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REPORTS

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IR-395
Report
2007

February 18, 2008

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

Re: Plains All American – 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-B.McCasland	Section 3, Township 21 South, Range 37 East, Lea County
Livingston Ridge to H.P. Sims	Section 3, Township 21 South, Range 37 East, 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 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 (505) 441-0965.

Sincerely,

Camille Reynolds

Camille Reynolds
Remediation Coordinator
Plains All American

CC: Larry Johnson, NMOCD, Hobbs, NM

Enclosures

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2007 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

Terracon Project Number A4077007

February 4, 2008

Prepared for:

Plains Pipeline, L.P.
3112 West US Highway 82
Lovington, New Mexico 88260
NMOCD File Number 1R-0395

Prepared by:

Terracon

Midland, Texas

Terracon
Consulting Engineers & Scientists

Terracon Consultants, Inc.
24 Smith Road, Suite 261
Midland, Texas 79705
Phone 432.684.9600
Fax 432.684.9608
www.terracon.com

February 4, 2008

Plains Pipeline, L.P.
3112 West US Highway 82
Lovington, NM 88260
Attn: Ms. Camille Reynolds

Telephone: (505) 441-0965
Fax: (505) 397-0697

Re: 2007 Annual Groundwater Monitoring Report
Livingston Line - Bob McCasland
NE ¼ of the SW ¼, Section 3, T21S, R37E
Lea County, New Mexico
Plains Pipeline, L.P. SRS Number 2001-11226
Terracon Project Number A4077007

Dear Ms. Reynolds:

Terracon is pleased to submit four copies of the 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.
Operations Manager

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Terracon

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2007 Annual Groundwater Monitoring Report

Livingston Line - Bob McCasland Site
NE ¼ of the SW ¼ of Section 3, T21S, R37E
Plains SRS Number 2001-11226
Lea County, New Mexico
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 delineate 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 November 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 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 2007 by Terracon. The events were performed on February 22, 2007, May 10, 2007, August 10, 2007, and November 15, 2007 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 polycyclic aromatic hydrocarbons (PAHs), (annually). PAH samples were collected on May 10, 2007.

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 22, 2007, May 10, 2007, August 10, 2007, and November 15, 2007, 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 PSH. Based on the gauging data, PSH has been present as a sheen periodically in groundwater monitor wells MW-4 and MW-8 during 2007. Additional monitor wells at the site did not contain PSH during 2007. Groundwater monitor well MW-1 was dry in November 2007. As such, a water sample was not obtained from this well. 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 either Trace Analysis, Inc. in Midland, Texas, or Environmental Lab of Texas

(ELOT), a Xenco Laboratories Company in Odessa, Texas for standard turnaround for analysis of BTEX using EPA SW-846 Method 8260B in each of the four quarters and PAHs using EPA SW-846 Method 610 and 8270C in May 2007.

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 2007 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 2007 sampling and gauging events are summarized below:

- The gradient/direction during the February 2007 sampling event was 0.004 ft/ft and toward the south-southeast;
- The gradient/direction during the May 2007 sampling event was 0.003 ft/ft and toward the northeast;
- The gradient/direction during the August 2007 sampling event was 0.005 ft/ft and toward the south-southeast; and
- The gradient/direction during the November 2007 sampling event was 0.002 ft/ft and toward the southeast.

Groundwater flow direction was relatively consistent (southeast) throughout 2007. Water level measurement data is summarized in Table 1 in Appendix B.

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 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.

Groundwater samples were collected and analyzed for BTEX constituents during the first quarter on February 22, 2007. The first quarter results are summarized below:

- The groundwater samples collected from monitor wells MW-1, MW-3, MW-6, MW-7 and MW-11 did not contain BTEX constituents above laboratory method reporting limits;

- Benzene was detected in the groundwater samples collected from monitor wells MW-2 (at 0.292 mg/l), MW-4 (at 1.42 mg/l), MW-5 (at 0.0443 mg/l), MW-8 (at 0.118 mg/l), MW-9 (at 0.0467 mg/l), and MW-10 (at 0.0791 mg/l); which exceeded the New Mexico Water Quality Control Commission (NMWQCC) groundwater standard of 0.01 mg/l for benzene; and,

- Toluene, ethylbenzene and total xylenes were not detected in the groundwater samples collected from monitor wells MW-2, MW-4, MW-5, MW-8 and MW-10 above laboratory reporting limits and/or their respective NMWQCC groundwater standards.

Groundwater samples were collected and analyzed for BTEX and PAH constituents during the second quarter on May 10, 2007. The second quarter results are summarized below:

- Groundwater samples collected from monitor wells MW-1, MW-3, MW-7 and MW-11 did not contain BTEX constituents above laboratory method reporting limits;

- The groundwater sample collected from monitor well MW-6 contained benzene at a concentration of 0.0238 mg/l; which exceeded the NMWQCC groundwater standard of 0.01 mg/l. Since December 2004, benzene had not been detected above laboratory reporting limits in the groundwater samples collected from this monitor well;

- Benzene was also detected in the groundwater samples collected monitor wells MW-2 (at 0.19 mg/l), MW-4 (at 1.21 mg/l), MW-5 (at 0.0462 mg/l), MW-8 (at 0.209 mg/l), and MW-9 (at 0.0607 mg/l); exceeding the NMWQCC groundwater standard of 0.01 mg/l for benzene;

- Benzene was also detected in the groundwater sample collected from monitor well MW-10 at a concentration of 0.0023 mg/l; which is below the NMWQCC groundwater standard of 0.01 mg/l. Previously benzene had been above the NMWQCC groundwater standard in this monitor well;

- Toluene, ethylbenzene and total xylenes were not detected in the groundwater samples collected from monitor wells MW-2, MW-4, MW-5, MW-6, MW-8, MW-9 and MW-10 above laboratory reporting limits and/or their respective NMWQCC groundwater standards;

- PAH constituents were not detected above laboratory reporting limits and/or their respective NMWQCC groundwater standards in the groundwater samples collected from monitor wells MW-1 through MW-3 and MW-5 through MW-11; and,

- Naphthalene was detected in the groundwater sample collected from monitor well MW-4 at a concentration of 0.0659 mg/l; which exceeds the NMWQCC groundwater standard of 0.03 mg/l for naphthalene.

Groundwater samples were collected and analyzed for BTEX constituents during the third quarter on August 10, 2007. The third quarter results are summarized below:

- Groundwater samples collected from monitor wells MW-1, MW-3, MW-7 and MW-11 did not contain BTEX constituents above laboratory method reporting limits;

- Benzene was detected in the groundwater samples collected from monitor wells MW-2 (at 0.0881 mg/l), MW-4 (at 1.227 mg/l), MW-5 (at 0.0266 mg/l), MW-6 (at 0.0152 mg/l), MW-8 (at 0.05 mg/l), and MW-10 (at 0.0883 mg/l); which exceed 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 monitor wells MW-2, MW-4, MW-5, MW-6, MW-8, MW-9 and MW-10 above laboratory reporting limits and/or their respective NMWQCC groundwater standards.

Groundwater samples were collected and analyzed for BTEX constituents during the fourth quarter on November 15, 2007. 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;

- A sheen of PSH was present in monitor well MW-4 during the fourth quarter sampling event and no sample was collected from this well;

- The groundwater samples collected from monitor wells MW-3, MW-7 and MW-11 did not contain BTEX constituents above laboratory reporting limits;

- Benzene was detected in the groundwater samples collected from monitor wells MW-2 (at 0.0615 mg/l), MW-5 (at 0.011 mg/l), MW-6 (at 0.0149 mg/l), MW-8 (at 0.0186 mg/l), and MW-10 (at 0.0728 mg/l); which exceed the NMWQCC groundwater standard of 0.01 mg/l for benzene;

- The groundwater sample collected from monitor well MW-9, which previously contained benzene concentrations did not contain benzene above laboratory reporting limits during the fourth quarter sampling activities; and,

- Toluene, ethylbenzene and total xylenes were not detected in the groundwater samples collected from monitor wells MW-2, MW-5, MW-6, MW-8, MW-9 and MW-10 above laboratory reporting limits and/or their respective NMWQCC reporting limits.

5.0 FINDINGS AND RECOMMENDATIONS

5.1 Findings

The annual groundwater report presents the results of four groundwater monitoring and sampling events for the 2007 calendar year.

- Groundwater samples collected from monitor wells MW-3, MW-7 and MW-11 have not contained BTEX constituents above their respective laboratory reporting limits since the monitor wells were installed in 2001 (MW-3) and 2004 (MW-7 and MW-11);

- Monitor well MW-1 contained no fluids during the November 2007 sampling event; however, the groundwater samples collected from monitor well MW-1, since it was installed in August 2001, have not contained BTEX constituents above laboratory reporting limits;

- Monitor well MW-9 has periodically contained benzene at concentrations exceeding the NMWQCC groundwater standard in the groundwater samples collected from this well; however, during the November 2007 sampling event, the groundwater sample collected from this well did not contain benzene above the laboratory reporting limit;

- Groundwater samples collected from monitor wells MW-2, MW-5 and MW-8 contained benzene exceeding the NMWQCC groundwater standard in each of the four quarters they were sampled;

- The groundwater samples collected from monitor well MW-4 contained benzene exceeding the NMWQCC groundwater standard in the first three quarters it was sampled. In the fourth quarter monitor well MW-4 was not sampled due to the presence of a sheen of PSH in the well;

- Groundwater samples collected from monitor well MW-6 in the last three quarters of 2007 contained benzene at concentrations exceeding the NMWQCC groundwater standard. Previously, benzene was below laboratory reporting limits in the groundwater samples collected from December 2004 through the first quarter of 2007;

- The groundwater samples collected from monitor well MW-10 contained benzene at concentrations exceeding the NMWQCC groundwater standard in the first, third and fourth quarters of 2007. The groundwater sample collected from monitor well MW-10 did not contain benzene exceeding the NMWQCC groundwater standard in the second quarter;

- None of the groundwater samples collected in 2007 contained toluene, ethylbenzene and total xylenes above their respective laboratory reporting limits and/or the NMWQCC groundwater standards;

- With the exception of monitor well MW-4, PAH constituents were not detected in the remainder of the groundwater samples collected in May 2007 (MW-1 through MW-3 and MW-5 through MW-11), exceeding their respective laboratory reporting limits and/or the NMWQCC groundwater standards;

- The groundwater sample collected from monitor well MW-4 contained naphthalene at a concentration exceeding the NMWQCC groundwater standard for naphthalene. Other PAH constituents were below their respective laboratory reporting limits and/or NMWQCC groundwater standards;

- 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.

5.2 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 within acceptable NMOCD remedial guidelines for BTEX and TPH, use the stockpile material to backfill the excavation;

- If the stockpiled materials is impacted above NMOCD remedial guidelines, blend and mix the stockpiled soils with native soils and/or caliche at the site 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;

- Monitor wells MW-3 (since August 2001) and MW-7 (since July 2004) have been non detect for BTEX and PAH constituents and Terracon recommends that these wells be sampled annually instead of quarterly;

- Continue PSH recovery on monitor wells (as necessary) on a once monthly schedule;

- Continue quarterly groundwater sampling for BTEX on all monitor wells, except MW-3 and MW-7 and annually for PAHs for the calendar year of 2007 in accordance with the NMOCD approved sample reduction plan;

- Implement annual sampling on monitor wells MW-3 and MW-7 for BTEX and PAHs, and

- Submit an annual report to the NMOCD detailing the 2007 site activities.

DISTRIBUTION

Copy 1: Mr. Edward J. Hansen, Hydrologist
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Oil Conservation Division
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chlondon@terracon.com

APPENDIX A

Figure 1 – Topographic Map
Figure 2 – Site Plan
Figure 3 – Groundwater Gradient Map (02/22/07)
Figure 4 – Groundwater Gradient Map (05/10/07)
Figure 5 – Groundwater Gradient Map (08/10/07)
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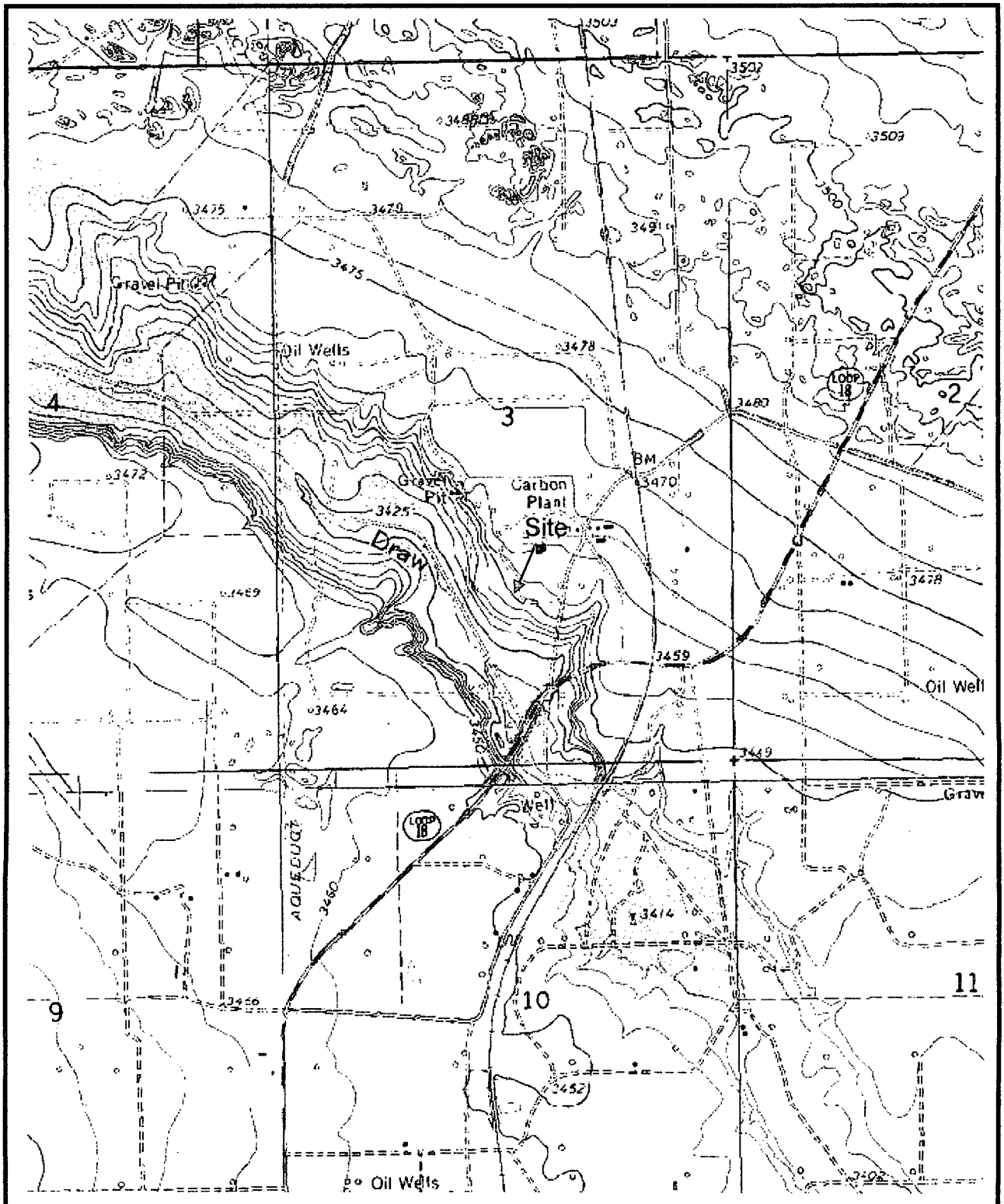
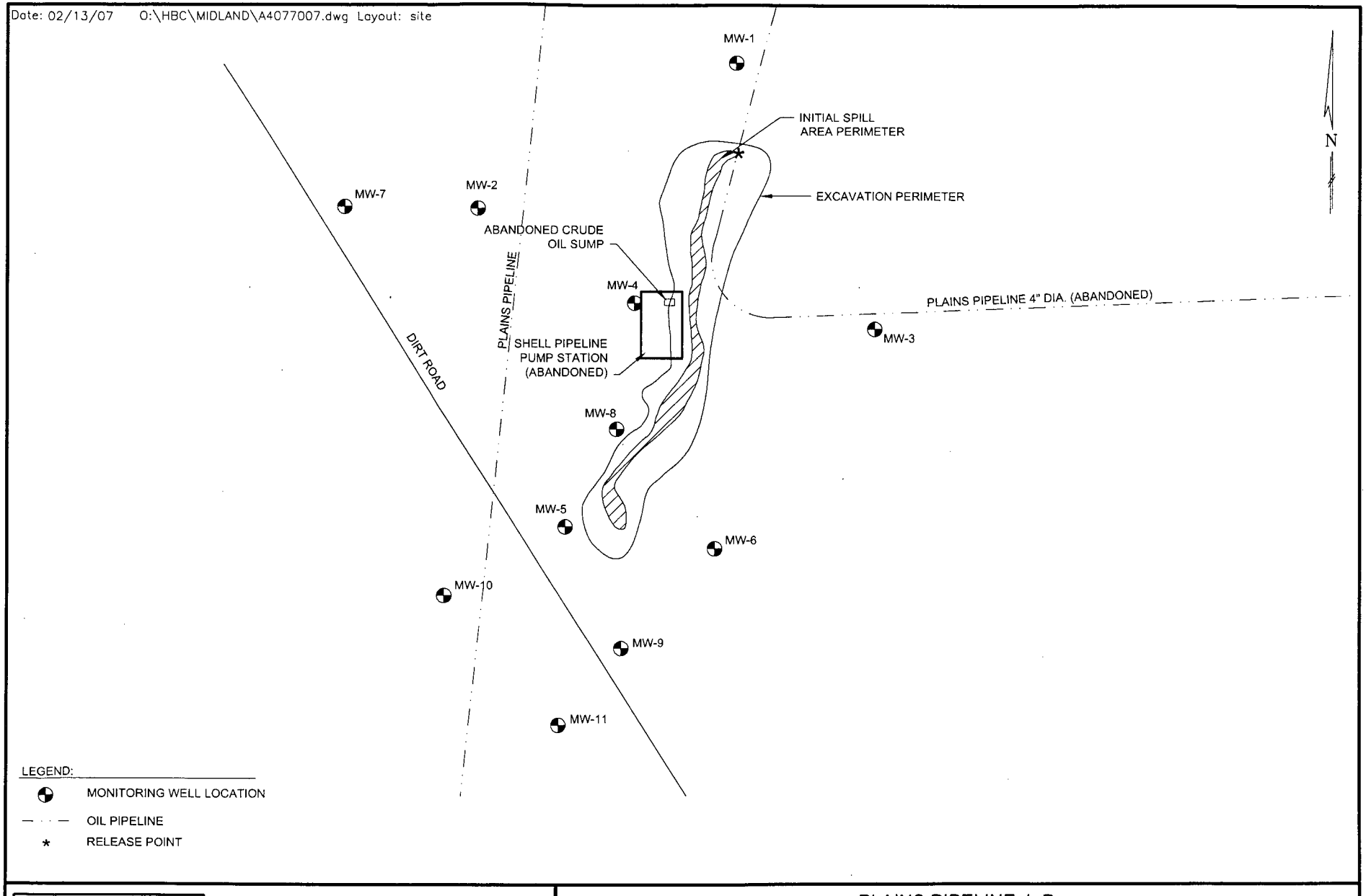


USGS TOPOGRAPHIC QUADRANGLE MAP Hobbs SW, NM			**Livingston Line - Bob McCasland** NE 1/4 of SW1/4, Sec. 3, T21S, R37E Eunice, Lea County, New Mexico
Dated: 1979 SCALE: 1" = 1,600'	↑ N	Terracon	
PROJECT NO. A4077007			**FIGURE 1: TOPOGRAPHIC MAP**



