1R - 395

Annual GW Mon. REPORTS

DATE:

2008

2008 ANNUAL GROUNDWATER MONITORING REPORT

Livingston Line – Bob McCasland
NE ¼ of the SW ¼, Section 3, Township 21 South, Range 37 East
Plains Pipeline SRS Number 2001-11226
Lea County, New Mexico
NMOCD File Number IR – 0395

Terracon Project Number A4077007

December 17, 2008

Prepared for:

Plains Pipeline, L.P.
2530 State Highway 214
Denver City, Texas 79323

Prepared by:

Terracon

Midland, Texas

PLAINS
ALL AMERICAN

RECEIVED
2009 MAR 24 AM 10 14

March 19, 2009

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

Re: Plains All American – 2008 Annual Monitoring Reports
2 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:

Livingston Line-Bob McCasland	1R-0395	Section 3, T21S, R37E, Lea County
Livingston Ridge to Hugh-P. Sims	1R-0398	Section 3, T21S, R37E, Lea County

Terracon 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 Terracon 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: Larry Johnson, NMOCD, Hobbs, NM

Enclosures

Terracon
Consulting Engineers & Scientists

Terracon Consultants, Inc.
24 Smith Road, Suite 261
Midland, Texas 79705
Phone 432.684.9600
Fax 432.684.9608
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December 17, 2008

Plains Pipeline, L.P.
2530 State Highway 214
Denver City, Texas 79323
Attn: Mr. Jason Henry

Telephone: (806) 592-8305
Fax: (806) 592-7479

Re: 2008 Annual Groundwater Monitoring Report
Livingston Line - Bob McCasland
NE ¼ of the SW ¼, Section 3, T21S, R37E
Lea County, New Mexico
NMOCD File Number IR - 0395
Plains Pipeline, L.P. SRS Number 2001-11226
Terracon Project Number A4077007

Dear Mr. Henry:

Terracon is pleased to submit four copies of the 2008 Annual Groundwater Monitoring Report for the above referenced site.

We appreciate the opportunity to perform these services for Plains Pipeline, L.P. Please contact either of the undersigned at (432) 684-9600 if you have questions regarding the information provided in the report.

Sincerely,
Terracon

Prepared by:

Catharine London, P. G.
Senior Project Manager

Reviewed by:

Barrett W. Bole, P. G.
Office Manager

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Terracon

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NE ¼ of the SW ¼ of Section 3, T21S, R37E
Plains SRS Number 2001-11226
Lea County, New Mexico
NMOCD File Number IR – 0395
Terracon Project Number A4077007

1.0 INTRODUCTION

1.1 Site Description

Site Name	Livingston Line – Bob McCasland
Site Location	Approximately 5 miles north-northeast of Eunice, Lea County, NM on Loop 207
General Site Description	Pipeline right-of-way surrounded by native pasture land, in close proximity of the abandoned Carbon Black Plant.

A topographic map is included as Figure 1 and a site plan is included as Figure 2 of Appendix A.

On July 13, 2001, a reported four barrels of crude oil were released from the Livingston four-inch steel pipeline. The release covered an area of approximately 1,600 square feet of pipeline right-of-way and caliche road.

Initial investigative activities were conducted from August 16, 2001 through August 22, 2001, and included advancing 17 soil borings. It was determined during this time that groundwater, situated approximately 30 feet below ground surface (bgs), had been impacted. Three groundwater monitor wells (MW-1, MW-2 and MW-3) were installed around the release area to evaluate the extent and magnitude of the release. Samples collected from the groundwater monitor wells indicated groundwater concentrations for benzene, toluene, ethylbenzene, and total xylenes were above New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards. Three additional groundwater monitor wells (MW-4, MW-5 and MW-6) were installed at the site. Phase separated hydrocarbon (PSH) was detected in groundwater monitor well MW-4 following its installation.

In December 2001, approximately 11,445 cubic yards of hydrocarbon impacted soil were excavated and stockpiled on-site. Earthen berms were constructed around the stockpiles to prevent runoff. Analytical results for soil samples collected from the excavation indicated BTEX concentrations above New Mexico Oil Conservation Division (NMOCD) remedial threshold limits.

To delineate the lateral extent of groundwater impact at the site, three additional groundwater monitor wells (MW-7, MW-8 and MW-9) were installed in June 2004. Two additional monitor wells

(MW-10 and MW-11) were installed in November of 2004. During installation of these five groundwater monitor wells in June and December 2004, soil samples were collected and submitted to AnalySys, Inc., an analytical laboratory in Austin, Texas for analysis of total petroleum hydrocarbons (TPH) (gasoline and diesel range organics) and BTEX constituents. BTEX constituents for each of soil samples from the monitor wells were below NMOCD remedial threshold limits. TPH concentrations from soil samples collected from groundwater monitor wells MW-7, MW-10 and MW-11 were at or below laboratory analytical method detection limits (MDLs).

1.2 Scope of Work

Terracon's scope of work included assuming oversight of remedial activities on February 1, 2007. Oversight activities included the preparation of 2006 and 2007 annual groundwater monitoring and soil closure status reports for submittal to the NMOCD. Four quarterly groundwater monitoring and sampling events were conducted during 2008 by Terracon. The events were performed on February 28, 2008, May 28, 2008, August 20, 2008, and November 7, 2008 at the Livingston Line - Bob McCasland site located in Lea County, New Mexico.

The objective of the quarterly sampling events was to gauge the eleven groundwater monitor wells (MW-1 through MW-11) and to collect samples of groundwater from each well for analysis of BTEX (quarterly) and, total petroleum hydrocarbons (TPH) and polycyclic aromatic hydrocarbons (PAHs), (annually). TPH and PAH groundwater samples were collected on February 28, 2008.

At the direction of the NMOCD, Plains began conducting annual sampling of all monitor wells, even wells containing phase separated hydrocarbons (PSH), for TPH, BTEX and PAHs annually and BTEX for the remainder of the three quarterly sampling events.

1.3 Standard of Care

Terracon was awarded this project on February 1, 2007. A previous consultant hired by Plains performed site activities prior to Terracon assuming over site on this project. Terracon makes no assumptions or warranties regarding services being performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report.

1.4 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent,

inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this remediation activities. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.5 Reliance

This report has been prepared for the exclusive use of Plains Pipeline, L. P., and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Plains Pipeline, L.P. and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in this report, and Terracon's Terms and Conditions. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

2.0 FIELD ACTIVITIES

2.1 Groundwater Monitoring and Sampling

Quarterly monitoring and sampling events were performed on February 28, 2008, May 28, 2008, August 20, 2008, and November 7, 2008, by Terracon. Figure 1 presents the general boundaries and topography of the site on portions of the USGS topographic quadrangle map of Hobbs Southwest, New Mexico (Appendix A). Figure 2 is a site plan that indicates the approximate locations of the monitor wells in relation to the pertinent structures and general site boundaries (Appendix A).

During each sampling event, monitor wells were gauged to determine the depth to groundwater and to check for the presence of crude oil or PSH. Based on the gauging data, PSH was present at a thickness of 0.07 in monitor well MW-4 in August 2008. Previously, PSH was present as a sheen in monitor well MW-4. No additional monitor wells at the site contained measurable PSH during 2008; however, a sheen of PSH was present in monitor well MW-8 in May and August 2008. Groundwater monitor well MW-1 was dry in December 2007 and has remained dry during 2008. As such, a water sample was not obtained from this well during 2008. Groundwater gradient maps for each quarter are included as Figures 3 through 6 (Appendix A). Gauging data is included in Appendix B as Table 1.

A groundwater sample was collected and analyzed from the eleven groundwater monitor wells in accordance with the NMOCD. Prior to sample collection, each of these monitor wells was purged

with a disposable bailer until three well volumes of water were removed, or the well failed to recharge. Following purging, a groundwater sample was collected using the disposable bailer. Groundwater samples were placed in laboratory-supplied containers appropriate to the analyses requested and placed on ice in a cooler. The sample coolers and completed chain-of-custody forms were delivered to Environmental Lab of Texas (ELOT), a Xenco Laboratories Company, in Odessa, Texas for standard turnaround for analysis of BTEX using EPA SW-846 Method 8021B in each of the four quarters, and TPH using EPA SW-846 Method 8015M and PAHs using EPA SW-846 Method 8270C in February 2008.

3.0 DATA EVALUATION

3.1 Water Level Data

Water level measurement data collected during the respective quarterly sampling events were used to construct groundwater gradient maps that are included as Figures 3, 4, 5, and 6 (Appendix A). Groundwater elevation contours generated from the quarterly sampling events of 2008 indicated the groundwater gradient was generally consistent with previous sampling events. Previous gauging data at the site indicated that the groundwater gradient had been predominately to the south-southeast. Groundwater gradients during 2008 sampling and gauging events are summarized below:

- The gradient/direction during the February 2008 sampling event was 0.003 ft/ft and toward the east;
- The gradient/direction during the May 2008 sampling event was 0.003 ft/ft and toward the east;
- The gradient/direction during the August 2008 sampling event was 0.003 ft/ft and toward the south-southeast; and
- The gradient/direction during the November 2008 sampling event was 0.002 ft/ft and toward the southeast.

Groundwater flow direction was relatively inconsistent during 2008 as compared to previous years; trending east in the first two quarters and south-southeast in the third and fourth quarters. Water level measurement data is summarized in Table 1 in Appendix B.

Groundwater elevations at the site declined approximately one-half foot during 2008.

3.2 Groundwater Analysis Data

Laboratory results from the analysis of groundwater samples collected from monitor wells MW-1 through MW-11 are summarized in Table 2 and Table 3 in Appendix B and presented on Figure 7 through Figure 10 in Appendix A. The executed chain-of-custody forms and laboratory data sheets are provided in Appendix C.

1st Quarter 2008

Groundwater samples were collected and analyzed for BTEX constituents during the first quarter on February 28, 2008. The first quarter results are summarized below:

- Groundwater was not collected from monitor well MW-1 in February 2008, as the well was dry and contained no fluids;
- The groundwater samples collected from monitor wells MW-1, MW-2, MW-3, MW-4, MW-8, MW-9, MW-10 and MW-11 did not report TPH concentrations above the laboratory reporting limit;
- TPH was detected in groundwater samples collected from monitor wells MW-5 (at 7.88 mg/l), MW-6 (at 1.72 mg/l) and MW-7 (at 1.89 mg/l); however, the New Mexico Water Quality Control Commission (NMWQCC) has not established a groundwater standard for TPH;
- Benzene was not detected in the groundwater samples collected from monitor wells MW-2, MW-4, MW-8, MW-9, MW-10 and MW-11 at concentrations which exceeded their respective laboratory reporting limit and/or NMWQCC groundwater standards;
- The groundwater samples collected from monitor wells MW-3 (at 0.0193 mg/l), MW-5 (at 0.5605 mg/l), MW-6 (at 0.0444 mg/l) and MW-7 (at 0.0486 mg/l), containted concentrations of benzene which exceeded the NMWQCC groundwater standard of 0.01 mg/l;
- Toluene, ethylbenzene and total xylenes were not detected in any of the groundwater samples collected from monitor wells at the site at concentrations above their respective laboratory reporting limits and/or NMWQCC groundwater standards;
- PAH constituents were not detected in the groundwater samples collected from monitor wells MW-2, MW-3, MW-4, MW-6, MW-7, MW-8, MW-9, MW-10 and MW-11, at concentrations exceeding their respective laboratory reporting limits and/or NMWQCC groundwater standards;
- Naphthalene was detected in the groundwater sample collected from monitor well MW-5 at a concentration of 0.051 mg/l, which exceeds the NMWQCC groundwater standard of 0.03 mg/l. No other PAH constituents were detected in the groundwater sample collected from monitor well MW-5, above their respective laboratory reporting limits and/or NMWQCC groundwater standards; and,
- Measurable PSH was not detected in any of the monitor wells during the first quarter of 2008.

2nd Quarter

Groundwater samples were collected and analyzed for BTEX and PAH constituents during the second quarter on May 28, 2008. The second quarter results are summarized below:

- A groundwater sample was not collected from monitor well MW-1, as it was dry;
- Measurable PSH was not detected in the monitor wells during the second quarter of 2008. However, groundwater samples were not collected from monitor wells MW-4 and MW-8 due to the presence of a sheen of PSH;
- Benzene was not detected atn concentrations exceeding the respective laboratory reporting limit and/or NMWQCC groundwater standard in the groundwater samples collected from monitor wells MW-3, MW-6, MW-7 and MW-11;
- Benzene was detected in the groundwater samples collected monitor wells MW-2 (at 0.0949 mg/l), MW-5 (at 0.0112 mg/l), MW-9 (at 0.0581 mg/l) and MW-10 (0.0193 mg/l); exceeding the NMWQCC groundwater standard of 0.01 mg/l for benzene;
- Toluene, ethylbenzene and total xylenes were not detected in any of the groundwater samples collected at the site above their respective laboratory reporting limits and/or NMWQCC groundwater standards; and,

3rd Quarter

Groundwater samples were collected and analyzed for BTEX constituents during the third quarter on August 20, 2008. The third quarter results are summarized below:

- A groundwater sample was not collected from monitor well MW-1, as it was dry;
- Groundwater samples were not collected from monitor wells MW-4 and MW-8 due to the presence of a sheen of PSH in MW-8 and 0.07 feet of PSH in MW-4;
- Benzene was not detected at concentrations exceeding the respective laboratory reporting limit and/or NMWQCC groundwater standard in the groundwater samples collected from monitor wells MW-3, MW-5, MW-7 and MW-11;
- Benzene was detected in the groundwater samples collected from monitor wells MW-2 (at 0.1011 mg/l), MW-6 (at 0.0121 mg/l), MW-9 (at 0.0.0512 mg/l), and MW-10 (at 0.1847 mg/l), exceeding the NMWQCC groundwater standard of 0.01 mg/l for benzene;

- Toluene, ethylbenzene and total xylenes were not detected in the groundwater samples collected from the site monitor wells at concentrations above laboratory reporting limits and/or their respective NMWQCC groundwater standards; and,

- Measurable PSH was detected at 0.07 feet in thickness in monitor well MW-4 in the third quarter of 2008. Measurable PSH was not detected in any of the other site monitor wells in August 2008.

4th Quarter

Groundwater samples were collected and analyzed for BTEX constituents during the fourth quarter on November 7, 2008. The fourth quarter results are summarized below:

- A groundwater sample was not collected from monitor well MW-1, as it contained no fluids during the fourth quarter sampling event;

- Based on the presence of a sheen of PSH in monitor well MW-4 during the fourth quarter sampling event, a groundwater sample was not collected from this well;

- The groundwater samples collected from monitor wells MW-3, MW-6, MW-7, MW-10, and MW-11 did not contain benzene at concentrations exceeding the laboratory reporting limit and/or NMWQCC groundwater standard;

- Benzene was detected in the groundwater samples collected from monitor wells MW-2 (at 0.0462 mg/l), MW-5 (at 0.035 mg/l), MW-8 (at 0.012 mg/l), and MW-9 (at 0.0597 mg/l), exceeding the NMWQCC groundwater standard of 0.01 mg/l for benzene;

- Toluene, ethylbenzene and total xylenes were not detected in any of the groundwater samples collected from the monitor wells at concentrations above their respective laboratory reporting limits and/or NMWQCC groundwater standards; and,

- Measurable PSH was not detected in any of the site monitor wells in November 2008.

3.3 Historical Data Comparisons

Monitor wells MW-1, MW-3, MW-7 and MW-11 have historically not contained BTEX or TPH at concentrations exceeding their respective laboratory reporting limits and/or NMWQCC groundwater standards. Monitor well MW-1 has been dry since December 1807. Monitor well MW-1 was reportedly drilled to 40 feet bgs and it measures dry at approximately 32 feet bgs likely due to silting of sediments through the well screen. Minor thicknesses or a sheen of PSH have been detected in monitor well MW-4 since it was installed in January 2002. PSH has been detected periodically in monitor well MW-8. With a few exceptions, groundwater samples from monitor wells MW-2, MW-4,

MW-5, MW-6, MW-8, MW-9, and MW-10 have historically contained benzene at concentrations exceeding the NMWQCC groundwater standards.

Terracon has been purging large volumes of groundwater from monitor wells MW-2, MW-4, MW-5, MW-8 and MW-9 during 2008 in an attempt to enhance remediation of the plume at the site.

4.0 FINDINGS AND RECOMMENDATIONS

4.1 Findings

The annual groundwater report presents the results of four groundwater monitoring and sampling events for the 2008 calendar year.

- Monitor well MW-1 contained no fluids during the 2008 sampling events;
- Measurable PSH has not been detected in the monitor wells at the site, with the exception of monitor well MW-4. PSH was measured at 0.07 feet in thickness in August 2008;
- With a few exceptions, groundwater samples collected from monitor wells MW-1, MW-3, MW-7 and MW-11 have not contained TPH or BTEX constituents above their respective laboratory reporting limits and/or NMWQCC groundwater standards since the monitor wells were installed in 2001 (MW-1 and MW-3) and 2004 (MW-7 and MW-11);
- Groundwater samples collected from monitor wells MW-2, MW-5 MW-6, and MW-8, MW-9 and MW-10 contained benzene exceeding the NMWQCC groundwater standard during at least two of the four quarters they were sampled in 2008;
- Groundwater samples collected in 2008 did not contain toluene, ethylbenzene and total xylenes at concentrations above their respective laboratory reporting limits and/or the NMWQCC groundwater standards;
- TPH was detected in three of the groundwater samples collected in February 2008 above laboratory reporting limits; however, the NMWQCC does not have an established groundwater standard for TPH;
- With the exception of monitor well MW-5, PAH constituents were not detected in the groundwater samples collected in February 2008 (MW-1 through MW-4 and MW-6 through MW-11), exceeding their respective laboratory reporting limits and/or the NMWQCC groundwater standards. The groundwater sample collected from monitor well MW-5 contained naphthalene at a concentration exceeding the NMWQCC groundwater standard for naphthalene;

- The extent of the PSH plume and the dissolved phase plume exceeding the NMWQCC groundwater standards have been defined. Detected concentrations of BTEX and PAHs have demonstrated a decreasing trend since groundwater sampling activities were initiated; and,

- The NMOCD recommended that a monitor well be installed down-gradient from the release site; however, landowner constraints have delayed any additional activities at the site, with the exception of sampling and gauging the existing monitor wells.

4.2 Recommendations

A Soil Characterization Report and Remediation Plan report dated June 2006, by Environmental Plus, Inc. (EPI) was submitted to the NMOCD. This report detailed remediation activities conducted at the site and recommendations for in-situ hydrocarbon-impacted soil closure. Based upon the results of this report, EPI's report and correspondence from the NMOCD, Terracon recommends the following:

- Excavate the south-southwest sidewall of the excavation pit and level the excavation floor;

- Collect confirmation soil samples from the sidewalls and floor of the excavated area and analyze for BTEX and TPH;

- Install a 20-mil thick polyethylene liner from the location of former soil boring SB-15 (located approximately 120 feet from the southern most edge of the excavation) to the northern most edge of the excavation along the excavation floor. Cushion the liner with six inches of sand above and below the liner;

- Sample stockpiled material excavated from the release area for BTEX and TPH. If the stockpiled material are less than 1,000 mg/kg TPH and non-detect for BTEX, use the stockpile material to backfill the excavation;

- If the stockpiled materials are impacted above the site-specific risk-based remedial guidelines, blend and mix the stockpiled soils with native soils and/or caliche at the site to concentrations below the site-specific risk-based levels and backfill the excavation to surface grade then grade the release site area to allow natural drainage;

- After grading operations, seed the area with a grass blend approved by the landowner;

- Continue PSH recovery efforts on monitor wells (as necessary) on a weekly schedule;

- Continue quarterly groundwater sampling for BTEX on all monitor wells, and annually for TPH and PAHs for the calendar year of 2008 in accordance with the NMOCD approved sample reduction plan;

- Submit an annual report to the NMOCD detailing the 2008 site activities.

DISTRIBUTION

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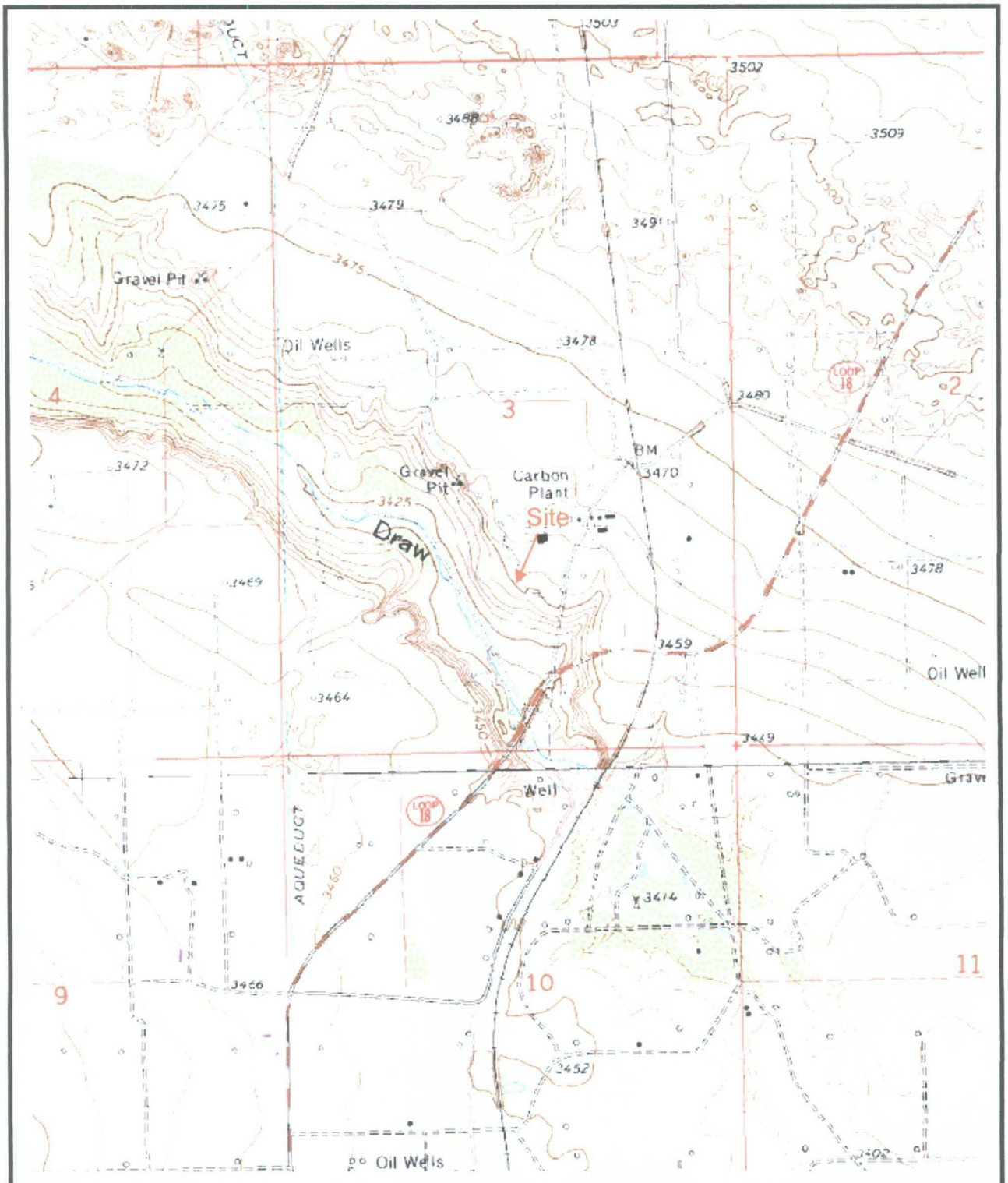
chlondon@terracon.com

