

AP - 52

ANNUAL MONITORING REPORT

YEAR(S):
2009



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2009 ANNUAL GROUNDWATER MONITORING REPORT
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LEA COUNTY, NEW MEXICO
PLAINS SRS #2002-10250
NMOCD REF. # AP-052

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APR 12 2010

Environmental Bureau
Oil Conservation Division

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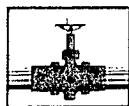
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March 17, 2010

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March 29, 2010

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APR 12 2010

Environmental Bureau
Oil Conservation Division

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

Re: Plains All American – 2009 Annual Monitoring Reports
6 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:

8-inch Moore to Jal #1	1R-0380	AP-91	Section 16, T17S, R37E, Lea County
8-inch Moore to Jal #2	1R-0381	AP-92	Section 16, T17S, R37E, Lea County
C.S. Cayler	AP-052		Section 06, T17S, R37E, Lea County
Hobbs Junction Mainline	AP-054		Section 26, T18S, R37E, Lea County
Kimbrough Sweet 8-inch	AP-0029		Section 03, T18S, R37E, Lea County
Lovington Deep 6-inch	AP-037		Section 03, T18S, R37E, Lea County

Talon/LPE (Talon) 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 Talon personnel in order to verify the accuracy and completeness of these documents. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Reports for the above facilities.

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

Sincerely,

Jason Henry
Remediation Coordinator
Plains All American

CC: Larry Johnson, NMOCD, Hobbs, NM

Enclosures

2009 ANNUAL GROUNDWATER MONITORING REPORT

**C.S. CAYLER
LEA COUNTY, NEW MEXICO
SRS #2002 - 10250
NMOCD REF. # AP-052**

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Environmental Bureau
Oil Conservation Division

TALON/LPE PROJECT NO. 700376.049.01

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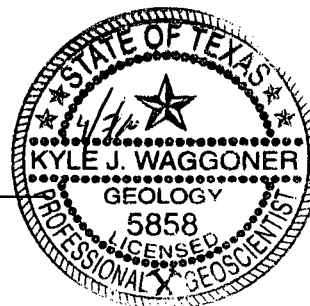
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March 2010

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NMOCD - New Mexico Oil Conservation Division

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1 INTRODUCTION AND OBJECTIVES

1.1 Objectives and Site Background

The C.S. Cayler (site) is located approximately 7 miles southeast of Lovington, Lea County, New Mexico, on property owned by Robert C. Rice. There are no residences, groundwater supply wells, or surface water bodies within a 1,000-foot radius of the site. The initial release occurred from an EOTT Energy Pipeline (EOTT) steel pipeline on September 19, 2002. Subsequently, EOTT changed its name to Link Energy in October 2003, and Plains Marketing, L.P. (Plains) purchased the assets of Link Energy on April 1, 2004. Initial reports estimated that 70 barrels (bbls) of crude oil were released. During site reconnaissance, it was observed that the ground surface beyond the current spill area had apparently been impacted by a prior spill or spills; however, the source(s) and date(s) of the spill are unknown. Based on available information, no crude oil was initially recovered at the release site.

The site is situated in a physiogeographic area that is on the extreme south-western portion of the Southern High Plains as it grades into the Edwards Plateau to the south and southeast and the Chihuahuan Desert of the Trans-Pecos Region to the southwest.

The topography proximal to the site is typical of the Southern High Plains, essentially flat with shallow depressions, or playa lakes, dotting the landscape. The prominent surface features on the Southern High Plains are the approximately 19,250 ephemeral playa lakes; however the density of the playa lakes diminishes toward the southern extent of the Southern High Plains. During periods of rainfall, the playas accumulate sheet runoff from watershed areas ranging in size from less than one square mile to several square miles. Only a small portion of drainage from rainfall occurs by streams. Playa lakes that collect storm water runoff can act as a recharge mechanism for groundwater.