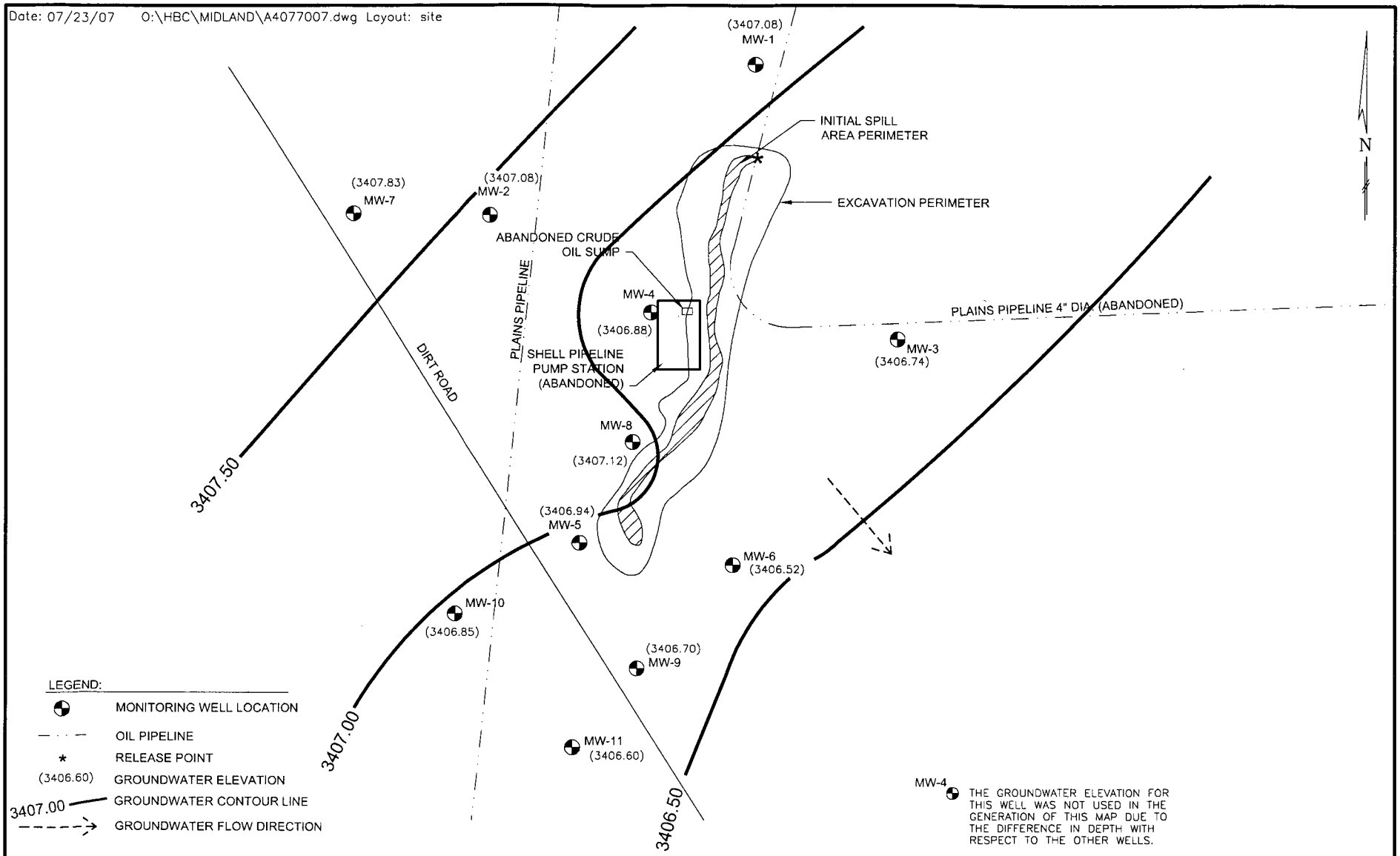
THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

0 50 100 FEET
APPROXIMATE SCALE

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

Terracon **Project No.: A4077007**

FIGURE 2: SITE DIAGRAM



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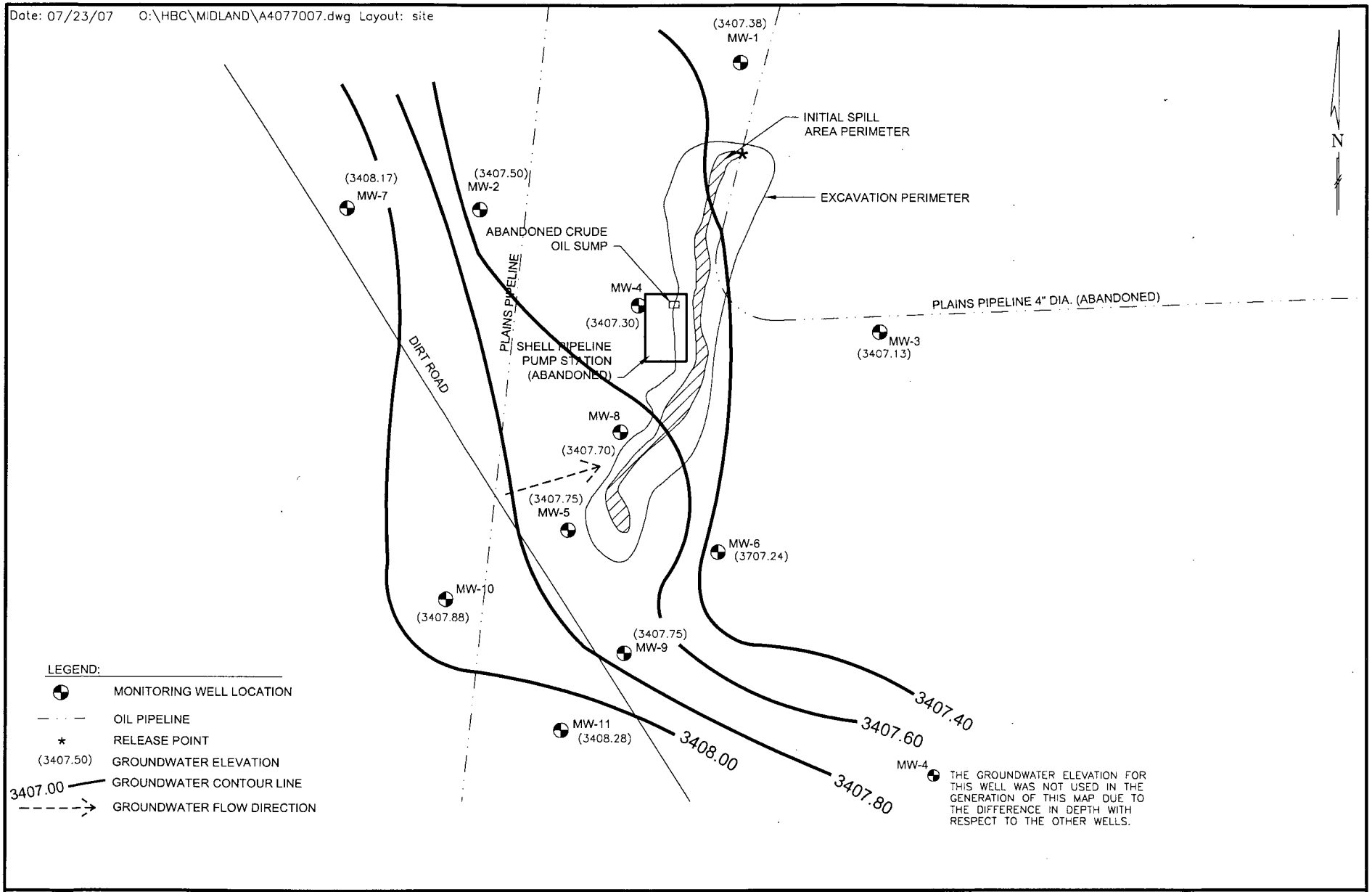
APPROXIMATE SCALE

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

Terracon **Project No.: A4077007**

FIGURE 3: GROUNDWATER GRADIENT MAP 02/22/07



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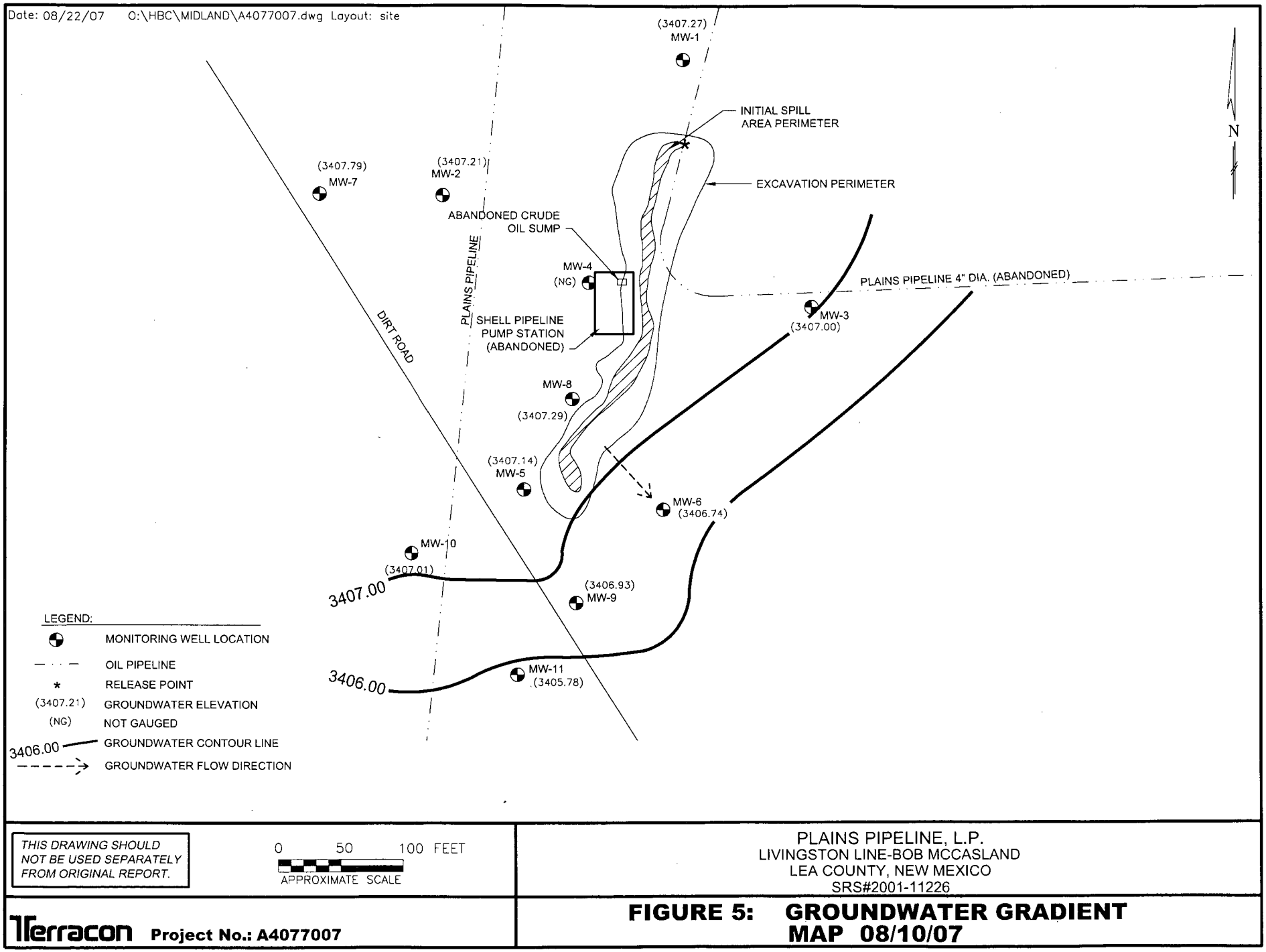
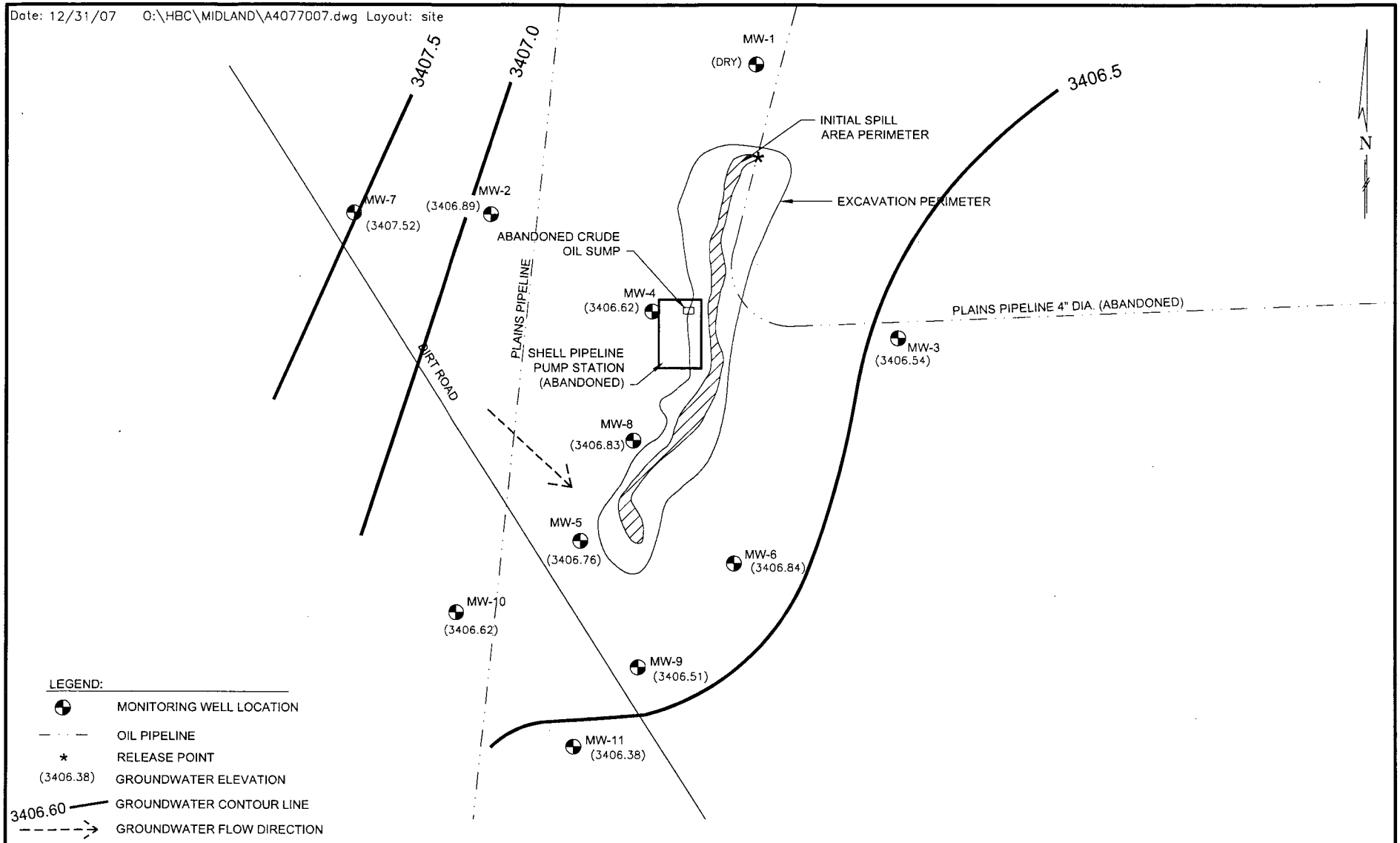
APPROXIMATE SCALE

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

Terracon **Project No.: A4077007**

FIGURE 4: GROUNDWATER GRADIENT MAP 05/10/07


Date: 08/22/07 O:\HBC\MIDLAND\A4077007.dwg Layout: site
(3407.27)
MW-1
INITIAL SPILL
AREA PERIMETER
N
(3407.79)
MW-7
(3407.21)
MW-2
EXCAVATION PERIMETER
ABANDONED CRUDE
OIL SUMP
PLAINS PIPELINE
MW-4
(NG)
PLAINS PIPELINE 4" DIA. (ABANDONED)
DIRT ROAD
SHELL PIPELINE
PUMP STATION
(ABANDONED)
MW-3
(3407.00)
MW-8
(3407.29)
(3407.14)
MW-5
MW-6
(3406.74)
MW-10
(3407.01)
3407.00
(3406.93)
MW-9
3406.00
MW-11
(3405.78)
LEGEND:
MONITORING WELL LOCATION
OIL PIPELINE
RELEASE POINT
(3407.21) GROUNDWATER ELEVATION
(NG) NOT GAUGED
3406.00 GROUNDWATER CONTOUR LINE
GROUNDWATER FLOW DIRECTION
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
Terracon Project No.: A4077007
FIGURE 5: GROUNDWATER GRADIENT
MAP 08/10/07



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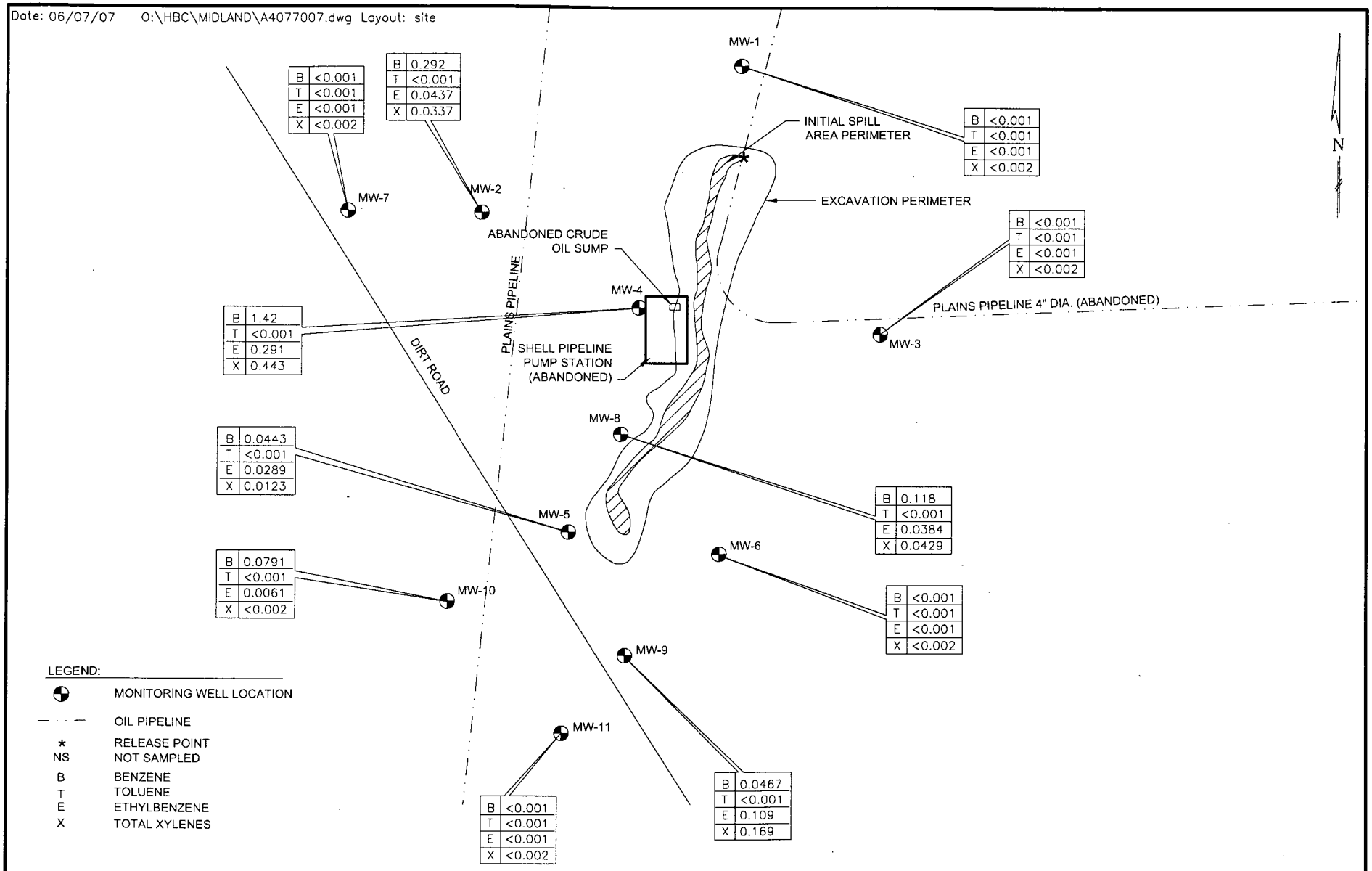
0 50 100 FEET
APPROXIMATE SCALE