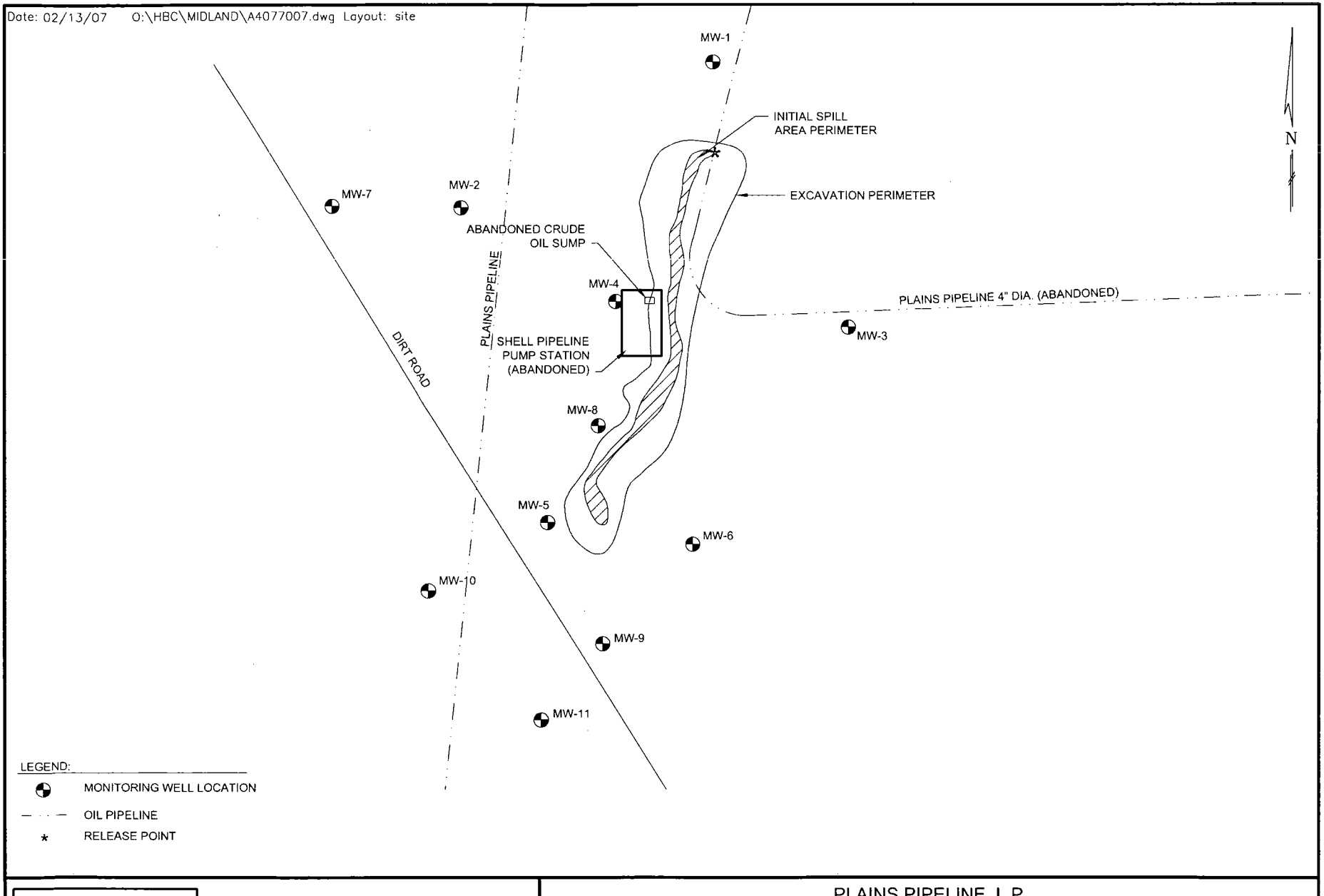
APPENDIX A

Figure 1 – Topographic Map
Figure 2 – Site Plan
Figure 3 – Groundwater Gradient Map (02/28/08)
Figure 4 – Groundwater Gradient Map (05/28/08)
Figure 5 – Groundwater Gradient Map (08/20/08)
Figure 6 – Groundwater Gradient Map (11/07/08)
Figure 7 – Groundwater Contaminant Concentration Map (02/28/08)
Figure 8 – Groundwater Contaminant Concentration Map (05/28/08)
Figure 9 – Groundwater Contaminant Concentration Map (08/20/08)
Figure 10 – Groundwater Contaminant Concentration Map (11/07/08)



USGS TOPOGRAPHIC QUADRANGLE MAP Hobbs SW, NM		**Livingston Line - Bob McCasland** NE 1/4 of SW1/4, Sec. 3, T21S, R37E NMOCD File Number: 1R-0395 Eunice, Lea County, New Mexico
Dated: 1979 SCALE: 1" = 1,600'	N	
PROJECT NO. A4077007		**FIGURE 1: TOPOGRAPHIC MAP**

Terracon



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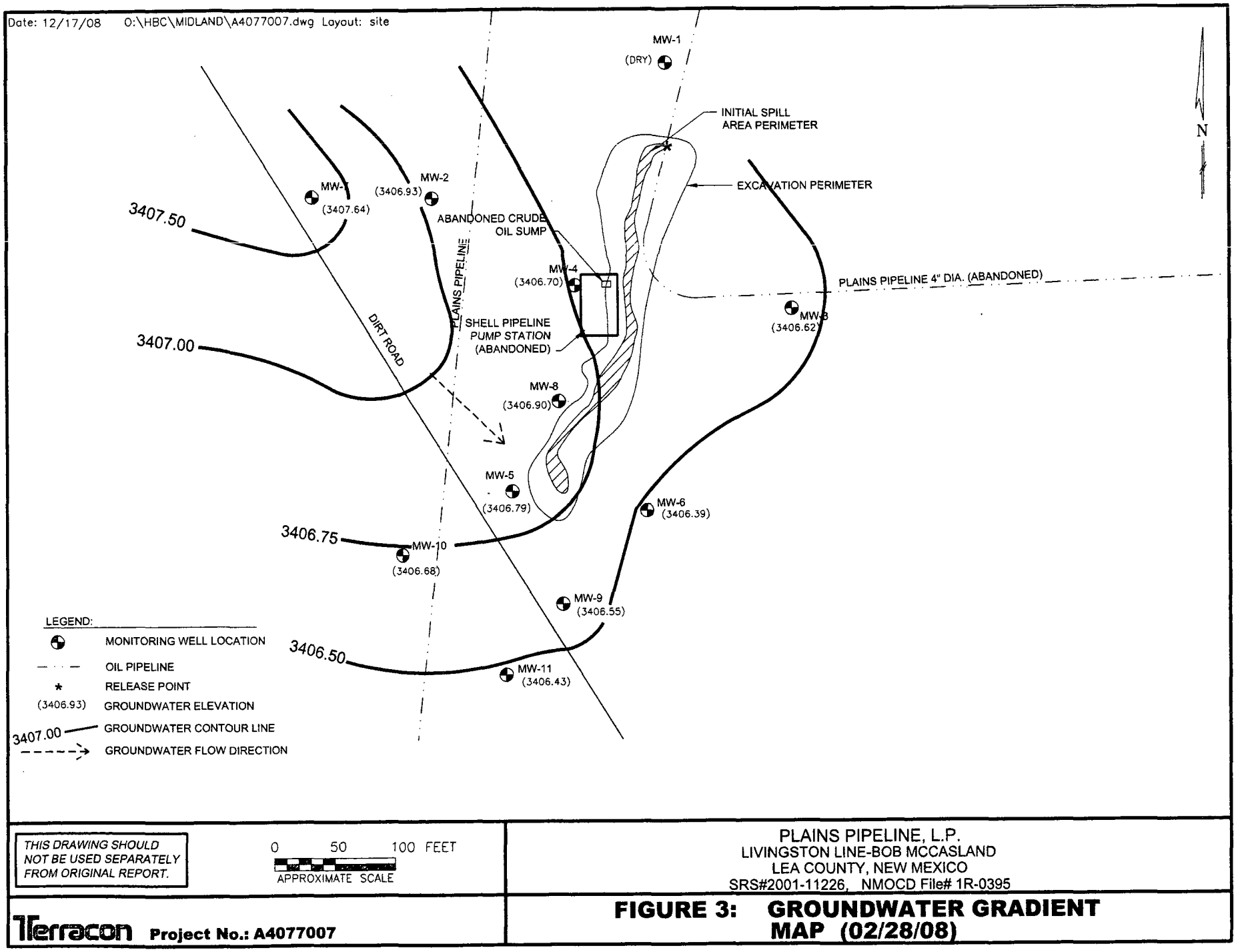
0 50 100 FEET
APPROXIMATE SCALE

PLAINS PIPELINE, L.P.
LIVINGSTON LINE-BOB MCCASLAND
LEA COUNTY, NEW MEXICO
EMS#2001-11226

Terracon **Project No.: A4077007**

FIGURE 2: SITE DIAGRAM



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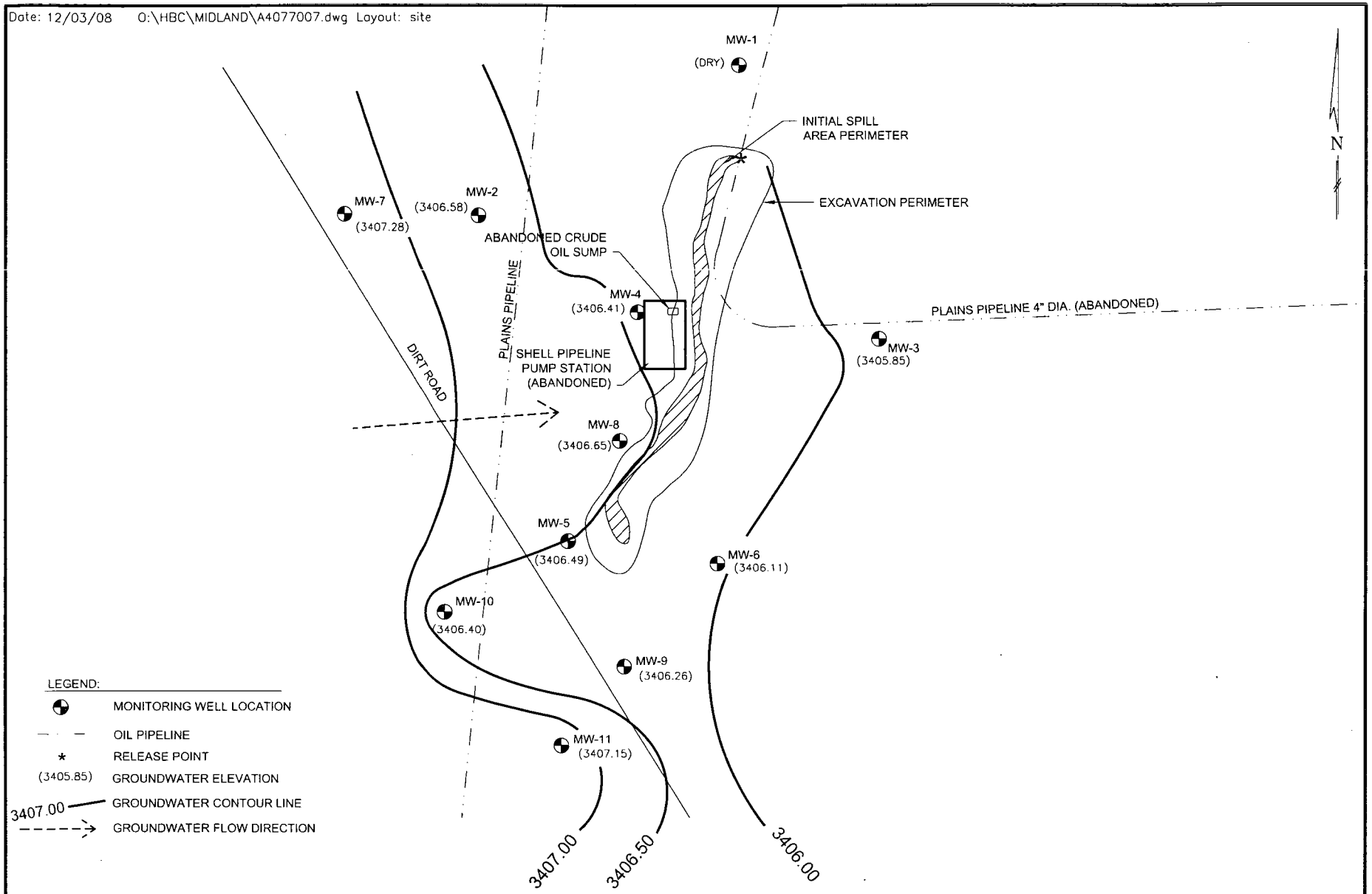
PLAINS PIPELINE, L.P.
LIVINGSTON LINE-BOB MCCASLAND
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

FIGURE 3: GROUNDWATER GRADIENT MAP (02/28/08)



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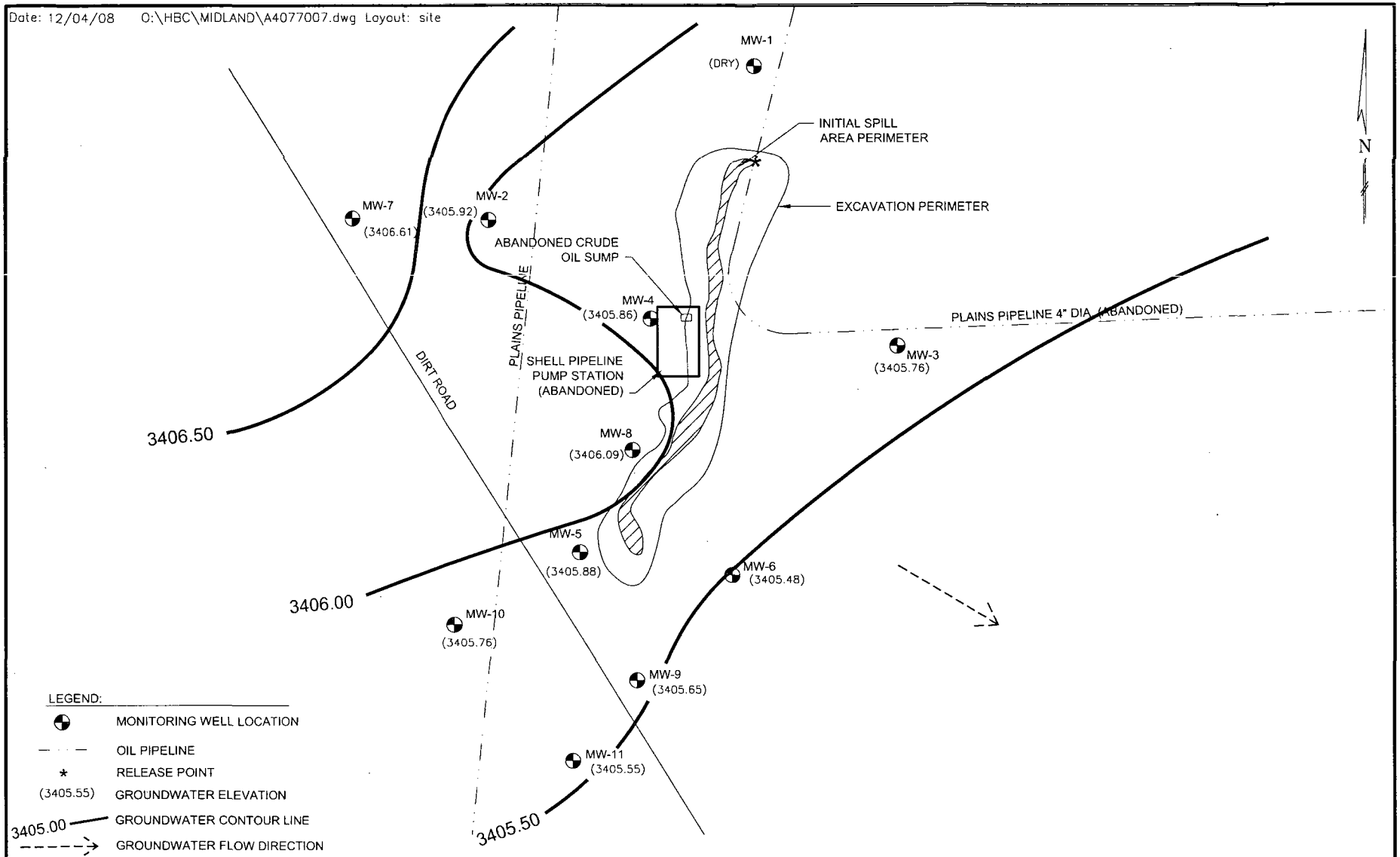
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

FIGURE 4: GROUNDWATER GRADIENT MAP (05/28/08)



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APPROXIMATE SCALE

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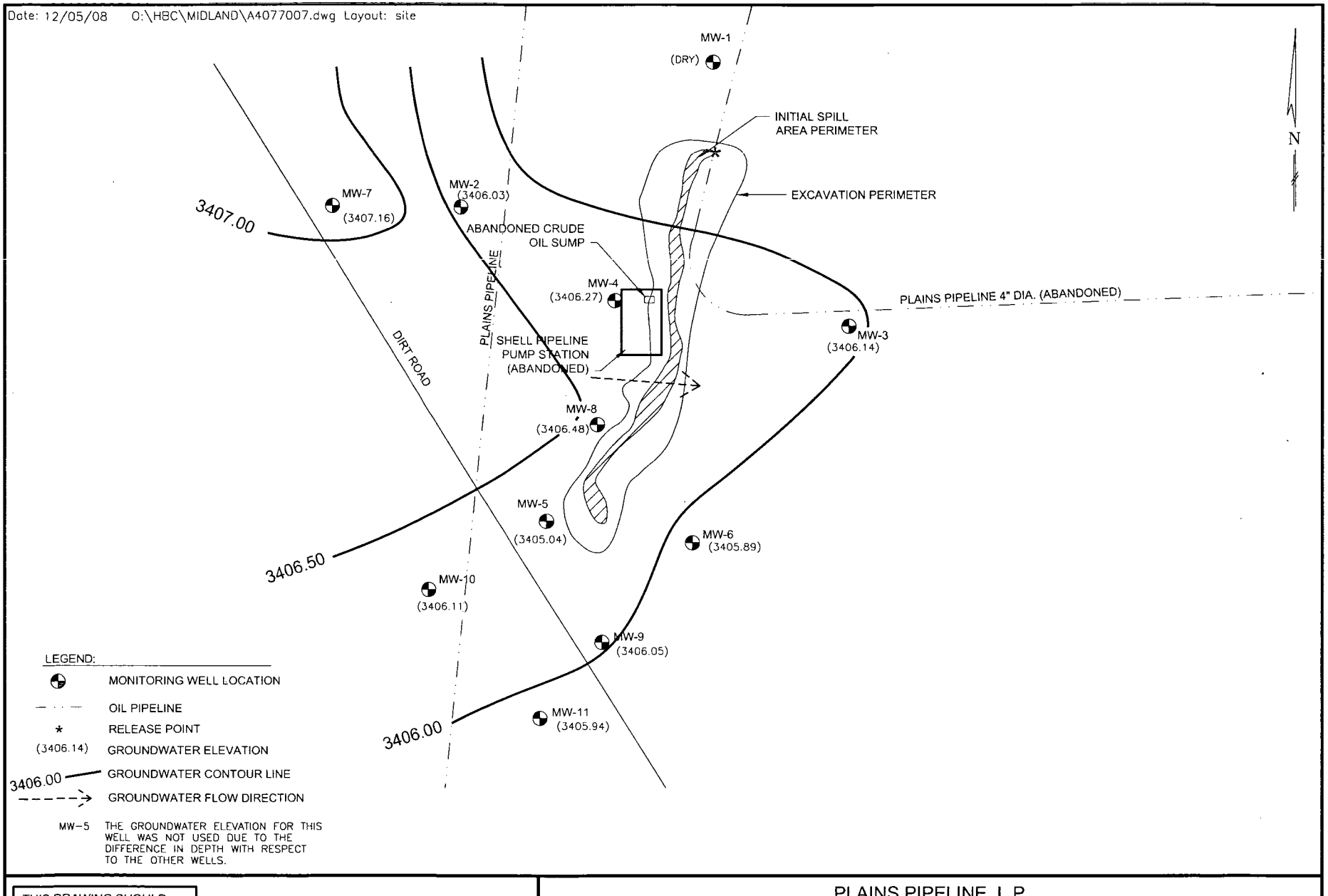
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

FIGURE 5: GROUNDWATER GRADIENT MAP (08/20/08)



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0 50 100 FEET
APPROXIMATE SCALE

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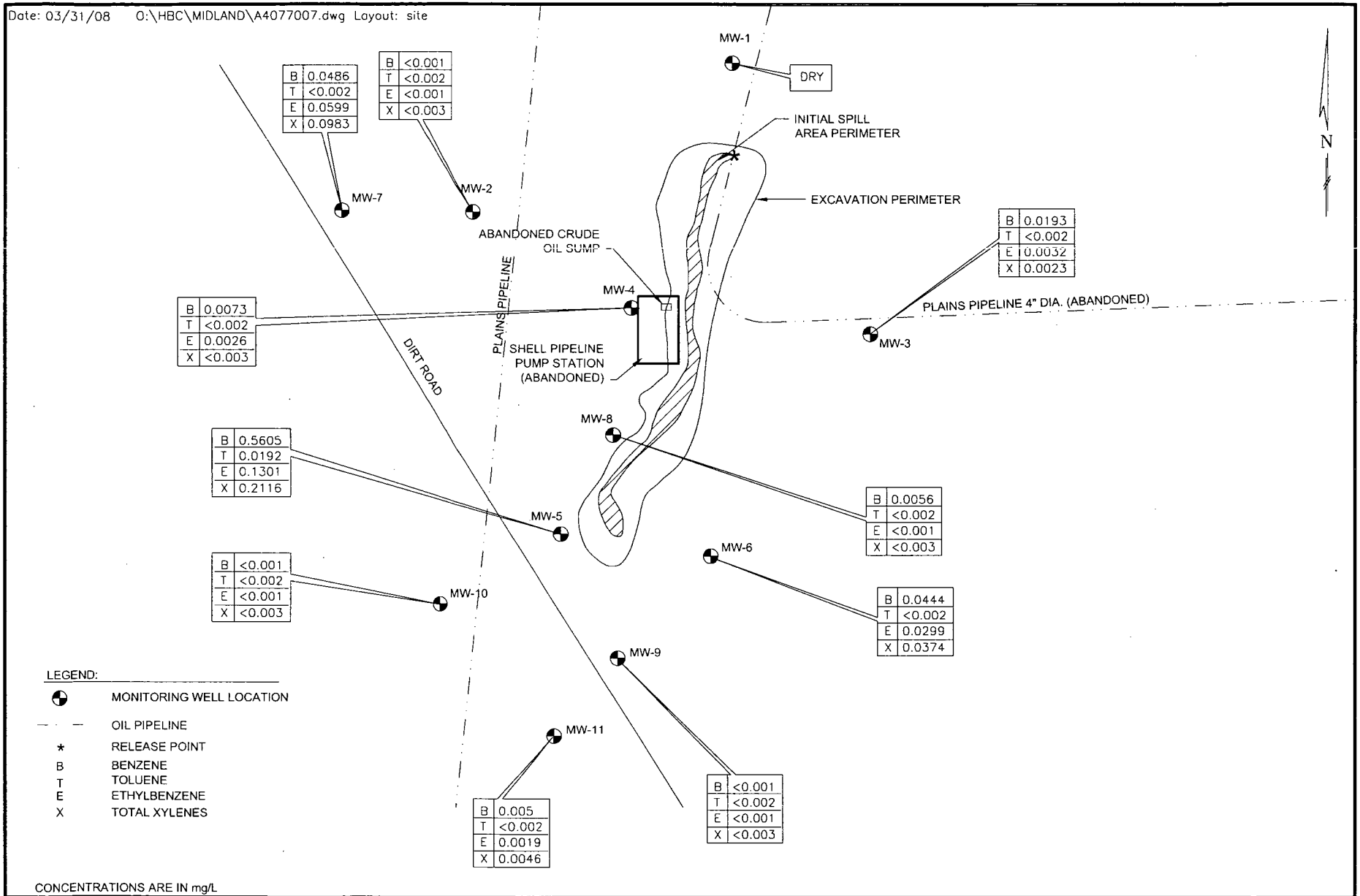
LIVINGSTON LINE-BOB MCCASLAND
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

FIGURE 6: GROUNDWATER GRADIENT MAP (11/06/08)



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0 50 100 FEET
APPROXIMATE SCALE