The average elevation of the site area is approximately 3,810-feet above mean sea level with a slight slope to the southeast. The regional slope of the land surface in the Southern High Plains is approximately 100 feet per mile in a southeasterly direction.

On February 5, 2007, Talon/LPE (Talon) was retained by Plains to assume remediation activities at the site. Remediation activities at the site were previously conducted by Environmental Plus, Inc. (EPI).

1.2 Site Geology

The surface deposits in Lea County are composed of Blackwater Draw (Illinoian) sediments, Ogallala sediments and undivided Quaternary alluvium, which is also termed 'cover sands'. The soil in the upper two (2) feet at the site composed of gravelly loam that consists of 43% sand, 18% clay and 40% silt and also contains abundant eroded gravel to cobble size caliche fragments. Below the top soil is predominately unconsolidated sand to weakly cemented sandstone which has undergone calcification of varying extent.

Below the Blackwater Draw Formation is the Ogallala Formation of Miocene to Pliocene age. The Ogallala Formation was deposited from sediments eroded from the Southern Rockies and

consists mostly of eolian sediments, silty to very fine sand or loess. During the middle to late Miocene, the Ogallala was deposited by fluvial mechanism as paleovalley fill composed of gravelly to sandy braided stream deposits that trended west to east across the Southern High Plains. During the late Miocene the west to east drainage was diverted (captured) by the Pecos River. Subsequently, the Pecos River basin has experienced deflation, which facilitated eolian deposition on the Southern High Plains during the Pliocene.

1.3 Previous Environmental Investigations

A total of eighteen (18) groundwater monitor wells have been installed in the vicinity of the release (see Figure 1). With New Mexico Oil Conservation Division (NMOCD) approval and landowner concurrence, groundwater monitor well MW-1 was installed in October 2002 and subsequently plugged in September 2008 due to the well being dry. Groundwater monitor wells MW-2, MW-3, MW-4, and MW-5 were installed from May to June 2004, and MW-6, MW-7, MW-8, MW-9, and MW-10 were installed in October 2004. Groundwater monitor wells MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, and MW-17 were installed in February 2006, and MW-18 was installed in March 2008. Replacement monitor well MW-1A was installed in September 2008.

Phase-separated hydrocarbon (PSH) recovery operations have been performed at the site since September 2002. A summary of the historical groundwater and PSH gauging is provided in Table 1. Approximately 807 bbls of crude oil have been recovered to date from the site.

1.4 Regulatory Framework

Groundwater analytical data collected from this site was evaluated to the New Mexico Water Quality Control Commission (NMWQCC) groundwater standards outlined in the table below.

New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards	
Compound	mg/L
Benzene	0.010
Toluene	0.750
Ethylbenzene	0.750
Total Xylenes	0.620
PAH (Naphthalene)	0.030
PAH (Benzo[a]-pyrene)	0.007

2 SITE ACTIVITIES

The sections that follow summarize groundwater monitoring and PSH recovery activities conducted at the subject site during the year 2009. The primary function of groundwater monitoring activities is to collect depth to fluid measurements and to collect groundwater samples from monitor wells for laboratory analysis. The objective of groundwater monitoring is to evaluate the status of the dissolved-phase and PSH plumes in order to verify the effectiveness of the remediation system as to inhibiting plume migration, reducing the volume of PSH impacting the groundwater and determining if modifications to the remediation system would improve its performance and efficiency.

A synopsis of analytical results for the four (4) groundwater monitoring events is located in Table 2, Table 3, and Table 4 in Appendix B, and annotated in map form on Figures 3a through 3d in Appendix A. Laboratory analytical data reports and chain of custody documentation are included in Appendix C. In addition, cumulative historical analytical data is located in the tables section on the attached CD, which is an adjunct to this report.

2.1 Groundwater Monitoring Activities

A total of four (4) groundwater monitoring events were conducted at the site during the year 2009. The events occurred on February 19, June 10, August 25, and December 11. During all of the groundwater monitoring events, the depths to groundwater and PSH, if present, were measured in all of the monitoring wells (MW-1 through MW-18) using an oil/water interface probe.