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

Terracon **Project No.: A4077007**

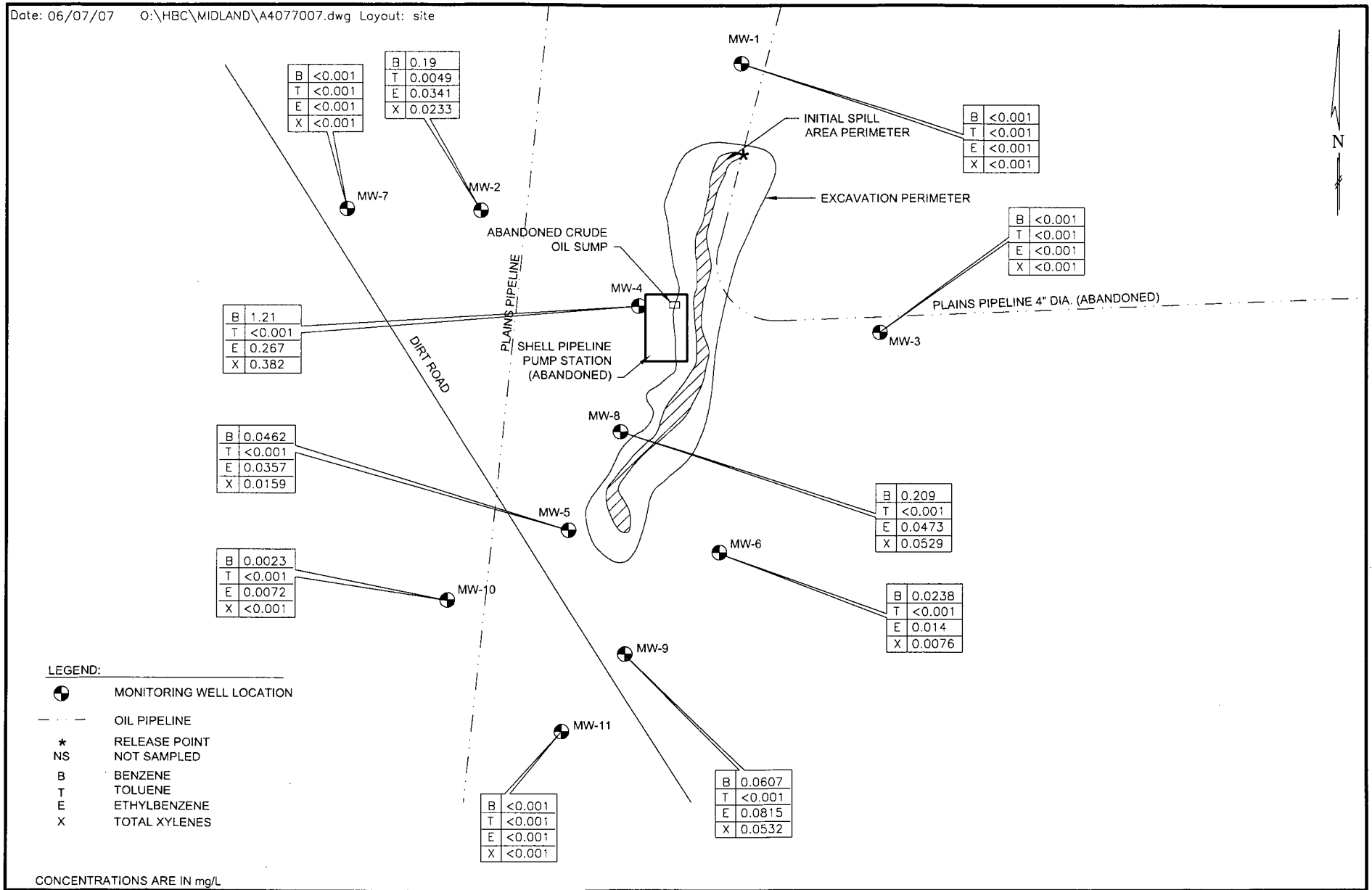
FIGURE 6: GROUNDWATER GRADIENT MAP 11/15/07



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

Terracon **Project No.: A4077007**

FIGURE 7: GROUNDWATER CONTAMINANT CONCENTRATION MAP 02/22/07



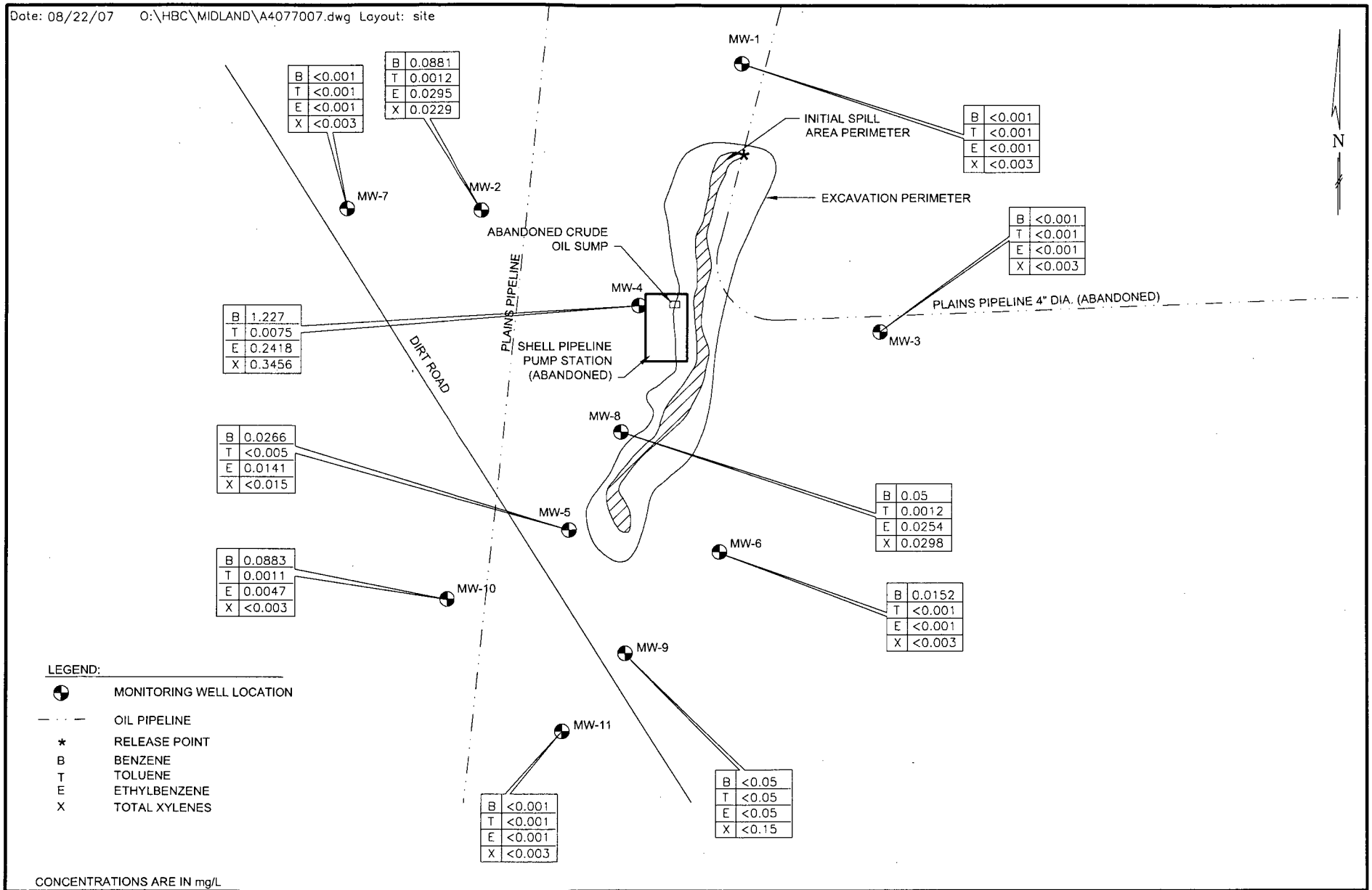
THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

0 50 100 FEET
APPROXIMATE SCALE

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

Terracon Project No.: A4077007

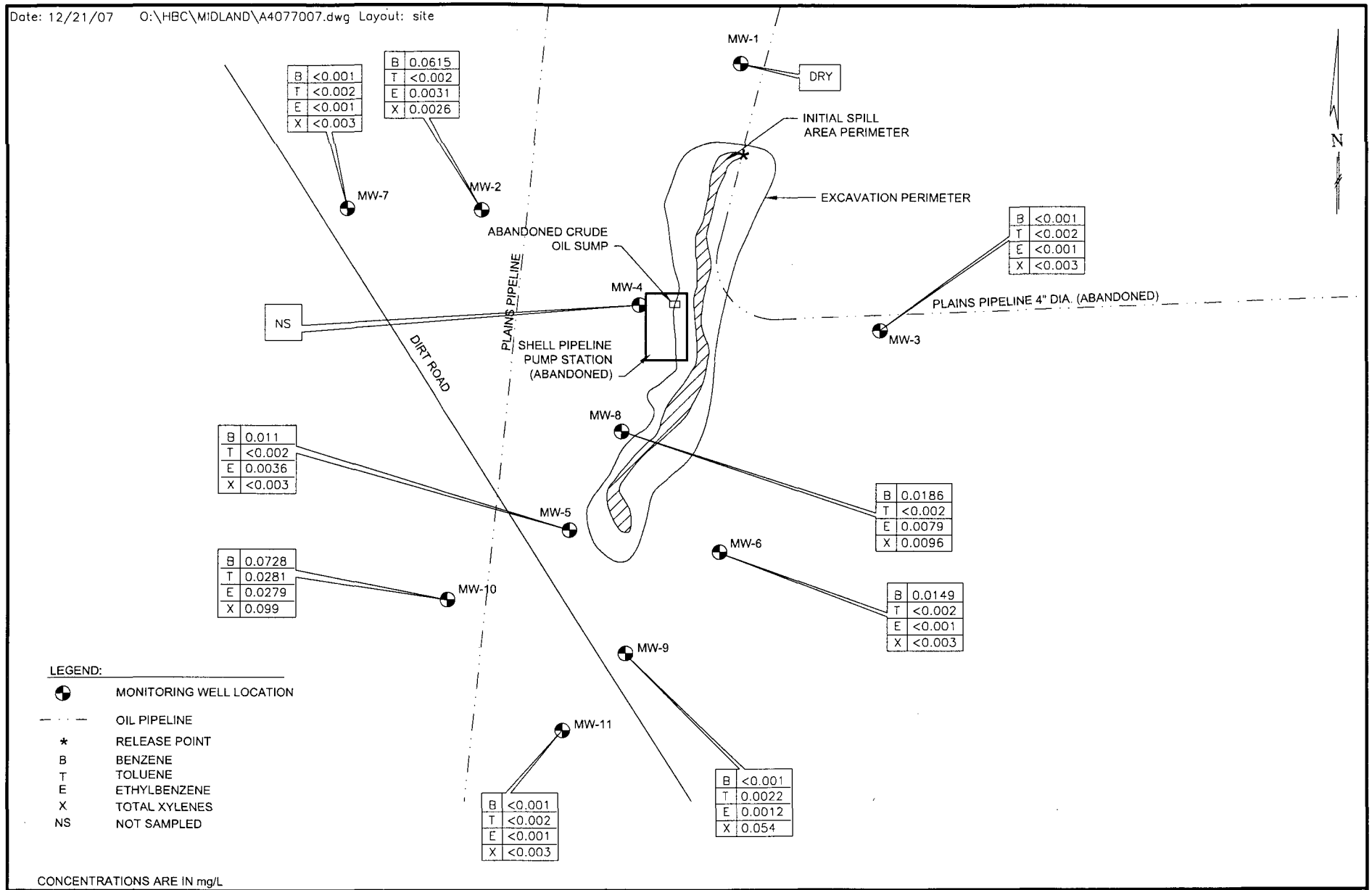
FIGURE 8: GROUNDWATER CONTAMINANT CONCENTRATION MAP 05/10/07



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

Terracon **Project No.: A4077007**

FIGURE 9: GROUNDWATER CONTAMINANT CONCENTRATION MAP 08/10/07



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

Terracon **Project No.: A4077007**

FIGURE 10: GROUNDWATER CONTAMINANT CONCENTRATION MAP 11/15/07

APPENDIX B

Tables

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-1	07/10/02	3,439.09	0.00	38.10	3,400.99	0.00
MW-1	04/15/03		0.00	37.31	3,401.78	0.00
MW-1	07/14/03		0.00	38.13	3,400.96	0.00
MW-1	04/20/04		0.00	35.62	3,403.47	0.00
MW-1	05/07/04		0.00	35.55	3,403.54	0.00
MW-1	05/25/04		0.00	35.62	3,403.47	0.00
MW-1	06/10/04		0.00	35.77	3,403.32	0.00
MW-1	07/14/04		0.00	34.90	3,404.19	0.00
MW-1	07/21/04		0.00	34.69	3,404.40	0.00
MW-1	08/02/04		0.00	34.73	3,404.36	0.00
MW-1	09/10/04		0.00	34.24	3,404.85	0.00
MW-1	09/14/04		0.00	34.26	3,404.83	0.00
MW-1	10/05/04		0.00	32.64	3,406.45	0.00
MW-1	10/19/04		0.00	30.92	3,408.17	0.00
MW-1	11/02/04		0.00	31.01	3,408.08	0.00
MW-1	11/15/04		0.00	30.41	3,408.68	0.00
MW-1	12/06/04		0.00	30.30	3,408.79	0.00
MW-1	12/21/04		0.00	30.29	3,408.80	0.00
MW-1	01/03/05		0.00	30.45	3,408.64	0.00
MW-1	01/18/05		0.00	30.57	3,408.52	0.00
MW-1	02/01/05		0.00	30.65	3,408.44	0.00
MW-1	03/21/05		0.00	30.81	3,408.28	0.00
MW-1	04/21/05		0.00	31.03	3,408.06	0.00
MW-1	05/05/05		0.00	31.04	3,408.05	0.00
MW-1	05/17/05		0.00	31.11	3,407.98	0.00
MW-1	08/15/05		0.00	31.50	3,407.59	0.00
MW-1	10/05/05		0.00	31.24	3,407.85	0.00
MW-1	11/18/05		0.00	31.44	3,407.65	0.00
MW-1	01/12/06		0.00	31.56	3,407.53	0.00
MW-1	02/16/06		0.00	31.68	3,407.41	0.00
MW-1	03/16/06		0.00	31.88	3,407.21	0.00
MW-1	04/10/06		0.00	31.83	3,407.26	0.00
MW-1	05/22/06		0.00	31.97	3,407.12	0.00
MW-1	07/20/06		0.00	32.44	3,406.65	0.00
MW-1	08/07/06		0.00	32.55	3,406.54	0.00
MW-1	09/11/06		0.00	31.87	3,407.22	0.00
MW-1	10/17/06		0.00	31.81	3,407.28	0.00
MW-1	11/21/06		0.00	31.91	3,407.18	0.00
MW-1	12/13/06		0.00	31.93	3,407.16	0.00
MW-1	01/09/07		0.00	32.07	3,407.02	0.00
MW-1	02/14/07		0.00	31.99	3,407.10	0.00
MW-1	02/22/07		0.00	32.01	3,407.08	0.00
MW-1	03/01/07		0.00	31.99	3,407.10	0.00
MW-1	03/13/07		0.00	32.03	3,407.06	0.00
MW-1	05/10/07		0.00	31.71	3,407.38	0.00
MW-1	08/10/07		0.00	31.82	3,407.27	0.00
MW-1	08/20/07		0.00	31.94	3,407.15	0.00
MW-1	11/15/07		DRY	DRY	DRY	DRY