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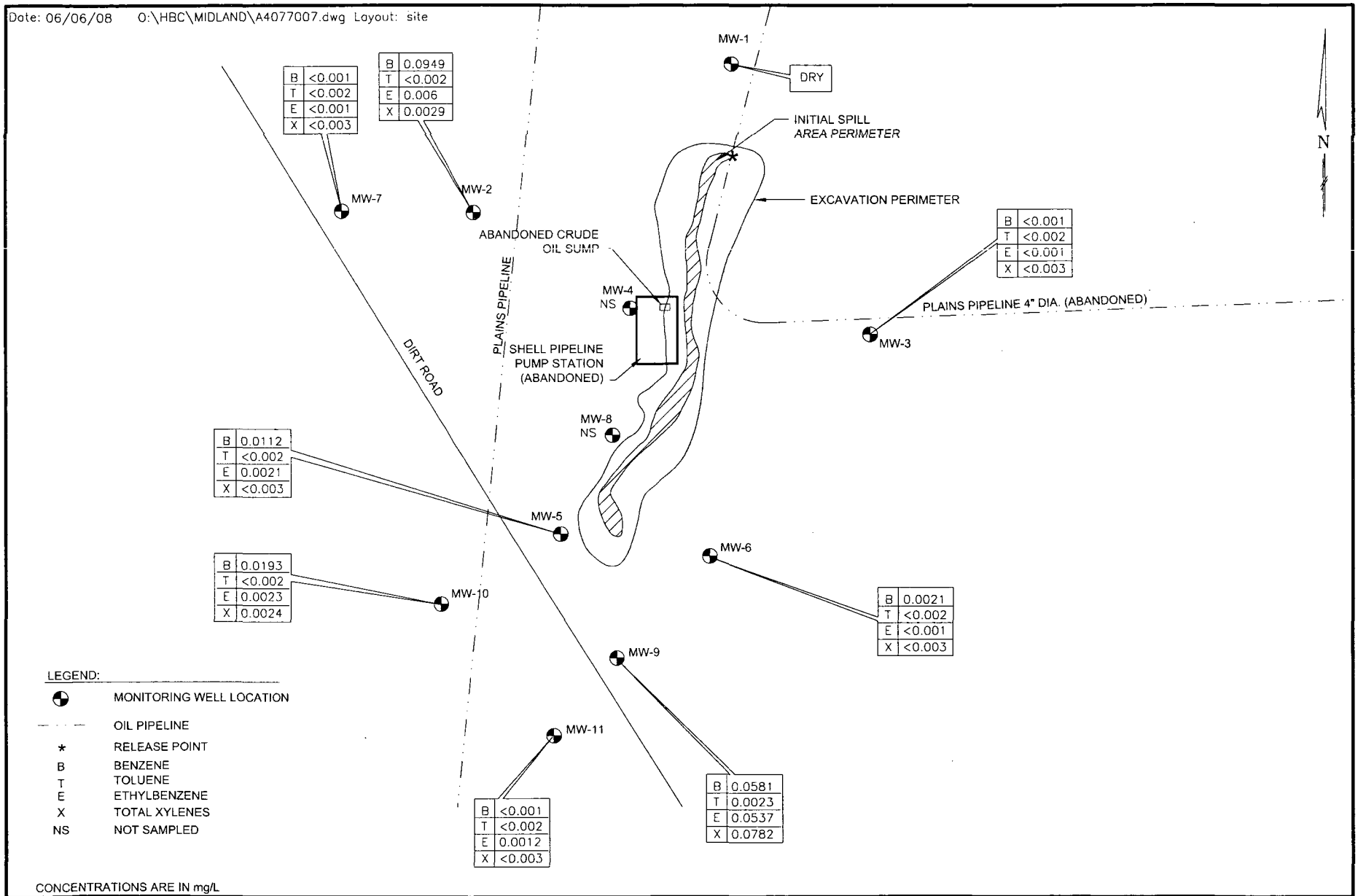
LIVINGSTON LINE-BOB MCCASLAND
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

FIGURE 7: GROUNDWATER CONTAMINANT CONCENTRATION MAP (02/28/08)



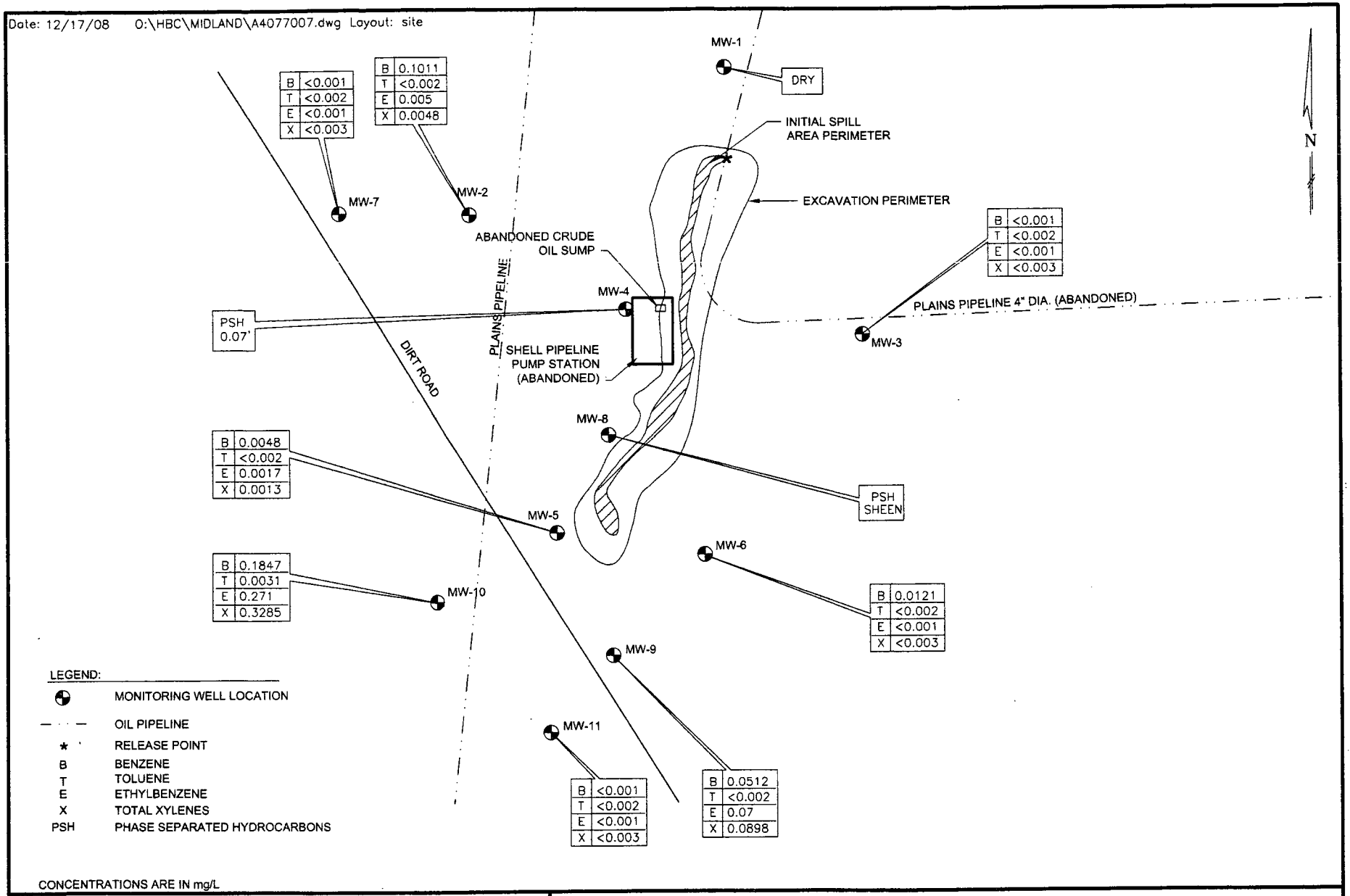
THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

0 50 100 FEET
APPROXIMATE SCALE

PLAINS PIPELINE, L.P.
LIVINGSTON LINE-BOB MCCASLAND
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

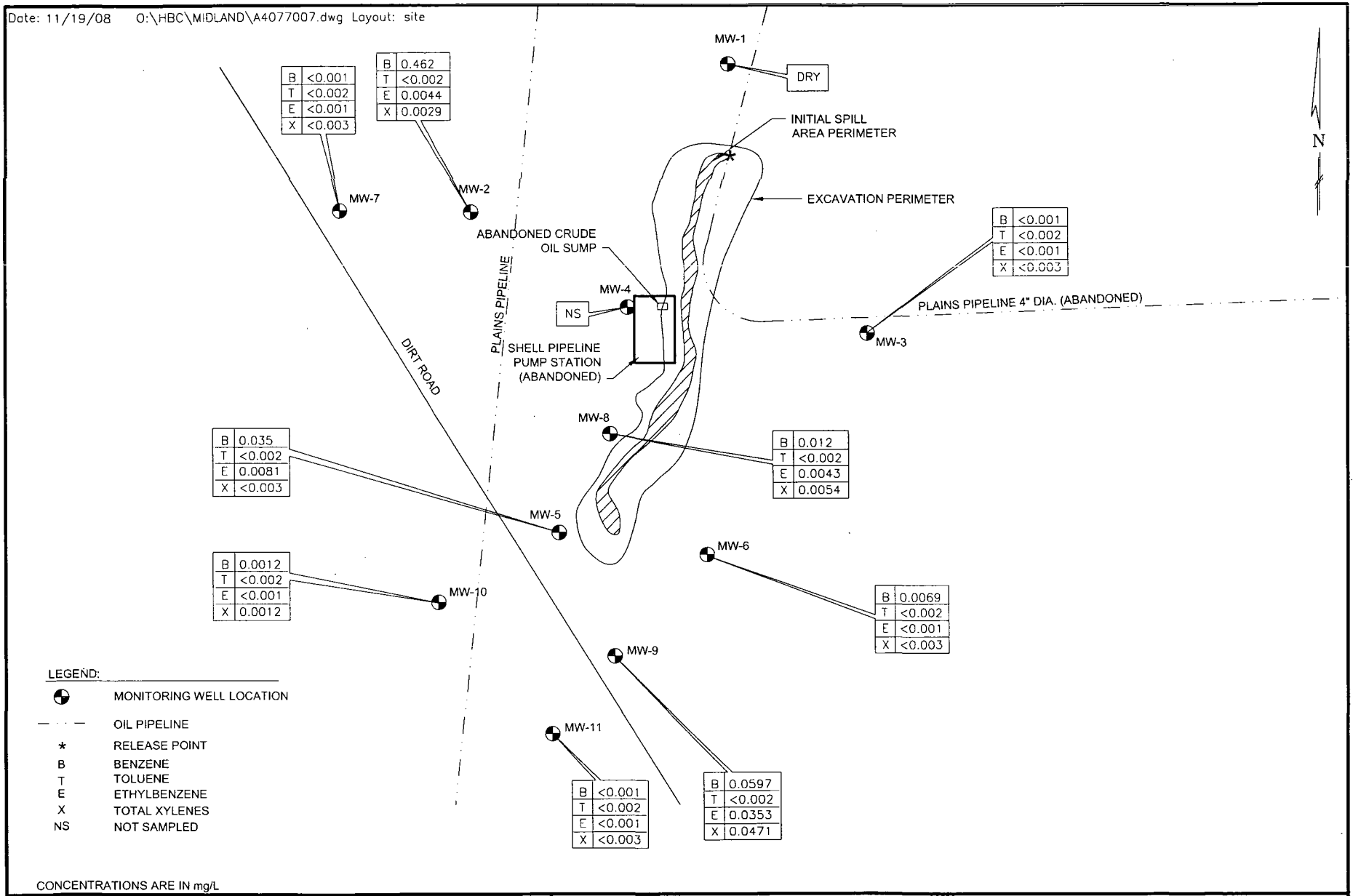
FIGURE 8: GROUNDWATER CONTAMINANT CONCENTRATION MAP (05/28/08)



PLAINS PIPELINE, L.P.
LIVINGSTON LINE-BOB MCCASLAND
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

FIGURE 9: GROUNDWATER CONTAMINANT CONCENTRATION MAP (08/20/08)



THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

0 50 100 FEET
APPROXIMATE SCALE

PLAINS PIPELINE, L.P.
LIVINGSTON LINE-BOB MCCASLAND
LEA COUNTY, NEW MEXICO
SRS#2001-11226, NMOCD File# 1R-0395

Terracon **Project No.: A4077007**

FIGURE 10: GROUNDWATER CONTAMINANT CONCENTRATION MAP (11/07/08)

APPENDIX B

Tables

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-1	07/10/02	3,439.09	0.00	38.10	3,400.99	0.00	0.00	0.00
MW-1	04/15/03		0.00	37.31	3,401.78	0.00	0.00	0.00
MW-1	07/14/03		0.00	38.13	3,400.96	0.00	0.00	0.00
MW-1	04/20/04		0.00	35.62	3,403.47	0.00	0.00	0.00
MW-1	05/07/04		0.00	35.55	3,403.54	0.00	0.00	0.00
MW-1	05/25/04		0.00	35.62	3,403.47	0.00	0.00	0.00
MW-1	06/10/04		0.00	35.77	3,403.32	0.00	0.00	0.00
MW-1	07/14/04		0.00	34.90	3,404.19	0.00	0.00	0.00
MW-1	07/21/04		0.00	34.69	3,404.40	0.00	0.00	0.00
MW-1	08/02/04		0.00	34.73	3,404.36	0.00	0.00	0.00
MW-1	09/10/04		0.00	34.24	3,404.85	0.00	0.00	0.00
MW-1	09/14/04		0.00	34.26	3,404.83	0.00	0.00	0.00
MW-1	10/05/04		0.00	32.64	3,406.45	0.00	0.00	0.00
MW-1	10/19/04		0.00	30.92	3,408.17	0.00	0.00	0.00
MW-1	11/02/04		0.00	31.01	3,408.08	0.00	0.00	0.00
MW-1	11/15/04		0.00	30.41	3,408.68	0.00	0.00	0.00
MW-1	12/06/04		0.00	30.30	3,408.79	0.00	0.00	0.00
MW-1	12/21/04		0.00	30.29	3,408.80	0.00	0.00	0.00
MW-1	01/03/05		0.00	30.45	3,408.64	0.00	0.00	0.00
MW-1	01/18/05		0.00	30.57	3,408.52	0.00	0.00	0.00
MW-1	02/01/05		0.00	30.65	3,408.44	0.00	0.00	0.00
MW-1	03/21/05		0.00	30.81	3,408.28	0.00	0.00	0.00
MW-1	04/21/05		0.00	31.03	3,408.06	0.00	0.00	0.00
MW-1	05/05/05		0.00	31.04	3,408.05	0.00	0.00	0.00
MW-1	05/17/05		0.00	31.11	3,407.98	0.00	0.00	0.00
MW-1	08/15/05		0.00	31.50	3,407.59	0.00	0.00	0.00
MW-1	10/05/05		0.00	31.24	3,407.85	0.00	0.00	0.00
MW-1	11/18/05		0.00	31.44	3,407.65	0.00	0.00	0.00
MW-1	01/12/06		0.00	31.56	3,407.53	0.00	0.00	0.00
MW-1	02/16/06		0.00	31.68	3,407.41	0.00	0.00	0.00
MW-1	03/16/06		0.00	31.88	3,407.21	0.00	0.00	0.00
MW-1	04/10/06		0.00	31.83	3,407.26	0.00	0.00	0.00
MW-1	05/22/06		0.00	31.97	3,407.12	0.00	0.00	0.00
MW-1	07/20/06		0.00	32.44	3,406.65	0.00	0.00	0.00
MW-1	08/07/06		0.00	32.55	3,406.54	0.00	0.00	0.00
MW-1	09/11/06		0.00	31.87	3,407.22	0.00	0.00	0.00
MW-1	10/17/06		0.00	31.81	3,407.28	0.00	0.00	0.00
MW-1	11/21/06		0.00	31.91	3,407.18	0.00	0.00	0.00
MW-1	12/13/06		0.00	31.93	3,407.16	0.00	0.00	0.00
MW-1	01/09/07		0.00	32.07	3,407.02	0.00	0.00	0.00
MW-1	02/14/07		0.00	31.99	3,407.10	0.00	0.00	0.00
MW-1	02/22/07		0.00	32.01	3,407.08	0.00	0.00	0.00
MW-1	03/01/07		0.00	31.99	3,407.10	0.00	0.00	0.00
MW-1	03/13/07		0.00	32.03	3,407.06	0.00	0.00	0.00
MW-1	05/10/07		0.00	31.71	3,407.38	0.00	0.10	6.00
MW-1	08/10/07		0.00	31.82	3,407.27	0.00	0.00	0.00
MW-1	08/20/07		0.00	31.94	3,407.15	0.00	0.00	0.00
MW-1	11/15/07		DRY	DRY	DRY	DRY	DRY	DRY
MW-1	02/28/08		DRY	DRY	DRY	DRY	DRY	DRY
MW-1	05/28/08		DRY	DRY	DRY	DRY	DRY	DRY
MW-1	05/30/08		DRY	DRY	DRY	DRY	DRY	DRY
MW-1	08/20/08		DRY	DRY	DRY	DRY	DRY	DRY

