60	0	112	79-124	67.06	0.454	20	
<i>Surr: 4-Bromofluorobenzene</i>	27.7	1.0	30	0	92.3	77-129	27.2	1.81	20	
<i>Surr: Trifluorotoluene</i>	27.57	1.0	30	0	91.9	75-130	27.23	1.23	20	

The following samples were analyzed in this batch:

1111902-01A	1111902-02A	1111902-03A
1111902-04A	1111902-05A	1111902-06A
1111902-07A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
 Work Order: 1111902
 Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120134** Instrument ID: **BTEX1** Method: **SW8021B**

MBLK				Units: µg/L			Analysis Date: 12/5/2011 11:27 AM			
Sample ID: BBLKW1-111205-R120134		Run ID: BTEX1_111205A		SeqNo: 2617385		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	3.0								
Surr: 4-Bromofluorobenzene	28.16	1.0	30	0	93.9	77-129	0			
Surr: Trifluorotoluene	25.62	1.0	30	0	85.4	75-130	0			

LCS				Units: µg/L			Analysis Date: 12/5/2011 10:34 AM			
Sample ID: BLCSW1-111205-R120134		Run ID: BTEX1_111205A		SeqNo: 2617383		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.94	1.0	20	0	105	77-126	0			
Toluene	20.57	1.0	20	0	103	80-124	0			
Ethylbenzene	20.75	1.0	20	0	104	76-125	0			
Xylenes, Total	63.5	3.0	60	0	106	79-124	0			
Surr: 4-Bromofluorobenzene	28.33	1.0	30	0	94.4	77-129	0			
Surr: Trifluorotoluene	25.83	1.0	30	0	86.1	75-130	0			

LCSD				Units: µg/L			Analysis Date: 12/5/2011 10:52 AM			
Sample ID: BLCSDW1-111205-R120134		Run ID: BTEX1_111205A		SeqNo: 2617384		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.45	1.0	20	0	107	77-126	20.94	2.4	20	
Toluene	21.12	1.0	20	0	106	80-124	20.57	2.64	20	
Ethylbenzene	21.34	1.0	20	0	107	76-125	20.75	2.79	20	
Xylenes, Total	65.12	3.0	60	0	109	79-124	63.5	2.52	20	
Surr: 4-Bromofluorobenzene	28.79	1.0	30	0	96	77-129	28.33	1.61	20	
Surr: Trifluorotoluene	25.94	1.0	30	0	86.5	75-130	25.83	0.445	20	

MS				Units: µg/L			Analysis Date: 12/5/2011 12:05 PM			
Sample ID: 1111900-07AMS		Run ID: BTEX1_111205A		SeqNo: 2617387		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.7	1.0	20	0	98.5	77-126	0			
Toluene	19.18	1.0	20	0	95.9	80-124	0			
Ethylbenzene	18.83	1.0	20	0	94.2	76-125	0			
Xylenes, Total	57.7	3.0	60	0	96.2	79-124	0			
Surr: 4-Bromofluorobenzene	28.73	1.0	30	0	95.8	77-129	0			
Surr: Trifluorotoluene	26.36	1.0	30	0	87.9	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Work Order: 1111902
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120134** Instrument ID **BTEX1** Method: **SW8021B**

MSD	Sample ID: 1111900-07AMSD			Units: µg/L			Analysis Date: 12/5/2011 12:23 PM			
Client ID:	Run ID: BTEX1_111205A			SeqNo: 2617388		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.27	1.0	20	0	106	77-126	19.7	7.67	20	
Toluene	20.73	1.0	20	0	104	80-124	19.18	7.76	20	
Ethylbenzene	20.53	1.0	20	0	103	76-125	18.83	8.6	20	
Xylenes, Total	62.86	3.0	60	0	105	79-124	57.7	8.57	20	
<i>Surr: 4-Bromofluorobenzene</i>	28.87	1.0	30	0	96.2	77-129	28.73	0.504	20	
<i>Surr: Trifluorotoluene</i>	26.29	1.0	30	0	87.6	75-130	26.36	0.253	20	

The following samples were analyzed in this batch:

1111E02-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
WorkOrder: 1111902

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter



Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 48558

1111902

PREMIER ENV: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3



ALS Project Manager:

Customer Information		Project Information		
Purchase Order		Project Name	Vac to Jal Mainline #3	A BTEX (8021)
Work Order		Project Number	205068	B
Company Name	Earth Consulting Group, Inc.	Bill-To Company	Plains All America, LP	C
Send Report To	Kathleen Buxton	Invoice Attn		D
Address	4800 Sugar Grove Blvd.	Address	c/o ENV. Accounts Payable	E
	Suite 390		P.O. Box 4648	F
City/State/Zip	Houston, TX 77477	City/State/Zip	Houston, TX 77210-4648	G
Phone	(281) 240-5200	Phone	(713) 646-4610	H
Fax	(281) 240-5201	Fax	(713) 646-4199	I
e-Mail Address		e-Mail Address		J

No	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-2	11-29-11	12:45	GW	HCL	3											
2	MW-3		12:50														
3	MW-4		12:55														
4	MW-5		13:00														
5	MW-6		13:15														
6	MW-7		13:05														
7	MW-8		13:10														
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Matt Grubbs Sharellin Shipment Method: FedEx Required Turnaround Time: (Check Box) Std. 10 WK Days 5 WK Days 2 WK Days 24 Hour

Results Due Date: _____ Notes: 5 Day TAT.

Relinquished by: Matt Grubbs Date: 11-29-11 Time: 17:30 Received by: FedEx
 Relinquished by: _____ Date: _____ Time: _____ Received by (Laboratory): 11-30-11 0935

Logged by (Laboratory): _____ Date: _____ Time: _____ Checked by (Laboratory): _____
 Cooler ID: 3531 Cooler Temp: _____ QC Package: (Check One Box Below)
 Level II Std QC TRRP Check List
 Level III Std QC/Raw Data TRRP Level IV
 Level IV SW846/CLP
 Other / EDD

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

ote: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

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Sample Receipt Checklist

Client Name: **PREMIER ENV**

Date/Time Received: **30-Nov-11 09:35**

Work Order: **1111902**

Received by: **PMG**

Checklist completed by Parash M. Ciza 30-Nov-11
eSignature Date

Reviewed by: Patricia L. Lynch 02-Dec-11
eSignature Date

Matrices: Water

Carrier name: ALS.HS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s): 2.1 002

Cooler(s)/Kit(s): 3531

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by: _____

Login Notes: Received trip blank; not on COC. Assigned BTEX.

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
Contacted By: _____ Regarding: _____

Comments: _____

CorrectiveAction: _____



ALS Environmental

10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

3531

CUSTODY SEAL

Date: 11-29-11 Time: 15:30 17:30
Name: Mary Grubbs
Company: Earth Con

Seal Broken By:

Date: 11.30.11

Use this portion only for customers not requesting services.

to 11-20-11 FedEx Tracking Number 2 898941675114

Sender's Name: Mary Grubbs Phone: 281 280-2131

Company: Earth Con

Address: 1400 Industrial Loop

State: TX ZIP: 77061

Our Internal Billing Reference: 207032