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-2	07/10/02	3,432.62	0.00	31.31	3,401.31	0.00
MW-2	04/15/03		0.00	30.68	3,401.94	0.00
MW-2	07/14/03		0.00	31.70	3,400.92	0.00
MW-2	04/20/04		0.00	28.20	3,404.42	0.00
MW-2	05/07/04		0.00	28.44	3,404.18	0.00
MW-2	05/25/04		0.00	28.72	3,403.90	0.00
MW-2	06/10/04		0.00	29.14	3,403.48	0.00
MW-2	07/14/04		0.00	27.73	3,404.89	0.00
MW-2	07/21/04		0.00	27.71	3,404.91	0.00
MW-2	08/02/04		0.00	27.96	3,404.66	0.00
MW-2	09/10/04		0.00	27.52	3,405.10	0.00
MW-2	09/14/04		0.00	27.51	3,405.11	0.00
MW-2	10/05/04		0.00	24.25	3,408.37	0.00
MW-2	10/19/04		0.00	23.12	3,409.50	0.00
MW-2	11/02/04		0.00	23.22	3,409.40	0.00
MW-2	11/15/04		0.00	23.50	3,409.12	0.00
MW-2	12/06/04		0.00	23.63	3,408.99	0.00
MW-2	12/21/04		0.00	23.63	3,408.99	0.00
MW-2	01/03/05		0.00	23.91	3,408.71	0.00
MW-2	01/18/05		0.00	24.05	3,408.57	0.00
MW-2	02/01/05		0.00	24.17	3,408.45	0.00
MW-2	03/21/05		0.00	24.44	3,408.18	0.00
MW-2	04/21/05		0.00	24.67	3,407.95	0.00
MW-2	05/05/05		0.00	24.63	3,407.99	0.00
MW-2	05/17/05		0.00	24.78	3,407.84	0.00
MW-2	08/15/05		0.00	25.18	3,407.44	0.00
MW-2	10/05/05		0.00	24.93	3,407.69	0.00
MW-2	11/18/05		0.00	25.07	3,407.55	0.00
MW-2	01/12/06		0.00	25.18	3,407.44	0.00
MW-2	02/16/06		0.00	25.36	3,407.26	0.00
MW-2	03/16/06		0.00	25.57	3,407.05	0.00
MW-2	04/10/06		0.00	25.48	3,407.14	0.00
MW-2	05/22/06		0.00	25.63	3,406.99	0.00
MW-2	07/20/06		0.00	26.15	3,406.47	0.00
MW-2	08/07/06		0.00	26.28	3,406.34	0.00
MW-2	09/11/06		0.00	25.30	3,407.32	0.00
MW-2	10/17/06		0.00	25.39	3,407.23	0.00
MW-2	11/21/06		0.00	25.46	3,407.16	0.00
MW-2	12/13/06		0.00	25.48	3,407.14	0.00
MW-2	01/09/07		0.00	25.61	3,407.01	0.00
MW-2	02/14/07		0.00	25.52	3,407.10	0.00
MW-2	02/22/07		0.00	25.54	3,407.08	0.00
MW-2	03/01/07		0.00	25.47	3,407.15	0.00
MW-2	03/13/07		0.00	25.53	3,407.09	0.00
MW-2	05/10/07		0.00	25.12	3,407.50	0.00
MW-2	08/10/07		0.00	25.41	3,407.21	0.00
MW-2	08/20/07		0.00	25.57	3,407.05	0.00
MW-2	11/15/07		0.00	25.73	3,406.89	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-3	07/10/02	3,433.61	0.00	34.48	3,399.13	0.00
MW-3	04/15/03		0.00	32.14	3,401.47	0.00
MW-3	07/14/03		0.00	32.95	3,400.66	0.00
MW-3	04/20/04		0.00	29.17	3,404.44	0.00
MW-3	05/07/04		0.00	29.55	3,404.06	0.00
MW-3	05/25/04		0.00	29.80	3,403.81	0.00
MW-3	06/10/04		0.00	30.12	3,403.49	0.00
MW-3	07/14/04		0.00	28.33	3,405.28	0.00
MW-3	07/21/04		0.00	28.59	3,405.02	0.00
MW-3	08/02/04		0.00	28.85	3,404.76	0.00
MW-3	09/10/04		0.00	28.35	3,405.26	0.00
MW-3	09/14/04		0.00	28.45	3,405.16	0.00
MW-3	10/05/04		0.00	25.00	3,408.61	0.00
MW-3	10/19/04		0.00	23.24	3,410.37	0.00
MW-3	11/02/04		0.00	23.29	3,410.32	0.00
MW-3	11/15/04		0.00	24.10	3,409.51	0.00
MW-3	12/06/04		0.00	24.33	3,409.28	0.00
MW-3	12/21/04		0.00	24.39	3,409.22	0.00
MW-3	01/03/05		0.00	24.73	3,408.88	0.00
MW-3	01/18/05		0.00	24.94	3,408.67	0.00
MW-3	02/01/05		0.00	25.08	3,408.53	0.00
MW-3	03/21/05		0.00	25.40	3,408.21	0.00
MW-3	04/21/05		0.00	25.66	3,407.95	0.00
MW-3	05/05/05		0.00	25.63	3,407.98	0.00
MW-3	05/17/05		0.00	25.82	3,407.79	0.00
MW-3	08/15/05		0.00	26.06	3,407.55	0.00
MW-3	10/05/05		0.00	25.98	3,407.63	0.00
MW-3	11/18/05		0.00	26.26	3,407.35	0.00
MW-3	01/12/06		0.00	26.37	3,407.24	0.00
MW-3	02/16/06		0.00	26.52	3,407.09	0.00
MW-3	03/16/06		0.00	26.71	3,406.90	0.00
MW-3	04/10/06		0.00	26.69	3,406.92	0.00
MW-3	05/22/06		0.00	26.84	3,406.77	0.00
MW-3	07/20/06		0.00	28.27	3,405.34	0.00
MW-3	08/07/06		0.00	27.39	3,406.22	0.00
MW-3	09/11/06		0.00	26.52	3,407.09	0.00
MW-3	10/17/06		0.00	22.62	3,410.99	0.00
MW-3	11/21/06		0.00	26.77	3,406.84	0.00
MW-3	12/13/06		0.00	26.80	3,406.81	0.00
MW-3	01/09/07		0.00	26.92	3,406.69	0.00
MW-3	02/14/07		0.00	26.84	3,406.77	0.00
MW-3	02/22/07		0.00	26.87	3,406.74	0.00
MW-3	03/01/07		0.00	26.84	3,406.77	0.00
MW-3	03/13/07		0.00	26.89	3,406.72	0.00
MW-3	05/10/07		0.00	26.48	3,407.13	0.00
MW-3	08/10/07		0.00	26.61	3,407.00	0.00
MW-3	08/20/07		0.00	26.70	3,406.91	0.00
MW-3	11/15/07		0.00	27.07	3,406.54	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-4	07/10/02	3,432.35	30.70	30.95	3,401.63	0.25
MW-4	11/18/02		29.28	29.95	3,403.00	0.67
MW-4	12/13/02		29.75	30.99	3,402.48	1.24
MW-4	03/24/03		30.56	31.03	3,401.74	0.47
MW-4	04/15/03		30.55	31.05	3,401.75	0.50
MW-4	05/02/03		30.71	30.94	3,401.62	0.23
MW-4	06/16/03		31.09	31.18	3,401.25	0.09
MW-4	07/14/03		31.50	31.81	3,400.82	0.31
MW-4	07/31/03		31.49	31.80	3,400.83	0.31
MW-4	09/22/03		32.05	32.07	3,400.30	0.02
MW-4	10/23/03		32.03	33.07	3,400.22	1.04
MW-4	11/05/03		32.10	34.65	3,400.00	2.55
MW-4	01/02/04		31.82	35.30	3,400.18	3.48
MW-4	01/30/04		32.20	34.20	3,399.95	2.00
MW-4	03/03/04		32.19	34.21	3,399.96	2.02
MW-4	03/15/04		32.15	33.87	3,400.03	1.72
MW-4	03/25/04		32.14	33.87	3,400.04	1.73
MW-4	04/20/04		27.20	27.86	3,405.08	0.66
MW-4	05/07/04		27.89	28.63	3,404.39	0.74
MW-4	05/25/04		28.55	28.78	3,403.78	0.23
MW-4	06/10/04		28.80	28.84	3,403.55	0.04
MW-4	07/14/04		0.00	26.88	3,405.47	0.00
MW-4	07/21/04		0.00	27.67	3,404.68	0.00
MW-4	08/02/04		0.00	27.28	3,405.07	0.00
MW-4	09/10/04		0.00	27.25	3,405.10	0.00
MW-4	09/14/04		0.00	27.15	3,405.20	0.00
MW-4	10/05/04		0.00	23.20	3,409.15	0.00
MW-4	10/19/04		0.00	22.00	3,410.35	0.00
MW-4	11/02/04		0.00	22.29	3,410.06	0.00
MW-4	11/15/04		0.00	22.95	3,409.40	0.00
MW-4	12/06/04		0.00	23.19	3,409.16	0.00
MW-4	12/21/04		0.00	23.21	3,409.14	0.00
MW-4	01/03/05		0.00	23.56	3,408.79	0.00
MW-4	01/18/05		0.00	23.75	3,408.60	0.00
MW-4	02/01/05		0.00	23.83	3,408.52	0.00
MW-4	03/21/05		0.00	24.11	3,408.24	0.00
MW-4	04/21/05		0.00	24.56	3,407.79	0.00
MW-4	05/05/05		0.00	24.54	3,407.81	0.00
MW-4	05/17/05		0.00	24.68	3,407.67	0.00
MW-4	08/15/05		0.00	24.98	3,407.37	0.00
MW-4	10/05/05		0.00	24.85	3,407.50	0.00
MW-4	11/18/05		0.00	25.04	3,407.31	0.00
MW-4	01/12/06		0.00	25.13	3,407.22	0.00
MW-4	02/16/06		0.00	25.31	3,407.04	0.00
MW-4	03/16/06		0.00	25.42	3,406.93	0.00
MW-4	04/10/06		0.00	25.42	3,406.93	0.00
MW-4	05/22/06		0.00	25.29	3,407.06	0.00
MW-4	07/20/06		0.00	26.02	3,406.33	0.00
MW-4	08/07/06		0.00	26.33	3,406.02	0.00
MW-4	09/11/06		0.00	25.02	3,407.33	0.00
MW-4	10/17/06		0.00	25.34	3,407.01	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-4	11/21/06		0.00	25.37	3,406.98	0.00
MW-4	12/13/06		0.00	24.71	3,407.64	0.00
MW-4	01/09/07		0.00	25.81	3,406.54	0.00
MW-4	02/14/07		0.00	25.51	3,406.84	0.00
MW-4	02/22/07		0.00	25.47	3,406.88	0.00
MW-4	03/01/07		0.00	25.43	3,406.92	0.00
MW-4	03/13/07		0.00	25.46	3,406.89	0.00
MW-4	03/23/07		0.00			0.25
MW-4	04/09/07		0.00	25.39	3,406.96	0.00
MW-4	05/10/07		0.00	25.05	3,407.30	0.00
MW-4	05/16/07		0.00	24.83	3,407.52	0.00
MW-4	05/29/07		0.00	24.71	3,407.64	0.00
MW-4	06/06/07		0.00	22.12	3,410.23	0.00
MW-4	06/21/07		0.00	24.94	3,407.41	0.00
MW-4	07/12/07		0.00	25.10	3,407.25	0.00
MW-4	07/25/07		0.00	25.26	3,407.09	0.00
MW-4	08/08/07		0.00	25.38	3,406.97	0.00
MW-4	08/20/07		0.00	25.49	3,406.86	0.00
MW-4	09/07/07		0.00	26.66	3,405.69	0.00
MW-4	09/19/07		0.00	25.64	3,406.71	0.00
MW-4	10/01/07		0.00	24.03	3,408.32	0.00
MW-4	10/15/07		0.00	25.69	3,406.66	0.00
MW-4	11/02/07		0.00	25.71	3,406.64	0.00
MW-4	11/15/07		0.00	25.73	3,406.62	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-5	07/10/02	3,429.63	0.00	27.16	3,402.47	0.00
MW-5	04/15/03		0.00	27.79	3,401.84	0.00
MW-5	07/14/03		0.00	28.79	3,400.84	0.00
MW-5	04/20/04		0.00	23.73	3,405.90	0.00
MW-5	05/07/04		0.00	24.75	3,404.88	0.00
MW-5	05/25/04		0.00	25.32	3,404.31	0.00
MW-5	06/10/04		0.00	25.66	3,403.97	0.00
MW-5	07/14/04		0.00	23.33	3,406.30	0.00
MW-5	07/21/04		0.00	24.30	3,405.33	0.00
MW-5	08/02/04		0.00	23.88	3,405.75	0.00
MW-5	09/10/04		0.00	23.58	3,406.05	0.00
MW-5	09/14/04		0.00	23.88	3,405.75	0.00
MW-5	10/05/04		0.00	17.86	3,411.77	0.00
MW-5	10/19/04		0.00	17.50	3,412.13	0.00
MW-5	11/02/04		0.00	17.52	3,412.11	0.00
MW-5	11/15/04		0.00	19.54	3,410.09	0.00
MW-5	12/06/04		0.00	20.04	3,409.59	0.00
MW-5	12/21/04		0.00	20.17	3,409.46	0.00
MW-5	01/03/05		0.00	20.60	3,409.03	0.00
MW-5	01/18/05		0.00	20.86	3,408.77	0.00
MW-5	02/01/05		0.00	21.05	3,408.58	0.00
MW-5	03/21/05		0.00	21.41	3,408.22	0.00
MW-5	04/21/05		0.00	21.76	3,407.87	0.00
MW-5	05/05/05		0.00	21.76	3,407.87	0.00
MW-5	05/17/05		0.00	21.87	3,407.76	0.00
MW-5	08/15/05		0.00	22.00	3,407.63	0.00
MW-5	10/05/05		0.00	22.01	3,407.62	0.00
MW-5	11/18/05		0.00	22.20	3,407.43	0.00
MW-5	01/12/06		0.00	22.32	3,407.31	0.00
MW-5	02/16/06		0.00	22.56	3,407.07	0.00
MW-5	03/16/06		0.00	22.71	3,406.92	0.00
MW-5	04/10/06		0.00	22.66	3,406.97	0.00
MW-5	05/22/06		0.00	22.83	3,406.80	0.00
MW-5	07/20/06		0.00	23.26	3,406.37	0.00
MW-5	08/07/06		0.00	23.27	3,406.36	0.00
MW-5	09/11/06		0.00	22.23	3,407.40	0.00
MW-5	10/17/06		0.00	22.67	3,406.96	0.00
MW-5	11/21/06		0.00	22.67	3,406.96	0.00
MW-5	12/13/06		0.00	22.71	3,406.92	0.00
MW-5	01/09/07		0.00	22.83	3,406.80	0.00
MW-5	02/14/07		0.00	22.67	3,406.96	0.00
MW-5	02/22/07		0.00	22.69	3,406.94	0.00
MW-5	03/01/07		0.00	22.64	3,406.99	0.00
MW-5	03/13/07		0.00	22.68	3,406.95	0.00
MW-5	05/10/07		0.00	21.88	3,407.75	0.00
MW-5	08/10/07		0.00	22.49	3,407.14	0.00
MW-5	08/20/07		0.00	22.60	3,407.03	0.00
MW-5	11/15/07		0.00	22.87	3,406.76	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-6	07/10/02	3,429.30	0.00	27.16	3,402.14	0.00
MW-6	04/15/03		0.00	27.93	3,401.37	0.00
MW-6	07/14/03		0.00	28.90	3,400.40	0.00
MW-6	04/20/04		0.00	23.65	3,405.65	0.00
MW-6	05/07/04		0.00	24.72	3,404.58	0.00
MW-6	05/25/04		0.00	25.30	3,404.00	0.00
MW-6	06/10/04		0.00	25.75	3,403.55	0.00
MW-6	07/14/04		0.00	23.15	3,406.15	0.00
MW-6	07/21/04		0.00	24.41	3,404.89	0.00
MW-6	08/02/04		0.00	23.78	3,405.52	0.00
MW-6	09/10/04		0.00	23.86	3,405.44	0.00
MW-6	09/14/04		0.00	24.10	3,405.20	0.00
MW-6	10/05/04		0.00	16.96	3,412.34	0.00
MW-6	10/19/04		0.00	16.84	3,412.46	0.00
MW-6	11/02/04		0.00	16.86	3,412.44	0.00
MW-6	11/15/04		0.00	19.33	3,409.97	0.00
MW-6	12/06/04		0.00	19.77	3,409.53	0.00
MW-6	12/21/04		0.00	19.98	3,409.32	0.00
MW-6	01/03/05		0.00	20.42	3,408.88	0.00
MW-6	01/18/05		0.00	20.70	3,408.60	0.00
MW-6	02/01/05		0.00	20.90	3,408.40	0.00
MW-6	03/21/05		0.00	21.52	3,407.78	0.00
MW-6	04/21/05		0.00	21.64	3,407.66	0.00
MW-6	05/05/05		0.00	21.62	3,407.68	0.00
MW-6	05/17/05		0.00	21.77	3,407.53	0.00
MW-6	08/15/05		0.00	21.91	3,407.39	0.00
MW-6	10/05/05		0.00	21.98	3,407.32	0.00
MW-6	11/18/05		0.00	22.25	3,407.05	0.00
MW-6	01/12/06		0.00	22.36	3,406.94	0.00
MW-6	02/16/06		0.00	22.51	3,406.79	0.00
MW-6	03/16/06		0.00	22.71	3,406.59	0.00
MW-6	04/10/06		0.00	22.65	3,406.65	0.00
MW-6	05/22/06		0.00	22.82	3,406.48	0.00
MW-6	07/20/06		0.00	23.26	3,406.04	0.00
MW-6	08/07/06		0.00	24.37	3,404.93	0.00
MW-6	09/11/06		0.00	22.28	3,407.02	0.00
MW-6	10/17/06		0.00	22.54	3,406.76	0.00
MW-6	11/21/06		0.00	22.66	3,406.64	0.00
MW-6	12/13/06		0.00	22.69	3,406.61	0.00
MW-6	01/09/07		0.00	22.83	3,406.47	0.00
MW-6	02/14/07		0.00	22.75	3,406.55	0.00
MW-6	02/22/07		0.00	22.78	3,406.52	0.00
MW-6	03/01/07		0.00	22.75	3,406.55	0.00
MW-6	03/13/07		0.00	22.78	3,406.52	0.00
MW-6	05/10/07		0.00	22.06	3,407.24	0.00
MW-6	08/10/07		0.00	22.56	3,406.74	0.00
MW-6	08/20/07		0.00	22.67	3,406.63	0.00
MW-6	11/15/07		0.00	22.46	3,406.84	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-7	06/10/04	3,431.37	0.00	27.15	3,404.22	0.00
MW-7	07/14/04		0.00	25.69	3,405.68	0.00
MW-7	07/21/04		0.00	25.93	3,405.44	0.00
MW-7	08/02/04		0.00	26.10	3,405.27	0.00
MW-7	09/10/04		0.00	25.73	3,405.64	0.00
MW-7	09/14/04		0.00	25.75	3,405.62	0.00
MW-7	10/05/04		0.00	22.65	3,408.72	0.00
MW-7	10/19/04		0.00	21.55	3,409.82	0.00
MW-7	11/02/04		0.00	21.58	3,409.79	0.00
MW-7	11/15/04		0.00	21.68	3,409.69	0.00
MW-7	12/06/04		0.00	21.80	3,409.57	0.00
MW-7	12/21/04		0.00	21.43	3,409.94	0.00
MW-7	01/03/05		0.00	22.03	3,409.34	0.00
MW-7	01/18/05		0.00	22.18	3,409.19	0.00
MW-7	02/01/05		0.00	22.29	3,409.08	0.00
MW-7	03/21/05		0.00	22.49	3,408.88	0.00
MW-7	04/21/05		0.00	22.76	3,408.61	0.00
MW-7	05/05/05		0.00	22.74	3,408.63	0.00
MW-7	05/17/05		0.00	22.86	3,408.51	0.00
MW-7	08/15/05		0.00	23.30	3,408.07	0.00
MW-7	10/05/05		0.00	23.01	3,408.36	0.00
MW-7	11/18/05		0.00	23.18	3,408.19	0.00
MW-7	01/12/06		0.00	23.25	3,408.12	0.00
MW-7	02/16/06		0.00	23.41	3,407.96	0.00
MW-7	03/16/06		0.00	23.60	3,407.77	0.00
MW-7	04/10/06		0.00	23.52	3,407.85	0.00
MW-7	05/22/06		0.00	23.75	3,407.62	0.00
MW-7	07/20/06		0.00	24.24	3,407.13	0.00
MW-7	08/07/06		0.00	24.33	3,407.04	0.00
MW-7	09/11/06		0.00	23.41	3,407.96	0.00
MW-7	10/17/06		0.00	23.44	3,407.93	0.00
MW-7	11/21/06		0.00	23.49	3,407.88	0.00
MW-7	12/13/06		0.00	23.48	3,407.89	0.00
MW-7	01/09/07		0.00	23.61	3,407.76	0.00
MW-7	02/14/07		0.00	23.50	3,407.87	0.00
MW-7	02/22/07		0.00	23.54	3,407.83	0.00
MW-7	03/01/07		0.00	23.49	3,407.88	0.00
MW-7	03/13/07		0.00	23.54	3,407.83	0.00
MW-7	05/10/07		0.00	23.20	3,408.17	0.00
MW-7	08/10/07		0.00	23.58	3,407.79	0.00
MW-7	08/20/07		0.00	23.66	3,407.71	0.00
MW-7	11/15/07		0.00	23.85	3,407.52	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-8	06/10/04	3,431.07	0.00	27.52	3,403.55	0.00
MW-8	07/14/04		0.00	25.69	3,405.38	0.00
MW-8	07/21/04		0.00	25.46	3,405.61	0.00
MW-8	08/02/04		0.00	25.88	3,405.19	0.00
MW-8	09/10/04		0.00	25.35	3,405.72	0.00
MW-8	09/14/04		0.00	25.51	3,405.56	0.00
MW-8	10/05/04		0.00	20.30	3,410.77	0.00
MW-8	10/19/04		0.00	19.44	3,411.63	0.00
MW-8	11/02/04		0.00	19.46	3,411.61	0.00
MW-8	11/15/04		0.00	21.07	3,410.00	0.00
MW-8	12/06/04		0.00	21.48	3,409.59	0.00
MW-8	12/21/04		0.00	21.58	3,409.49	0.00
MW-8	01/03/05		0.00	21.98	3,409.09	0.00
MW-8	01/18/05		0.00	22.21	3,408.86	0.00
MW-8	02/01/05		0.00	22.37	3,408.70	0.00
MW-8	03/21/05		0.00	22.72	3,408.35	0.00
MW-8	04/21/05		0.00	22.92	3,408.15	0.00
MW-8	05/05/05		0.00	22.90	3,408.17	0.00
MW-8	05/17/05		0.00	23.16	3,407.91	0.00
MW-8	08/15/05		0.00	23.41	3,407.66	0.00
MW-8	10/05/05		0.00	23.29	3,407.78	0.00
MW-8	11/18/05		0.00	23.55	3,407.52	0.00
MW-8	01/12/06		0.00	23.58	3,407.49	0.00
MW-8	02/16/06		0.00	23.80	3,407.27	0.00
MW-8	03/16/06		0.00	23.92	3,407.15	0.00
MW-8	04/10/06		0.00	24.09	3,406.98	0.00
MW-8	05/22/06		0.00	24.25	3,406.82	0.00
MW-8	07/20/06		0.00	24.57	3,406.50	0.00
MW-8	08/07/06		0.00	24.66	3,406.41	0.00
MW-8	09/11/06		0.00	23.65	3,407.42	0.00
MW-8	10/17/06		0.00	23.83	3,407.24	0.00
MW-8	11/21/06		0.00	24.18	3,406.89	0.00
MW-8	12/13/06		0.00	24.23	3,406.84	0.00
MW-8	01/09/07		0.00	24.36	3,406.71	0.00
MW-8	02/14/07		0.00	24.64	3,406.43	0.00
MW-8	02/22/07		0.00	23.95	3,407.12	0.00
MW-8	03/01/07		0.00	23.92	3,407.15	0.00
MW-8	03/13/07		0.00	23.95	3,407.12	0.00
MW-8	05/10/07		0.00	23.37	3,407.70	0.00
MW-8	08/10/07		0.00	23.78	3,407.29	0.00
MW-8	08/20/07		0.00	23.91	3,407.16	0.00
MW-8	09/07/07		0.00	24.09	3,406.98	0.00
MW-8	09/19/07		0.00	24.13	3,406.94	0.00
MW-8	10/01/07		0.00	25.68	3,405.39	0.00
MW-8	10/15/07		0.00	24.16	3,406.91	0.00
MW-8	11/02/07		0.00	24.22	3,406.85	0.00
MW-8	11/15/07		0.00	24.24	3,406.83	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-9	06/10/04	3,429.79	0.00	Screen Filled With Mud		0.00
MW-9	07/14/04		0.00	24.02	3,405.77	0.00
MW-9	07/21/04		0.00	23.84	3,405.95	0.00
MW-9	08/02/04		0.00	24.77	3,405.02	0.00
MW-9	09/10/04		0.00	24.21	3,405.58	0.00
MW-9	09/14/04		0.00	24.27	3,405.52	0.00
MW-9	10/05/04		0.00	15.51	3,414.28	0.00
MW-9	10/19/04		0.00	16.54	3,413.25	0.00
MW-9	11/02/04		0.00	16.57	3,413.22	0.00
MW-9	11/15/04		0.00	19.53	3,410.26	0.00
MW-9	12/06/04		0.00	20.02	3,409.77	0.00
MW-9	12/21/04		0.00	20.36	3,409.43	0.00
MW-9	01/03/05		0.00	20.83	3,408.96	0.00
MW-9	01/18/05		0.00	21.10	3,408.69	0.00
MW-9	02/01/05		0.00	21.30	3,408.49	0.00
MW-9	03/21/05		0.00	21.69	3,408.10	0.00
MW-9	04/21/05		0.00	22.08	3,407.71	0.00
MW-9	05/05/05		0.00	22.06	3,407.73	0.00
MW-9	05/17/05		0.00	22.23	3,407.56	0.00
MW-9	08/15/05		0.00	22.30	3,407.49	0.00
MW-9	10/05/05		0.00	22.41	3,407.38	0.00
MW-9	11/18/05		0.00	22.68	3,407.11	0.00
MW-9	01/12/06		0.00	22.71	3,407.08	0.00
MW-9	02/16/06		0.00	22.93	3,406.86	0.00
MW-9	03/16/06		0.00	23.12	3,406.67	0.00
MW-9	04/10/06		0.00	23.10	3,406.69	0.00
MW-9	05/22/06		0.00	23.21	3,406.58	0.00
MW-9	07/20/06		0.00	23.69	3,406.10	0.00
MW-9	08/07/06		0.00	24.02	3,405.77	0.00
MW-9	09/11/06		0.00	22.61	3,407.18	0.00
MW-9	10/17/06		0.00	22.98	3,406.81	0.00
MW-9	11/21/06		0.00	23.06	3,406.73	0.00
MW-9	12/13/06		0.00	23.71	3,406.08	0.00
MW-9	01/09/07		0.00	23.24	3,406.55	0.00
MW-9	02/14/07		0.00	23.19	3,406.60	0.00
MW-9	02/22/07		0.00	23.09	3,406.70	0.00
MW-9	03/01/07		0.00	23.07	3,406.72	0.00
MW-9	03/13/07		0.00	23.10	3,406.69	0.00
MW-9	05/10/07		0.00	22.04	3,407.75	0.00
MW-9	05/29/07		0.00	22.08	3,407.71	0.00
MW-9	06/06/07		0.00	24.68	3,405.11	0.00
MW-9	06/21/07		0.00	22.35	3,407.44	0.00
MW-9	08/10/07		0.00	22.86	3,406.93	0.00
MW-9	08/20/07		0.00	22.99	3,406.80	0.00
MW-9	11/15/07		0.00	23.28	3,406.51	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-10	11/15/04	3,429.49	0.00	19.61	3,409.88	0.00
MW-10	12/06/04		0.00	19.95	3,409.54	0.00
MW-10	12/21/04		0.00	20.13	3,409.36	0.00
MW-10	01/03/05		0.00	20.56	3,408.93	0.00
MW-10	01/18/05		0.00	20.79	3,408.70	0.00
MW-10	02/01/05		0.00	20.98	3,408.51	0.00
MW-10	03/21/05		0.00	21.36	3,408.13	0.00
MW-10	04/21/05		0.00	21.64	3,407.85	0.00
MW-10	05/05/05		0.00	21.69	3,407.80	0.00
MW-10	05/17/05		0.00	21.81	3,407.68	0.00
MW-10	08/15/05		0.00	21.93	3,407.56	0.00
MW-10	10/05/05		0.00	21.98	3,407.51	0.00
MW-10	11/18/05		0.00	22.22	3,407.27	0.00
MW-10	01/12/06		0.00	22.33	3,407.16	0.00
MW-10	02/16/06		0.00	22.47	3,407.02	0.00
MW-10	03/16/06		0.00	22.77	3,406.72	0.00
MW-10	04/10/06		0.00	22.60	3,406.89	0.00
MW-10	05/22/06		0.00	22.78	3,406.71	0.00
MW-10	07/20/06		0.00	23.18	3,406.31	0.00
MW-10	08/07/06		0.00	23.25	3,406.24	0.00
MW-10	09/11/06		0.00	22.11	3,407.38	0.00
MW-10	10/17/06		0.00	22.46	3,407.03	0.00
MW-10	11/21/06		0.00	22.57	3,406.92	0.00
MW-10	12/13/06		0.00	22.61	3,406.88	0.00
MW-10	01/09/07		0.00	22.71	3,406.78	0.00
MW-10	02/14/07		0.00	22.65	3,406.84	0.00
MW-10	02/22/07		0.00	22.64	3,406.85	0.00
MW-10	03/01/07		0.00	22.58	3,406.91	0.00
MW-10	03/13/07		0.00	22.64	3,406.85	0.00
MW-10	05/10/07		0.00	21.61	3,407.88	0.00
MW-10	08/10/07		0.00	22.48	3,407.01	0.00
MW-10	08/20/07		0.00	22.59	3,406.90	0.00
MW-10	11/15/07		0.00	22.87	3,406.62	0.00