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-2	07/10/02	3,432.62	0.00	31.31	3,401.31	0.00	0.00	0.00
MW-2	04/15/03		0.00	30.68	3,401.94	0.00	0.00	0.00
MW-2	07/14/03		0.00	31.70	3,400.92	0.00	0.00	0.00
MW-2	04/20/04		0.00	28.20	3,404.42	0.00	0.00	0.00
MW-2	05/07/04		0.00	28.44	3,404.18	0.00	0.00	0.00
MW-2	05/25/04		0.00	28.72	3,403.90	0.00	0.00	0.00
MW-2	06/10/04		0.00	29.14	3,403.48	0.00	0.00	0.00
MW-2	07/14/04		0.00	27.73	3,404.89	0.00	0.00	0.00
MW-2	07/21/04		0.00	27.71	3,404.91	0.00	0.00	0.00
MW-2	08/02/04		0.00	27.96	3,404.66	0.00	0.00	0.00
MW-2	09/10/04		0.00	27.52	3,405.10	0.00	0.00	0.00
MW-2	09/14/04		0.00	27.51	3,405.11	0.00	0.00	0.00
MW-2	10/05/04		0.00	24.25	3,408.37	0.00	0.00	0.00
MW-2	10/19/04		0.00	23.12	3,409.50	0.00	0.00	0.00
MW-2	11/02/04		0.00	23.22	3,409.40	0.00	0.00	0.00
MW-2	11/15/04		0.00	23.50	3,409.12	0.00	0.00	0.00
MW-2	12/06/04		0.00	23.63	3,408.99	0.00	0.00	0.00
MW-2	12/21/04		0.00	23.63	3,408.99	0.00	0.00	0.00
MW-2	01/03/05		0.00	23.91	3,408.71	0.00	0.00	0.00
MW-2	01/18/05		0.00	24.05	3,408.57	0.00	0.00	0.00
MW-2	02/01/05		0.00	24.17	3,408.45	0.00	0.00	0.00
MW-2	03/21/05		0.00	24.44	3,408.18	0.00	0.00	0.00
MW-2	04/21/05		0.00	24.67	3,407.95	0.00	0.00	0.00
MW-2	05/05/05		0.00	24.63	3,407.99	0.00	0.00	0.00
MW-2	05/17/05		0.00	24.78	3,407.84	0.00	0.00	0.00
MW-2	08/15/05		0.00	25.18	3,407.44	0.00	0.00	0.00
MW-2	10/05/05		0.00	24.93	3,407.69	0.00	0.00	0.00
MW-2	11/18/05		0.00	25.07	3,407.55	0.00	0.00	0.00
MW-2	01/12/06		0.00	25.18	3,407.44	0.00	0.00	0.00
MW-2	02/16/06		0.00	25.36	3,407.26	0.00	0.00	0.00
MW-2	03/16/06		0.00	25.57	3,407.05	0.00	0.00	0.00
MW-2	04/10/06		0.00	25.48	3,407.14	0.00	0.00	0.00
MW-2	05/22/06		0.00	25.63	3,406.99	0.00	0.00	0.00
MW-2	07/20/06		0.00	26.15	3,406.47	0.00	0.00	0.00
MW-2	08/07/06		0.00	26.28	3,406.34	0.00	0.00	0.00
MW-2	09/11/06		0.00	25.30	3,407.32	0.00	0.00	0.00
MW-2	10/17/06		0.00	25.39	3,407.23	0.00	0.00	0.00
MW-2	11/21/06		0.00	25.46	3,407.16	0.00	0.00	0.00
MW-2	12/13/06		0.00	25.48	3,407.14	0.00	0.00	0.00
MW-2	01/09/07		0.00	25.61	3,407.01	0.00	0.00	0.00
MW-2	02/14/07		0.00	25.52	3,407.10	0.00	0.00	0.00
MW-2	02/22/07		0.00	25.54	3,407.08	0.00	0.00	0.00
MW-2	03/01/07		0.00	25.47	3,407.15	0.00	0.00	0.00
MW-2	03/13/07		0.00	25.53	3,407.09	0.00	0.00	0.00
MW-2	05/10/07		0.00	25.12	3,407.50	0.00	0.00	0.00
MW-2	08/10/07		0.00	25.41	3,407.21	0.00	0.00	0.00
MW-2	08/20/07		0.00	25.57	3,407.05	0.00	0.00	0.00
MW-2	11/15/07		0.00	25.73	3,406.89	0.00	0.00	0.00
MW-2	02/28/08		0.00	25.69	3,406.93	0.00	0.00	0.00
MW-2	04/30/08		0.00	25.73	3,406.89	0.00	0.00	0.00
MW-2	05/28/08		0.00	26.04	3,406.58	0.00	0.00	0.00
MW-2	05/30/08		0.00	25.73	3,406.89	0.00	0.00	0.00
MW-2	07/07/08		0.00	26.45	3,406.17	0.00	0.00	10.00
MW-2	07/14/08		0.00	26.45	3,406.17	0.00	0.00	25.00
MW-2	07/22/08		0.00	26.54	3,406.08	0.00	0.00	10.00
MW-2	07/30/08		0.00	26.60	3,406.02	0.00	0.00	15.00
MW-2	08/05/08		0.00	26.62	3,406.00	0.00	0.00	15.00
MW-2	08/14/08		0.00	26.70	3,405.92	0.00	0.00	15.00
MW-2	08/20/08		0.00	26.70	3,405.92	0.00	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-2	08/27/08		0.00	0.00	3,432.62	0.00	0.00	45.00
MW-2	09/03/08							45.00
MW-2	09/20/08		0.00	26.30	3,406.32	0.00	0.00	35.00
MW-2	09/29/08		0.00	26.26	3,406.36	0.00	0.00	40.00
MW-2	11/07/08		0.00	26.19	3,406.43	0.00	0.00	0.00
MW-3	07/10/02	3,433.61	0.00	34.48	3,399.13	0.00	0.00	0.00
MW-3	04/15/03		0.00	32.14	3,401.47	0.00	0.00	0.00
MW-3	07/14/03		0.00	32.95	3,400.66	0.00	0.00	0.00
MW-3	04/20/04		0.00	29.17	3,404.44	0.00	0.00	0.00
MW-3	05/07/04		0.00	29.55	3,404.06	0.00	0.00	0.00
MW-3	05/25/04		0.00	29.80	3,403.81	0.00	0.00	0.00
MW-3	06/10/04		0.00	30.12	3,403.49	0.00	0.00	0.00
MW-3	07/14/04		0.00	28.33	3,405.28	0.00	0.00	0.00
MW-3	07/21/04		0.00	28.59	3,405.02	0.00	0.00	0.00
MW-3	08/02/04		0.00	28.85	3,404.76	0.00	0.00	0.00
MW-3	09/10/04		0.00	28.35	3,405.26	0.00	0.00	0.00
MW-3	09/14/04		0.00	28.45	3,405.16	0.00	0.00	0.00
MW-3	10/05/04		0.00	25.00	3,408.61	0.00	0.00	0.00
MW-3	10/19/04		0.00	23.24	3,410.37	0.00	0.00	0.00
MW-3	11/02/04		0.00	23.29	3,410.32	0.00	0.00	0.00
MW-3	11/15/04		0.00	24.10	3,409.51	0.00	0.00	0.00
MW-3	12/06/04		0.00	24.33	3,409.28	0.00	0.00	0.00
MW-3	12/21/04		0.00	24.39	3,409.22	0.00	0.00	0.00
MW-3	01/03/05		0.00	24.73	3,408.88	0.00	0.00	0.00
MW-3	01/18/05		0.00	24.94	3,408.67	0.00	0.00	0.00
MW-3	02/01/05		0.00	25.08	3,408.53	0.00	0.00	0.00
MW-3	03/21/05		0.00	25.40	3,408.21	0.00	0.00	0.00
MW-3	04/21/05		0.00	25.66	3,407.95	0.00	0.00	0.00
MW-3	05/05/05		0.00	25.63	3,407.98	0.00	0.00	0.00
MW-3	05/17/05		0.00	25.82	3,407.79	0.00	0.00	0.00
MW-3	08/15/05		0.00	26.06	3,407.55	0.00	0.00	0.00
MW-3	10/05/05		0.00	25.98	3,407.63	0.00	0.00	0.00
MW-3	11/18/05		0.00	26.26	3,407.35	0.00	0.00	0.00
MW-3	01/12/06		0.00	26.37	3,407.24	0.00	0.00	0.00
MW-3	02/16/06		0.00	26.52	3,407.09	0.00	0.00	0.00
MW-3	03/16/06		0.00	26.71	3,406.90	0.00	0.00	0.00
MW-3	04/10/06		0.00	26.69	3,406.92	0.00	0.00	0.00
MW-3	05/22/06		0.00	26.84	3,406.77	0.00	0.00	0.00
MW-3	07/20/06		0.00	28.27	3,405.34	0.00	0.00	0.00
MW-3	08/07/06		0.00	27.39	3,406.22	0.00	0.00	0.00
MW-3	09/11/06		0.00	26.52	3,407.09	0.00	0.00	0.00
MW-3	10/17/06		0.00	22.62	3,410.99	0.00	0.00	0.00
MW-3	11/21/06		0.00	26.77	3,406.84	0.00	0.00	0.00
MW-3	12/13/06		0.00	26.80	3,406.81	0.00	0.00	0.00
MW-3	01/09/07		0.00	26.92	3,406.69	0.00	0.00	0.00
MW-3	02/14/07		0.00	26.84	3,406.77	0.00	0.00	0.00
MW-3	02/22/07		0.00	26.87	3,406.74	0.00	0.00	0.00
MW-3	03/01/07		0.00	26.84	3,406.77	0.00	0.00	0.00
MW-3	03/13/07		0.00	26.89	3,406.72	0.00	0.00	0.00
MW-3	05/10/07		0.00	26.48	3,407.13	0.00	0.00	0.00
MW-3	08/10/07		0.00	26.61	3,407.00	0.00	0.00	0.00
MW-3	08/20/07		0.00	26.70	3,406.91	0.00	0.00	0.00
MW-3	11/15/07		0.00	27.07	3,406.54	0.00	0.00	0.00
MW-3	02/28/08		0.00	26.99	3,406.62	0.00	0.00	0.00
MW-3	05/28/08		0.00	27.76	3,405.85	0.00	0.00	0.00
MW-3	08/20/08		0.00	27.85	3,405.76	0.00	0.00	0.00
MW-3	11/07/08		0.00	27.47	3,406.14	0.00	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-4	07/10/02	3,432.35	30.70	30.95	3,401.63	0.25	0.00	0.00
MW-4	11/18/02		29.28	29.95	3,403.00	0.67	0.00	0.00
MW-4	12/13/02		29.75	30.99	3,402.48	1.24	0.00	0.00
MW-4	03/24/03		30.56	31.03	3,401.74	0.47	0.00	0.00
MW-4	04/15/03		30.55	31.05	3,401.75	0.50	0.00	0.00
MW-4	05/02/03		30.71	30.94	3,401.62	0.23	0.00	0.00
MW-4	06/16/03		31.09	31.18	3,401.25	0.09	0.00	0.00
MW-4	07/14/03		31.50	31.81	3,400.82	0.31	0.00	0.00
MW-4	07/31/03		31.49	31.80	3,400.83	0.31	0.00	0.00
MW-4	09/22/03		32.05	32.07	3,400.30	0.02	0.00	0.00
MW-4	10/23/03		32.03	33.07	3,400.22	1.04	0.00	0.00
MW-4	11/05/03		32.10	34.65	3,400.00	2.55	0.00	0.00
MW-4	01/02/04		31.82	35.30	3,400.18	3.48	0.00	0.00
MW-4	01/30/04		32.20	34.20	3,399.95	2.00	0.00	0.00
MW-4	03/03/04		32.19	34.21	3,399.96	2.02	0.00	0.00
MW-4	03/15/04		32.15	33.87	3,400.03	1.72	0.00	0.00
MW-4	03/25/04		32.14	33.87	3,400.04	1.73	0.00	0.00
MW-4	04/20/04		27.20	27.86	3,405.08	0.66	0.00	0.00
MW-4	05/07/04		27.89	28.63	3,404.39	0.74	0.00	0.00
MW-4	05/25/04		28.55	28.78	3,403.78	0.23	0.00	0.00
MW-4	06/10/04		28.80	28.84	3,403.55	0.04	0.00	0.00
MW-4	07/14/04		0.00	26.88	3,405.47	0.00	0.00	0.00
MW-4	07/21/04		0.00	27.67	3,404.68	0.00	0.00	0.00
MW-4	08/02/04		0.00	27.28	3,405.07	0.00	0.00	0.00
MW-4	09/10/04		0.00	27.25	3,405.10	0.00	0.00	0.00
MW-4	09/14/04		0.00	27.15	3,405.20	0.00	0.00	0.00
MW-4	10/05/04		0.00	23.20	3,409.15	0.00	0.00	0.00
MW-4	10/19/04		0.00	22.00	3,410.35	0.00	0.00	0.00
MW-4	11/02/04		0.00	22.29	3,410.06	0.00	0.00	0.00
MW-4	11/15/04		0.00	22.95	3,409.40	0.00	0.00	0.00
MW-4	12/06/04		0.00	23.19	3,409.16	0.00	0.00	0.00
MW-4	12/21/04		0.00	23.21	3,409.14	0.00	0.00	0.00
MW-4	01/03/05		0.00	23.56	3,408.79	0.00	0.00	0.00
MW-4	01/18/05		0.00	23.75	3,408.60	0.00	0.00	0.00
MW-4	02/01/05		0.00	23.83	3,408.52	0.00	0.00	0.00
MW-4	03/21/05		0.00	24.11	3,408.24	0.00	0.00	0.00
MW-4	04/21/05		0.00	24.56	3,407.79	0.00	0.00	0.00
MW-4	05/05/05		0.00	24.54	3,407.81	0.00	0.00	0.00
MW-4	05/17/05		0.00	24.68	3,407.67	0.00	0.00	0.00
MW-4	08/15/05		0.00	24.98	3,407.37	0.00	0.00	0.00
MW-4	10/05/05		0.00	24.85	3,407.50	0.00	0.00	0.00
MW-4	11/18/05		0.00	25.04	3,407.31	0.00	0.00	0.00
MW-4	01/12/06		0.00	25.13	3,407.22	0.00	0.00	0.00
MW-4	02/16/06		0.00	25.31	3,407.04	0.00	0.00	0.00
MW-4	03/16/06		0.00	25.42	3,406.93	0.00	0.00	0.00
MW-4	04/10/06		0.00	25.42	3,406.93	0.00	0.00	0.00
MW-4	05/22/06		0.00	25.29	3,407.06	0.00	0.00	0.00
MW-4	07/20/06		0.00	26.02	3,406.33	0.00	0.00	0.00
MW-4	08/07/06		0.00	26.33	3,406.02	0.00	0.00	0.00
MW-4	09/11/06		0.00	25.02	3,407.33	0.00	0.00	0.00
MW-4	10/17/06		0.00	25.34	3,407.01	0.00	0.00	0.00
MW-4	11/21/06		0.00	25.37	3,406.98	0.00	0.00	0.00
MW-4	12/13/06		0.00	24.71	3,407.64	0.00	0.00	0.00
MW-4	01/09/07		0.00	25.81	3,406.54	0.00	0.00	0.00
MW-4	02/14/07		0.00	25.51	3,406.84	0.00	0.00	0.00
MW-4	02/22/07		0.00	25.47	3,406.88	0.00	0.00	0.00
MW-4	03/01/07		0.00	25.43	3,406.92	0.00	0.00	0.00
MW-4	03/13/07		0.00	25.46	3,406.89	0.00	0.00	0.00
MW-4	03/23/07		0.00			0.25	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-4	04/09/07		0.00	25.39	3,406.96	0.00	0.00	0.00
MW-4	05/10/07		0.00	25.05	3,407.30	0.00	0.00	0.00
MW-4	05/16/07		0.00	24.83	3,407.52	0.00	0.00	0.00
MW-4	05/29/07		0.00	24.71	3,407.64	0.00	0.00	0.00
MW-4	06/06/07		0.00	22.12	3,410.23	0.00	0.00	0.00
MW-4	06/21/07		0.00	24.94	3,407.41	0.00	0.00	0.00
MW-4	07/12/07		0.00	25.10	3,407.25	0.00	0.00	0.00
MW-4	07/25/07		0.00	25.26	3,407.09	0.00	0.00	0.00
MW-4	08/08/07		0.00	25.38	3,406.97	0.00	0.00	0.00
MW-4	08/20/07		0.00	25.49	3,406.86	0.00	0.00	0.00
MW-4	09/07/07		0.00	26.66	3,405.69	0.00	0.00	0.00
MW-4	09/19/07		0.00	25.64	3,406.71	0.00	0.00	0.00
MW-4	10/01/07		0.00	24.03	3,408.32	0.00	0.00	0.00
MW-4	10/15/07		0.00	25.69	3,406.66	0.00	0.00	0.00
MW-4	11/02/07		0.00	25.71	3,406.64	0.00	0.00	0.00
MW-4	11/15/07		0.00	25.73	3,406.62	0.00	0.00	0.00
MW-4	11/29/07		0.00	25.75	3,406.60	0.00	0.00	0.00
MW-4	12/27/07		0.00	25.65	3,406.70	0.00	0.00	0.00
MW-4	01/18/08		0.00	25.66	3,406.69	0.00	0.00	0.00
MW-4	02/20/08		0.00	25.17	3,407.18	0.00	0.00	0.00
MW-4	02/28/08		0.00	25.65	3,406.70	0.00	0.00	6.25
MW-4	04/30/08		0.00	25.71	3,406.64	0.00	0.10	0.00
MW-4	05/28/08		0.00	25.94	3,406.41	0.00	0.00	0.00
MW-4	05/30/08		0.00	25.71	3,406.64	0.00	0.00	0.00
MW-4	06/25/08		0.00	26.13	3,406.22	0.00	0.00	0.00
MW-4	07/02/08		0.00	26.20	3,406.15	0.00	0.00	0.00
MW-4	07/07/08		0.00	26.25	3,406.10	0.00	0.00	10.00
MW-4	07/14/08		0.00	26.30	3,406.05	0.00	0.00	25.00
MW-4	07/22/08		0.00	26.35	3,406.00	0.00	0.00	0.00
MW-4	07/30/08		0.00	26.40	3,405.95	0.00	0.00	0.00
MW-4	08/05/08		26.40	26.47	3,405.94	0.07	0.10	0.00
MW-4	08/14/08		0.00	26.52	3,405.83	0.00	0.00	10.00
MW-4	08/20/08		0.00	26.49	3,405.86	0.00	0.00	0.00
MW-4	09/03/08							15.00
MW-4	09/20/08		0.00	26.17	3,406.18	0.00	0.00	15.00
MW-4	11/07/08		0.00	26.08	3,406.27	0.00	0.00	0.00

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GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-5	07/10/02	3,429.63	0.00	27.16	3,402.47	0.00	0.00	0.00
MW-5	04/15/03		0.00	27.79	3,401.84	0.00	0.00	0.00
MW-5	07/14/03		0.00	28.79	3,400.84	0.00	0.00	0.00
MW-5	04/20/04		0.00	23.73	3,405.90	0.00	0.00	0.00
MW-5	05/07/04		0.00	24.75	3,404.88	0.00	0.00	0.00
MW-5	05/25/04		0.00	25.32	3,404.31	0.00	0.00	0.00
MW-5	06/10/04		0.00	25.66	3,403.97	0.00	0.00	0.00
MW-5	07/14/04		0.00	23.33	3,406.30	0.00	0.00	0.00
MW-5	07/21/04		0.00	24.30	3,405.33	0.00	0.00	0.00
MW-5	08/02/04		0.00	23.88	3,405.75	0.00	0.00	0.00
MW-5	09/10/04		0.00	23.58	3,406.05	0.00	0.00	0.00
MW-5	09/14/04		0.00	23.88	3,405.75	0.00	0.00	0.00
MW-5	10/05/04		0.00	17.86	3,411.77	0.00	0.00	0.00
MW-5	10/19/04		0.00	17.50	3,412.13	0.00	0.00	0.00
MW-5	11/02/04		0.00	17.52	3,412.11	0.00	0.00	0.00
MW-5	11/15/04		0.00	19.54	3,410.09	0.00	0.00	0.00
MW-5	12/06/04		0.00	20.04	3,409.59	0.00	0.00	0.00
MW-5	12/21/04		0.00	20.17	3,409.46	0.00	0.00	0.00
MW-5	01/03/05		0.00	20.60	3,409.03	0.00	0.00	0.00
MW-5	01/18/05		0.00	20.86	3,408.77	0.00	0.00	0.00
MW-5	02/01/05		0.00	21.05	3,408.58	0.00	0.00	0.00
MW-5	03/21/05		0.00	21.41	3,408.22	0.00	0.00	0.00
MW-5	04/21/05		0.00	21.76	3,407.87	0.00	0.00	0.00
MW-5	05/05/05		0.00	21.76	3,407.87	0.00	0.00	0.00
MW-5	05/17/05		0.00	21.87	3,407.76	0.00	0.00	0.00
MW-5	08/15/05		0.00	22.00	3,407.63	0.00	0.00	0.00
MW-5	10/05/05		0.00	22.01	3,407.62	0.00	0.00	0.00
MW-5	11/18/05		0.00	22.20	3,407.43	0.00	0.00	0.00
MW-5	01/12/06		0.00	22.32	3,407.31	0.00	0.00	0.00
MW-5	02/16/06		0.00	22.56	3,407.07	0.00	0.00	0.00
MW-5	03/16/06		0.00	22.71	3,406.92	0.00	0.00	0.00
MW-5	04/10/06		0.00	22.66	3,406.97	0.00	0.00	0.00
MW-5	05/22/06		0.00	22.83	3,406.80	0.00	0.00	0.00
MW-5	07/20/06		0.00	23.26	3,406.37	0.00	0.00	0.00
MW-5	08/07/06		0.00	23.27	3,406.36	0.00	0.00	0.00
MW-5	09/11/06		0.00	22.23	3,407.40	0.00	0.00	0.00
MW-5	10/17/06		0.00	22.67	3,406.96	0.00	0.00	0.00
MW-5	11/21/06		0.00	22.67	3,406.96	0.00	0.00	0.00
MW-5	12/13/06		0.00	22.71	3,406.92	0.00	0.00	0.00
MW-5	01/09/07		0.00	22.83	3,406.80	0.00	0.00	0.00
MW-5	02/14/07		0.00	22.67	3,406.96	0.00	0.00	0.00
MW-5	02/22/07		0.00	22.69	3,406.94	0.00	0.00	0.00
MW-5	03/01/07		0.00	22.64	3,406.99	0.00	0.00	0.00
MW-5	03/13/07		0.00	22.68	3,406.95	0.00	0.00	0.00
MW-5	05/10/07		0.00	21.88	3,407.75	0.00	0.00	0.00
MW-5	08/10/07		0.00	22.49	3,407.14	0.00	0.00	0.00
MW-5	08/20/07		0.00	22.60	3,407.03	0.00	0.00	0.00
MW-5	11/15/07		0.00	22.87	3,406.76	0.00	0.00	0.00
MW-5	02/28/08		0.00	22.84	3,406.79	0.00	0.00	0.00
MW-5	04/30/08		0.00	22.89	3,406.74	0.00	0.00	0.00
MW-5	05/28/08		0.00	23.14	3,406.49	0.00	0.00	0.00
MW-5	05/30/08		0.00	22.89	3,406.74	0.00	0.00	10.00
MW-5	07/07/08		0.00	26.47	3,403.16	0.00	0.00	10.00
MW-5	07/14/08		0.00	23.50	3,406.13	0.00	0.00	25.00
MW-5	07/22/08		0.00	23.50	3,406.13	0.00	0.00	10.00
MW-5	07/30/08		0.00	23.65	3,405.98	0.00	0.00	20.00
MW-5	08/05/08		0.00	23.70	3,405.93	0.00	0.00	20.00
MW-5	08/14/08		0.00	23.74	3,405.89	0.00	0.00	12.00
MW-5	08/20/08		0.00	23.75	3,405.88	0.00	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-5	08/27/08		0.00	0.00	3,429.63	0.00	0.00	15.00
MW-5	09/03/08							45.00
MW-5	09/20/08		0.00	23.33	3,406.30	0.00	0.00	35.00
MW-5	09/29/08		0.00	23.39	3,406.24	0.00	0.00	40.00
MW-5	11/07/08		0.00	24.59	3,405.04	0.00	0.00	0.00
MW-6	07/10/02	3,429.30	0.00	27.16	3,402.14	0.00	0.00	0.00
MW-6	04/15/03		0.00	27.93	3,401.37	0.00	0.00	0.00
MW-6	07/14/03		0.00	28.90	3,400.40	0.00	0.00	0.00
MW-6	04/20/04		0.00	23.65	3,405.65	0.00	0.00	0.00
MW-6	05/07/04		0.00	24.72	3,404.58	0.00	0.00	0.00
MW-6	05/25/04		0.00	25.30	3,404.00	0.00	0.00	0.00
MW-6	06/10/04		0.00	25.75	3,403.55	0.00	0.00	0.00
MW-6	07/14/04		0.00	23.15	3,406.15	0.00	0.00	0.00
MW-6	07/21/04		0.00	24.41	3,404.89	0.00	0.00	0.00
MW-6	08/02/04		0.00	23.78	3,405.52	0.00	0.00	0.00
MW-6	09/10/04		0.00	23.86	3,405.44	0.00	0.00	0.00
MW-6	09/14/04		0.00	24.10	3,405.20	0.00	0.00	0.00
MW-6	10/05/04		0.00	16.96	3,412.34	0.00	0.00	0.00
MW-6	10/19/04		0.00	16.84	3,412.46	0.00	0.00	0.00
MW-6	11/02/04		0.00	16.86	3,412.44	0.00	0.00	0.00
MW-6	11/15/04		0.00	19.33	3,409.97	0.00	0.00	0.00
MW-6	12/06/04		0.00	19.77	3,409.53	0.00	0.00	0.00
MW-6	12/21/04		0.00	19.98	3,409.32	0.00	0.00	0.00
MW-6	01/03/05		0.00	20.42	3,408.88	0.00	0.00	0.00
MW-6	01/18/05		0.00	20.70	3,408.60	0.00	0.00	0.00
MW-6	02/01/05		0.00	20.90	3,408.40	0.00	0.00	0.00
MW-6	03/21/05		0.00	21.52	3,407.78	0.00	0.00	0.00
MW-6	04/21/05		0.00	21.64	3,407.66	0.00	0.00	0.00
MW-6	05/05/05		0.00	21.62	3,407.68	0.00	0.00	0.00
MW-6	05/17/05		0.00	21.77	3,407.53	0.00	0.00	0.00
MW-6	08/15/05		0.00	21.91	3,407.39	0.00	0.00	0.00
MW-6	10/05/05		0.00	21.98	3,407.32	0.00	0.00	0.00
MW-6	11/18/05		0.00	22.25	3,407.05	0.00	0.00	0.00
MW-6	01/12/06		0.00	22.36	3,406.94	0.00	0.00	0.00
MW-6	02/16/06		0.00	22.51	3,406.79	0.00	0.00	0.00
MW-6	03/16/06		0.00	22.71	3,406.59	0.00	0.00	0.00
MW-6	04/10/06		0.00	22.65	3,406.65	0.00	0.00	0.00
MW-6	05/22/06		0.00	22.82	3,406.48	0.00	0.00	0.00
MW-6	07/20/06		0.00	23.26	3,406.04	0.00	0.00	0.00
MW-6	08/07/06		0.00	24.37	3,404.93	0.00	0.00	0.00
MW-6	09/11/06		0.00	22.28	3,407.02	0.00	0.00	0.00
MW-6	10/17/06		0.00	22.54	3,406.76	0.00	0.00	0.00
MW-6	11/21/06		0.00	22.66	3,406.64	0.00	0.00	0.00
MW-6	12/13/06		0.00	22.69	3,406.61	0.00	0.00	0.00
MW-6	01/09/07		0.00	22.83	3,406.47	0.00	0.00	0.00
MW-6	02/14/07		0.00	22.75	3,406.55	0.00	0.00	0.00
MW-6	02/22/07		0.00	22.78	3,406.52	0.00	0.00	0.00
MW-6	03/01/07		0.00	22.75	3,406.55	0.00	0.00	0.00
MW-6	03/13/07		0.00	22.78	3,406.52	0.00	0.00	0.00
MW-6	05/10/07		0.00	22.06	3,407.24	0.00	0.00	0.00
MW-6	08/10/07		0.00	22.56	3,406.74	0.00	0.00	0.00
MW-6	08/20/07		0.00	22.67	3,406.63	0.00	0.00	0.00
MW-6	11/15/07		0.00	22.46	3,406.84	0.00	0.00	0.00
MW-6	02/28/08		0.00	22.91	3,406.39	0.00	0.00	0.00
MW-6	05/28/08		0.00	23.19	3,406.11	0.00	0.00	0.00
MW-6	08/20/08		0.00	23.82	3,405.48	0.00	0.00	0.00
MW-6	11/07/08		0.00	23.41	3,405.89	0.00	0.00	0.00