During the February, June and December groundwater monitoring events, ten (10) monitor wells, MW-6, MW-9, MW-10, MW-11, and MW-13 through MW-18, were purged of a minimum three (3) casing volumes and groundwater samples were collected. Groundwater samples were not collected from eight (8) monitor wells, MW-1A through MW-5, MW-7, MW-8, and MW-12, due to the presence of PSH.

During the August groundwater monitoring event, ten (10) monitor wells, MW-6, MW-9, MW-10, MW-11, and MW-13 through MW-18, were purged of a minimum three (3) casing volumes and groundwater samples were collected. Pursuant to the NMOCD directive that samples will be collected from the groundwater below the PSH caps annually, groundwater samples were collected from four (4) monitor wells impacted with PSH, (MW-2, MW-3, MW-5 and MW-12). Groundwater samples were not collected from monitor wells MW-4, MW-7 and MW-8 due to insufficient water in the well. In addition, a sample was not collected from monitor well MW-1A due to obstruction from a total fluids pump. Monitor wells impacted with PSH were not purged of three (3) casing volumes prior to sample collection; however, they were purged enough to ensure that no PSH was in the effluent tubing.

2.2 Groundwater Gauging, Purging, and Sampling Procedures

During each groundwater monitoring event, all monitor wells were measured with an oil/water interface probe to determine static water levels and to determine the thickness of PSH accumulations, if present. The data collected from the measurements was used to construct groundwater gradient maps and PSH thickness maps. The depth to fluid measurements collected

during the fourth quarter groundwater monitoring event on December 10, 2009 resulted in anomalous data that skewed the potentiometric surface map constructed from the data. The monitor wells were re-measured on January 10, 2010 and that data was used to construct the fourth quarter groundwater gradient map presented as Figure 2d in Appendix A. The gauging results collected during the four (4) events are incorporated in Table 1, Appendix B – Summary of Historical Fluid Level Measurements. In addition, cumulative historical gauging data is located in the tables section on the CD, which is an adjunct to this report.

Subsequent to gauging, all monitor wells that were not impacted with PSH were purged using a down-hole pump equipped with vinyl tubing. The pump and tubing were decontaminated with Alconox® detergent and rinsed with distilled water after each use. Recovered purge water and water used in the decontamination process was contained in on-site 55-gallon drums. After the groundwater monitoring event, all retained water was removed with a vacuum truck. Approximately 70 gallons of purged groundwater and water used for pump decontamination was generated during the monitoring events of 2009.

Groundwater samples were collected from all monitor wells using dedicated disposable polyethylene bailers, except for the monitor wells impacted with PSH during the August groundwater monitoring event. Groundwater samples were collected from wells impacted with PSH using a pump and vinyl tubing. The tubing intake was set below the PSH cap and a brief purge was performed to clear the tubing of any PSH. The groundwater samples were contained in laboratory supplied sample vials infused with the appropriate preservative required for the requested analysis. The groundwater samples were maintained on ice, in the custody of Talon personnel, until they were delivered to TraceAnalysis, Inc. in Midland, Texas for testing.

The groundwater samples collected during the all four events were quantified for benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method SW-846 8021B. During the August event, samples collected from monitor wells both impacted and not impacted with PSH were also quantified for BTEX and poly-nuclear aromatic hydrocarbons (PAH) using EPA Method SW-846 8270C. Also during the August event, all groundwater samples were quantified for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) by EPA Method SW-846 8015B.

2.3 Phase Separated Hydrocarbon Recovery

A total of approximately 807 bbls of PSH have been recovered at the subject site to date by both hand bailing and from the PSH recovery system since PSH recovery was initiated. PSH recovery methods have been employed at the site since 2002, initially by hand bailing followed in March of 2003 with a portable gasoline powered eductor recovery system.