Table 1

GROUNDWATER ELEVATION AND PSH DATA

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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
MW-11	11/15/04	3,428.32	0.00	18.26	3,410.06	0.00
MW-11	12/06/04		0.00	18.67	3,409.65	0.00
MW-11	12/21/04		0.00	18.93	3,409.39	0.00
MW-11	01/03/05		0.00	19.4	3,408.92	0.00
MW-11	01/18/05		0.00	19.68	3,408.64	0.00
MW-11	02/01/05		0.00	19.9	3,408.42	0.00
MW-11	03/21/05		0.00	20.34	3,407.98	0.00
MW-11	04/21/05		0.00	20.70	3,407.62	0.00
MW-11	05/05/05		0.00	20.71	3,407.61	0.00
MW-11	05/17/05		0.00	20.87	3,407.45	0.00
MW-11	08/15/05		0.00	20.95	3,407.37	0.00
MW-11	10/05/05		0.00	21.04	3,407.28	0.00
MW-11	11/18/05		0.00	21.31	3,407.01	0.00
MW-11	01/12/06		0.00	21.55	3,406.77	0.00
MW-11	02/16/06		0.00	21.58	3,406.74	0.00
MW-11	03/16/06		0.00	21.77	3,406.55	0.00
MW-11	04/10/06		0.00	21.75	3,406.57	0.00
MW-11	05/22/06		0.00	21.90	3,406.42	0.00
MW-11	08/07/06		0.00	22.32	3,406.00	0.00
MW-11	09/11/06		0.00	21.19	3,407.13	0.00
MW-11	10/17/06		0.00	21.49	3,406.83	0.00
MW-11	11/21/06		0.00	21.61	3,406.71	0.00
MW-11	12/13/06		0.00	21.64	3,406.68	0.00
MW-11	01/09/07		0.00	21.47	3,406.85	0.00
MW-11	02/14/07		0.00	21.70	3,406.62	0.00
MW-11	02/22/07		0.00	21.72	3,406.60	0.00
MW-11	03/01/07		0.00	21.69	3,406.63	0.00
MW-11	03/13/07		0.00	21.73	3,406.59	0.00
MW-11	05/10/07		0.00	20.04	3,408.28	0.00
MW-11	08/10/07		0.00	22.54	3,405.78	0.00
MW-11	08/20/07		0.00	21.63	3,406.69	0.00
MW-11	11/15/07		0.00	21.94	3,406.38	0.00

* - 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
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	Chlorides	Total Dissolved Solids	TPH (Diesel)	TPH (Gasoline)	Total TPH
MW-1	09/13/01	0.002	0.003	<0.001	<0.001	<0.001	**0.549**	**1.65**	<0.003	<0.003	<0.006
MW-1	01/24/02	<0.001	<0.001	<0.001	<0.001	<0.001	**0.617**	**1.83**			
MW-1	04/12/02	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-1	07/10/02	0.00188	<0.001	0.00187	0.00104	<0.001					
MW-1	04/15/03	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-1	07/14/03	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-1	04/20/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	07/14/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	09/14/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	02/22/07	<0.001	<0.001	<0.001	<0.002						
MW-1	05/10/07	<0.001	<0.001	<0.001	<0.001						
MW-1	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-1	11/15/07	Dry - Not Sampled									
MW-2	01/24/02	**0.368**	<0.001	0.0537	0.065	0.0125	**0.000712**	**0.002**			
MW-2	04/12/02	**0.127**	<0.001	0.0254	0.0283	0.00833					
MW-2	07/10/02	**0.0674**	0.00188	0.0176	0.0154	0.00389					
MW-2	04/15/03	**0.229**	0.001	0.0588	0.0443	0.0124					
MW-2	07/14/03	**0.185**	<0.001	0.0351	0.0295	0.00823					
MW-2	04/20/04	**0.125**	<0.001	0.0341	0.0567	0.0153					
MW-2	07/14/04	**0.209**	0.00616	0.047	0.0212	0.0154					
MW-2	09/14/04	**0.125**	0.00276	0.0358	0.0106	0.00701					
MW-2	12/21/04	**0.267**	0.00124	0.0357	<0.002	0.00109					
MW-2	03/21/05	**0.186**	<0.001	0.0136	0.00541	0.00199					
MW-2	05/17/05	**0.342**	0.001	0.0281	0.0334	0.0147					
MW-2	08/15/05	**0.145**	0.00718	0.0187	0.02	0.00849					
MW-2	11/18/05	**0.413**	0.00207	0.114	0.122	0.0349					
MW-2	02/16/06	**0.433**	<0.001	0.146	0.161	0.00465					
MW-2	05/22/06	**0.694**	0.162	0.172	0.206	0.0182					
MW-2	08/07/06	**0.664**	0.00604	0.0496	0.0816	0.00811					
MW-2	11/21/06	**0.461**	<0.005	0.0638	0.0614	<0.005					
MW-2	02/22/07	**0.292**	<0.001	0.0437	0.0337						
MW-2	05/10/07	**0.19**	0.0049	0.0341	0.0233						
MW-2	08/10/07	**0.0881**	0.0012	0.0295	0.0229	<0.001					
MW-2	11/15/07	**0.0615**	<0.002	0.0031	0.0026	<0.001					

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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	Chlorides	Total Dissolved Solids	TPH (Diesel)	TPH (Gasoline)	Total TPH
MW-3	09/13/01	<0.001	<0.001	<0.001	<0.001	<0.001	**0.922**	**2.75**	<0.003	<0.003	<0.006
MW-3	01/24/02	<0.001	<0.001	<0.001	<0.001	<0.001	**1.06**	**2.76**			
MW-3	04/12/02	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-3	07/10/02	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-3	04/15/03	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-3	07/14/03	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-3	04/20/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	07/14/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	09/14/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	02/22/07	<0.001	<0.001	<0.001	<0.002						
MW-3	05/10/07	<0.001	<0.001	<0.001	<0.001						
MW-3	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-3	11/15/07	<0.001	<0.002	<0.001	<0.002	<0.001					
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					
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					
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					
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					
MW-4	02/16/06	**2.1**	<0.001	0.414	0.806	<0.001					
MW-4	05/22/06	**2.11**	<0.005	0.372	0.663	<0.005					
MW-4	08/07/06	**2.84**	0.00604	0.049	0.0816	0.00811					
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						
MW-4	05/10/07	**1.21**	<0.001	0.267	0.382						
MW-4	08/10/07	**1.227**	0.0075	0.2418	0.3456	<0.005					
MW-4	11/15/07	Not Sampled due to the Presence of Phase Separated Hydrocarbons									

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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	Chlorides	Total Dissolved Solids	TPH (Diesel)	TPH (Gasoline)	Total TPH
MW-5	09/13/01	**0.535**	0.075	0.084	0.438	0.04	**0.709**	**2.03**	0.00634	0.00302	0.00936
MW-5	01/24/02	**0.28**	0.00319	0.107	0.00828	0.00565	**0.635**	**2.08**			
MW-5	04/12/02	**0.303**	0.00948	0.129	0.00816	0.0132					
MW-5	04/15/03	**0.129**	0.00354	0.0366	0.00352	0.00238					
MW-5	07/14/03	**0.0814**	<0.001	0.0344	0.00141	<0.001					
MW-5	04/20/04	**0.482**	0.00237	0.101	0.0601	0.0313					
MW-5	07/14/04	**0.0708**	<0.001	0.0486	0.0046	0.00207					
MW-5	09/14/04	**0.118**	0.00135	0.0588	0.0045	0.00161					
MW-5	12/21/04	**0.204**	<0.001	0.0667	<0.002	<0.001					
MW-5	03/21/05	**0.0308**	<0.001	0.0171	0.00367	<0.001					
MW-5	05/17/05	**0.00966**	<0.001	<0.001	<0.002	<0.001					
MW-5	08/15/05	**0.0138**	0.00173	0.00438	<0.002	<0.001					
MW-5	11/18/05	**0.0107**	0.00115	<0.001	<0.002	<0.001					
MW-5	02/16/06	0.00747	<0.001	0.00293	<0.002	<0.001					
MW-5	05/22/06	0.00318	<0.001	<0.001	<0.002	<0.001					
MW-5	08/07/06	**0.0964**	0.00763	0.0028	<0.002	0.00133					
MW-5	11/21/06	**0.0883**	0.0241	0.00988	0.013	0.00727					
MW-5	02/22/07	**0.0443**	<0.001	0.0289	0.0123						
MW-5	05/10/07	**0.0462**	<0.001	0.0357	0.0159						
MW-5	08/10/07	**0.0266**	<0.005	0.0141	<0.01	<0.005					
MW-5	11/15/07	**0.011**	<0.002	0.0036	<0.002	<0.001					
MW-6	01/24/02	<0.001	<0.001	<0.001	<0.001	<0.001	**0.745**	**2.29**			
MW-6	04/12/02	<0.001	<0.001	<0.001	<0.001	<0.001					
MW-6	07/10/02	0.00153	<0.001	<0.001	<0.001	<0.001					
MW-6	04/15/03	0.00274	<0.001	<0.001	<0.001	<0.001					
MW-6	07/14/03	0.00254	<0.001	<0.001	<0.001	<0.001					
MW-6	04/20/04	0.00106	<0.001	<0.001	<0.002	<0.001					
MW-6	07/14/04	0.00195	<0.001	<0.001	<0.002	<0.001					
MW-6	09/14/04	**0.01**	<0.001	<0.001	<0.002	<0.001					
MW-6	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	05/17/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	11/18/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	08/07/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	11/21/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-6	02/22/07	<0.001	<0.001	<0.001	<0.002						
MW-6	05/10/07	**0.0238**	<0.001	0.014	0.0076						
MW-6	08/10/07	**0.0152**	<0.001	<0.001	<0.002	<0.001					
MW-6	11/15/07	**0.0149**	<0.002	<0.001	<0.002	<0.001					

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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	Chlorides	Total Dissolved Solids	TPH (Diesel)	TPH (Gasoline)	Total TPH
MW-7	07/14/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	09/14/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	12/21/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	05/17/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	11/18/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	08/07/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	11/21/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	02/22/07	<0.001	<0.001	<0.001	<0.002						
MW-7	05/10/07	<0.001	<0.001	<0.001	<0.001						
MW-7	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-7	11/15/07	<0.001	<0.002	<0.001	<0.002	<0.001					
MW-8	07/14/04	**0.575**	0.141	0.0884	0.0762	0.0868					
MW-8	09/14/04	**0.482**	0.0356	0.106	0.0582	0.0551					
MW-8	12/21/04	**4.22**	0.113	0.695	0.208	0.075					
MW-8	03/21/05	**3.41**	<0.01	0.452	0.133	0.0152					
MW-8	05/17/05	**2.29**	<0.001	0.115	0.0323	0.00568					
MW-8	08/15/05	**1.21**	<0.001	0.0749	0.0326	0.00149					
MW-8	11/18/05	**0.67**	<0.001	0.0299	0.0165	<0.001					
MW-8	02/16/06	**0.243**	<0.001	0.0359	0.0239	<0.001					
MW-8	05/22/06	**0.0974**	<0.001	0.0278	0.022	<0.001					
MW-8	08/07/06	**0.133**	<0.001	0.00758	0.00497	<0.001					
MW-8	02/22/07	**0.118**	<0.001	0.0384	0.0429						
MW-8	05/10/07	**0.209**	<0.001	0.0473	0.0529						
MW-8	08/10/07	**0.05**	0.0012	0.0254	0.0298	<0.001					
MW-8	11/15/07	**0.0186**	<0.002	0.0079	0.0096	<0.001					

Table 2

CONCENTRATIONS OF BTEX AND TPH IN GROUNDWATER

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
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	Chlorides	Total Dissolved Solids	TPH (Diesel)	TPH (Gasoline)	Total TPH
MW-9	07/14/04	**0.0275**	0.0109	0.487	0.305	0.319					
MW-9	09/14/04	**0.15**	0.00215	0.225	0.029	0.119					
MW-9	12/21/04	<0.001	<0.001	0.0335	0.00261	0.0204					
MW-9	03/21/05	0.00925	<0.001	0.0151	0.00961	0.0209					
MW-9	05/17/05	0.00498	<0.001	0.0148	0.0145	0.0311					
MW-9	08/15/05	**0.0228**	<0.001	0.063	0.0208	0.0357					
MW-9	11/18/05	0.00399	<0.001	0.0281	0.0276	0.0607					
MW-9	02/16/06	0.00881	<0.001	0.0327	0.0324	0.0727					
MW-9	05/22/06	0.00738	<0.001	0.0346	0.0381	0.0743					
MW-9	08/07/06	0.00426	<0.001	0.0228	0.0249	0.0423					
MW-9	11/21/06	0.00342	<0.001	0.0271	0.0232	0.048					
MW-9	02/22/07	**0.0467**	<0.001	0.109	0.169						
MW-9	05/10/07	**0.0607**	<0.001	0.0815	0.0532						
MW-9	08/10/07	**<0.05**	<0.05	<0.05	<0.1	<0.05					
MW-9	11/15/07	<0.001	0.0022	0.0012	<0.002	0.054					
MW-10	11/15/04	**1.25**	0.0967	0.14	0.109	0.0108					
MW-10	03/21/05	**1.13**	0.0141	0.138	0.05	0.00484					
MW-10	05/17/05	**2.17**	0.0144	0.194	0.147	0.00755					
MW-10	08/15/05	**0.791**	<0.001	0.074	0.0437	<0.001					
MW-10	11/18/05	**1.25**	<0.001	0.916	0.0597	<0.001					
MW-10	02/16/06	**0.276**	<0.001	0.538	0.0859	<0.001					
MW-10	05/22/06	**1.32**	<0.005	0.105	<0.01	<0.005					
MW-10	08/07/06	**1.51**	<0.001	0.103	0.023	<0.001					
MW-10	11/21/06	**0.222**	<0.005	0.0215	<0.01	<0.005					
MW-10	02/22/07	**0.0791**	<0.001	0.0061	<0.002						
MW-10	05/10/07	0.0023	<0.001	0.0072	<0.001						
MW-10	08/10/07	**0.0883**	0.0011	0.0047	<0.002	<0.001					
MW-10	11/15/07	**0.0728**	0.0281	0.0279	0.005	0.094					
MW-11	11/15/04	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	03/21/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	05/17/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	08/15/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	11/18/05	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	02/16/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	05/22/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	08/07/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	11/21/06	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	02/22/07	<0.001	<0.001	<0.001	<0.002						
MW-11	05/10/07	<0.001	<0.001	<0.001	<0.001						
MW-11	08/10/07	<0.001	<0.001	<0.001	<0.002	<0.001					
MW-11	11/15/07	<0.001	<0.002	<0.001	<0.002	<0.001					
NMWQCC Groundwater Standards		**0.01**	**0.75**	**0.75**	**Total Xylenes 0.62**		**250**	**1**	**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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
NMWQCC Groundwater Standards		**0.03**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**0.0007**	**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

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
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Analytical and Quality Control Report

Catherine London
Terracon - Midland
24 Smith Road
Suite 261
Midland, TX, 79705

Report Date: March 1, 2007

Work Order: 7022337

PO/SO#: 2001-11226
Project Name: Livingston Line-Bob McCasland
Project Number: A4077007