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Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-7	06/10/04	3,431.37	0.00	27.15	3,404.22	0.00	0.00	0.00
MW-7	07/14/04		0.00	25.69	3,405.68	0.00	0.00	0.00
MW-7	07/21/04		0.00	25.93	3,405.44	0.00	0.00	0.00
MW-7	08/02/04		0.00	26.10	3,405.27	0.00	0.00	0.00
MW-7	09/10/04		0.00	25.73	3,405.64	0.00	0.00	0.00
MW-7	09/14/04		0.00	25.75	3,405.62	0.00	0.00	0.00
MW-7	10/05/04		0.00	22.65	3,408.72	0.00	0.00	0.00
MW-7	10/19/04		0.00	21.55	3,409.82	0.00	0.00	0.00
MW-7	11/02/04		0.00	21.58	3,409.79	0.00	0.00	0.00
MW-7	11/15/04		0.00	21.68	3,409.69	0.00	0.00	0.00
MW-7	12/06/04		0.00	21.80	3,409.57	0.00	0.00	0.00
MW-7	12/21/04		0.00	21.43	3,409.94	0.00	0.00	0.00
MW-7	01/03/05		0.00	22.03	3,409.34	0.00	0.00	0.00
MW-7	01/18/05		0.00	22.18	3,409.19	0.00	0.00	0.00
MW-7	02/01/05		0.00	22.29	3,409.08	0.00	0.00	0.00
MW-7	03/21/05		0.00	22.49	3,408.88	0.00	0.00	0.00
MW-7	04/21/05		0.00	22.76	3,408.61	0.00	0.00	0.00
MW-7	05/05/05		0.00	22.74	3,408.63	0.00	0.00	0.00
MW-7	05/17/05		0.00	22.86	3,408.51	0.00	0.00	0.00
MW-7	08/15/05		0.00	23.30	3,408.07	0.00	0.00	0.00
MW-7	10/05/05		0.00	23.01	3,408.36	0.00	0.00	0.00
MW-7	11/18/05		0.00	23.18	3,408.19	0.00	0.00	0.00
MW-7	01/12/06		0.00	23.25	3,408.12	0.00	0.00	0.00
MW-7	02/16/06		0.00	23.41	3,407.96	0.00	0.00	0.00
MW-7	03/16/06		0.00	23.60	3,407.77	0.00	0.00	0.00
MW-7	04/10/06		0.00	23.52	3,407.85	0.00	0.00	0.00
MW-7	05/22/06		0.00	23.75	3,407.62	0.00	0.00	0.00
MW-7	07/20/06		0.00	24.24	3,407.13	0.00	0.00	0.00
MW-7	08/07/06		0.00	24.33	3,407.04	0.00	0.00	0.00
MW-7	09/11/06		0.00	23.41	3,407.96	0.00	0.00	0.00
MW-7	10/17/06		0.00	23.44	3,407.93	0.00	0.00	0.00
MW-7	11/21/06		0.00	23.49	3,407.88	0.00	0.00	0.00
MW-7	12/13/06		0.00	23.48	3,407.89	0.00	0.00	0.00
MW-7	01/09/07		0.00	23.61	3,407.76	0.00	0.00	0.00
MW-7	02/14/07		0.00	23.50	3,407.87	0.00	0.00	0.00
MW-7	02/22/07		0.00	23.54	3,407.83	0.00	0.00	0.00
MW-7	03/01/07		0.00	23.49	3,407.88	0.00	0.00	0.00
MW-7	03/13/07		0.00	23.54	3,407.83	0.00	0.00	0.00
MW-7	05/10/07		0.00	23.20	3,408.17	0.00	0.00	0.00
MW-7	08/10/07		0.00	23.58	3,407.79	0.00	0.00	0.00
MW-7	08/20/07		0.00	23.66	3,407.71	0.00	0.00	0.00
MW-7	11/15/07		0.00	23.85	3,407.52	0.00	0.00	0.00
MW-7	02/28/08		0.00	23.73	3,407.64	0.00	0.00	0.00
MW-7	05/28/08		0.00	24.09	3,407.28	0.00	0.00	0.00
MW-7	08/20/08		0.00	24.76	3,406.61	0.00	0.00	0.00
MW-7	11/07/08		0.00	24.21	3,407.16	0.00	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-8	06/10/04	3,431.07	0.00	27.52	3,403.55	0.00	0.00	0.00
MW-8	07/14/04		0.00	25.69	3,405.38	0.00	0.00	0.00
MW-8	07/21/04		0.00	25.46	3,405.61	0.00	0.00	0.00
MW-8	08/02/04		0.00	25.88	3,405.19	0.00	0.00	0.00
MW-8	09/10/04		0.00	25.35	3,405.72	0.00	0.00	0.00
MW-8	09/14/04		0.00	25.51	3,405.56	0.00	0.00	0.00
MW-8	10/05/04		0.00	20.30	3,410.77	0.00	0.00	0.00
MW-8	10/19/04		0.00	19.44	3,411.63	0.00	0.00	0.00
MW-8	11/02/04		0.00	19.46	3,411.61	0.00	0.00	0.00
MW-8	11/15/04		0.00	21.07	3,410.00	0.00	0.00	0.00
MW-8	12/06/04		0.00	21.48	3,409.59	0.00	0.00	0.00
MW-8	12/21/04		0.00	21.58	3,409.49	0.00	0.00	0.00
MW-8	01/03/05		0.00	21.98	3,409.09	0.00	0.00	0.00
MW-8	01/18/05		0.00	22.21	3,408.86	0.00	0.00	0.00
MW-8	02/01/05		0.00	22.37	3,408.70	0.00	0.00	0.00
MW-8	03/21/05		0.00	22.72	3,408.35	0.00	0.00	0.00
MW-8	04/21/05		0.00	22.92	3,408.15	0.00	0.00	0.00
MW-8	05/05/05		0.00	22.90	3,408.17	0.00	0.00	0.00
MW-8	05/17/05		0.00	23.16	3,407.91	0.00	0.00	0.00
MW-8	08/15/05		0.00	23.41	3,407.66	0.00	0.00	0.00
MW-8	10/05/05		0.00	23.29	3,407.78	0.00	0.00	0.00
MW-8	11/18/05		0.00	23.55	3,407.52	0.00	0.00	0.00
MW-8	01/12/06		0.00	23.58	3,407.49	0.00	0.00	0.00
MW-8	02/16/06		0.00	23.80	3,407.27	0.00	0.00	0.00
MW-8	03/16/06		0.00	23.92	3,407.15	0.00	0.00	0.00
MW-8	04/10/06		0.00	24.09	3,406.98	0.00	0.00	0.00
MW-8	05/22/06		0.00	24.25	3,406.82	0.00	0.00	0.00
MW-8	07/20/06		0.00	24.57	3,406.50	0.00	0.00	0.00
MW-8	08/07/06		0.00	24.66	3,406.41	0.00	0.00	0.00
MW-8	09/11/06		0.00	23.65	3,407.42	0.00	0.00	0.00
MW-8	10/17/06		0.00	23.83	3,407.24	0.00	0.00	0.00
MW-8	11/21/06		0.00	24.18	3,406.89	0.00	0.00	0.00
MW-8	12/13/06		0.00	24.23	3,406.84	0.00	0.00	0.00
MW-8	01/09/07		0.00	24.36	3,406.71	0.00	0.00	0.00
MW-8	02/14/07		0.00	24.64	3,406.43	0.00	0.00	0.00
MW-8	02/22/07		0.00	23.95	3,407.12	0.00	0.00	0.00
MW-8	03/01/07		0.00	23.92	3,407.15	0.00	0.00	0.00
MW-8	03/13/07		0.00	23.95	3,407.12	0.00	0.00	0.00
MW-8	05/10/07		0.00	23.37	3,407.70	0.00	0.00	0.00
MW-8	08/10/07		0.00	23.78	3,407.29	0.00	0.00	0.00
MW-8	08/20/07		0.00	23.91	3,407.16	0.00	0.00	0.00
MW-8	09/07/07		0.00	24.09	3,406.98	0.00	0.00	0.00
MW-8	09/19/07		0.00	24.13	3,406.94	0.00	0.00	0.00
MW-8	10/01/07		0.00	25.68	3,405.39	0.00	0.00	0.00
MW-8	10/15/07		0.00	24.16	3,406.91	0.00	0.00	0.00
MW-8	11/02/07		0.00	24.22	3,406.85	0.00	0.00	0.00
MW-8	11/15/07		0.00	24.24	3,406.83	0.00	0.00	0.00
MW-8	11/28/07		0.00	24.23	3,406.84	0.00	0.00	0.00
MW-8	12/27/07		0.00	24.08	3,406.99	0.00	0.00	0.00
MW-8	01/18/08		0.00	24.20	3,406.87	0.00	0.00	0.00
MW-8	02/20/08		0.00	24.23	3,406.84	0.00	0.00	0.00
MW-8	02/28/08		0.00	24.17	3,406.90	0.00	0.00	0.00
MW-8	03/11/08		0.00	24.24	3,406.83	0.00	0.00	0.00
MW-8	04/30/08		0.00	24.30	3,406.77	0.00	0.00	0.00
MW-8	05/28/08		0.00	24.42	3,406.65	0.00	0.00	0.00
MW-8	05/30/08		0.00	24.30	3,406.77	0.00	0.00	0.00
MW-8	06/25/08		0.00	24.74	3,406.33	0.00	0.00	0.00
MW-8	07/02/08		0.00	24.72	3,406.35	0.00	0.00	30.00
MW-8	07/07/08		0.00	24.87	3,406.20	0.00	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-8	07/14/08		0.00	24.90	3,406.17	0.00	0.00	0.00
MW-8	07/22/08		0.00	24.91	3,406.16	0.00	0.00	10.00
MW-8	07/30/08		0.00	25.01	3,406.06	0.00	0.00	20.00
MW-8	08/05/08		0.00	25.05	3,406.02	0.00	0.00	20.00
MW-8	08/14/08		0.00	25.09	3,405.98	0.00	0.00	21.00
MW-8	08/20/08		0.00	24.98	3,406.09	0.00	0.00	0.00
MW-8	08/27/08		0.00	0.00	3,431.07	0.00	0.00	55.00
MW-8	09/03/08							45.00
MW-8	09/20/08		0.00	24.64	3,406.43	0.00	0.00	35.00
MW-8	09/29/08		0.00	24.86	3,406.21	0.00	0.00	40.00
MW-8	11/07/08		0.00	24.59	3,406.48	0.00	0.00	0.00
MW-9	06/10/04	3,429.79	0.00	Screen Filled With Mud		0.00	0.00	0.00
MW-9	07/14/04		0.00	24.02	3,405.77	0.00	0.00	0.00
MW-9	07/21/04		0.00	23.84	3,405.95	0.00	0.00	0.00
MW-9	08/02/04		0.00	24.77	3,405.02	0.00	0.00	0.00
MW-9	09/10/04		0.00	24.21	3,405.58	0.00	0.00	0.00
MW-9	09/14/04		0.00	24.27	3,405.52	0.00	0.00	0.00
MW-9	10/05/04		0.00	15.51	3,414.28	0.00	0.00	0.00
MW-9	10/19/04		0.00	16.54	3,413.25	0.00	0.00	0.00
MW-9	11/02/04		0.00	16.57	3,413.22	0.00	0.00	0.00
MW-9	11/15/04		0.00	19.53	3,410.26	0.00	0.00	0.00
MW-9	12/06/04		0.00	20.02	3,409.77	0.00	0.00	0.00
MW-9	12/21/04		0.00	20.36	3,409.43	0.00	0.00	0.00
MW-9	01/03/05		0.00	20.83	3,408.96	0.00	0.00	0.00
MW-9	01/18/05		0.00	21.10	3,408.69	0.00	0.00	0.00
MW-9	02/01/05		0.00	21.30	3,408.49	0.00	0.00	0.00
MW-9	03/21/05		0.00	21.69	3,408.10	0.00	0.00	0.00
MW-9	04/21/05		0.00	22.08	3,407.71	0.00	0.00	0.00
MW-9	05/05/05		0.00	22.06	3,407.73	0.00	0.00	0.00
MW-9	05/17/05		0.00	22.23	3,407.56	0.00	0.00	0.00
MW-9	08/15/05		0.00	22.30	3,407.49	0.00	0.00	0.00
MW-9	10/05/05		0.00	22.41	3,407.38	0.00	0.00	0.00
MW-9	11/18/05		0.00	22.68	3,407.11	0.00	0.00	0.00
MW-9	01/12/06		0.00	22.71	3,407.08	0.00	0.00	0.00
MW-9	02/16/06		0.00	22.93	3,406.86	0.00	0.00	0.00
MW-9	03/16/06		0.00	23.12	3,406.67	0.00	0.00	0.00
MW-9	04/10/06		0.00	23.10	3,406.69	0.00	0.00	0.00
MW-9	05/22/06		0.00	23.21	3,406.58	0.00	0.00	0.00
MW-9	07/20/06		0.00	23.69	3,406.10	0.00	0.00	0.00
MW-9	08/07/06		0.00	24.02	3,405.77	0.00	0.00	0.00
MW-9	09/11/06		0.00	22.61	3,407.18	0.00	0.00	0.00
MW-9	10/17/06		0.00	22.98	3,406.81	0.00	0.00	0.00
MW-9	11/21/06		0.00	23.06	3,406.73	0.00	0.00	0.00
MW-9	12/13/06		0.00	23.71	3,406.08	0.00	0.00	0.00
MW-9	01/09/07		0.00	23.24	3,406.55	0.00	0.00	0.00
MW-9	02/14/07		0.00	23.19	3,406.60	0.00	0.00	0.00
MW-9	02/22/07		0.00	23.09	3,406.70	0.00	0.00	0.00
MW-9	03/01/07		0.00	23.07	3,406.72	0.00	0.00	0.00
MW-9	03/13/07		0.00	23.10	3,406.69	0.00	0.00	0.00
MW-9	05/10/07		0.00	22.04	3,407.75	0.00	0.00	0.00
MW-9	05/29/07		0.00	22.08	3,407.71	0.00	0.00	0.00
MW-9	06/06/07		0.00	24.68	3,405.11	0.00	0.00	0.00
MW-9	06/21/07		0.00	22.35	3,407.44	0.00	0.00	0.00
MW-9	08/10/07		0.00	22.86	3,406.93	0.00	0.00	0.00
MW-9	08/20/07		0.00	22.99	3,406.80	0.00	0.00	0.00
MW-9	11/15/07		0.00	23.28	3,406.51	0.00	0.00	0.00
MW-9	02/28/08		0.00	23.24	3,406.55	0.00	0.00	0.00
MW-9	04/30/08		0.00	23.30	3,406.49	0.00	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-9	05/28/08		0.00	23.53	3,406.26	0.00	0.00	0.00
MW-9	05/30/08		0.00	23.30	3,406.49	0.00	0.00	0.00
MW-9	08/20/08		0.00	24.14	3,405.65	0.00	0.00	0.00
MW-9	08/27/08		0.00	0.00	3,429.79	0.00	0.00	5.00
MW-9	09/03/08							5.00
MW-9	09/20/08		0.00	23.71	3,406.08	0.00	0.00	5.00
MW-9	09/29/08		0.00	23.77	3,406.02	0.00	0.00	5.00
MW-9	11/07/08		0.00	23.74	3,406.05	0.00	0.00	0.00
MW-10	11/15/04	3,429.49	0.00	19.61	3,409.88	0.00	0.00	0.00
MW-10	12/06/04		0.00	19.95	3,409.54	0.00	0.00	0.00
MW-10	12/21/04		0.00	20.13	3,409.36	0.00	0.00	0.00
MW-10	01/03/05		0.00	20.56	3,408.93	0.00	0.00	0.00
MW-10	01/18/05		0.00	20.79	3,408.70	0.00	0.00	0.00
MW-10	02/01/05		0.00	20.98	3,408.51	0.00	0.00	0.00
MW-10	03/21/05		0.00	21.36	3,408.13	0.00	0.00	0.00
MW-10	04/21/05		0.00	21.64	3,407.85	0.00	0.00	0.00
MW-10	05/05/05		0.00	21.69	3,407.80	0.00	0.00	0.00
MW-10	05/17/05		0.00	21.81	3,407.68	0.00	0.00	0.00
MW-10	08/15/05		0.00	21.93	3,407.56	0.00	0.00	0.00
MW-10	10/05/05		0.00	21.98	3,407.51	0.00	0.00	0.00
MW-10	11/18/05		0.00	22.22	3,407.27	0.00	0.00	0.00
MW-10	01/12/06		0.00	22.33	3,407.16	0.00	0.00	0.00
MW-10	02/16/06		0.00	22.47	3,407.02	0.00	0.00	0.00
MW-10	03/16/06		0.00	22.77	3,406.72	0.00	0.00	0.00
MW-10	04/10/06		0.00	22.60	3,406.89	0.00	0.00	0.00
MW-10	05/22/06		0.00	22.78	3,406.71	0.00	0.00	0.00
MW-10	07/20/06		0.00	23.18	3,406.31	0.00	0.00	0.00
MW-10	08/07/06		0.00	23.25	3,406.24	0.00	0.00	0.00
MW-10	09/11/06		0.00	22.11	3,407.38	0.00	0.00	0.00
MW-10	10/17/06		0.00	22.46	3,407.03	0.00	0.00	0.00
MW-10	11/21/06		0.00	22.57	3,406.92	0.00	0.00	0.00
MW-10	12/13/06		0.00	22.61	3,406.88	0.00	0.00	0.00
MW-10	01/09/07		0.00	22.71	3,406.78	0.00	0.00	0.00
MW-10	02/14/07		0.00	22.65	3,406.84	0.00	0.00	0.00
MW-10	02/22/07		0.00	22.64	3,406.85	0.00	0.00	0.00
MW-10	03/01/07		0.00	22.58	3,406.91	0.00	0.00	0.00
MW-10	03/13/07		0.00	22.64	3,406.85	0.00	0.00	0.00
MW-10	05/10/07		0.00	21.61	3,407.88	0.00	0.00	0.00
MW-10	08/10/07		0.00	22.48	3,407.01	0.00	0.00	0.00
MW-10	08/20/07		0.00	22.59	3,406.90	0.00	0.00	0.00
MW-10	11/15/07		0.00	22.87	3,406.62	0.00	0.00	0.00
MW-10	02/28/08		0.00	22.81	3,406.68	0.00	0.00	0.00
MW-10	05/28/08		0.00	23.09	3,406.40	0.00	0.00	0.00
MW-10	08/20/08		0.00	23.73	3,405.76	0.00	0.00	0.00
MW-10	11/07/08		0.00	23.38	3,406.11	0.00	0.00	0.00
MW-11	11/15/04	3,428.32	0.00	18.26	3,410.06	0.00	0.00	0.00
MW-11	12/06/04		0.00	18.67	3,409.65	0.00	0.00	0.00
MW-11	12/21/04		0.00	18.93	3,409.39	0.00	0.00	0.00
MW-11	01/03/05		0.00	19.40	3,408.92	0.00	0.00	0.00
MW-11	01/18/05		0.00	19.68	3,408.64	0.00	0.00	0.00
MW-11	02/01/05		0.00	19.90	3,408.42	0.00	0.00	0.00
MW-11	03/21/05		0.00	20.34	3,407.98	0.00	0.00	0.00
MW-11	04/21/05		0.00	20.70	3,407.62	0.00	0.00	0.00
MW-11	05/05/05		0.00	20.71	3,407.61	0.00	0.00	0.00
MW-11	05/17/05		0.00	20.87	3,407.45	0.00	0.00	0.00
MW-11	08/15/05		0.00	20.95	3,407.37	0.00	0.00	0.00
MW-11	10/05/05		0.00	21.04	3,407.28	0.00	0.00	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All measurements are in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)*	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	Corrected Relative Groundwater Elevation*	PSH Thickness	PSH Recovered	Volume Purged
MW-11	11/18/05		0.00	21.31	3,407.01	0.00	0.00	0.00
MW-11	01/12/06		0.00	21.55	3,406.77	0.00	0.00	0.00
MW-11	02/16/06		0.00	21.58	3,406.74	0.00	0.00	0.00
MW-11	03/16/06		0.00	21.77	3,406.55	0.00	0.00	0.00
MW-11	04/10/06		0.00	21.75	3,406.57	0.00	0.00	0.00
MW-11	05/22/06		0.00	21.90	3,406.42	0.00	0.00	0.00
MW-11	08/07/06		0.00	22.32	3,406.00	0.00	0.00	0.00
MW-11	09/11/06		0.00	21.19	3,407.13	0.00	0.00	0.00
MW-11	10/17/06		0.00	21.49	3,406.83	0.00	0.00	0.00
MW-11	11/21/06		0.00	21.61	3,406.71	0.00	0.00	0.00
MW-11	12/13/06		0.00	21.64	3,406.68	0.00	0.00	0.00
MW-11	01/09/07		0.00	21.47	3,406.85	0.00	0.00	0.00
MW-11	02/14/07		0.00	21.70	3,406.62	0.00	0.00	0.00
MW-11	02/22/07		0.00	21.72	3,406.60	0.00	0.00	0.00
MW-11	03/01/07		0.00	21.69	3,406.63	0.00	0.00	0.00
MW-11	03/13/07		0.00	21.73	3,406.59	0.00	0.00	0.00
MW-11	05/10/07		0.00	20.04	3,408.28	0.00	0.00	0.00
MW-11	08/10/07		0.00	22.54	3,405.78	0.00	0.00	0.00
MW-11	08/20/07		0.00	21.63	3,406.69	0.00	0.00	0.00
MW-11	11/15/07		0.00	21.94	3,406.38	0.00	0.00	0.00
MW-11	02/28/08		0.00	21.89	3,406.43	0.00	0.00	0.00
MW-11	05/28/08		0.00	21.17	3,407.15	0.00	0.00	0.00
MW-11	08/20/08		0.00	22.77	3,405.55	0.00	0.00	0.00
MW-11	11/07/08		0.00	22.38	3,405.94	0.00	0.00	0.00
							0.30	Total Gallons
							0.01	Total Barrels

* - Wells are referenced to the TOC of groundwater monitoring well MW-2 (set to an elevation 3,432.62 feet)
PSH - Phase separated hydrocarbons

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All concentrations are reported in mg/L

Monitor Well Identification	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Gasoline TPH C_6-C_{12}	Diesel TPH $>C_{12}$-C_{28}	Oil TPH $>C_{28}$-C_{35}	Total TPH C_6-C_{35}
MW-1	09/13/01	0.002	0.003	<0.001	<0.001	<0.001	<0.003	<0.003	NA	<0.006
MW-1	01/24/02	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-1	04/12/02	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-1	07/10/02	0.00188	<0.001	0.00187	0.00104	<0.001	NA	NA	NA	NA
MW-1	04/15/03	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-1	07/14/03	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-1	04/20/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	07/14/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	09/14/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	02/22/07	<0.001	<0.001	<0.001	<0.002		NA	NA	NA	NA
MW-1	05/10/07	<0.001	<0.001	<0.001	<0.001		NA	NA	NA	NA
MW-1	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-1	11/15/07	Dry - Not Sampled								
MW-1	02/28/08	Dry - Not Sampled								
MW-1	05/28/08	Dry - Not Sampled								
MW-1	08/20/08	Dry - Not Sampled								
MW-1	11/07/08	Dry - Not Sampled								
MW-2	01/24/02	**0.368**	<0.001	0.0537	0.065	0.0125	NA	NA	NA	NA
MW-2	04/12/02	**0.127**	<0.001	0.0254	0.0283	0.00833	NA	NA	NA	NA
MW-2	07/10/02	**0.0674**	0.00188	0.0176	0.0154	0.00389	NA	NA	NA	NA
MW-2	04/15/03	**0.229**	0.001	0.0588	0.0443	0.0124	NA	NA	NA	NA
MW-2	07/14/03	**0.185**	<0.001	0.0351	0.0295	0.00823	NA	NA	NA	NA
MW-2	04/20/04	**0.125**	<0.001	0.0341	0.0567	0.0153	NA	NA	NA	NA
MW-2	07/14/04	**0.209**	0.00616	0.047	0.0212	0.0154	NA	NA	NA	NA
MW-2	09/14/04	**0.125**	0.00276	0.0358	0.0106	0.00701	NA	NA	NA	NA
MW-2	12/21/04	**0.267**	0.00124	0.0357	<0.002	0.00109	NA	NA	NA	NA
MW-2	03/21/05	**0.186**	<0.001	0.0136	0.00541	0.00199	NA	NA	NA	NA
MW-2	05/17/05	**0.342**	0.001	0.0281	0.0334	0.0147	NA	NA	NA	NA
MW-2	08/15/05	**0.145**	0.00718	0.0187	0.02	0.00849	NA	NA	NA	NA
MW-2	11/18/05	**0.413**	0.00207	0.114	0.122	0.0349	NA	NA	NA	NA
MW-2	02/16/06	**0.433**	<0.001	0.146	0.161	0.00465	NA	NA	NA	NA
MW-2	05/22/06	**0.694**	0.162	0.172	0.206	0.0182	NA	NA	NA	NA
MW-2	08/07/06	**0.664**	0.00604	0.0496	0.0816	0.00811	NA	NA	NA	NA
MW-2	11/21/06	**0.461**	<0.005	0.0638	0.0614	<0.005	NA	NA	NA	NA
MW-2	02/22/07	**0.292**	<0.001	0.0437	0.0337		NA	NA	NA	NA
MW-2	05/10/07	**0.19**	0.0049	0.0341	0.0233		NA	NA	NA	NA
MW-2	08/10/07	**0.0881**	0.0012	0.0295	0.0229	<0.001	NA	NA	NA	NA
MW-2	11/15/07	**0.0615**	<0.002	0.0031	0.0026	<0.001	NA	NA	NA	NA
MW-2	02/28/08	<0.001	<0.002	<0.001	<0.002	<0.001	<1.5	<1.5	<1.5	<1.5
MW-2	05/28/08	**0.0949**	<0.002	0.006	0.0029	<0.001	NA	NA	NA	NA
MW-2	08/20/08	**0.1011**	<0.002	0.005	0.0027	0.0021	NA	NA	NA	NA
MW-2	11/07/08	**0.0462**	<0.002	0.0044	0.0029	<0.001	NA	NA	NA	NA

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All concentrations are reported in mg/L