In November 2007, an automated skimmer recovery system was installed at the site. The system utilized six (6) skimmers in monitor wells MW-2, MW-3, MW-4, MW-5, MW-7, and MW-12 to recover PSH and to inhibit migration of the PSH plume. The skimmer assembly consists of bladder pumps combined with 24" traveling float specific gravity skimmers attachments. In July of 2009, a pneumatic total fluids pump was added to monitor well MW-1A. The skimmer system and total fluids pumps are powered by a single-phase 230 volt, 7.5 HP two stage reciprocating air compressor. Fluid, recovered by the pumps, is retained in a 2,500-gallon or a 1,225-gallon poly tank. The poly tanks are equipped with a high level shut off switches to prevent overflow and they are located within a secondary recovery compound that is outfitted

with a poly-liner. Recovered groundwater is transported to Three-Forks disposal facility by poly-line using a two horsepower transfer pump. The pump is operated automatically from tank level switches. PSH is periodically removed with a vacuum truck and is re-introduced to the Plains' pipeline system at the Scharb Station and/or 34 Junction South pipeline.

During 2009 the quarterly PSH and groundwater recovery totals are as follows:

- 1st Quarter – 24 bbls crude oil and 4 bbls of groundwater
- 2nd Quarter - 12 bbls crude oil and 18 bbls of groundwater
- 3rd Quarter - 37 bbls crude oil and 277 bbls of groundwater
- 4th Quarter - 80 bbls of crude oil and 1,640 bbls of groundwater

Approximately 807 bbls of PSH have been recovered to date from the site.

3 GROUNDWATER MONITORING RESULTS

The results of the laboratory analyses are summarized in Table 2 – Summary of Groundwater Analytical Data in Appendix B. Laboratory analytical data reports and chain of custody documentation are provided in Appendix C. In addition, cumulative historical analytical results are included in the tables section on the attached CD that is an adjunct to this report.

3.1 Groundwater Monitoring Results

The following sections present the results from the four groundwater monitoring events at the C. S. Cayler site.

3.1.1 Physical Characteristics of the First Water-Bearing Zone

The primary groundwater resource under the Southern High Plains, including the site, is referred to as the Ogallala Aquifer or High Plains Aquifer. The Southern portion of the Ogallala aquifer underlies an area of about 29,000 square miles (mi²) in western Texas and eastern New Mexico, encompassing all or part of 31 counties in Texas and 6 counties in New Mexico.

The Ogallala Aquifer has experienced acute depletion from extensive irrigation and urban demand, which have exceeded the average annual recharge rate. Recharge of the Ogallala Aquifer on the Southern High Plains occurs predominately from rainfall runoff that accumulates in ephemeral streams and playa lakes as well as direct recharge in areas that contain permeable soils such as sand hills. Recharge rates vary depending on mechanism, but averages from 0 to 1.6 inches per year.

The Ogallala Aquifer is generally unconfined and the potentiometric surface generally mirrors the land surface elevation with the regional flow direction from the northwest to the southeast. The mean regional gradient is 15 feet per mile and the typical groundwater velocity averages seven inches per day. The regional hydraulic conductivity averages 17 gallons per day per square-foot and specific yield averages 16%. The depth to groundwater at the site has historically ranged from 80 to 85 feet below ground surface (bgs) and the groundwater flow direction is to the southeast at an average of five (5) feet per mile. The saturated thickness of the Ogallala formation on the High Plains ranges from 25 feet to 175 feet. The variable thickness is due to the irregularly eroded Triassic surface that underlies it.

The composition of Ogallala groundwater is defined as mixed-cation-HCO₃, therefore, Ogallala groundwater is considered hard. Problems with scale have occurred with residential and commercial water systems that use Ogallala groundwater and often treatment strategies are employed to reduce the effects of scale. The typical total dissolved solids of Ogallala groundwater in the Hobbs-Lovington area is generally less than 1,000 mg/L (ppm) in areas not impacted by oil-field brines. The pH of Ogallala water averages 7.3.