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
117369	MW-1	water	2007-02-22	14:00	2007-02-23
117370	MW-2	water	2007-02-22	14:05	2007-02-23
117371	MW-3	water	2007-02-22	14:25	2007-02-23
117372	MW-4	water	2007-02-22	14:50	2007-02-23
117373	MW-5	water	2007-02-22	14:40	2007-02-23
117374	MW-6	water	2007-02-22	14:30	2007-02-23
117375	MW-7	water	2007-02-22	14:10	2007-02-23
117376	MW-8	water	2007-02-22	14:45	2007-02-23
117377	MW-9	water	2007-02-22	14:35	2007-02-23
117378	MW-10	water	2007-02-22	14:15	2007-02-23
117379	MW-11	water	2007-02-22	14:20	2007-02-23

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

This report consists of a total of 10 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Analytical Report

Sample: 117369 - MW-1

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0950	mg/L	1	0.100	95	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0810	mg/L	1	0.100	81	22.2 - 104.5

Sample: 117370 - MW-2

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**0.292**		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		**0.0437**		mg/L	1	0.00100
Xylene		**0.0337**		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0960	mg/L	1	0.100	96	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0950	mg/L	1	0.100	95	22.2 - 104.5

Sample: 117371 - MW-3

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0944	mg/L	1	0.100	94	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0789	mg/L	1	0.100	79	22.2 - 104.5

Sample: 117372 - MW-4

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35143	Date Analyzed:	2007-03-01	Analyzed By:	ss
Prep Batch:	30499	Sample Preparation:		Prepared By:	ss

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		**1.42**	mg/L	10	0.00100
Toluene		<0.0100	mg/L	10	0.00100
Ethylbenzene		**0.291**	mg/L	10	0.00100
Xylene		**0.443**	mg/L	10	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.957	mg/L	10	1.00	96	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.855	mg/L	10	1.00	86	22.2 - 104.5

Sample: 117373 - MW-5

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Dare Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		**0.0443**	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		**0.0289**	mg/L	1	0.00100
Xylene		**0.0123**	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0978	mg/L	1	0.100	98	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0870	mg/L	1	0.100	87	22.2 - 104.5

Sample: 117374 - MW-6

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100

continued ...

sample 117374 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0959	mg/L	1	0.100	96	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0797	mg/L	1	0.100	80	22.2 - 104.5

Sample: 117375 - MW-7

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0939	mg/L	1	0.100	94	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0798	mg/L	1	0.100	80	22.2 - 104.5

Sample: 117376 - MW-8

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**0.118**		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		**0.0384**		mg/L	1	0.00100
Xylene		**0.0429**		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0950	mg/L	1	0.100	95	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0879	mg/L	1	0.100	88	22.2 - 104.5

Sample: 117377 - MW-9

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**0.0467**		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		**0.109**		mg/L	1	0.00100
Xylene		**0.169**		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0964	mg/L	1	0.100	96	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)	[1]	0.110	mg/L	1	0.100	110	22.2 - 104.5

Sample: 117378 - MW-10

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35020	Date Analyzed:	2007-02-26	Analyzed By:	ss
Prep Batch:	30391	Sample Preparation:		Prepared By:	ss

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**0.0791**		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		**0.00610**		mg/L	1	0.00100
Xylene		<0.00100		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0912	mg/L	1	0.100	91	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0817	mg/L	1	0.100	82	22.2 - 104.5

Sample: 117379 - MW-11

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	35112	Date Analyzed:	2007-02-28	Analyzed By:	ss
Prep Batch:	30471	Sample Preparation:	2007-02-28	Prepared By:	ss

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

[1] High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0944	mg/L	1	0.100	94	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0771	mg/L	1	0.100	77	22.2 - 104.5

Method Blank (1) QC Batch: 35020

QC Batch: 35020 | Date Analyzed: 2007-02-26 | Analyzed By: ss
Prep Batch: 30391 | QC Preparation: 2007-02-26 | Prepared By: ss

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0984	mg/L	1	0.100	98	60.1 - 116.8
4-Bromofluorobenzene (4-BFB)		0.0792	mg/L	1	0.100	79	54.4 - 112.5

Method Blank (1) QC Batch: 35112

QC Batch: 35112 | Date Analyzed: 2007-02-28 | Analyzed By: ss
Prep Batch: 30471 | QC Preparation: 2007-02-28 | Prepared By: ss

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0954	mg/L	1	0.100	95	60.1 - 116.8
4-Bromofluorobenzene (4-BFB)		0.0775	mg/L	1	0.100	78	54.4 - 112.5

Method Blank (1) QC Batch: 35143

QC Batch: 35143 | Date Analyzed: 2007-03-01 | Analyzed By: ss
Prep Batch: 30499 | QC Preparation: 2007-03-01 | Prepared By: ss

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000200	mg/L	0.001
Toluene		<0.000200	mg/L	0.001
Ethylbenzene		<0.000200	mg/L	0.001

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Xylene		<0.000300	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0943	mg/L	1	0.100	94	60.1 - 116.8
4-Bromofluorobenzene (4-BFB)		0.0752	mg/L	1	0.100	75	54.4 - 112.5

Laboratory Control Spike (LCS-1)

QC Batch: 35020 | Date Analyzed: 2007-02-26 | Analyzed By: ss
Prep Batch: 30391 | QC Preparation: 2007-02-26 | Prepared By: ss

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.104	mg/L	1	0.100	<0.000200	104	76.4 - 120.5
Toluene	0.106	mg/L	1	0.100	<0.000200	106	79.2 - 117.8
Ethylbenzene	0.107	mg/L	1	0.100	<0.000200	107	78.8 - 117.9
Xylene	0.323	mg/L	1	0.300	<0.000300	108	80 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.102	mg/L	1	0.100	<0.000200	102	76.4 - 120.5	2	20
Toluene	0.104	mg/L	1	0.100	<0.000200	104	79.2 - 117.8	2	20
Ethylbenzene	0.106	mg/L	1	0.100	<0.000200	106	78.8 - 117.9	1	20
Xylene	0.319	mg/L	1	0.300	<0.000300	106	80 - 120.1	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0912	0.0922	mg/L	1	0.100	91	92	59.5 - 117.8
4-Bromofluorobenzene (4-BFB)	0.0924	0.0933	mg/L	1	0.100	92	93	63.2 - 122.4

Laboratory Control Spike (LCS-1)

QC Batch: 35112 | Date Analyzed: 2007-02-28 | Analyzed By: ss
Prep Batch: 30471 | QC Preparation: 2007-02-28 | Prepared By: ss

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0975	mg/L	1	0.100	<0.000200	98	76.4 - 120.5
Toluene	0.0991	mg/L	1	0.100	<0.000200	99	79.2 - 117.8
Ethylbenzene	0.0998	mg/L	1	0.100	<0.000200	100	78.8 - 117.9
Xylene	0.301	mg/L	1	0.300	<0.000300	100	80 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0994	mg/L	1	0.100	<0.000200	99	76.4 - 120.5	2	20
Toluene	0.101	mg/L	1	0.100	<0.000200	101	79.2 - 117.8	2	20
Ethylbenzene	0.103	mg/L	1	0.100	<0.000200	103	78.8 - 117.9	3	20
Xylene	0.310	mg/L	1	0.300	<0.000300	103	80 - 120.1	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0899	0.0897	mg/L	1	0.100	90	90	59.5 - 117.8
4-Bromofluorobenzene (4-BFB)	0.0905	0.0909	mg/L	1	0.100	90	91	63.2 - 122.4

Laboratory Control Spike (LCS-1)

QC Batch: 35143 Date Analyzed: 2007-03-01 Analyzed By: ss
Prep Batch: 30499 QC Preparation: 2007-03-01 Prepared By: ss

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0999	mg/L	1	0.100	<0.000200	100	76.4 - 120.5
Toluene	0.101	mg/L	1	0.100	<0.000200	101	79.2 - 117.8
Ethylbenzene	0.103	mg/L	1	0.100	<0.000200	103	78.8 - 117.9
Xylene	0.311	mg/L	1	0.300	<0.000300	104	80 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0990	mg/L	1	0.100	<0.000200	99	76.4 - 120.5	1	20
Toluene	0.101	mg/L	1	0.100	<0.000200	101	79.2 - 117.8	0	20
Ethylbenzene	0.103	mg/L	1	0.100	<0.000200	103	78.8 - 117.9	0	20
Xylene	0.312	mg/L	1	0.300	<0.000300	104	80 - 120.1	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0905	0.0884	mg/L	1	0.100	90	88	59.5 - 117.8
4-Bromofluorobenzene (4-BFB)	0.0913	0.0911	mg/L	1	0.100	91	91	63.2 - 122.4

Standard (ICV-1)

QC Batch: 35020 Date Analyzed: 2007-02-26 Analyzed By: ss

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.101	101	85 - 115	2007-02-26
Toluene		mg/L	0.100	0.102	102	85 - 115	2007-02-26
Ethylbenzene		mg/L	0.100	0.104	104	85 - 115	2007-02-26
Xylene		mg/L	0.300	0.311	104	85 - 115	2007-02-26

Standard (CCV-1)

QC Batch: 35020 | Date Analyzed: 2007-02-26 | Analyzed By: ss

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0992	99	85 - 115	2007-02-26
Toluene		mg/L	0.100	0.101	101	85 - 115	2007-02-26
Ethylbenzene		mg/L	0.100	0.102	102	85 - 115	2007-02-26
Xylene		mg/L	0.300	0.307	102	85 - 115	2007-02-26

Standard (ICV-1)

QC Batch: 35112 | Date Analyzed: 2007-02-28 | Analyzed By: ss

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0990	99	85 - 115	2007-02-28
Toluene		mg/L	0.100	0.0992	99	85 - 115	2007-02-28
Ethylbenzene		mg/L	0.100	0.101	101	85 - 115	2007-02-28
Xylene		mg/L	0.300	0.305	102	85 - 115	2007-02-28

Standard (CCV-1)

QC Batch: 35112 | Date Analyzed: 2007-02-28 | Analyzed By: ss

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0971	97	85 - 115	2007-02-28
Toluene		mg/L	0.100	0.0985	98	85 - 115	2007-02-28
Ethylbenzene		mg/L	0.100	0.0990	99	85 - 115	2007-02-28
Xylene		mg/L	0.300	0.297	99	85 - 115	2007-02-28

Standard (ICV-1)

QC Batch: 35143 | Date Analyzed: 2007-03-01 | Analyzed By: ss

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.102	102	85 - 115	2007-03-01
Toluene		mg/L	0.100	0.103	103	85 - 115	2007-03-01
Ethylbenzene		mg/L	0.100	0.106	106	85 - 115	2007-03-01
Xylene		mg/L	0.300	0.319	106	85 - 115	2007-03-01

Standard (CCV-1)

QC Batch: 35143 | Date Analyzed: 2007-03-01 | Analyzed By: ss

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0964	96	85 - 115	2007-03-01
Toluene		mg/L	0.100	0.0961	96	85 - 115	2007-03-01
Ethylbenzene		mg/L	0.100	0.102	102	85 - 115	2007-03-01
Xylene		mg/L	0.300	0.306	102	85 - 115	2007-03-01

Work order: 7022337

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX

Project Manager: Catherine London

Laboratory: Trace

Address:

Contact:

Phone:

PO/SO #: 2001-11226

Lab use only
Due Date:

Temp. of coolers when received (C°): 2C

1 | 2 | 3 | 4 | 5

Page 2 of 2

Sampler's Name: Brandon Wilson

Sampler's Signature: B. Wilson

Proj. No.: 14077007

Project Name: Livingston Line - Bob McCasland

No/Type of Containers: 33 /voas

ANALYSIS REQUESTED

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	BTEX (8021B)	Lab Sample ID (Lab Use Only)
W	2/22/07	14:20		X	MW-11			3				X	117379

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	2/23/07	16:00	Lance Hoffer	2/23/07	16:00
Lance Hoffer	2/23/07	17:00		2/23/07	17:00
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES: Canal Ronalds w/ Plains

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 month; 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

Page 1 of 2 — work order: 7022337

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX
Project Manager: Catherine London

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

Sampler's Name: Brandon Wilson
Sampler's Signature: B. Wil

Proj. No.: A4077007
Project Name: Livingston Line - Bob McClelland
No/Type of Containers: 33 / voas

ANALYSIS REQUESTED: BTEX (8021B)

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

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lit.	250 ml	P/O	BTEX (8021B)	Lab Sample ID (Lab Use Only)
W	2/22/07	14:00		X	MW-1			3				X	117369
		14:05			MW-2								370
		14:25			MW-3								371
		14:50			MW-4								372
		14:40			MW-5								373
		14:30			MW-6								374
		14:10			MW-7								375
		14:45			MW-8								376
		14:35			MW-9								377
		14:15			MW-10								378

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
D. Wil	2/23/07	16:00	Lance Hamilton	2/23/07	16:00
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Lance Hamilton	2/23/07	17:00	C. Dan	2/23/07	17:00
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES: Camal Renalds w/ Plains

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

Pucy 1 of 2 — work order: 7022337

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX
Project Manager: Catherine London
Sampler's Name: Brandon Wilson

Laboratory: Trace
Address:
Contact:
Phone:
PO/SO #: 2001-11226
Sampler's Signature: B. Wil

Analysis Requested: BTEX (8021B)

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

Proj. No.: A4077007
Project Name: Livingston Line - Bob McCasland
No/Type of Containers: 33 / voas

Matrix	Date	Time	Comp.	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	BTEX (8021B)	Lab Sample ID (Lab Use Only)
W	2/22/07	14:00		X	MW-1			3				X	117369
		14:05			MW-2								370
		14:25			MW-3								371
		14:50			MW-4								372
		14:40			MW-5								373
		14:30			MW-6								374
		14:10			MW-7								375
		14:45			MW-8								376
		14:35			MW-9								377
		14:15			MW-10								378

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

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
B. Wil	2/23/07	16:00	Lance [signature]	2/23/07	16:00
Lance [signature]	2/23/07	17:00	[signature]	2/23/07	17:00

NOTES: Carmal Renalds w/ Plains

all tests - Midland

P+F 3/2/07 [initials]

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

Page 2 of 2

Work Order: 7022337

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX

Project Manager: Catherine London

Laboratory: Trace

Address:

Contact:

Phone:

PO/SO #: 2001-11226

Lab use only
Due Date:

Temp. of coolers when received (C°): 2C

1 | 2 | 3 | 4 | 5

Page 2 of 2

Sampler's Name: Brandon Wilson

Sampler's Signature:

Proj. No.: 14077007

Project Name: Livingston Line - Bob McCasland

No/Type of Containers: 33 /voas

ANALYSIS REQUESTED: BTEX (8021B)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	BTEX (8021B)	Lab Sample ID (Lab Use Only)
W	2/22/07	14:20		X	MW-11			3				X	117379

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

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
	2/23/07	16:00		2/23/07	16:00
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
	2/23/07	17:00		2/23/07	17:00
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time

NOTES: Conrad Ronalds w/ Plains

all tests - Midland

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

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Catharine London
Terracon - Midland
24 Smith Road
Suite 261
Midland, TX, 79705

Report Date: May 16, 2007

Work Order: 7051120

Project Location:
Project Name: Livingston Line-Bob McLasland
Project Number: A4077007

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
123905	MW-1	water	2007-05-10	14:50	2007-05-11
123906	MW-2	water	2007-05-10	14:45	2007-05-11
123907	MW-3	water	2007-05-10	14:55	2007-05-11
123908	MW-4	water	2007-05-10	15:20	2007-05-11
123909	MW-5	water	2007-05-10	15:10	2007-05-11
123910	MW-6	water	2007-05-10	15:00	2007-05-11
123911	MW-7	water	2007-05-10	14:40	2007-05-11
123912	MW-8	water	2007-05-10	15:15	2007-05-11
123913	MW-9	water	2007-05-10	15:05	2007-05-11
123914	MW-10	water	2007-05-10	14:35	2007-05-11
123915	MW-11	water	2007-05-10	14:30	2007-05-11

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

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Analytical Report

Sample: 123905 - MW-1

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0828	mg/L	1	0.100	83	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0750	mg/L	1	0.100	75	22.2 - 104.5

Sample: 123905 - MW-1

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		<0.000200	mg/L	1	0.000200
Fluorene		<0.000200	mg/L	1	0.000200
Anthracene		<0.000200	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0499	mg/L	1	0.0800	62	37.4 - 123
2-Fluorobiphenyl		0.0547	mg/L	1	0.0800	68	34.3 - 130
Terphenyl-d14		0.0607	mg/L	1	0.0800	76	10 - 252

Sample: 123906 - MW-2

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.190**	mg/L	1	0.00100
Toluene		**0.00490**	mg/L	1	0.00100
Ethylbenzene		**0.0341**	mg/L	1	0.00100
Xylene		**0.0233**	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0891	mg/L	1	0.100	89	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0877	mg/L	1	0.100	88	22.2 - 104.5

Sample: 123906 - MW-2

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		**0.00779**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		**0.000442**	mg/L	1	0.000200
Fluorene		**0.000229**	mg/L	1	0.000200
Anthracene		**0.00175**	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0646	mg/L	1	0.0800	81	37.4 - 123
2-Fluorobiphenyl		0.0712	mg/L	1	0.0800	89	34.3 - 130
Terphenyl-d14		0.0639	mg/L	1	0.0800	80	10 - 252

Sample: 123907 - MW-3

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0811	mg/L	1	0.100	81	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0753	mg/L	1	0.100	75	22.2 - 104.5

Sample: 123907 - MW-3

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		<0.000200	mg/L	1	0.000200
Fluorene		<0.000200	mg/L	1	0.000200
Anthracene		<0.000200	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0549	mg/L	1	0.0800	69	37.4 - 123
2-Fluorobiphenyl		0.0649	mg/L	1	0.0800	81	34.3 - 130
Terphenyl-d14		0.0648	mg/L	1	0.0800	81	10 - 252

Sample: 123908 - MW-4

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37205	Date Analyzed:	2007-05-15	Analyzed By:	AG
Prep Batch:	32267	Sample Preparation:	2007-05-14	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**1.21**	mg/L	10	0.00100
Toluene		<0.0100	mg/L	10	0.00100
Ethylbenzene		**0.267**	mg/L	10	0.00100
Xylene		**0.382**	mg/L	10	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.622	mg/L	10	1.00	62	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.758	mg/L	10	1.00	76	22.2 - 104.5

Sample: 123908 - MW-4

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		**0.0659**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		**0.00112**	mg/L	1	0.000200
Fluorene		**0.000737**	mg/L	1	0.000200
Anthracene		**0.00596**	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0500	mg/L	1	0.0800	62	37.4 - 123
2-Fluorobiphenyl		0.0535	mg/L	1	0.0800	67	34.3 - 130
Terphenyl-d14		0.0590	mg/L	1	0.0800	74	10 - 252

Sample: 123909 - MW-5

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0462**	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		**0.0357**	mg/L	1	0.00100
Xylene		**0.0159**	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0642	mg/L	1	0.100	64	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0841	mg/L	1	0.100	84	22.2 - 104.5

Sample: 123909 - MW-5

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	*B*	**0.00218**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		**0.00112**	mg/L	1	0.000200
Fluorene		**0.000496**	mg/L	1	0.000200
Anthracene		**0.000750**	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0536	mg/L	1	0.0800	67	37.4 - 123
2-Fluorobiphenyl		0.0534	mg/L	1	0.0800	67	34.3 - 130
Terphenyl-d14		0.0556	mg/L	1	0.0800	70	10 - 252

Sample: 123910 - MW-6

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0238**	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		**0.0140**	mg/L	1	0.00100
Xylene		**0.00760**	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0866	mg/L	1	0.100	87	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0848	mg/L	1	0.100	85	22.2 - 104.5

Sample: 123910 - MW-6

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	*B*	**0.000950**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		<0.000200	mg/L	1	0.000200
Fluorene		<0.000200	mg/L	1	0.000200
Anthracene		<0.000200	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0438	mg/L	1	0.0800	55	37.4 - 123
2-Fluorobiphenyl		0.0454	mg/L	1	0.0800	57	34.3 - 130
Terphenyl-d14		0.0533	mg/L	1	0.0800	67	10 - 252

Sample: 123911 - MW-7

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0821	mg/L	1	0.100	82	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0784	mg/L	1	0.100	78	22.2 - 104.5