Monitor Well Identification	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Gasoline TPH C_6-C_{12}	Diesel TPH $>C_{12}$-C_{28}	Oil TPH $>C_{28}$-C_{35}	Total TPH C_6-C_{35}
MW-3	09/13/01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.003	NA	<0.006
MW-3	01/24/02	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-3	04/12/02	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-3	07/10/02	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-3	04/15/03	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-3	07/14/03	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-3	04/20/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	07/14/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	09/14/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	02/22/07	<0.001	<0.001	<0.001	<0.002		NA	NA	NA	NA
MW-3	05/10/07	<0.001	<0.001	<0.001	<0.001		NA	NA	NA	NA
MW-3	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	11/15/07	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	02/28/08	**0.0193**	<0.002	0.0032	0.0023	<0.001	<1.5	<1.5	<1.5	<1.5
MW-3	05/28/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	08/20/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-3	11/07/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-4	01/24/02	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	04/12/02	**0.48**	0.361	0.199	0.334	0.216	NA	NA	NA	NA
MW-4	07/10/02	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	04/15/03	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	07/14/03	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	04/20/04	**3.21**	**2.31**	**0.845**	1.87	1.03	NA	NA	NA	NA
MW-4	07/14/04	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	09/14/04	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	12/21/04	**0.829**	0.0066	0.173	0.176	0.0595	NA	NA	NA	NA
MW-4	03/21/05	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	05/17/05	Not Sampled due to the presence of Phase Separated Hydrocarbons								
MW-4	08/15/05	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	11/18/05	**2.62**	<0.002	0.379	0.711	0.0365	NA	NA	NA	NA
MW-4	02/16/06	**2.1**	<0.001	0.414	0.806	<0.001	NA	NA	NA	NA
MW-4	05/22/06	**2.11**	<0.005	0.372	0.663	<0.005	NA	NA	NA	NA
MW-4	08/07/06	**2.84**	0.00604	0.049	0.0816	0.00811	NA	NA	NA	NA
MW-4	11/21/06	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	02/22/07	**1.42**	<0.001	0.291	0.443		NA	NA	NA	NA
MW-4	05/10/07	**1.21**	<0.001	0.267	0.382		NA	NA	NA	NA
MW-4	08/10/07	**1.227**	0.0075	0.2418	0.3456	<0.005	NA	NA	NA	NA
MW-4	11/15/07	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	02/28/08	0.0073	<0.002	0.0026	<0.002	<0.001	<1.5	<1.5	<1.5	<1.5
MW-4	05/28/08	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	08/20/08	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-4	11/07/08	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-5	09/13/01	**0.535**	0.075	0.084	0.438	0.04	0.00634	0.00302	NA	0.00936
MW-5	01/24/02	**0.28**	0.00319	0.107	0.00828	0.00565	NA	NA	NA	NA
MW-5	04/12/02	**0.303**	0.00948	0.129	0.00816	0.0132	NA	NA	NA	NA
MW-5	04/15/03	**0.129**	0.00354	0.0366	0.00352	0.00238	NA	NA	NA	NA
MW-5	07/14/03	**0.0814**	<0.001	0.0344	0.00141	<0.001	NA	NA	NA	NA
MW-5	04/20/04	**0.482**	0.00237	0.101	0.0601	0.0313	NA	NA	NA	NA
MW-5	07/14/04	**0.0708**	<0.001	0.0486	0.0046	0.00207	NA	NA	NA	NA
MW-5	09/14/04	**0.118**	0.00135	0.0588	0.0045	0.00161	NA	NA	NA	NA
MW-5	12/21/04	**0.204**	<0.001	0.0667	<0.002	<0.001	NA	NA	NA	NA
MW-5	03/21/05	**0.0308**	<0.001	0.0171	0.00367	<0.001	NA	NA	NA	NA
MW-5	05/17/05	**0.00966**	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-5	08/15/05	**0.0138**	0.00173	0.00438	<0.002	<0.001	NA	NA	NA	NA
MW-5	11/18/05	**0.0107**	0.00115	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-5	02/16/06	0.00747	<0.001	0.00293	<0.002	<0.001	NA	NA	NA	NA

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All concentrations are reported in mg/L

Monitor Well Identification	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Gasoline TPH C_6-C_{12}	Diesel TPH $>C_{12}$-C_{28}	Oil TPH $>C_{28}$-C_{35}	Total TPH C_6-C_{35}
MW-5	05/22/06	0.00318	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-5	08/07/06	**0.0964**	0.00763	0.0028	<0.002	0.00133	NA	NA	NA	NA
MW-5	11/21/06	**0.0883**	0.0241	0.00988	0.013	0.00727	NA	NA	NA	NA
MW-5	02/22/07	**0.0443**	<0.001	0.0289	0.0123		NA	NA	NA	NA
MW-5	05/10/07	**0.0462**	<0.001	0.0357	0.0159		NA	NA	NA	NA
MW-5	08/10/07	**0.0266**	<0.005	0.0141	<0.01	<0.005	NA	NA	NA	NA
MW-5	11/15/07	**0.011**	<0.002	0.0036	<0.002	<0.001	NA	NA	NA	NA
MW-5	02/28/08	**0.5605**	0.0192	0.1301	0.2109	0.007	4.55	3.33	<1.52	7.88
MW-5	05/28/08	**0.0112**	<0.002	0.0021	<0.002	<0.001	NA	NA	NA	NA
MW-5	08/20/08	0.0048	<0.002	0.0017	<0.002	0.0013	NA	NA	NA	NA
MW-5	11/07/08	**0.035**	<0.002	0.0081	<0.002	<0.001	NA	NA	NA	NA
MW-6	01/24/02	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-6	04/12/02	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-6	07/10/02	0.00153	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-6	04/15/03	0.00274	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-6	07/14/03	0.00254	<0.001	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-6	04/20/04	0.00106	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	07/14/04	0.00195	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	09/14/04	**0.01**	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	05/17/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	11/18/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	08/07/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	11/21/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	02/22/07	<0.001	<0.001	<0.001	<0.002		NA	NA	NA	NA
MW-6	05/10/07	**0.0238**	<0.001	0.014	0.0076		NA	NA	NA	NA
MW-6	08/10/07	**0.0152**	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	11/15/07	**0.0149**	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	02/28/08	**0.0444**	<0.002	0.0299	0.0374	<0.001	1.72	<1.5	<1.5	1.72
MW-6	05/28/08	0.0021	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	08/20/08	**0.0121**	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-6	11/07/08	0.0069	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	07/14/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	09/14/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	05/17/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	11/18/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	08/07/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	11/21/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	02/22/07	<0.001	<0.001	<0.001	<0.002		NA	NA	NA	NA
MW-7	05/10/07	<0.001	<0.001	<0.001	<0.001		NA	NA	NA	NA
MW-7	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	11/15/07	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	02/28/08	**0.0486**	<0.002	0.0599	0.0437	0.0546	1.89	<1.5	<1.5	1.89
MW-7	05/28/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	08/20/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-7	11/07/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-8	07/14/04	**0.575**	0.141	0.0884	0.0762	0.0868	NA	NA	NA	NA
MW-8	09/14/04	**0.482**	0.0356	0.106	0.0582	0.0551	NA	NA	NA	NA
MW-8	12/21/04	**4.22**	0.113	0.695	0.208	0.075	NA	NA	NA	NA
MW-8	03/21/05	**3.41**	<0.01	0.452	0.133	0.0152	NA	NA	NA	NA

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All concentrations are reported in mg/L

Monitor Well Identification	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Gasoline TPH C_6-C_{12}	Diesel TPH $>C_{12}$-C_{28}	Oil TPH $>C_{28}$-C_{35}	Total TPH C_6-C_{35}
MW-8	05/17/05	**2.29**	<0.001	0.115	0.0323	0.00568	NA	NA	NA	NA
MW-8	08/15/05	**1.21**	<0.001	0.0749	0.0326	0.00149	NA	NA	NA	NA
MW-8	11/18/05	**0.67**	<0.001	0.0299	0.0165	<0.001	NA	NA	NA	NA
MW-8	02/16/06	**0.243**	<0.001	0.0359	0.0239	<0.001	NA	NA	NA	NA
MW-8	05/22/06	**0.0974**	<0.001	0.0278	0.022	<0.001	NA	NA	NA	NA
MW-8	08/07/06	**0.133**	<0.001	0.00758	0.00497	<0.001	NA	NA	NA	NA
MW-8	02/22/07	**0.118**	<0.001	0.0384	0.0429		NA	NA	NA	NA
MW-8	05/10/07	**0.209**	<0.001	0.0473	0.0529		NA	NA	NA	NA
MW-8	08/10/07	**0.05**	0.0012	0.0254	0.0298	<0.001	NA	NA	NA	NA
MW-8	11/15/07	**0.0186**	<0.002	0.0079	0.0096	<0.001	NA	NA	NA	NA
MW-8	02/28/08	0.0056	<0.002	<0.001	<0.002	<0.001	<1.5	<1.5	<1.5	<1.5
MW-8	05/28/08	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-8	08/20/08	Not Sampled due to the Presence of Phase Separated Hydrocarbons								
MW-8	11/07/08	**0.012**	<0.002	0.0043	0.0054	<0.001	NA	NA	NA	NA
MW-9	07/14/04	**0.0275**	0.0109	0.487	0.305	0.319	NA	NA	NA	NA
MW-9	09/14/04	**0.15**	0.00215	0.225	0.029	0.119	NA	NA	NA	NA
MW-9	12/21/04	<0.001	<0.001	0.0335	0.00261	0.0204	NA	NA	NA	NA
MW-9	03/21/05	0.00925	<0.001	0.0151	0.00961	0.0209	NA	NA	NA	NA
MW-9	05/17/05	0.00498	<0.001	0.0148	0.0145	0.0311	NA	NA	NA	NA
MW-9	08/15/05	**0.0228**	<0.001	0.063	0.0208	0.0357	NA	NA	NA	NA
MW-9	11/18/05	0.00399	<0.001	0.0281	0.0276	0.0607	NA	NA	NA	NA
MW-9	02/16/06	0.00881	<0.001	0.0327	0.0324	0.0727	NA	NA	NA	NA
MW-9	05/22/06	0.00738	<0.001	0.0346	0.0381	0.0743	NA	NA	NA	NA
MW-9	08/07/06	0.00426	<0.001	0.0228	0.0249	0.0423	NA	NA	NA	NA
MW-9	11/21/06	0.00342	<0.001	0.0271	0.0232	0.048	NA	NA	NA	NA
MW-9	02/22/07	**0.0467**	<0.001	0.109	0.169		NA	NA	NA	NA
MW-9	05/10/07	**0.0607**	<0.001	0.0815	0.0532		NA	NA	NA	NA
MW-9	08/10/07	**<0.05**	<0.05	<0.05	<0.1	<0.05	NA	NA	NA	NA
MW-9	11/15/07	<0.001	0.0022	0.0012	<0.002	0.054	NA	NA	NA	NA
MW-9	02/28/08	<0.001	<0.002	<0.001	<0.002	<0.001	<1.5	<1.5	<1.5	<1.5
MW-9	05/28/08	**0.0581**	0.0023	0.0537	0.0355	0.0427	NA	NA	NA	NA
MW-9	08/20/08	**0.0512**	<0.002	0.07	0.0399	0.0499	NA	NA	NA	NA
MW-9	11/07/08	**0.0597**	<0.002	0.0353	0.022	0.0251	NA	NA	NA	NA

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

All concentrations are reported in mg/L

Monitor Well Identification	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Gasoline TPH C_6-C_{12}	Diesel TPH >C_{12}-C_{28}	Oil TPH >C_{28}-C_{35}	Total TPH C_6-C_{35}
MW-10	11/15/04	**1.25**	0.0967	0.14	0.109	0.0108	NA	NA	NA	NA
MW-10	03/21/05	**1.13**	0.0141	0.138	0.05	0.00484	NA	NA	NA	NA
MW-10	05/17/05	**2.17**	0.0144	0.194	0.147	0.00755	NA	NA	NA	NA
MW-10	08/15/05	**0.791**	<0.001	0.074	0.0437	<0.001	NA	NA	NA	NA
MW-10	11/18/05	**1.25**	<0.001	0.916	0.0597	<0.001	NA	NA	NA	NA
MW-10	02/16/06	**0.276**	<0.001	0.538	0.0859	<0.001	NA	NA	NA	NA
MW-10	05/22/06	**1.32**	<0.005	0.105	<0.01	<0.005	NA	NA	NA	NA
MW-10	08/07/06	**1.51**	<0.001	0.103	0.023	<0.001	NA	NA	NA	NA
MW-10	11/21/06	**0.222**	<0.005	0.0215	<0.01	<0.005	NA	NA	NA	NA
MW-10	02/22/07	**0.0791**	<0.001	0.0061	<0.002		NA	NA	NA	NA
MW-10	05/10/07	0.0023	<0.001	0.0072	<0.001		NA	NA	NA	NA
MW-10	08/10/07	**0.0883**	0.0011	0.0047	<0.002	<0.001	NA	NA	NA	NA
MW-10	11/15/07	**0.0728**	0.0281	0.0279	0.005	0.094	NA	NA	NA	NA
MW-10	02/28/08	<0.001	<0.002	<0.001	<0.002	<0.001	<1.5	<1.5	<1.5	<1.5
MW-10	05/28/08	**0.0193**	<0.002	0.0023	<0.002	0.0024	NA	NA	NA	NA
MW-10	08/20/08	**0.1847**	0.0031	0.271	0.2018	0.1267	NA	NA	NA	NA
MW-10	11/07/08	0.0012	<0.002	<0.001	<0.002	0.0012	NA	NA	NA	NA
MW-11	11/15/04	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	05/17/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	11/18/05	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	08/07/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	11/21/06	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	02/22/07	<0.001	<0.001	<0.001	<0.002		NA	NA	NA	NA
MW-11	05/10/07	<0.001	<0.001	<0.001	<0.001		NA	NA	NA	NA
MW-11	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	11/15/07	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	02/28/08	0.005	<0.002	0.0019	0.0021	0.0025	<1.5	<1.5	<1.5	<1.5
MW-11	05/28/08	<0.001	<0.002	0.0012	<0.002	<0.001	NA	NA	NA	NA
MW-11	08/20/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
MW-11	11/07/08	<0.001	<0.002	<0.001	<0.002	<0.001	NA	NA	NA	NA
NMWQCC Groundwater Standards		**0.01**	**0.75**	**0.75**	**Total Xylenes 0.62**		**NE**	**NE**	**NE**	**NE**

BTEX - Benzene, Toluene, Ethylbenzene, and Xylenes
TPH - Total Petroleum Hydrocarbons
mg/L - milligrams per liter
NMWQCC - New Mexico Water Quality Control Commission
Results in **BOLD** equal or exceed NMWQCC Groundwater Standards
NE - Not Established

Table 3

CONCENTRATIONS OF PAHs IN GROUNDWATER
Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

Concentrations are in mg/L

Monitor Well Identification	Date	Naphthalene	Acenaphthylene	Acenapthene	Flourene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[a]-anthracene	Chrysene	Benzo[b]-fluoranthene	Benzo[k]-fluoranthene	Benzo[a]-pyrene	Indeno[1,2,3-cd]-pyrene	Dibenzo[a,h]-anthracene	Benzo[g,h,i]-perylene	Dibenzo-furan	1-Methyl-naphthalene	2-Methyl-naphthalene
MW-1	09/13/01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
MW-1	07/14/04	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-1	03/21/05	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-1	02/16/06	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-1	05/10/07	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	NA	NA
MW-1	02/28/08	Dry - Well Not Sampled																		
																			NA	NA
MW-2	07/14/04	0.0133	<0.00005	<0.00005	0.000061	0.000497	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-2	03/21/05	0.00883	<0.00005	0.000054	0.000052	0.000325	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-2	02/16/06	0.0128	<0.00005	<0.00005	0.000103	0.000352	<0.00005	<0.00005	<0.00005	<0.00005	0.000066	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-2	05/10/07	0.00779	<0.0002	<0.0002	0.000229	<0.0002	0.00175	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	0.000442	NA	NA
MW-2	02/28/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-3	09/13/01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
MW-3	07/14/04	CONTAINER BROKEN IN TRANSIT																		
MW-3	09/14/04	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-3	03/21/05	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-3	02/16/06	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-3	05/10/07	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	NA	NA
MW-3	02/28/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005
MW-4	01/24/02	NOT SAMPLED DUE TO THE PRESENCE OF PHASE SEPARATED HYDROCARBONS																		
MW-4	07/10/02	NOT SAMPLED DUE TO THE PRESENCE OF PHASE SEPARATED HYDROCARBONS																		
MW-4	04/15/03	NOT SAMPLED DUE TO THE PRESENCE OF PHASE SEPARATED HYDROCARBONS																		
MW-4	07/14/03	NOT SAMPLED DUE TO THE PRESENCE OF PHASE SEPARATED HYDROCARBONS																		
MW-4	07/14/04	NOT SAMPLED DUE TO THE PRESENCE OF PHASE SEPARATED HYDROCARBONS																		
MW-4	09/14/04	NOT SAMPLED DUE TO THE PRESENCE OF PHASE SEPARATED HYDROCARBONS																		
MW-4	03/21/05	NOT SAMPLED DUE TO THE PRESENCE OF PHASE SEPARATED HYDROCARBONS																		
MW-4	02/16/06	**0.113**	<0.00005	<0.00005	0.000855	0.00916	<0.00005	<0.00005	<0.00005	<0.00005	0.00252	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-4	05/10/07	**0.0659**	<0.0002	<0.0002	0.000737	<0.0002	0.00596	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	0.00112	NA	NA
MW-4	02/28/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-5	09/13/01	**0.049**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
MW-5	07/14/04	CONTAINER BROKE IN TRANSIT																		
MW-5	09/14/04	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-5	03/21/05	CONTAINER BROKE IN TRANSIT																		
MW-5	02/16/06	0.000415	<0.00005	0.000059	0.000147	0.000309	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-5	05/10/07	0.00218	<0.0002	<0.0002	0.000496	<0.0002	0.00075	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	0.00112	NA	NA
MW-5	02/28/08	**0.051**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-6	07/14/04	0.00122	<0.00005	<0.00005	<0.00005	0.000085	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-6	03/21/05	0.000089	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-6	02/16/06	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-6	05/10/07	0.00095	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	NA	NA
MW-6	02/28/08	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	0.006	<0.005
MW-7	07/14/04	0.000261	<0.00005	<0.00005	<0.00005	0.000293	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-7	03/21/05	0.000448	<0.00005	<0.00005	<0.00005	0.000222	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-7	02/16/06	0.000057	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-7	05/10/07	0.000606	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	NA	NA
MW-7	02/28/08	0.017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	0.011	0.005
MW-8	07/14/04	0.00494	0.000064	<0.00005	0.000127	0.00143	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-8	03/21/05	0.0057	<0.00005	<0.00005	<0.00005	0.00283	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-8	02/16/06	0.00529	0.00007	<0.00005	<0.00005	0.00282	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-8	05/10/07	0.0071	<0.0002	<0.0002	0.000229	<0.0002	0.00118	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	0.00047	NA	NA
MW-8	02/28/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-9	07/14/04	0.00798	<0.00005	0.000089	0.000306	0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-9	03/21/05	0.00126	<0.00005	<0.00005	0.000076	0.000068	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-9	02/16/06	0.0107	<0.00005	<0.00005	0.000139	0.000125	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-9	05/10/07	0.00243	<0.0002	<0.0002	<0.0002	<0.0002	0.000222	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	0.00132	NA	NA
MW-9	02/28/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-10	03/21/05	0.00738	0.000051	0.000083	0.000292	0.000654	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-10	02/16/06	CONTAINER BROKE IN TRANSIT																		
MW-10	05/22/06	0.000174	<0.00005	<0.00005	0.00009	0.000202	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-10	05/10/07	0.000688	<0.0002	<0.0002	0.000388	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	0.00108	NA	NA
MW-10	02/28/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 3

CONCENTRATIONS OF PAHs IN GROUNDWATER
Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
NMOCD File Number: 1R-0395
Plains Pipeline, L. P. SRS Number 2001-11226
Terracon Project Number A4077007

Concentrations are in mg/L

Monitor Well Identification	Date	Naphthalene	Acenapthylene	Acenapthene	Flourene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[a]-anthracene	Chrysene	Benzo[b]-fluoranthene	Benzo[k]-fluoranthene	Benzo[a]-pyrene	Indeno[1,2,3-cd]-pyrene	Dibenzo[a,h]-anthracene	Benzo[g,h,i]-perylene	Dibenzo-furan	1-Methyl-naphthalene	2-Methyl-naphthalene
MW-11	03/21/05	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-11	02/16/06	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	NA	NA
MW-11	05/10/07	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	NA	NA
MW-11	02/28/08	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005
NMWQCC Groundwater Standards		**0.03**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**0.0007**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

PAHs - Polycyclic Aromatic Hydrocarbons
mg/L - milligrams per liter
Values in **BOLD** equal or exceed NMWQCC Groundwater Standards

APPENDIX C

Laboratory Data Sheets

Analytical Report 298799

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Livingston Line - Bob McCaslaid

2001-11043

07-MAR-08

ENVIRONMENTAL LAB OF

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

07-MAR-08

Project Manager: **Camille Reynolds**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **298799**
Livingston Line - Bob McCaslaid
Project Address:

Camille Reynolds:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 298799. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 298799 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 298799

PLAINS ALL AMERICAN EH&S, Midland, TX

Livingston Line - Bob McCaslaid

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-7	W	Feb-28-08 13:37		298799-001
MW-3	W	Feb-28-08 14:03		298799-002
MW-11	W	Feb-28-08 14:24		298799-003
MW-6	W	Feb-28-08 14:45		298799-004
MW-5	W	Feb-28-08 15:07		298799-005
MW-9	W	Feb-28-08 15:30		298799-006
MW-2	W	Feb-28-08 15:54		298799-007
MW-10	W	Feb-28-08 16:25		298799-008
MW-8	W	Feb-28-08 17:05		298799-009
MW-4	W	Feb-28-08 17:30		298799-010

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 298799
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line - Bob McCaslaid

Project Id: 2001-11043 **Date Received in Lab:** Mar-03-08 05:00 pm
Contact: Camille Reynolds **Report Date:** 07-MAR-08
Project Location: **Project Manager:** Brent Barron, II

Analysis Requested									
	Lab Id:	298799-001		298799-002		298799-003		298799-004	
	Field Id:	MW-7		MW-3		MW-11		MW-6	
	Depth:								
	Matrix:	WATER		WATER		WATER		WATER	
	Sampled:	Feb-28-08 13:37		Feb-28-08 14:03		Feb-28-08 14:24		Feb-28-08 14:45	
BTEX by EPA 8021B	***Extracted:***	Mar-04-08 15:00		Mar-04-08 15:00		Mar-04-08 15:00		Mar-04-08 15:00	
	Analyzed:	Mar-04-08 22:23		Mar-04-08 22:41		Mar-04-08 22:59		Mar-04-08 23:18	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		0.0486	0.0010	0.0193	0.0010	0.0050	0.0010	0.0444	0.0010
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020
Ethylbenzene		0.0599	0.0010	0.0032	0.0010	0.0019	0.0010	0.0299	0.0010
m,p-Xylenes		0.0437	0.0020	0.0023	0.0020	0.0021	0.0020	0.0374	0.0020
o-Xylene		0.0546	0.0010	ND	0.0010	0.0025	0.0010	ND	0.0010
Xylenes, Total		0.0983		0.0023		0.0046		0.0374	
Total BTEX		0.2068		0.0248		0.0115		0.1117	
SVOA PAHs List by EPA 8270C	***Extracted:***	Mar-05-08 09:36		Mar-05-08 09:38		Mar-05-08 09:40		Mar-05-08 09:42	
	Analyzed:	Mar-06-08 14:29		Mar-06-08 15:17		Mar-06-08 16:05		Mar-06-08 16:53	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Acenaphthene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Acenaphthylene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Anthracene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Benzo(a)anthracene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Benzo(a)pyrene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Benzo(b)fluoranthene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Benzo(k)fluoranthene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Benzo(g,h,i)perylene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Chrysene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Dibenz(a,h)Anthracene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Fluoranthene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Fluorene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Indeno(1,2,3-c,d)Pyrene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
1-Methylnaphthalene		0.011	0.005	ND	0.005	ND	0.005	0.006	0.005
2-Methylnaphthalene		0.005	0.005	ND	0.005	ND	0.005	ND	0.005
Naphthalene		0.017	0.005	ND	0.005	ND	0.005	0.009	0.005
Phenanthrene		ND	0.005	ND	0.005	ND	0.005	ND	0.005
Pyrene		ND	0.005	ND	0.005	ND	0.005	ND	0.005

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 298799
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line - Bob McCaslaid

Project Id: 2001-11043
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Mar-03-08 05:00 pm
Report Date: 07-MAR-08
Project Manager: Brent Barron, II

Analysis Requested										
	Lab Id:	298799-001		298799-002		298799-003		298799-004	
	Field Id:	MW-7		MW-3		MW-11		MW-6	
	Depth:								
	Matrix:	WATER		WATER		WATER		WATER	
	Sampled:	Feb-28-08 13:37		Feb-28-08 14:03		Feb-28-08 14:24		Feb-28-08 14:45	
TPH By SW8015 Mod	***Extracted:***	Mar-04-08 14:36		Mar-04-08 14:38		Mar-04-08 14:40		Mar-04-08 14:42	
	Analyzed:	Mar-04-08 19:56		Mar-04-08 20:24		Mar-04-08 20:51		Mar-04-08 21:18	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
C6-C12 Gasoline Range Hydrocarbons		1.89	1.50	ND	1.50	ND	1.50	1.72	1.50
C12-C28 Diesel Range Hydrocarbons		ND	1.50	ND	1.50	ND	1.50	ND	1.50
C28-C35 Oil Range Hydrocarbons		ND	1.50	ND	1.50	ND	1.50	ND	1.50
Total TPH		1.89		ND		ND		1.72	

Brent Barron
Odessa Laboratory Director

ENVIRONMENTAL LAB OF

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Project Name: Livingston Line - Bob McCaslaid