3.1.2 Groundwater Gradient and Flow Direction

The depth to fluid measurements was collected during each of the four (4) groundwater monitoring events during the year 2009. The results of the fluid level measurements are summarized in Table 1, Appendix B - Summary of Historical Fluid Level Measurements. In

addition, cumulative historical gauging data is located in the tables section on the CD that is an adjunct to this report.

The collected data was used to construct potentiometric surface maps in order to interpret the groundwater gradient and flow direction. The depth to fluid measurements collected during the fourth quarter groundwater monitoring event on December 10, 2009 resulted in anomalous data that skewed the potentiometric surface map constructed from the data. The monitor wells were re-measured on January 10, 2010 and that data was used to construct the fourth quarter groundwater gradient map presented as Figure 2d in Appendix A. The maps, designated Figures 2a through 2d, are presented in Appendix A.

The potentiometric surface maps constructed for each of the four (4) groundwater monitoring events indicates that the groundwater flow direction is to southeast at an approximate gradient of 0.0009 feet/foot or approximately five (5) feet per mile. Groundwater levels at the subject site have exhibited a steady decline of an average of two (2) feet for the year that appears to be associated with a regional trend of declining groundwater levels for the Ogallala Aquifer.

3.1.3 Phase Separated Hydrocarbon (PSH)

An oil/water interface probe was used to determine the thicknesses of PSH during the four (4) groundwater monitoring events. Generally, PSH thicknesses have fluctuated from quarter to quarter during the year 2009 and have exhibited both declines and increases in thickness with no apparent trend or pattern.

In addition to potentiometric surface maps, isopleth maps were prepared depicting the measured PSH thicknesses and PSH plume geometry. PSH plume delineation and thickness maps are presented in Appendix A as Figures 3a through 3d. Currently, the PSH plume is delineated by the current monitor well geometry.

- In February 2009, PSH was observed in monitor wells MW-1A, MW-2, MW-3, MW-4, MW-5, MW-7, and MW-12. PSH thickness ranged from 1.22 feet to 7.36 feet.
- In June 2009, PSH was observed in monitor wells MW-1A, MW-2, MW-3, MW-4, MW-5, MW-7, and MW-12. PSH thickness ranged from 1.15 feet to 7.54 feet.
- In August 2009, PSH was observed in monitor wells MW-1A, MW-2, MW-3, MW-4, MW-5, MW-7, and MW-12. PSH thickness ranged from 2.85 feet to 7.10 feet.
- In December 2009, PSH was observed in monitor wells MW-1A, MW-2, MW-3, MW-4, MW-5, MW-7, and MW-12. PSH thickness ranged from 0.05 to 7.04 feet.

3.1.4 Groundwater Analytical Results

During the first quarter February 2009 sampling event, groundwater samples were collected from monitor wells MW-6, MW-9, MW-10, MW-11 and MW-13 through MW-18. Samples were not collected from monitor wells MW-1A, MW-2, MW-3, MW-5, MW-7, MW-8, and MW-12 due to the presence of PSH. Laboratory analytical results of the groundwater samples exhibited the following findings:

- Benzene concentrations ranged from <0.00100 mg/L to 0.116 mg/L. Benzene concentrations exceeded the NMWQCC groundwater standard of 0.010 mg/L in groundwater samples collected from monitor wells MW-6 and MW-13.

- Toluene concentrations ranged from <0.00100 mg/L to 0.00910 mg/L. Toluene concentrations did not exceed the NMWQCC groundwater standard of 0.750 mg/L in any collected groundwater sample.
- Ethylbenzene was not detected (<0.00100 mg/L) in any of the collected groundwater samples.
- Xylene concentrations ranged from <0.00100 mg/L to 0.00400 mg/L. Xylene concentrations did not exceed the NMWQCC groundwater standard of 0.620 mg/L in any of the collected groundwater samples.