Sample: 123911 - MW-7

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	B	**0.000606**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		<0.000200	mg/L	1	0.000200
Fluorene		<0.000200	mg/L	1	0.000200
Anthracene		<0.000200	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0548	mg/L	1	0.0800	68	37.4 - 123
2-Fluorobiphenyl		0.0582	mg/L	1	0.0800	73	34.3 - 130
Terphenyl-d14		0.0571	mg/L	1	0.0800	71	10 - 252

Sample: 123912 - MW-8

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.209**	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		**0.0473**	mg/L	1	0.00100
Xylene		**0.0529**	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0852	mg/L	1	0.100	85	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0854	mg/L	1	0.100	85	22.2 - 104.5

Sample: 123912 - MW-8

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		**0.00710**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		**0.000470**	mg/L	1	0.000200
Fluorene		**0.000229**	mg/L	1	0.000200
Anthracene		**0.00118**	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0598	mg/L	1	0.0800	75	37.4 - 123
2-Fluorobiphenyl		0.0550	mg/L	1	0.0800	69	34.3 - 130
Terphenyl-d14		0.0541	mg/L	1	0.0800	68	10 - 252

Sample: 123913 - MW-9

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0607**	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		**0.0815**	mg/L	1	0.00100
Xylene		**0.0532**	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0780	mg/L	1	0.100	78	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0899	mg/L	1	0.100	90	22.2 - 104.5

Sample: 123913 - MW-9

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	*B*	**0.00243**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		**0.00132**	mg/L	1	0.000200
Fluorene		<0.000200	mg/L	1	0.000200
Anthracene		**0.000222**	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0585	mg/L	1	0.0800	73	37.4 - 123
2-Fluorobiphenyl		0.0576	mg/L	1	0.0800	72	34.3 - 130
Terphenyl-d14		0.0582	mg/L	1	0.0800	73	10 - 252

Sample: 123914 - MW-10

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**0.00230**		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		**0.00720**		mg/L	1	0.00100
Xylene		<0.00100		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0815	mg/L	1	0.100	82	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0809	mg/L	1	0.100	81	22.2 - 104.5

Sample: 123914 - MW-10

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	Result	RL	Units	Dilution	RL
Naphthalene	B	**0.000688**		mg/L	1	0.000200
Acenaphthylene		<0.000200		mg/L	1	0.000200
Acenaphthene		<0.000200		mg/L	1	0.000200
Dibenzofuran		**0.00108**		mg/L	1	0.000200
Fluorene		**0.000388**		mg/L	1	0.000200
Anthracene		<0.000200		mg/L	1	0.000200
Phenanthrene		<0.000200		mg/L	1	0.000200
Fluoranthene		<0.000200		mg/L	1	0.000200
Pyrene		<0.000200		mg/L	1	0.000200
Benzo(a)anthracene		<0.000200		mg/L	1	0.000200
Chrysene		<0.000200		mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200		mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400		mg/L	1	0.000400
Benzo(a)pyrene		<0.000200		mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400		mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200		mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200		mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0476	mg/L	1	0.0800	60	37.4 - 123
2-Fluorobiphenyl		0.0499	mg/L	1	0.0800	62	34.3 - 130
Terphenyl-d14		0.0552	mg/L	1	0.0800	69	10 - 252

Sample: 123915 - MW-11

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	37160	Date Analyzed:	2007-05-11	Analyzed By:	AG
Prep Batch:	32236	Sample Preparation:	2007-05-11	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0825	mg/L	1	0.100	82	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.0783	mg/L	1	0.100	78	22.2 - 104.5

Sample: 123915 - MW-11

Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	37188	Date Analyzed:	2007-05-14	Analyzed By:	DS
Prep Batch:	32254	Sample Preparation:	2007-05-14	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		<0.000200	mg/L	1	0.000200
Dibenzofuran		<0.000200	mg/L	1	0.000200
Fluorene		<0.000200	mg/L	1	0.000200
Anthracene		<0.000200	mg/L	1	0.000200
Phenanthrene		<0.000200	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		<0.000200	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000400	mg/L	1	0.000400
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000400	mg/L	1	0.000400
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0519	mg/L	1	0.0800	65	37.4 - 123
2-Fluorobiphenyl		0.0563	mg/L	1	0.0800	70	34.3 - 130
Terphenyl-d14		0.0593	mg/L	1	0.0800	74	10 - 252

Method Blank (1) QC Batch: 37160

QC Batch: 37160 | Date Analyzed: 2007-05-11 | Analyzed By: AG
Prep Batch: 32236 | QC Preparation: 2007-05-11 | Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0829	mg/L	1	0.100	83	60.1 - 116.8
4-Bromofluorobenzene (4-BFB)		0.0743	mg/L	1	0.100	74	54.4 - 112.5

Method Blank (1) QC Batch: 37188

QC Batch: 37188 | Date Analyzed: 2007-05-14 | Analyzed By: DS
Prep Batch: 32254 | QC Preparation: 2007-05-14 | Prepared By: DS

Parameter	Flag	MDL Result	Units	RL
Naphthalene		0.000281	mg/L	0.0002
Acenaphthylene		<0.0000768	mg/L	0.0002
Acenaphthene		<0.000103	mg/L	0.0002
Dibenzofuran		<0.000200	mg/L	0.0002
Fluorene		<0.0000861	mg/L	0.0002
Anthracene		<0.000170	mg/L	0.0002
Phenanthrene		<0.0000884	mg/L	0.0002
Fluoranthene		<0.0000969	mg/L	0.0002
Pyrene		<0.0000855	mg/L	0.0002
Benzo(a)anthracene		<0.0000703	mg/L	0.0002
Chrysene		<0.000113	mg/L	0.0002
Benzo(b)fluoranthene		<0.000134	mg/L	0.0002
Benzo(k)fluoranthene		<0.000227	mg/L	0.0004
Benzo(a)pyrene		<0.000200	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		<0.000253	mg/L	0.0004
Dibenzo(a,h)anthracene		<0.000180	mg/L	0.0002
Benzo(g,h,i)perylene		<0.000158	mg/L	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0473	mg/L	1	0.0800	59	10 - 146
2-Fluorobiphenyl		0.0541	mg/L	1	0.0800	68	10 - 141
Terphenyl-d14		0.0568	mg/L	1	0.0800	71	10 - 266

Method Blank (1) QC Batch: 37205

QC Batch: 37205 | Date Analyzed: 2007-05-15 | Analyzed By: AG
Prep Batch: 32267 | QC Preparation: 2007-05-14 | Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0801	mg/L	1	0.100	80	60.1 - 116.8
4-Bromofluorobenzene (4-BFB)		0.0734	mg/L	1	0.100	73	54.4 - 112.5

Laboratory Control Spike (LCS-1)

QC Batch: 37160 | Date Analyzed: 2007-05-11 | Analyzed By: AG
Prep Batch: 32236 | QC Preparation: 2007-05-11 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0917	mg/L	1	0.100	<0.000200	92	76.4 - 120.5
Toluene	0.0944	mg/L	1	0.100	<0.000200	94	79.2 - 117.8
Ethylbenzene	0.0947	mg/L	1	0.100	<0.000200	95	78.8 - 117.9
Xylene	0.287	mg/L	1	0.300	<0.000300	96	80 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0926	mg/L	1	0.100	<0.000200	93	76.4 - 120.5	1	20
Toluene	0.0937	mg/L	1	0.100	<0.000200	94	79.2 - 117.8	1	20
Ethylbenzene	0.0943	mg/L	1	0.100	<0.000200	94	78.8 - 117.9	0	20
Xylene	0.287	mg/L	1	0.300	<0.000300	96	80 - 120.1	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0756	0.0763	mg/L	1	0.100	76	76	59.5 - 117.8
4-Bromofluorobenzene (4-BFB)	0.0805	0.0792	mg/L	1	0.100	80	79	63.2 - 122.4

Laboratory Control Spike (LCS-1)

QC Batch: 37188 | Date Analyzed: 2007-05-14 | Analyzed By: DS
Prep Batch: 32254 | QC Preparation: 2007-05-14 | Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Naphthalene	0.0547	mg/L	1	0.0800	0.000281	68	10 - 141
Acenaphthylene	0.0593	mg/L	1	0.0800	<0.0000768	74	10 - 152
Acenaphthene	0.0562	mg/L	1	0.0800	<0.000103	70	10 - 151
Dibenzofuran	0.0632	mg/L	1	0.0800	<0.000200	79	10 - 148

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control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Fluorene	0.0642	mg/L	1	0.0800	<0.0000861	80	10 - 172
Anthracene	0.0566	mg/L	1	0.0800	<0.000170	71	22.5 - 172
Phenanthrene	0.0579	mg/L	1	0.0800	<0.0000884	72	19.6 - 172
Fluoranthene	0.0583	mg/L	1	0.0800	<0.0000969	73	17.3 - 187
Pyrene	0.0481	mg/L	1	0.0800	<0.0000855	60	14.9 - 199
Benzo(a)anthracene	0.0482	mg/L	1	0.0800	<0.0000703	60	19.4 - 185
Chrysene	0.0539	mg/L	1	0.0800	<0.000113	67	18.4 - 188
Benzo(b)fluoranthene	0.0605	mg/L	1	0.0800	<0.000134	76	10 - 193
Benzo(k)fluoranthene	0.0650	mg/L	1	0.0800	<0.000227	81	27.8 - 196
Benzo(a)pyrene	0.0651	mg/L	1	0.0800	<0.000200	81	12.4 - 205
Indeno(1,2,3-cd)pyrene	0.0662	mg/L	1	0.0800	<0.000253	83	10 - 198
Dibenzo(a,h)anthracene	0.0645	mg/L	1	0.0800	<0.000180	81	10 - 172
Benzo(g,h,i)perylene	0.0628	mg/L	1	0.0800	<0.000158	78	10 - 186

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Naphthalene	0.0552	mg/L	1	0.0800	0.000281	69	10 - 141	1	20
Acenaphthylene	0.0595	mg/L	1	0.0800	<0.0000768	74	10 - 152	0	20
Acenaphthene	0.0566	mg/L	1	0.0800	<0.000103	71	10 - 151	1	20
Dibenzofuran	0.0637	mg/L	1	0.0800	<0.000200	80	10 - 148	1	20
Fluorene	0.0647	mg/L	1	0.0800	<0.0000861	81	10 - 172	1	20
Anthracene	0.0578	mg/L	1	0.0800	<0.000170	72	22.5 - 172	2	20
Phenanthrene	0.0584	mg/L	1	0.0800	<0.0000884	73	19.6 - 172	1	20
Fluoranthene	0.0593	mg/L	1	0.0800	<0.0000969	74	17.3 - 187	2	20
Pyrene	0.0498	mg/L	1	0.0800	<0.0000855	62	14.9 - 199	4	20
Benzo(a)anthracene	0.0495	mg/L	1	0.0800	<0.0000703	62	19.4 - 185	3	20
Chrysene	0.0552	mg/L	1	0.0800	<0.000113	69	18.4 - 188	2	20
Benzo(b)fluoranthene	0.0566	mg/L	1	0.0800	<0.000134	71	10 - 193	7	20
Benzo(k)fluoranthene	0.0616	mg/L	1	0.0800	<0.000227	77	27.8 - 196	5	20
Benzo(a)pyrene	0.0614	mg/L	1	0.0800	<0.000200	77	12.4 - 205	6	20
Indeno(1,2,3-cd)pyrene	0.0621	mg/L	1	0.0800	<0.000253	78	10 - 198	6	20
Dibenzo(a,h)anthracene	0.0606	mg/L	1	0.0800	<0.000180	76	10 - 172	6	20
Benzo(g,h,i)perylene	0.0590	mg/L	1	0.0800	<0.000158	74	10 - 186	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Nitrobenzene-d5	0.0603	0.0613	mg/L	1	0.0800	75	77	10 - 165
2-Fluorobiphenyl	0.0646	0.0643	mg/L	1	0.0800	81	80	10 - 157
Terphenyl-d14	0.0591	0.0616	mg/L	1	0.0800	74	77	10 - 220

Laboratory Control Spike (LCS-1)

QC Batch: 37205 Date Analyzed: 2007-05-15 Analyzed By: AG
Prep Batch: 32267 QC Preparation: 2007-05-14 Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0900	mg/L	1	0.100	<0.000200	90	76.4 - 120.5
Toluene	0.0914	mg/L	1	0.100	<0.000200	91	79.2 - 117.8
Ethylbenzene	0.0918	mg/L	1	0.100	<0.000200	92	78.8 - 117.9
Xylene	0.278	mg/L	1	0.300	<0.000300	93	80 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0898	mg/L	1	0.100	<0.000200	90	76.4 - 120.5	0	20
Toluene	0.0916	mg/L	1	0.100	<0.000200	92	79.2 - 117.8	0	20
Ethylbenzene	0.0915	mg/L	1	0.100	<0.000200	92	78.8 - 117.9	0	20
Xylene	0.278	mg/L	1	0.300	<0.000300	93	80 - 120.1	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0727	0.0718	mg/L	1	0.100	73	72	59.5 - 117.8
4-Bromofluorobenzene (4-BFB)	0.0794	0.0784	mg/L	1	0.100	79	78	63.2 - 122.4

Matrix Spike (MS-1) Spiked Sample: 123933

QC Batch: 37205 Date Analyzed: 2007-05-15 Analyzed By: AG
Prep Batch: 32267 QC Preparation: 2007-05-14 Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0913	mg/L	1	0.100	<0.000200	91	75.9 - 114.2
Toluene	0.0933	mg/L	1	0.100	<0.000200	93	78.7 - 111.8
Ethylbenzene	0.0928	mg/L	1	0.100	<0.000200	93	78.3 - 112.3
Xylene	0.280	mg/L	1	0.300	<0.000300	93	79.3 - 114.8

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0911	mg/L	1	0.100	<0.000200	91	75.9 - 114.2	0	20
Toluene	0.0929	mg/L	1	0.100	<0.000200	93	78.7 - 111.8	0	20
Ethylbenzene	0.0925	mg/L	1	0.100	<0.000200	92	78.3 - 112.3	0	20
Xylene	0.280	mg/L	1	0.300	<0.000300	93	79.3 - 114.8	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0726	0.0722	mg/L	1	0.1	73	72	43.9 - 121.4
4-Bromofluorobenzene (4-BFB)	0.0795	0.0798	mg/L	1	0.1	80	80	54.2 - 120.1

Standard (ICV-1)

QC Batch: 37160 Date Analyzed: 2007-05-11 Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0914	91	85 - 115	2007-05-11
Toluene		mg/L	0.100	0.0932	93	85 - 115	2007-05-11
Ethylbenzene		mg/L	0.100	0.0947	95	85 - 115	2007-05-11
Xylene		mg/L	0.300	0.289	96	85 - 115	2007-05-11

Standard (CCV-1)

QC Batch: 37160 Date Analyzed: 2007-05-11 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0922	92	85 - 115	2007-05-11
Toluene		mg/L	0.100	0.0940	94	85 - 115	2007-05-11
Ethylbenzene		mg/L	0.100	0.0941	94	85 - 115	2007-05-11
Xylene		mg/L	0.300	0.286	95	85 - 115	2007-05-11

Standard (CCV-1)

QC Batch: 37188 Date Analyzed: 2007-05-14 Analyzed By: DS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	60.0	100	80 - 120	2007-05-14
Acenaphthylene		mg/L	60.0	60.6	101	80 - 120	2007-05-14
Acenaphthene		mg/L	60.0	53.8	90	80 - 120	2007-05-14
Dibenzofuran		mg/L	60.0	63.9	106	80 - 120	2007-05-14
Fluorene		mg/L	60.0	64.9	108	80 - 120	2007-05-14
Anthracene		mg/L	60.0	58.7	98	80 - 120	2007-05-14
Phenanthrene		mg/L	60.0	60.9	102	80 - 120	2007-05-14
Fluoranthene		mg/L	60.0	59.2	99	80 - 120	2007-05-14
Pyrene		mg/L	60.0	57.2	95	80 - 120	2007-05-14
Benzo(a)anthracene		mg/L	60.0	56.7	94	80 - 120	2007-05-14
Chrysene		mg/L	60.0	60.3	100	80 - 120	2007-05-14
Benzo(b)fluoranthene		mg/L	60.0	63.2	105	80 - 120	2007-05-14
Benzo(k)fluoranthene		mg/L	60.0	63.7	106	80 - 120	2007-05-14
Benzo(a)pyrene		mg/L	60.0	61.7	103	80 - 120	2007-05-14
Indeno(1,2,3-cd)pyrene		mg/L	60.0	64.0	107	80 - 120	2007-05-14
Dibenzo(a,h)anthracene		mg/L	60.0	63.9	106	80 - 120	2007-05-14
Benzo(g,h,i)perylene		mg/L	60.0	62.3	104	80 - 120	2007-05-14

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5		60.4	mg/L	1	60.0	101	80 - 120
2-Fluorobiphenyl		54.7	mg/L	1	60.0	91	80 - 120
Terphenyl-d14		59.9	mg/L	1	60.0	100	80 - 120

Standard (ICV-1)

QC Batch: 37205 Date Analyzed: 2007-05-15 Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0925	92	85 - 115	2007-05-15
Toluene		mg/L	0.100	0.0940	94	85 - 115	2007-05-15
Ethylbenzene		mg/L	0.100	0.0949	95	85 - 115	2007-05-15
Xylene		mg/L	0.300	0.288	96	85 - 115	2007-05-15

Standard (CCV-1)

QC Batch: 37205 Date Analyzed: 2007-05-15 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0882	88	85 - 115	2007-05-15
Toluene		mg/L	0.100	0.0900	90	85 - 115	2007-05-15
Ethylbenzene		mg/L	0.100	0.0899	90	85 - 115	2007-05-15
Xylene		mg/L	0.300	0.273	91	85 - 115	2007-05-15

705120

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX

Project Manager: Catherine London

Laboratory: [redacted] Trace Analysis

Address:

Contact:

Phone:

PO/SO #: 2001-11226

Lab use only
Due Date:

Temp. of coolers when received (C°): 3.4C

1 | 2 | 3 | 4 | 5

Page 1 of 2

Sampler's Name: Brandon Wilson

Sampler's Signature: B. Wil

Proj. No.: A4077007

Project Name: Livingston Line - Bob McLeasland

No/Type of Containers: 22-voas / 11-Amber

ANALYSIS REQUESTED: BTEX (8021B), PAH (8270D)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	BTEX (8021B)	PAH (8270D)	Lab Sample ID (Lab Use Only)
W	5/10/07	14:50		X	MW-1			2			1	X	X	123905
	5/10/07	14:45			MW-2									06
	5/10/07	14:55			MW-3									07
	5/10/07	15:20			MW-4									08
	5/10/07	15:10			MW-5									09
	5/10/07	15:00			MW-6									10
	5/10/07	14:40			MW-7									11
	5/10/07	15:15			MW-8									12
	5/10/07	15:05			MW-9									13
	5/10/07	14:35			MW-10									14

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5/11	12:27		5/11/07	12:27
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Kleena Quisley	5/10/07	9:30			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
Camille Reynolds w/ Plains
4oc
LSP2007396
Ay

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

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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

705120

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX

Project Manager: Catherine London

Laboratory: [redacted] Trace Analysis

Address:

Contact:

Phone:

PO/SO #: 2001-11226

Sampler's Name: Brandon Wilson

Sampler's Signature: B. Wil

Proj. No.: [redacted] A4077007

Project Name: Livingston Line - Bob McCasland

No/Type of Containers: 22 vors & 11 amber

ANALYSIS REQUESTED

Lab use only
Due Date:

Temp. of coolers when received (C°): 3.4°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 Lt.	250 ml	P/O	BTEX (8021B)	PAH (8270D)	Lab Sample ID (Lab Use Only)
W	5/10/07	14:30		X	MW-11			2			1	X	X	123915

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5/11	12:27		5.11.07	12:27
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:

NOTES:
Camille Reynolds w/ Plains

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

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Midland Office
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Midland, Texas 79705
(432) 684-9600 Fax (432) 684-9608

Analytical Report 287838

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Livingston Line-Bob McLasland

2001-11226

21-AUG-07

12600 West I-20 East Odessa, Texas 79765

A Xenco Laboratories Company

NELAC certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America

ENVIRONMENTAL LAB OF

21-AUG-07

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

Reference: XENCO Report No: **287838**
Livingston Line-Bob McLasland
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 287838. 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. 287838 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
Odessa Laboratory Director