Project Id: 2001-11043
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Mar-03-08 05:00 pm
Report Date: 07-MAR-08
Project Manager: Brent Barron, II

Analysis Requested		*Lab Id:*	298799-005		298799-006		298799-007		298799-008	
		Field Id:	MW-5		MW-9		MW-2		MW-10	
		Depth:								
		Matrix:	WATER		WATER		WATER		WATER	
		Sampled:	Feb-28-08 15:07		Feb-28-08 15:30		Feb-28-08 15:54		Feb-28-08 16:25	
BTEX by EPA 8021B		*Extracted:*	Mar-05-08 17:45		Mar-05-08 17:45		Mar-04-08 15:00		Mar-04-08 15:00	
		Analyzed:	Mar-06-08 05:52		Mar-06-08 05:33		Mar-05-08 00:13		Mar-05-08 00:31	
		Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene			0.5605	0.0050	ND	0.0010	ND	0.0010	ND	0.0010
Toluene			0.0192	0.0100	ND	0.0020	ND	0.0020	ND	0.0020
Ethylbenzene			0.1301	0.0050	ND	0.0010	ND	0.0010	ND	0.0010
m,p-Xylenes			0.2109	0.0100	ND	0.0020	ND	0.0020	ND	0.0020
o-Xylene			0.0070	0.0050	ND	0.0010	ND	0.0010	ND	0.0010
Xylenes, Total			0.2179		ND		ND		ND	
Total BTEX			0.9277		ND		ND		ND	
SVOA PAHs List by EPA 8270C		*Extracted:*	Mar-05-08 09:44		Mar-05-08 09:46		Mar-05-08 09:48		Mar-05-08 09:50	
		Analyzed:	Mar-07-08 13:58		Mar-06-08 17:41		Mar-06-08 18:29		Mar-06-08 19:16	
		Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Acenaphthene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Acenaphthylene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Anthracene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Benzo(a)anthracene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Benzo(a)pyrene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Benzo(b)fluoranthene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Benzo(k)fluoranthene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Benzo(g,h,i)perylene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Chrysene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Dibenz(a,h)Anthracene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Fluoranthene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Fluorene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Indeno(1,2,3-c,d)Pyrene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
1-Methylnaphthalene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
2-Methylnaphthalene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Naphthalene			0.051	0.050	ND	0.005	ND	0.005	ND	0.005
Phenanthrene			ND	0.050	ND	0.005	ND	0.005	ND	0.005
Pyrene			ND	0.050	ND	0.005	ND	0.005	ND	0.005

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 298799
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line - Bob McCaslaid

Project Id: 2001-11043
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Mar-03-08 05:00 pm
Report Date: 07-MAR-08
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	298799-005		298799-006		298799-007		298799-008	
	Field Id:	MW-5		MW-9		MW-2		MW-10	
	Depth:								
	Matrix:	WATER		WATER		WATER		WATER	
	Sampled:	Feb-28-08 15:07		Feb-28-08 15:30		Feb-28-08 15:54		Feb-28-08 16:25	
TPH By SW8015 Mod	***Extracted:***	Mar-04-08 14:44		Mar-04-08 14:46		Mar-04-08 14:48		Mar-04-08 14:50	
	Analyzed:	Mar-04-08 21:45		Mar-04-08 22:13		Mar-04-08 22:40		Mar-04-08 23:07	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
C6-C12 Gasoline Range Hydrocarbons		4.55	1.50	ND	1.50	ND	1.50	ND	1.50
C12-C28 Diesel Range Hydrocarbons		3.33	1.50	ND	1.50	ND	1.50	ND	1.50
C28-C35 Oil Range Hydrocarbons		ND	1.50	ND	1.50	ND	1.50	ND	1.50
Total TPH		7.88		ND		ND		ND	

Brent Barron
Odessa Laboratory Director

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 298799
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line - Bob McCaslaid

Project Id: 2001-11043 **Date Received in Lab:** Mar-03-08 05:00 pm
Contact: Camille Reynolds **Report Date:** 07-MAR-08
Project Location: **Project Manager:** Brent Barron, II

Analysis Requested		*Lab Id:*	298799-009		298799-010			
		Field Id:	MW-8		MW-4			
		Depth:						
		Matrix:	WATER		WATER			
		Sampled:	Feb-28-08 17:05		Feb-28-08 17:30			
BTEX by EPA 8021B		*Extracted:*	Mar-04-08 15:00		Mar-04-08 15:00			
		Analyzed:	Mar-05-08 00:50		Mar-05-08 01:09			
		Units/RL:	mg/L	RL	mg/L	RL		
Benzene			0.0056	0.0010	0.0073	0.0010		
Toluene			ND	0.0020	ND	0.0020		
Ethylbenzene			ND	0.0010	0.0026	0.0010		
m,p-Xylenes			ND	0.0020	ND	0.0020		
o-Xylene			ND	0.0010	ND	0.0010		
Xylenes, Total			ND		ND			
Total BTEX			0.0056		0.0099			
SVOA PAHs List by EPA 8270C		*Extracted:*	Mar-05-08 09:52		Mar-05-08 09:54			
		Analyzed:	Mar-06-08 20:04		Mar-06-08 20:52			
		Units/RL:	mg/L	RL	mg/L	RL		
Acenaphthene			ND	0.005	ND	0.005		
Acenaphthylene			ND	0.005	ND	0.005		
Anthracene			ND	0.005	ND	0.005		
Benzo(a)anthracene			ND	0.005	ND	0.005		
Benzo(a)pyrene			ND	0.005	ND	0.005		
Benzo(b)fluoranthene			ND	0.005	ND	0.005		
Benzo(k)fluoranthene			ND	0.005	ND	0.005		
Benzo(g,h,i)perylene			ND	0.005	ND	0.005		
Chrysene			ND	0.005	ND	0.005		
Dibenz(a,h)Anthracene			ND	0.005	ND	0.005		
Fluoranthene			ND	0.005	ND	0.005		
Fluorene			ND	0.005	ND	0.005		
Indeno(1,2,3-c,d)Pyrene			ND	0.005	ND	0.005		
1-Methylnaphthalene			ND	0.005	ND	0.005		
2-Methylnaphthalene			ND	0.005	ND	0.005		
Naphthalene			ND	0.005	ND	0.005		
Phenanthrene			ND	0.005	ND	0.005		
Pyrene			ND	0.005	ND	0.005		

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 298799
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line - Bob McCaslaid

Project Id: 2001-11043
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Mar-03-08 05:00 pm
Report Date: 07-MAR-08
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	298799-009		298799-010				
	Field Id:	MW-8		MW-4				
	Depth:							
	Matrix:	WATER		WATER				
	Sampled:	Feb-28-08 17:05		Feb-28-08 17:30				
TPH By SW8015 Mod	***Extracted:***	Mar-04-08 14:52		Mar-04-08 14:54				
	Analyzed:	Mar-04-08 23:34		Mar-05-08 00:02				
	Units/RL:	mg/L	RL	mg/L	RL			
C6-C12 Gasoline Range Hydrocarbons		ND	1.50	ND	1.50			
C12-C28 Diesel Range Hydrocarbons		ND	1.50	ND	1.50			
C28-C35 Oil Range Hydrocarbons		ND	1.50	ND	1.50			
Total TPH		ND		ND				

Brent Barron
Odessa Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716209 **Sample:** 298799-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0357	0.0300	119	80-120	
4-Bromofluorobenzene	0.0361	0.0300	120	80-120	

Lab Batch #: 716209 **Sample:** 298799-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

Lab Batch #: 716209 **Sample:** 298799-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	80-120	

Lab Batch #: 716209 **Sample:** 298799-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 716209 **Sample:** 298799-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	80-120	
4-Bromofluorobenzene	0.0356	0.0300	119	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716209 **Sample:** 298799-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	

Lab Batch #: 716209 **Sample:** 298799-009 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

Lab Batch #: 716209 **Sample:** 298799-010 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0357	0.0300	119	80-120	

Lab Batch #: 716209 **Sample:** 298800-010 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0350	0.0300	117	80-120	

Lab Batch #: 716209 **Sample:** 298800-010 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716209 **Sample:** 505449-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 716209 **Sample:** 505449-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

Lab Batch #: 716209 **Sample:** 505449-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 716368 **Sample:** 298799-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0349	0.0300	116	80-120	
4-Bromofluorobenzene	0.0382	0.0300	127	80-120	**

Lab Batch #: 716368 **Sample:** 298799-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716368 **Sample:** 298799-006 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	

Lab Batch #: 716368 **Sample:** 298799-006 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 716368 **Sample:** 505524-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Lab Batch #: 716368 **Sample:** 505524-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	80-120	

Lab Batch #: 716368 **Sample:** 505524-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716483 **Sample:** 298799-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.044	0.050	88	43-116	
2-Fluorophenol	0.020	0.050	40	21-100	
Nitrobenzene-d5	0.038	0.050	76	35-114	
Phenol-d6	0.010	0.050	20	10-94	
Terphenyl-D14	0.048	0.050	96	33-141	
2,4,6-Tribromophenol	0.060	0.050	120	10-123	

Lab Batch #: 716483 **Sample:** 298799-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.043	0.050	86	43-116	
2-Fluorophenol	0.017	0.050	34	21-100	
Nitrobenzene-d5	0.038	0.050	76	35-114	
Phenol-d6	0.008	0.050	16	10-94	
Terphenyl-D14	0.048	0.050	96	33-141	
2,4,6-Tribromophenol	0.052	0.050	104	10-123	

Lab Batch #: 716483 **Sample:** 298799-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.044	0.050	88	43-116	
2-Fluorophenol	0.019	0.050	38	21-100	
Nitrobenzene-d5	0.038	0.050	76	35-114	
Phenol-d6	0.010	0.050	20	10-94	
Terphenyl-D14	0.045	0.050	90	33-141	
2,4,6-Tribromophenol	0.056	0.050	112	10-123	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716483 **Sample:** 298799-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.042	0.050	84	43-116	
2-Fluorophenol	0.018	0.050	36	21-100	
Nitrobenzene-d5	0.037	0.050	74	35-114	
Phenol-d6	0.009	0.050	18	10-94	
Terphenyl-D14	0.045	0.050	90	33-141	
2,4,6-Tribromophenol	0.055	0.050	110	10-123	

Lab Batch #: 716483 **Sample:** 298799-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.028	0.050	56	43-116	
2-Fluorophenol	0.010	0.050	20	21-100	***
Nitrobenzene-d5	0.023	0.050	46	35-114	
Phenol-d6	0.005	0.050	10	10-94	
Terphenyl-D14	0.028	0.050	56	33-141	
2,4,6-Tribromophenol	0.028	0.050	56	10-123	

Lab Batch #: 716483 **Sample:** 298799-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.045	0.050	90	43-116	
2-Fluorophenol	0.016	0.050	32	21-100	
Nitrobenzene-d5	0.037	0.050	74	35-114	
Phenol-d6	0.008	0.050	16	10-94	
Terphenyl-D14	0.046	0.050	92	33-141	
2,4,6-Tribromophenol	0.059	0.050	118	10-123	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716483 **Sample:** 298799-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.037	0.050	74	43-116	
2-Fluorophenol	0.018	0.050	36	21-100	
Nitrobenzene-d5	0.032	0.050	64	35-114	
Phenol-d6	0.009	0.050	18	10-94	
Terphenyl-D14	0.041	0.050	82	33-141	
2,4,6-Tribromophenol	0.040	0.050	80	10-123	

Lab Batch #: 716483 **Sample:** 298799-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.042	0.050	84	43-116	
2-Fluorophenol	0.017	0.050	34	21-100	
Nitrobenzene-d5	0.036	0.050	72	35-114	
Phenol-d6	0.009	0.050	18	10-94	
Terphenyl-D14	0.044	0.050	88	33-141	
2,4,6-Tribromophenol	0.046	0.050	92	10-123	

Lab Batch #: 716483 **Sample:** 298799-009 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.045	0.050	90	43-116	
2-Fluorophenol	0.020	0.050	40	21-100	
Nitrobenzene-d5	0.037	0.050	74	35-114	
Phenol-d6	0.010	0.050	20	10-94	
Terphenyl-D14	0.043	0.050	86	33-141	
2,4,6-Tribromophenol	0.057	0.050	114	10-123	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716483 **Sample:** 298799-010 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.043	0.050	86	43-116	
2-Fluorophenol	0.018	0.050	36	21-100	
Nitrobenzene-d5	0.036	0.050	72	35-114	
Phenol-d6	0.009	0.050	18	10-94	
Terphenyl-D14	0.044	0.050	88	33-141	
2,4,6-Tribromophenol	0.054	0.050	108	10-123	

Lab Batch #: 716483 **Sample:** 505542-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.045	0.050	90	43-116	
2-Fluorophenol	0.030	0.050	60	21-100	
Nitrobenzene-d5	0.039	0.050	78	35-114	
Phenol-d6	0.020	0.050	40	10-94	
Terphenyl-D14	0.047	0.050	94	33-141	
2,4,6-Tribromophenol	0.050	0.050	100	10-123	

Lab Batch #: 716483 **Sample:** 505542-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.049	0.050	98	43-116	
2-Fluorophenol	0.031	0.050	62	21-100	
Nitrobenzene-d5	0.041	0.050	82	35-114	
Phenol-d6	0.019	0.050	38	10-94	
Terphenyl-D14	0.055	0.050	110	33-141	
2,4,6-Tribromophenol	0.055	0.050	110	10-123	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716483 **Sample:** 505542-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.046	0.050	92	43-116	
2-Fluorophenol	0.030	0.050	60	21-100	
Nitrobenzene-d5	0.040	0.050	80	35-114	
Phenol-d6	0.020	0.050	40	10-94	
Terphenyl-D14	0.049	0.050	98	33-141	
2,4,6-Tribromophenol	0.051	0.050	102	10-123	

Lab Batch #: 716244 **Sample:** 298799-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	10.4	10.0	104	70-135	
o-Terphenyl	5.58	5.00	112	70-135	

Lab Batch #: 716244 **Sample:** 298799-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.22	10.0	92	70-135	
o-Terphenyl	5.07	5.00	101	70-135	

Lab Batch #: 716244 **Sample:** 298799-002 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.9	10.0	119	70-135	
o-Terphenyl	6.23	5.00	125	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716244 **Sample:** 298799-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.64	10.0	96	70-135	
o-Terphenyl	5.23	5.00	105	70-135	

Lab Batch #: 716244 **Sample:** 298799-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.47	10.0	95	70-135	
o-Terphenyl	5.16	5.00	103	70-135	

Lab Batch #: 716244 **Sample:** 298799-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.83	10.0	98	70-135	
o-Terphenyl	5.26	5.00	105	70-135	

Lab Batch #: 716244 **Sample:** 298799-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.43	10.0	94	70-135	
o-Terphenyl	5.14	5.00	103	70-135	

Lab Batch #: 716244 **Sample:** 298799-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.50	10.0	95	70-135	
o-Terphenyl	5.21	5.00	104	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716244 **Sample:** 298799-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	10.3	10.0	103	70-135	
o-Terphenyl	5.62	5.00	112	70-135	

Lab Batch #: 716244 **Sample:** 298799-009 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.25	10.0	93	70-135	
o-Terphenyl	5.11	5.00	102	70-135	

Lab Batch #: 716244 **Sample:** 298799-010 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	8.79	10.0	88	70-135	
o-Terphenyl	4.85	5.00	97	70-135	

Lab Batch #: 716244 **Sample:** 505473-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.4	10.0	114	70-135	
o-Terphenyl	5.97	5.00	119	70-135	

Lab Batch #: 716244 **Sample:** 505473-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.51	10.0	95	70-135	
o-Terphenyl	5.17	5.00	103	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Lab Batch #: 716244 **Sample:** 505473-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.2	10.0	112	70-135	
o-Terphenyl	5.82	5.00	116	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Analyst: SHE **Date Prepared:** 03/04/2008 **Date Analyzed:** 03/04/2008

Lab Batch ID: 716209 **Sample:** 505449-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0866	87	0.1	0.0881	88	2	70-125	25	
Toluene	ND	0.1000	0.0888	89	0.1	0.0878	88	1	70-125	25	
Ethylbenzene	ND	0.1000	0.0949	95	0.1	0.0896	90	6	71-129	25	
m,p-Xylenes	ND	0.2000	0.1921	96	0.2	0.1787	89	7	70-131	25	
o-Xylene	ND	0.1000	0.1033	103	0.1	0.0957	96	8	71-133	25	

Analyst: SHE **Date Prepared:** 03/05/2008 **Date Analyzed:** 03/06/2008

Lab Batch ID: 716368 **Sample:** 505524-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1017	102	0.1	0.1016	102	0	70-125	25	
Toluene	ND	0.1000	0.1032	103	0.1	0.1032	103	0	70-125	25	
Ethylbenzene	ND	0.1000	0.1087	109	0.1	0.1089	109	0	71-129	25	
m,p-Xylenes	ND	0.2000	0.2137	107	0.2	0.2137	107	0	70-131	25	
o-Xylene	ND	0.1000	0.1133	113	0.1	0.1137	114	0	71-133	25	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Analyst: KRB **Date Prepared:** 03/05/2008 **Date Analyzed:** 03/06/2008

Lab Batch ID: 716483 **Sample:** 505542-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

SVOA PAHs List by EPA 8270C	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Acenaphthene	ND	0.050	0.047	94	0.05	0.047	94	0	54-114	25	
Acenaphthylene	ND	0.050	0.046	92	0.05	0.046	92	0	53-113	25	
Anthracene	ND	0.050	0.046	92	0.05	0.047	94	2	56-116	25	
Benzo(a)anthracene	ND	0.050	0.047	94	0.05	0.048	96	2	59-116	25	
Benzo(a)pyrene	ND	0.050	0.046	92	0.05	0.048	96	4	58-118	25	
Benzo(b)fluoranthene	ND	0.050	0.047	94	0.05	0.049	98	4	54-123	25	
Benzo(k)fluoranthene	ND	0.050	0.046	92	0.05	0.049	98	6	52-122	25	
Benzo(g,h,i)perylene	ND	0.050	0.048	96	0.05	0.048	96	0	47-129	25	
Chrysene	ND	0.050	0.048	96	0.05	0.048	96	0	58-116	25	
Dibenz(a,h)Anthracene	ND	0.050	0.049	98	0.05	0.051	102	4	46-131	25	
Fluoranthene	ND	0.050	0.051	102	0.05	0.052	104	2	55-120	25	
Fluorene	ND	0.050	0.047	94	0.05	0.047	94	0	56-114	25	
Indeno(1,2,3-c,d)Pyrene	ND	0.050	0.048	96	0.05	0.051	102	6	44-132	25	
1-Methylnaphthalene	ND	0.050	0.044	88	0.05	0.045	90	2	47-113	25	
2-Methylnaphthalene	ND	0.050	0.048	96	0.05	0.049	98	2	57-106	25	
Naphthalene	ND	0.050	0.044	88	0.05	0.044	88	0	53-110	25	
Phenanthrene	ND	0.050	0.048	96	0.05	0.049	98	2	56-116	25	
Pyrene	ND	0.050	0.045	90	0.05	0.047	94	4	57-119	25	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799 **Project ID:** 2001-11043

Analyst: SHE **Date Prepared:** 03/04/2008 **Date Analyzed:** 03/04/2008

Lab Batch ID: 716244 **Sample:** 505473-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	100	94.3	94	100	95.2	95	1	70-135	25	
C12-C28 Diesel Range Hydrocarbons	ND	100	96.1	96	100	96.5	97	0	70-135	25	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order #: 298799
Lab Batch #: 716244
Project ID: 2001-11043
Date Analyzed: 03/05/2008
Date Prepared: 03/04/2008
Analyst: SHE
QC- Sample ID: 298799-002 S
Batch #: 1
Matrix: Water
Reporting Units: mg/L

TPH by SW8015 Mod Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	100	93.7	94	70-135	
C12-C28 Diesel Range Hydrocarbons	ND	100	95.2	95	70-135	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

ENVIRONMENTAL LAB OF

Form 3 - MS / MSD Recoveries

Project Name: Livingston Line - Bob McCaslaid

Work Order # : 298799 **Project ID:** 2001-11043

Lab Batch ID: 716209 **QC- Sample ID:** 298800-010 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 03/05/2008 **Date Prepared:** 03/04/2008 **Analyst:** SHE

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0879	88	0.1000	0.0895	90	2	70-125	25	
Toluene	ND	0.1000	0.0893	89	0.1000	0.0915	92	3	70-125	25	
Ethylbenzene	ND	0.1000	0.0944	94	0.1000	0.0971	97	3	71-129	25	
m,p-Xylenes	ND	0.2000	0.1861	93	0.2000	0.1918	96	3	70-131	25	
o-Xylene	ND	0.1000	0.0978	98	0.1000	0.1006	101	3	71-133	25	

Lab Batch ID: 716368 **QC- Sample ID:** 298799-006 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 03/06/2008 **Date Prepared:** 03/05/2008 **Analyst:** SHE

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0825	83	0.1000	0.0879	88	6	70-125	25	
Toluene	ND	0.1000	0.0834	83	0.1000	0.0886	89	7	70-125	25	
Ethylbenzene	ND	0.1000	0.0874	87	0.1000	0.0923	92	6	71-129	25	
m,p-Xylenes	ND	0.2000	0.1706	85	0.2000	0.1803	90	6	70-131	25	
o-Xylene	ND	0.1000	0.0902	90	0.1000	0.0951	95	5	71-133	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland
Project Manager: Catharine London
Sampler's Name: Chris Aulds
Sampler's Signature:

Laboratory: ELOT
Address:
Contact:
Phone:
PO/SO #: 2001-11043

Lab use only
Due Date:
Temp. of coolers when received (C°): 3.5
1 2 3 4 5
Page 1 of 2

Proj. No.: A407007
Project Name: Livingston Line - Bob Mclashin
No/Type of Containers: 25

ANALYSIS REQUESTED: TAH (8015M), BTEX (8021B), PAH (8310C)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L	250 ml	P/O	Lab Sample ID (Lab Use Only)
W	2/26/08	1337		X	MW-7			4				2187991-01
	2/26/08	1337		X	MW-7				1			1
		1403			MW-3			4				-02
		1403			MW-3				1			1
		1424			MW-11			4				-03
		1424			MW-11				1			1
		1445			MW-6			4				-04
		1445			MW-6				1			1
		1507			MW-5			4				-05
		1507			MW-5				1			1

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	2/27/08	1700			
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature) Andrea Fann	Date: 2/28/08	Time: 1700

NOTES: Caniille Reynolds w/ Plains w/ labels & seals

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Houston Office: 11555 Clay Road, Suite 100, Houston, Texas 77043, (713) 690-8989 Fax (713) 690-8787
Dallas Office: 8901 Carpenter Freeway, Suite 100, Dallas, Texas 75247, (214) 630-1010 Fax (214) 630-7070
Fort Worth Office: 2601 Gravel Drive, Fort Worth, Texas 76118, (817) 268-8600 Fax (817) 268-8602
Austin Office: 5307 Industrial Oaks Blvd. # 160, Austin, Texas 78735, (512) 442-1122 Fax (512) 442-1181
Midland Office: 24 Smith Rd., # 261, Midland, Texas 79705, (432) 684-9600 Fax (432) 684-9608

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland

Project Manager: Catharine London

Laboratory: ELOT
Address:
Contact:
Phone:
PO/SO #: 2001-11043

Sampler's Name: Chris Aulds
Sampler's Signature:

Proj. No.: A4077007
Project Name: Livingston Line-Bob McCasland
No/Type of Containers: 20/voa 5/AG(2.5)

ANALYSIS REQUESTED: TPH (8015m) | BTEX (8021B) | PAH's (8270C)

Lab use only
Due Date:
Temp. of coolers when received (C°): 1 2 3 4 5
Page 2 of 2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L	250 ml	P/O	TPH (8015m)	BTEX (8021B)	PAH's (8270C)	Lab Sample ID (Lab Use Only)
W	2/28/08	1530		X	MW-9			4				X	X		278799-06
		1530		X	MW-9				1					X	1
		1554			MW-2			4				X	X		07
		1554			MW-2				1					X	1
		1625			MW-10			4				X	X		08
		1625			MW-10				1					X	1
		1705			MW-8			4				X	X		09
		1705			MW-8				1					X	1
		1730			MW-4			4				X	X		10
		1730			MW-4				1					X	1

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	2/28/08	1700			
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				2/29/08	17 00