During the June 2009 sampling event, groundwater samples were collected from monitor wells MW-6, MW-9, MW-10, MW-11 and MW-13 through MW-18. Samples were not collected from monitor wells MW-1A through MW-5, MW-7, MW-8, and MW-12 due to the presence of PSH. Laboratory analytical results of the groundwater samples exhibited the following findings:

- Benzene concentrations ranged from <0.00100 mg/L to 0.229 mg/L. Benzene concentrations exceeded the NMWQCC groundwater standard of 0.010 mg/L in the groundwater sample collected from monitor wells MW-6, MW-9, MW-10, and MW-13.
- Toluene concentrations ranged from <0.00100 mg/L to 0.0242 mg/L. Toluene concentrations did not exceed the NMWQCC groundwater standard of 0.750 mg/L in any of the collected groundwater samples.
- Ethylbenzene was not detected, <0.00100 mg/L, in any of the collected groundwater samples.
- Xylene concentrations ranged from <0.00100 mg/L to 0.0282 mg/L. Xylene concentrations did not exceed the NMWQCC groundwater standard of 0.620 mg/L in any collected groundwater sample.

During the August 2009 sampling event, groundwater samples were collected from thirteen (13) monitor wells including wells impacted with PSH (MW-2, MW-3, MW-5, MW-6, MW-9 through MW-18). Samples were not collected from monitor wells, MW-4, MW-7, and MW-8 due to insufficient water below the PSH caps to allow for sample collection. In addition, a sample was not collected from monitor well MW-1A because it was obstructed by a total fluids pump. The samples that were collected from each monitor well were quantified for poly-nuclear aromatic hydrocarbons as well as BTEX. In addition, groundwater samples collected from monitor wells impacted with PSH were quantified for total petroleum hydrocarbons (TPH) by EPA Method 8015.

Laboratory analytical results for the groundwater samples collected from monitor wells not impacted with PSH exhibited the following findings:

- Benzene concentrations ranged from <0.00100 mg/L to 0.269 mg/L. Benzene concentrations exceeded the NMWQCC groundwater standard of 0.010 mg/L in groundwater samples collected from monitor well MW-6, MW-9, MW-10, MW-13, and MW-16.
- Toluene concentrations ranged from <0.00100 mg/L to 0.0270 mg/L. Toluene concentrations did not exceed the NMWQCC groundwater standard of 0.750 mg/L in any collected groundwater sample from monitor wells not impacted with PSH...
- Ethylbenzene was not detected, <0.00100 mg/L, in any collected groundwater sample from monitor wells not impacted with PSH...

- Xylene concentrations ranged from <0.00100 mg/L to 0.0528 mg/L. Xylene concentrations did not exceed the NMWQCC groundwater standard of 0.620 mg/L in any collected groundwater sample from monitor wells not impacted with PSH...
- PAH constituents were not detected in any monitor well not impacted with PSH. Analytical results for PAH analysis is summarized in Table 3 Appendix B.

Laboratory analytical results for the groundwater samples collected from monitor wells that were impacted with PSH exhibited the following findings:

- Benzene concentrations ranged from 15.9 mg/L to 43.0 mg/L. Benzene concentrations exceeded the NMWQCC groundwater standard of 0.010 mg/L in groundwater samples collected from all monitor wells impacted with PSH.
- Toluene concentrations ranged from 9.17 mg/L to 48.4 mg/L. Toluene concentrations exceeded the NMWQCC groundwater standard of 0.750 mg/L in all groundwater samples collected from monitor wells impacted with PSH.
- Ethylbenzene concentrations ranged from 2.05 mg/L to 17.2 mg/L. Ethylbenzene concentrations exceeded the NMWQCC groundwater standard of 0.750 mg/L in all groundwater samples collected from monitor wells impacted with PSH.
- Xylene concentrations ranged from 4.87 mg/L to 39.8 mg/L. Xylene concentrations exceeded the NMWQCC groundwater standard of 0.620 mg/L in all groundwater samples collected from monitor wells impacted with PSH.
- The PAH analyte, Naphthalene, exceeded the NMWQCC groundwater standard of 0.030 mg/L in samples collected from all monitor wells impacted with PSH. Analytical results for PAH analyses are summarized in Table 4 in Appendix B.