Sample Cross Reference 287838

PLAINS ALL AMERICAN EH&S, Midland, TX

Livingston Line-Bob McLasland

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	Aug-10-07 11:00		287838-001
MW-7	W	Aug-10-07 11:25		287838-002
MW-11	W	Aug-10-07 11:50		287838-003
MW-10	W	Aug-10-07 12:15		287838-004
MW-6	W	Aug-10-07 12:35		287838-005
MW-5	W	Aug-10-07 13:10		287838-006
MW-9	W	Aug-10-07 13:25		287838-007
MW-8	W	Aug-10-07 14:15		287838-008
MW-4	W	Aug-10-07 14:25		287838-009
MW-1	W	Aug-10-07 15:00		287838-010
MW-2	W	Aug-10-07 15:30		287838-011

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 287838

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line-Bob McLasland

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

Date Received in Lab: Mon Aug-13-07 05:05 pm
Report Date: 21-AUG-07
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	287838-001		287838-002		287838-003		287838-004		287838-005		287838-006	
	Field Id:	MW-3		MW-7		MW-11		MW-10		MW-6		MW-5	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Aug-10-07 11:00		Aug-10-07 11:25		Aug-10-07 11:50		Aug-10-07 12:15		Aug-10-07 12:35		Aug-10-07 13:10	
BTEX by EPA 8021B	*Extracted:*	Aug-16-07 12:19		Aug-16-07 12:19		Aug-16-07 12:19		Aug-16-07 12:19		Aug-16-07 12:19		Aug-16-07 12:19	
	Analyzed:	Aug-17-07 17:56		Aug-17-07 18:16		Aug-17-07 18:37		Aug-17-07 18:57		Aug-17-07 19:18		Aug-17-07 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	0.0883	0.0010	0.0152	0.0010	0.0266	0.0050
Toluene		ND	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0050
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	0.0047	0.0010	ND	0.0010	0.0141	0.0050
m,p-Xylene		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0100
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0050
Total Xylenes		ND		ND		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		0.0941		0.0152		0.0407	

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Brent Barron
Odessa Laboratory Director

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 287838

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Livingston Line-Bob McLasland

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

Date Received in Lab: Mon Aug-13-07 05:05 pm
Report Date: 21-AUG-07
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	287838-007		287838-008		287838-009		287838-010		287838-011	
	Field Id:	MW-9		MW-8		MW-4		MW-1		MW-2	
	Depth:										
	Matrix:	WATER		WATER		WATER		WATER		WATER	
	Sampled:	Aug-10-07 13:25		Aug-10-07 14:15		Aug-10-07 14:25		Aug-10-07 15:00		Aug-10-07 15:30	
BTEX by EPA 8021B	***Extracted:***	Aug-16-07 12:19		Aug-16-07 12:19		Aug-16-07 12:19		Aug-16-07 12:19		Aug-16-07 12:19	
	Analyzed:	Aug-17-07 20:00		Aug-17-07 20:20		Aug-17-07 20:41		Aug-17-07 21:01		Aug-17-07 21:22	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		ND	0.0500	0.0500	0.0010	1.227	0.0050	ND	0.0010	0.0881	0.0010
Toluene		ND	0.0500	0.0012	0.0010	0.0075	0.0050	ND	0.0010	0.0012	0.0010
Ethylbenzene		ND	0.0500	0.0254	0.0010	0.2418	0.0050	ND	0.0010	0.0295	0.0010
m,p-Xylene		ND	0.1000	0.0298	0.0020	0.3456	0.0100	ND	0.0020	0.0229	0.0020
o-Xylene		ND	0.0500	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010
Total Xylenes		ND		0.0298		0.3456		ND		0.0229	
Total BTEX		ND		0.1064		1.8219		ND		0.1417	

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-Bob McLasland

Work Order #: 287838 **Project ID:** 2001-11226

Lab Batch #: 702637 **Sample:** 287838-001 / 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
4-Bromofluorobenzene	0.0359	0.0500	72	80-120	**

Lab Batch #: 702637 **Sample:** 287838-002 / 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
4-Bromofluorobenzene	0.0368	0.0500	74	80-120	**

Lab Batch #: 702637 **Sample:** 287838-003 / 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
4-Bromofluorobenzene	0.0411	0.0500	82	80-120	

Lab Batch #: 702637 **Sample:** 287838-004 / 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
4-Bromofluorobenzene	0.0387	0.0500	77	80-120	**

Lab Batch #: 702637 **Sample:** 287838-005 / 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
4-Bromofluorobenzene	0.0667	0.0500	133	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 McLasland

Work Order #: 287838 **Project ID:** 2001-11226

Lab Batch #: 702637 **Sample:** 287838-006 / 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
4-Bromofluorobenzene	0.1948	0.2500	78	80-120	**

Lab Batch #: 702637 **Sample:** 287838-007 / 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
4-Bromofluorobenzene	1.817	2.500	73	80-120	**

Lab Batch #: 702637 **Sample:** 287838-008 / 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
4-Bromofluorobenzene	0.0413	0.0500	83	80-120	

Lab Batch #: 702637 **Sample:** 287838-009 / 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
4-Bromofluorobenzene	0.2032	0.2500	81	80-120	

Lab Batch #: 702637 **Sample:** 287838-010 / 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
4-Bromofluorobenzene	0.0362	0.0500	72	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 McLasland

Work Order #: 287838 **Project ID:** 2001-11226

Lab Batch #: 702637 **Sample:** 287838-011 / 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
4-Bromofluorobenzene	0.0509	0.0500	102	80-120	

Lab Batch #: 702637 **Sample:** 287838-011 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
4-Bromofluorobenzene	0.0455	0.0500	91	80-120	

Lab Batch #: 702637 **Sample:** 287838-011 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
4-Bromofluorobenzene	0.0424	0.0500	85	80-120	

Lab Batch #: 702637 **Sample:** 498328-1-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
4-Bromofluorobenzene	0.0382	0.0500	76	80-120	*

Lab Batch #: 702637 **Sample:** 498328-1-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	ND	ND		80-120	*U
4-Bromofluorobenzene	0.0354	0.0500	71	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.

Blank Spike Recovery

Project Name: Livingston Line-Bob McLasland

Work Order #: 287838 **Project ID:** 2001-11226

Lab Batch #: 702637 **Sample:** 498328-1-BKS **Matrix:** Water

Date Analyzed: 08/17/2007 **Date Prepared:** 08/16/2007 **Analyst:** SHE

Reporting Units: mg/L **Batch #:** 1

BTEX by EPA 8021B Analytes	Blank Result [A]	BLANK /BLANK SPIKE RECOVERY STUDY Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	0.0500	0.0464	93	70-125	
Toluene	ND	0.0500	0.0469	94	70-125	
Ethylbenzene	ND	0.0500	0.0498	100	71-129	
m,p-Xylene	ND	0.1000	0.0881	88	70-131	
o-Xylene	ND	0.0500	0.0478	96	71-133	

Blank Spike Recovery [D] = 100*[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 McLasland

Work Order # 287838 **Project ID:** 2001-11226

Lab Batch ID: 702637 **QC- Sample ID:** 287838-011 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 08/17/2007 **Date Prepared:** 08/16/2007 **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	0.0881	0.0500	0.1105	45	0.0500	0.1138	51	13	70-125	25	X
Toluene	0.0012	0.0500	0.0463	90	0.0500	0.0466	91	1	70-125	25	
Ethylbenzene	0.0295	0.0500	0.0688	79	0.0500	0.0685	78	1	71-129	25	
m,p-Xylene	0.0229	0.1000	0.0988	76	0.1000	0.0991	76	0	70-131	25	
o-Xylene	ND	0.0500	0.0481	96	0.0500	0.0481	96	0	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*(D-G)/(D+G)

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

HBC Terracon
Consulting Engineers & Scientists

Office Location: Midland, TX

Project Manager: Catherine London

Sampler's Name: Chris Aulds

Laboratory: ELOT

Address:

Contact:

Phone: 200-11922

PO/SO #: ~~200-11043~~ 9114

Sampler's Signature:

Proj. No.: A4077007

Project Name: Livingston Line - Bob McClelland

No/Type of Containers: 4/VOA

ANALYSIS REQUESTED: BTEX (8021B)

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

Lab Sample ID (Lab Use Only): 287838

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1 Lit.	250 ml	P/O	Lab Sample ID
W	8/10	11:00			MW-3	4			X	01
		11:25			MW-7					02
		11:50			MW-11					03
		~~12:15~~			~~MW-12~~ MW-10					04
		12:35			MW-6					05
		1:10			MW-5					06
		1:25			MW-9					07
		2:15			MW-8					08
		2:25			MW-4					09
		3:00			MW-1					10

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

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
	8/13/10	5:05			
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
			Andrea Law	8/13/10	17:05

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: 2313 W. Sam Houston Pkwy N., Suite 107, Houston, Texas 77043, (713) 722-0700 Fax (713) 722-0788

Dallas Office: 8001 Carpenter Freeway, Suite 100, Dallas, Texas 75247, (214) 630-3010 Fax (214) 630-7070

Fort Worth Office: 2301 E. Loop 820 North, Fort Worth, Texas 76118, (817) 268-8600 Fax (817) 268-8602

Austin Office: 3013 Todd Lane, Suite 412, Austin, Texas 78744, (512) 442-1122 Fax (512) 442-1181

Atlanta Office: 6621 Bay Circle, Suite 120, Norcross, Georgia 30071, (770) 263-6777 Fax (770) 263-9206

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

HBC Terracon
Consulting Engineers & Scientists

Office Location Midland, TX

Laboratory: E2OT
Address:
Contact:
Phone:

Project Manager Catherine London PO/SO #: 2001-11043

Sampler's Name: Chris Aulds

Sampler's Signature:

Proj. No.: A4077007 Project Name: Livingston Line - Bob McCasland 4/109 No/Type of Containers

ANALYSIS REQUESTED

BTEX (8021B)

Lab use only
Due Date:

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

Page 2 of 2

287838
Lab Sample ID (Lab Use Only)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 125 ml	250 ml	P/O
W	4/10	5:30		X	MW-2	4		X	

11

Turn around time: ☑ Normal ☐ 60% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	4/13/09	5:05			
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 Lam	Date: 4-13-09	Time: 17:05

3.5°C w/ tubes & 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
2443 W. Sam Houston Pkwy N., Suite 107
Houston, Texas 77043
(713) 722-0200 Fax (713) 722-0258

Dallas Office
9081 Carpenter Freeway, Suite 100
Dallas, Texas 75247
(214) 630-1010 Fax (214) 630-7070

Fort Worth Office
2301 E. Loop 820 North
Fort Worth, Texas 76118
(817) 268-8800 Fax (817) 268-8803

Austin Office
911 Todd Lane, Suite 312
Austin, Texas 78744
(512) 442-1122 Fax (512) 442-1181

Atlanta Office
6621 Hay Circle, Suite 120
Norcross, Georgia 30071
(770) 263-0774 Fax (770) 263-0766

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon

Date/ Time: 8.13.07 5:05

Lab ID # : 287838

Initials: al

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

Carrie Kelly

From: London, Catharine H. [chlondon@terracon.com]
Sent: Tuesday, August 14, 2007 4:09 PM
To: Carrie Kelly
Subject: RE: Plains samples?

Okay, run MW-10, but use 12:15 as the time on this sample. Thanks.

Catharine London, P. G.
Senior Project Manager
Terracon
24 Smith Road, Suite 261 I Midland, Texas 79705
P 432-684-9600 I F 432-684-9608 I M 432-894-6701
chlondon@terracon.com I www.terracon.com

From: Carrie Kelly [mailto:carrie.kelly@xenco.com]
Sent: Tuesday, August 14, 2007 4:00 PM
To: London, Catharine H.
Subject: RE: Plains samples?

Sorry- We have an extra sample that says MW-10 and the time on the container says 11:15.

Thanks- Carrie Kelly

From: London, Catharine H. [mailto:chlondon@terracon.com]
Sent: Tuesday, August 14, 2007 3:54 PM
To: Carrie Kelly
Subject: RE: Plains samples?

I am now officially confusted. Do we have an extra MW-11 or MW-10? If so what is the time on the container. Thanks.

Catharine London, P. G.
Senior Project Manager
Terracon
24 Smith Road, Suite 261 I Midland, Texas 79705
P 432-684-9600 I F 432-684-9608 I M 432-894-6701
chlondon@terracon.com I www.terracon.com

8/14/2007

From: London, Catharine H. [mailto:chlondon@terracon.com]
Sent: Tuesday, August 14, 2007 9:34 AM
To: Carrie Kelly
Subject: RE: Plains samples?

Yes, those are Plains projects. Livingston Line- Bob McCasland A4077007, Plains leak # **2001-11226 and Livingston Ridge - HP Sims A4077008, Plains Leak # 2001-11005. Project Manager for Plains is Camille Reynolds. Can you fax me a copy of the COCs. Thanks.**

Catharine London, P. G.
Senior Project Manager
Terracon
24 Smith Road, Suite 261 I Midland, Texas 79705
P 432-684-9600 I F 432-684-9608 I M 432-894-6701
chlondon@terracon.com I www.terracon.com

From: Carrie Kelly [mailto:carrie.kelly@xenco.com]
Sent: Tuesday, August 14, 2007 8:45 AM
To: London, Catharine H.
Subject: Plains samples?

Hello Catherine- We received two COC's yesterday that appear to be Plains projects but don't indicate anywhere on the COC that they are indeed Plains projects. The project name is Livingstone Line, one for Bob and one for HP Sims. Can you tell me if they are Plains projects and if so, who is the project manager of Plains for these, please? I have Plains numbers but no Plains project manager. THANKS!

Thank you- Carrie Kelly

Project Manager

Environmental Lab of Texas- A Xenco Company

12600 W. I-20 E., Odessa, TX 79765

432-563-1800

Terracon is a dynamic and growing consulting firm of engineers and scientists providing multiple related service lines to local, regional, and national clients.

8/14/2007

Analytical Report 293202

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Livingston Line

2001-11226

28-NOV-07

12600 West I-20 East Odessa, Texas 79765

A Xenco Laboratories Company

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

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

28-NOV-07

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

Reference: XENCO Report No: **293202**
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 293202. 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. 293202 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 293202

PLAINS ALL AMERICAN EH&S, Midland, TX

Livingston Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	Nov-15-07 10:16		293202-001
MW-7	W	Nov-15-07 10:46		293202-002
MW-11	W	Nov-15-07 11:13		293202-003
MW-10	W	Nov-15-07 11:47		293202-004
MW-9	W	Nov-15-07 12:12		293202-005
MW-6	W	Nov-15-07 12:55		293202-006
MW-5	W	Nov-15-07 13:24		293202-007
MW-8	W	Nov-15-07 13:53		293202-008
MW-2	W	Nov-15-07 14:29		293202-009

Certificate of Analysis Summary 293202

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 Nov-16-07 02:05 pm
Report Date: 28-NOV-07
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	293202-001		293202-002		293202-003		293202-004		293202-005		293202-006	
	Field Id:	MW-3		MW-7		MW-11		MW-10		MW-9		MW-6	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Nov-15-07 10:16		Nov-15-07 10:46		Nov-15-07 11:13		Nov-15-07 11:47		Nov-15-07 12:12		Nov-15-07 12:55	
BTEX by EPA 8021B	*Extracted:*	Nov-26-07 08:33		Nov-26-07 08:33		Nov-26-07 08:33		Nov-26-07 08:33		Nov-26-07 08:33		Nov-26-07 08:33	
	Analyzed:	Nov-26-07 13:58		Nov-26-07 14:14		Nov-26-07 14:30		Nov-26-07 22:33		Nov-26-07 22:50		Nov-26-07 15:20	
	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	0.0728	0.0010	ND	0.0010	0.0149	0.0010
Toluene		ND	0.0020	ND	0.0020	ND	0.0020	0.0281	0.0020	0.0022	0.0020	ND	0.0020
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	0.0279	0.0010	0.0012	0.0010	ND	0.0010
m,p-Xylenes		ND	0.0020	ND	0.0020	ND	0.0020	0.0050	0.0020	ND	0.0020	ND	0.0020
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	0.0940	0.0010	0.0540	0.0010	ND	0.0010
Xylenes, Total		ND		ND		ND		0.099		0.054		ND	
Total BTEX		ND		ND		ND		0.2278		0.0574		0.0149	

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

Version: 1.001

Brent Barron
Odessa Laboratory Director

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 293202

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 Nov-16-07 02:05 pm
Report Date: 28-NOV-07
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	293202-007		293202-008		293202-009					
	Field Id:	MW-5		MW-8		MW-2					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Nov-15-07 13:24		Nov-15-07 13:53		Nov-15-07 14:29					
BTEX by EPA 8021B	***Extracted:***	Nov-26-07 08:33		Nov-26-07 08:33		Nov-26-07 08:33					
	Analyzed:	Nov-26-07 15:36		Nov-26-07 15:54		Nov-26-07 16:10					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		0.0110	0.0010	0.0186	0.0010	0.0615	0.0010				
Toluene		ND	0.0020	ND	0.0020	ND	0.0020				
Ethylbenzene		0.0036	0.0010	0.0079	0.0010	0.0031	0.0010				
m,p-Xylenes		ND	0.0020	0.0096	0.0020	0.0026	0.0020				
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010				
Xylenes, Total		ND		0.0096		0.0026					
Total BTEX		0.0146		0.0361		0.0672					

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

Version: 1.001

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.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Order #: 293202 **Project ID:** 2001-11226

Lab Batch #: 709263 **Sample:** 293202-001 / 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	0.0355	0.0300	118	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 709263 **Sample:** 293202-002 / 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	0.0355	0.0300	118	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 709263 **Sample:** 293202-003 / 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	0.0357	0.0300	119	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 709263 **Sample:** 293202-004 / 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	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 709263 **Sample:** 293202-005 / 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	0.0369	0.0300	123	80-120	**
4-Bromofluorobenzene	0.0286	0.0300	95	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.

Version: 1.001

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Order #: 293202 **Project ID:** 2001-11226

Lab Batch #: 709263 **Sample:** 293202-006 / 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	0.0352	0.0300	117	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 709263 **Sample:** 293202-007 / 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	0.0340	0.0300	113	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 709263 **Sample:** 293202-008 / 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	0.0357	0.0300	119	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 709263 **Sample:** 293202-009 / 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	0.0358	0.0300	119	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 709263 **Sample:** 501880-1-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	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	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.

Version: 1.001

Form 2 - Surrogate Recoveries

Project Name: Livingston Line

Work Order #: 293202 **Project ID:** 2001-11226

Lab Batch #: 709263 **Sample:** 501880-1-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	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 709263 **Sample:** 501880-1-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	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	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.

Version: 1.001

ENVIRONMENTAL LAB OF

BS / BSD Recoveries

Project Name: Livingston Line

Work Order #: 293202
Analyst: SHE
Lab Batch ID: 709263 **Sample:** 501880-1-BKS
Units: mg/L

Date Prepared: 11/26/2007
Batch #: 1

Project ID: 2001-11226
Date Analyzed: 11/26/2007
Matrix: Water

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	0.1091	109	0.1	0.1193	119	9	70-125	25	
Toluene	ND	0.1000	0.1069	107	0.1	0.1187	119	10	70-125	25	
Ethylbenzene	ND	0.1000	0.1068	107	0.1	0.1160	116	8	71-129	25	
m,p-Xylenes	ND	0.2000	0.2106	105	0.2	0.2282	114	8	70-131	25	
o-Xylene	ND	0.1000	0.1069	107	0.1	0.1162	116	8	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

Version: 1.001

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

Lab use only
Due Date:
Temp. of coolers when received (C°): 5.5
1 2 3 4 5
Page 1 of 1

Proj. No.: A4077007
Project Name: Livingston Line
No/Type of Containers: 36/VOA

ANALYSIS REQUESTED: BTEX (8021B)

Lab Sample ID (Lab Use Only): 293202

Matrix	Date	Time	Composite	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	BTEX (8021B)
W	11/15/07	1016			MW-3			4				X
		1046			MW-7							
		1113			MW-11							
		1147			MW-10							
		1212			MW-9							
		1255			MW-6							
		1324			MW-5							
		1353			MW-8							
		1429			MW-2							
1	1							1				1

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

	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	11/16/07	1405	Jeanette Fitch	11-16-07	1405
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:

NOTES:
Jimmy Bryant w/Plains
w/label/seal on container

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) 268-8502

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: Plains / Teracon

Date/ Time: 11-16-07 @ 1405

Lab ID #: 293202

Initials: JMF

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	5.5 °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? /label	(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

APPENDIX D

CD of 2007 Annual Groundwater Monitor Report