NOTES: Camille Reynolds w/ Plains

3.5°C w/ labels & seals

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Houston Office: 11555 Clay Road, Suite 100, Houston, Texas 77043, (713) 690-8989 Fax (713) 690-8787
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Austin Office: 5307 Industrial Oaks Blvd. # 160, Austin, Texas 78735, (512) 442-1122 Fax (512) 442-1181
Midland Office: 24 Smith Rd., # 261, Midland, Texas 79705, (432) 684-9600 Fax (432) 684-9608

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon / Plains

Date/ Time: 3.3.08 17:00

Lab ID #: 298199

Initials: GL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	3.5 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Analytical Report 304736

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Livingston Line-Bob McCasland

2001-11226

03-JUN-08

ENVIRONMENTAL LAB OF

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

ENVIRONMENTAL LAB OF

03-JUN-08

Project Manager: **Camille Reynolds**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **304736**
Livingston Line-Bob McCasland
Project Address:

Camille Reynolds:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 304736. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 304736 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 304736

PLAINS ALL AMERICAN EH&S, Midland, TX

Livingston Line-Bob McCasland

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-11	W	May-28-08 11:38		304736-001
MW-3	W	May-28-08 12:07		304736-002
MW-7	W	May-28-08 12:34		304736-003
MW-6	W	May-28-08 13:02		304736-004
MW-9	W	May-28-08 13:20		304736-005
MW-10	W	May-28-08 13:48		304736-006
MW-5	W	May-28-08 14:11		304736-007
MW-2	W	May-28-08 14:49		304736-008

Certificate of Analysis Summary 304736

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line-Bob McCasland

Project Id: 2001-11226
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Thu May-29-08 09:55 am
Report Date: 03-JUN-08
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	304736-001		304736-002		304736-003		304736-004		304736-005		304736-006	
	Field Id:	MW-11		MW-3		MW-7		MW-6		MW-9		MW-10	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	May-28-08 11:38		May-28-08 12:07		May-28-08 12:34		May-28-08 13:02		May-28-08 13:20		May-28-08 13:48	
BTEX by EPA 8021B	*Extracted:*	Jun-02-08 10:00		Jun-02-08 10:00		Jun-02-08 10:00		Jun-02-08 10:00		Jun-02-08 10:00		Jun-02-08 10:00	
	Analyzed:	Jun-02-08 17:08		Jun-02-08 17:25		Jun-02-08 17:42		Jun-02-08 18:32		Jun-02-08 19:05		Jun-02-08 19:39	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	0.0021	0.0010	0.0581	0.0010	0.0193	0.0010
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0023	0.0020	ND	0.0020
Ethylbenzene		0.0012	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0537	0.0010	0.0023	0.0010
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0355	0.0020	ND	0.0020
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0427	0.0010	0.0024	0.0010
Total Xylenes		ND		ND		ND		ND		0.0782		0.0024	
Total BTEX		0.0012		ND		ND		0.0021		0.1923		0.024	

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 304736

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line-Bob McCasland

Project Id: 2001-11226
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Thu May-29-08 09:55 am
Report Date: 03-JUN-08
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	304736-007	304736-008				
	Field Id:	MW-5	MW-2				
	Depth:						
	Matrix:	WATER	WATER				
	Sampled:	May-28-08 14:11	May-28-08 14:49				
BTEX by EPA 8021B	*Extracted:*	Jun-02-08 10:00	Jun-02-08 10:00				
	Analyzed:	Jun-02-08 19:56	Jun-02-08 20:13				
	Units/RL:	mg/L RL	mg/L RL				
Benzene		0.0112 0.0010	0.0949 0.0010				
Toluene		ND 0.0020	ND 0.0020				
Ethylbenzene		0.0021 0.0010	0.0060 0.0010				
m,p-Xylenes		ND 0.0020	0.0029 0.0020				
o-Xylene		ND 0.0010	ND 0.0010				
Total Xylenes		ND	0.0029				
Total BTEX		0.0133	0.1038				

Brent Barron
Odessa Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Livingston Line-Bob McCasland

Work Order #: 304736 **Project ID:** 2001-11226

Lab Batch #: 724179 **Sample:** 304736-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 724179 **Sample:** 304736-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 724179 **Sample:** 304736-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 724179 **Sample:** 304736-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 724179 **Sample:** 304736-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line-Bob McCasland

Work Order #: 304736 **Project ID:** 2001-11226

Lab Batch #: 724179 **Sample:** 304736-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0277	0.0300	92	80-120	

Lab Batch #: 724179 **Sample:** 304736-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 724179 **Sample:** 304736-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0249	0.0300	83	80-120	

Lab Batch #: 724179 **Sample:** 304736-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 724179 **Sample:** 304736-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line-Bob McCasland

Work Order #: 304736 **Project ID:** 2001-11226

Lab Batch #: 724179 **Sample:** 509908-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 724179 **Sample:** 509908-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0246	0.0300	82	80-120	

Lab Batch #: 724179 **Sample:** 509908-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

ENVIRONMENTAL LAB OF

BS / BSD Recoveries

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: Livingston Line-Bob McCasland

Work Order #: 304736 **Project ID:** 2001-11226

Analyst: SHE **Date Prepared:** 06/02/2008 **Date Analyzed:** 06/02/2008

Lab Batch ID: 724179 **Sample:** 509908-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0892	89	0.1	0.0901	90	1	70-125	25	
Toluene	ND	0.1000	0.0904	90	0.1	0.0924	92	2	70-125	25	
Ethylbenzene	ND	0.1000	0.0929	93	0.1	0.0950	95	2	71-129	25	
m,p-Xylenes	ND	0.2000	0.1949	97	0.2	0.1976	99	1	70-131	25	
o-Xylene	ND	0.1000	0.1030	103	0.1	0.1039	104	1	71-133	25	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Livingston Line-Bob McCasland

Work Order # : 304736 **Project ID:** 2001-11226

Lab Batch ID: 724179 **QC- Sample ID:** 304736-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 06/02/2008 **Date Prepared:** 06/02/2008 **Analyst:** SHE

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0921	92	0.1000	0.1024	102	10	70-125	25	
Toluene	ND	0.1000	0.0952	95	0.1000	0.1062	106	11	70-125	25	
Ethylbenzene	0.0012	0.1000	0.0989	98	0.1000	0.1103	109	11	71-129	25	
m,p-Xylenes	ND	0.2000	0.2045	102	0.2000	0.2279	114	11	70-131	25	
o-Xylene	ND	0.1000	0.1050	105	0.1000	0.1167	117	11	71-133	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland

Project Manager: Catharine London

Sampler's Name: Chris Aulds

Sampler's Signature:

Laboratory: ELOT
Address:
Contact:
Phone:
PO/SO #: 2001-11226

ANALYSIS REQUESTED: BTEX (8021B)

Lab use only
Due Date:
Temp. of coolers when received (C°): 2.5
1 2 3 4 5
Page 1 of 1

Proj. No.: A4077007
Project Name: Livingston Line - Bob Melasky
No/Type of Containers: 16/VOA

Matrix	Date	Time	COMP	GRAB	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt	250 ml	P/O	Lab Sample ID (Lab Use Only)
W	5/28/08	1138			MW-11			2			8	304736-01
		1207			MW-3							-02
		1234			MW-7							-03
		1302			MW-6							-04
		1320			MW-9							-05
		1348			MW-10							-06
		1711			MW-5							-07
		1419			MW-2							-08

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5/29/08	0955			
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature) Andrea Fam	Date: 5/29/08	Time: 9:50

NOTES:
Camille w/ Plains
BTEX only on all samples
w/ labels & seals

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Houston Office: 11555 Clay Road, Suite 100, Houston, Texas 77043, (713) 690-8989 Fax (713) 690-8787
Dallas Office: 8901 Carpenter Freeway, Suite 100, Dallas, Texas 75247, (214) 630-1010 Fax (214) 630-7070
Fort Worth Office: 2601 Gravel Drive, Fort Worth, Texas 76118, (817) 268-8600 Fax (817) 268-8602
Austin Office: 5307 Industrial Oaks Blvd. # 160, Austin, Texas 78735, (512) 442-1122 Fax (512) 442-1181
Midland Office: 24 Smith Rd., # 261, Midland, Texas 79705, (432) 684-9600 Fax (432) 684-9608

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon | Plains

Date/ Time: 5-29-08 9:55

Lab ID # : 304736

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	2.5 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Analytical Report 310780

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Livingston Line

2001-11226

26-AUG-08

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

26-AUG-08

Project Manager: **Camille Reynolds**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **310780**
Livingston Line
Project Address:

Camille Reynolds:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 310780. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 310780 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 310780

PLAINS ALL AMERICAN EH&S, Midland, TX

Livingston Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-6	W	Aug-20-08 10:18		310780-001
MW-3	W	Aug-20-08 10:55		310780-002
MW-7	W	Aug-20-08 11:54		310780-003
MW-10	W	Aug-20-08 12:16		310780-004
MW-11	W	Aug-20-08 12:50		310780-005
MW-9	W	Aug-20-08 13:29		310780-006
MW-5	W	Aug-20-08 13:50		310780-007
MW-2	W	Aug-20-08 14:21		310780-008

Certificate of Analysis Summary 310780

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line

Project Id: 2001-11226
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Fri Aug-22-08 09:45 am
Report Date: 26-AUG-08
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	310780-001		310780-002		310780-003		310780-004		310780-005		310780-006	
	Field Id:	MW-6		MW-3		MW-7		MW-10		MW-11		MW-9	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Aug-20-08 10:18		Aug-20-08 10:55		Aug-20-08 11:54		Aug-20-08 12:16		Aug-20-08 12:50		Aug-20-08 13:29	
BTEX by EPA 8021B	*Extracted:*	Aug-23-08 12:09		Aug-23-08 12:09		Aug-23-08 12:09		Aug-23-08 12:09		Aug-23-08 12:09		Aug-23-08 12:09	
	Analyzed:	Aug-24-08 00:41		Aug-24-08 01:05		Aug-24-08 01:28		Aug-24-08 05:03		Aug-24-08 01:52		Aug-24-08 02:16	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		0.0121	0.0010	ND	0.0010	ND	0.0010	0.1847	0.0010	ND	0.0010	0.0512	0.0010
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	0.0031	0.0020	ND	0.0020	ND	0.0020
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	0.2710	0.0010	ND	0.0010	0.0700	0.0010
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020	0.2018	0.0020	ND	0.0020	0.0399	0.0020
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	0.1267	0.0010	ND	0.0010	0.0499	0.0010
Total Xylenes		ND		ND		ND		0.3285		ND		0.0898	
Total BTEX		0.0121		ND		ND		0.7873		ND		0.211	

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 310780

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line

Project Id: 2001-11226
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Fri Aug-22-08 09:45 am
Report Date: 26-AUG-08
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	310780-007	310780-008				
	Field Id:	MW-5	MW-2				
	Depth:						
	Matrix:	WATER	WATER				
	Sampled:	Aug-20-08 13:50	Aug-20-08 14:21				
BTEX by EPA 8021B	***Extracted:***	Aug-23-08 12:09	Aug-23-08 12:09				
	Analyzed:	Aug-24-08 02:40	Aug-24-08 03:04				
	Units/RL:	mg/L RL	mg/L RL				
Benzene		0.0048 0.0010	0.1011 0.0010				
Toluene		ND 0.0020	ND 0.0020				
Ethylbenzene		0.0017 0.0010	0.0050 0.0010				
m,p-Xylenes		ND 0.0020	0.0027 0.0020				
o-Xylene		0.0013 0.0010	0.0021 0.0010				
Total Xylenes		0.0013	0.0048				
Total BTEX		0.0078	0.1109				

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Chri

Brent Barron
Odessa Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Order #: 310780 **Project ID:** 2001-11226

Lab Batch #: 732194 **Sample:** 310714-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	80-120	

Lab Batch #: 732194 **Sample:** 310714-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 732194 **Sample:** 310780-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 732194 **Sample:** 310780-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 732194 **Sample:** 310780-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Order #: 310780 **Project ID:** 2001-11226

Lab Batch #: 732194 **Sample:** 310780-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0381	0.0300	127	80-120	**
4-Bromofluorobenzene	0.0380	0.0300	127	80-120	**

Lab Batch #: 732194 **Sample:** 310780-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 732194 **Sample:** 310780-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0359	0.0300	120	80-120	
4-Bromofluorobenzene	0.0355	0.0300	118	80-120	

Lab Batch #: 732194 **Sample:** 310780-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0370	0.0300	123	80-120	**
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 732194 **Sample:** 310780-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0232	0.0300	77	80-120	**

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Order #: 310780 **Project ID:** 2001-11226

Lab Batch #: 732194 **Sample:** 514543-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 732194 **Sample:** 514543-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0350	0.0300	117	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 732194 **Sample:** 514543-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Livingston Line

Work Order #: 310780 **Project ID:** 2001-11226

Analyst: BRB **Date Prepared:** 08/23/2008 **Date Analyzed:** 08/23/2008

Lab Batch ID: 732194 **Sample:** 514543-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1045	105	0.1	0.1061	106	2	70-125	25	
Toluene	ND	0.1000	0.1040	104	0.1	0.1062	106	2	70-125	25	
Ethylbenzene	ND	0.1000	0.1120	112	0.1	0.1145	115	2	71-129	25	
m,p-Xylenes	ND	0.2000	0.2284	114	0.2	0.2327	116	2	70-131	25	
o-Xylene	ND	0.1000	0.1082	108	0.1	0.1103	110	2	71-133	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Livingston Line

Work Order # : 310780 **Project ID:** 2001-11226

Lab Batch ID: 732194 **QC- Sample ID:** 310714-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 08/24/2008 **Date Prepared:** 08/23/2008 **Analyst:** BRB

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1060	106	0.1000	0.0994	99	7	70-125	25	
Toluene	ND	0.1000	0.1066	107	0.1000	0.1004	100	7	70-125	25	
Ethylbenzene	ND	0.1000	0.1151	115	0.1000	0.1077	108	6	71-129	25	
m,p-Xylenes	ND	0.2000	0.2334	117	0.2000	0.2186	109	7	70-131	25	
o-Xylene	ND	0.1000	0.1107	111	0.1000	0.1033	103	7	71-133	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland
Project Manager: Catherine London

Laboratory: Xenco
Address:
Contact:
Phone:
PO/SO #: 2001-11226

Sampler's Name: Chris Aulds
Sampler's Signature:

Proj. No.: A4077007
Project Name: Livingston Line
No/Type of Containers: 16/VOA

ANALYSIS REQUESTED: BTEX (8021B)

Lab use only
Due Date:
Temp. of coolers when received (C°): -1.0
1 2 3 4 5
Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	Lab Sample ID (Lab Use Only)
W	8/20/08	1018		X	MW-6			2				310780-01
		1055			MW-3							-02
		1154			MW-7							-03
		1216			MW-10							-04
		1250			MW-11							-05
		1329			MW+9							-06
		1350			MW-5							-07
		1421			MW-2							-08
												TRIP BL

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	8/21/08	9:45			
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature) Lindsa Lam	Date: 8.22.08	Time: 7.45

NOTES:
Camille Bryant w/ Plains
w/labels & seals

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Houston Office: 11555 Clay Road, Suite 100, Houston, Texas 77043, (713) 690-8989 Fax (713) 690-8787
Dallas Office: 8901 Carpenter Freeway, Suite 100, Dallas, Texas 75247, (214) 630-1010 Fax (214) 630-7070
Fort Worth Office: 2601 Gravel Drive, Fort Worth, Texas 76118, (817) 268-8600 Fax (817) 268-8602
Austin Office: 5307 Industrial Oaks Blvd. # 160, Austin, Texas 78735, (512) 442-1122 Fax (512) 442-1181
Midland Office: 24 Smith Rd., # 261, Midland, Texas 79705, (432) 684-9600 Fax (432) 684-9608

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon | Plains

Date/ Time: 8.22.08 9:45

Lab ID #: 310780

Initials: aL

Sample Receipt Checklist

				Not Frozen	Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	-1.0 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Analytical Report 317351

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

Livingston Line

2001-11226

17-NOV-08

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

17-NOV-08

Project Manager: **Jason Henry**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **317351**
Livingston Line
Project Address:

Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 317351. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 317351 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 317351

PLAINS ALL AMERICAN EH&S, Midland, TX

Livingston Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	Nov-07-08 14:02		317351-001
MW-6	W	Nov-07-08 14:21		317351-002
MW-11	W	Nov-07-08 14:40		317351-003
MW-10	W	Nov-07-08 15:03		317351-004
MW-7	W	Nov-07-08 15:22		317351-005
MW-9	W	Nov-07-08 15:50		317351-006
MW-5	W	Nov-07-08 16:16		317351-007
MW-2	W	Nov-07-08 16:40		317351-008
MW-8	W	Nov-07-08 17:07		317351-009

Certificate of Analysis Summary 317351

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line

Project Id: 2001-11226
Contact: Jason Henry
Project Location:

Date Received in Lab: Tue Nov-11-08 04:55 pm
Report Date: 17-NOV-08
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	317351-001		317351-002		317351-003		317351-004		317351-005		317351-006	
	Field Id:	MW-3		MW-6		MW-11		MW-10		MW-7		MW-9	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Nov-07-08 14:02		Nov-07-08 14:21		Nov-07-08 14:40		Nov-07-08 15:03		Nov-07-08 15:22		Nov-07-08 15:50	
BTEX by EPA 8021B	***Extracted:***	Nov-14-08 16:30		Nov-14-08 16:30		Nov-14-08 16:30		Nov-14-08 16:30		Nov-14-08 16:30		Nov-14-08 16:30	
	Analyzed:	Nov-16-08 04:09		Nov-16-08 05:15		Nov-16-08 05:37		Nov-16-08 05:59		Nov-16-08 06:20		Nov-16-08 06:42	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		ND	0.0010	0.0069	0.0010	ND	0.0010	0.0012	0.0010	ND	0.0010	0.0597	0.0010
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0353	0.0010
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0220	0.0020
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	0.0012	0.0010	ND	0.0010	0.0251	0.0010
Total Xylenes		ND	0.0030	ND	0.0030	ND	0.0030	0.0012	0.0030	ND	0.0030	0.0471	0.0030
Total BTEX		ND	0.0070	0.0069	0.0070	ND	0.0070	0.0024	0.0070	ND	0.0070	0.1421	0.0070

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 317351

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line

Project Id: 2001-11226
Contact: Jason Henry
Project Location:

Date Received in Lab: Tue Nov-11-08 04:55 pm
Report Date: 17-NOV-08
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	317351-007		317351-008		317351-009					
	Field Id:	MW-5		MW-2		MW-8					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Nov-07-08 16:16		Nov-07-08 16:40		Nov-07-08 17:07					
BTEX by EPA 8021B	***Extracted:***	Nov-14-08 16:30		Nov-14-08 16:30		Nov-14-08 16:30					
	Analyzed:	Nov-16-08 07:04		Nov-16-08 07:26		Nov-16-08 07:48					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		0.0350	0.0010	0.0462	0.0010	0.0120	0.0010				
Toluene		ND	0.0020	ND	0.0020	ND	0.0020				
Ethylbenzene		0.0081	0.0010	0.0044	0.0010	0.0043	0.0010				
m,p-Xylenes		ND	0.0020	0.0029	0.0020	0.0054	0.0020				
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010				
Total Xylenes		ND	0.0030	0.0029	0.0030	0.0054	0.0030				
Total BTEX		0.0431	0.0070	0.0535	0.0070	0.0217	0.0070				

Brent Barron
Odessa Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Orders : 317351,

Project ID: 2001-11226

Lab Batch #: 740418 **Sample:** 317351-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 740418 **Sample:** 317351-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 740418 **Sample:** 317351-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 740418 **Sample:** 317351-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0256	0.0300	85	80-120	

Lab Batch #: 740418 **Sample:** 317351-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Orders : 317351,

Project ID: 2001-11226

Lab Batch #: 740418 **Sample:** 317351-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0355	0.0300	118	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 740418 **Sample:** 317351-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 740418 **Sample:** 317351-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 740418 **Sample:** 317351-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Lab Batch #: 740418 **Sample:** 317351-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0236	0.0300	79	80-120	**

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Orders : 317351,

Project ID: 2001-11226

Lab Batch #: 740418 **Sample:** 317351-009 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0263	0.0300	88	80-120	

Lab Batch #: 740418 **Sample:** 519385-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

Lab Batch #: 740418 **Sample:** 519385-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 740418 **Sample:** 519385-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Livingston Line

Work Order #: 317351 **Project ID:** 2001-11226

Analyst: ASA **Date Prepared:** 11/14/2008 **Date Analyzed:** 11/15/2008

Lab Batch ID: 740418 **Sample:** 519385-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1016	102	0.1	0.1009	101	1	70-125	25	
Toluene	ND	0.1000	0.0951	95	0.1	0.0934	93	2	70-125	25	
Ethylbenzene	ND	0.1000	0.0932	93	0.1	0.0912	91	2	71-129	25	
m,p-Xylenes	ND	0.2000	0.1882	94	0.2	0.1832	92	3	70-131	25	
o-Xylene	ND	0.1000	0.0906	91	0.1	0.0891	89	2	71-133	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Livingston Line

Work Order # : 317351 **Project ID:** 2001-11226

Lab Batch ID: 740418 **QC- Sample ID:** 317351-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 11/16/2008 **Date Prepared:** 11/14/2008 **Analyst:** ASA

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0978	98	0.1000	0.0883	88	11	70-125	25	
Toluene	ND	0.1000	0.0827	83	0.1000	0.0777	78	6	70-125	25	
Ethylbenzene	ND	0.1000	0.0805	81	0.1000	0.0761	76	6	71-129	25	
m,p-Xylenes	ND	0.2000	0.1629	81	0.2000	0.1545	77	5	70-131	25	
o-Xylene	ND	0.1000	0.0801	80	0.1000	0.0761	76	5	71-133	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland

Project Manager: Catherine Lenoir

Laboratory: Xenco

Address:

Contact:

Phone:

PO/SO #: 2001-11226

Sampler's Name: Chris Aulds

Sampler's Signature:

Proj. No.: 94077007

Project Name: Livingston Line

No/Type of Containers

ANALYSIS REQUESTED: BTEX (8021B)

Lab use only
Due Date:

Temp. of coolers when received (C°): 4.5
1 2 3 4 5

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	Lab Sample ID (Lab Use Only)
W	11/7/08	1402		X	mw-3			4			X	317351-01
		1421			mw-6							-02
		1440			mw-11							-03
		1503			mw-10							-04
		1522			mw-7							-05
		1550			mw-9							-06
					mw-5							-07
					mw-2							-08
												~~-09~~ Lost on Lab

Turn around time: [X] Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	11/11/08	1655			
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature) Cynthia Tam	Date: 11/11/08	Time: 10:55

NOTES: w/ labels & seals on containers

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Houston Office
11555 Clay Road, Suite 100
Houston, Texas 77043
(713) 690-8989 Fax (713) 690-8787

Dallas Office
8901 Carpenter Freeway, Suite 100
Dallas, Texas 75247
(214) 630-1010 Fax (214) 630-7070

Fort Worth Office
2501 Gravel Drive
Fort Worth, Texas 76118
(817) 268-8600 Fax (817) 268-8602

Austin Office
5307 Industrial Oaks Blvd. # 160
Austin, Texas 78735
(512) 442-1122 Fax (512) 442-1181

Midland Office
24 South Rd., # 261
Midland, Texas 79705
(432) 684-9600 Fax (432) 684-9608

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon / Plains

Date/ Time: 11-11-08 10:55

Lab ID # : 317351

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	4.5 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Andrea Lam

From: "Aulds, Chris L" <claulds@terracon.com>
To: "Andrea Lam" <andrea.lam@xenco.com>
Sent: Wednesday, November 12, 2008 1:19 PM
Subject: RE: Livingston Line / 317351

That is correct. I'm going to have to quit letting you fill out my COC's if you're going to keep messing them up...

Chris Aulds
Environmental Technician
Terracon
24 Smith Road, Suite 261 I Midland, Texas 79705
P 432-684-9600 I F 432-684-9608 I M 432-288-8872
claulds@terracon.com I www.terracon.com

From: Andrea Lam [mailto:andrea.lam@xenco.com]
Sent: Wednesday, November 12, 2008 11:38 AM
To: Aulds, Chris L
Subject: Livingston Line / 317351

Chris- I just want to confirm per our phone call that you would like to add MW-8 to the Livingston Line project and that there are only two containers for each sample.

Thank You,
Andrea Lam
Sample Receiving / Project Assistant

Environmental Lab of Texas
A Xenco Company
12600 W I-20 E
Odessa, TX 79765
432-563-1800

11/12/2008

APPENDIX D

CD of the 2008 Annual Groundwater Monitoring Report