During the December 2009 sampling event, groundwater samples were collected from monitor wells MW-6, MW-9, MW-10, MW-11, and MW-13 through MW-18. Samples were not collected from monitor wells MW-1A through MW-5, MW-7, MW-8, and MW-12 due to the presence of PSH. Laboratory analytical results of the groundwater samples exhibited the following findings:

- Benzene concentrations ranged from <0.00100 mg/L to 0.410 mg/L. Benzene concentrations exceeded the NMWQCC groundwater standard of 0.010 mg/L in the groundwater samples collected from monitor wells MW-6 and MW-16.
- Toluene concentrations ranged from <0.00100 mg/L to 0.0395 mg/L. All toluene concentrations were below the NMWQCC groundwater standard of 0.750 mg/L.
- Ethylbenzene concentrations ranged from <0.00100 mg/L to 0.00200 mg/L. All ethylbenzene concentrations were below the NMWQCC groundwater standard of 0.750 mg/L.
- Xylene concentrations ranged from <0.00100 mg/L to 0.0271 mg/L. All xylene concentrations were below the NMWQCC groundwater standard of 0.620 mg/L.

4 CONCLUSIONS AND RECOMMENDATIONS

The following section presents a summary of the four groundwater monitoring events conducted at the C. S. Cayler site and Section 4.2 provides recommendations for future corrective action.

4.1 Summary of Findings

- The groundwater flow direction is to the southeast at an approximate gradient of 0.0009 ft/ft or five (5) feet per mile.
- Groundwater levels at the subject site have exhibited a steady decline averaging two (2) feet for the year 2009 that appears to be associated with a regional trend of declining groundwater levels for the Ogallala Aquifer.
- PSH has impacted monitor wells MW-1A, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, and MW-12. The PSH plume underlying this site has been delineated by the current monitor well geometry.
- Generally, PSH thicknesses have fluctuated from quarter to quarter during the year 2009 exhibiting both increases and decreases with no apparent pattern or trend.
- Currently, the dissolved-phase plume is delineated by the current monitor well geometry.
- Neither BTEX nor PAH constituents were detected in groundwater samples collected from down-gradient monitor well MW-18 in all four monitoring events indicating that the dissolved-phase plume is relatively stable and is not migrating down-gradient.
- The PSH recovery system has removed 153 bbls of crude oil from the groundwater during 2009 indicating that the system is performing its function.

4.2 Recommendations

Based upon the results of the quarterly groundwater monitoring and PSH recovery efforts, Talon proposes the following actions:

- Continue operation and maintenance of the skimmer/bladder pump and total fluids pumps recovery system. Monitor the system on a weekly basis to optimize PSH recovery efficiency.
- Add or reposition pumps as necessary to optimize PSH recovery and inhibit plume migration.
- Perform quarterly groundwater monitoring events in accordance with NMOCD directives.
- Based on the results of the PAH analyses over the past several years, Talon/LPE recommends that further PAH analyses be conducted only on those monitor wells which have historically exhibited previous concentrations of PAH constituents near or above the NMWQCC standards. Currently, no monitor well that is not impacted with PSH exhibits concentrations of PAH constituents exceeding NMWQCC groundwater standards.

APPENDIX A

Drawings

Figure 1 - Site Plan

Figure 2a - Groundwater Gradient Map – 02/18/2009

Figure 2b - Groundwater Gradient Map – 06/10/2009

Figure 2c - Groundwater Gradient Map – 08/25/2009

Figure 2d - Groundwater Gradient Map - 01/08/2010

Figure 3a - PSH Thickness & Groundwater Concentration Map - 02/19/2009

Figure 3b - PSH Thickness & Groundwater Concentration Map - 06/10/2009

Figure 3c - PSH Thickness & Groundwater Concentration Map - 08/25-26/2009

Figure 3d - PSH Thickness & Groundwater Concentration Map - 12/10/2009

APPENDIX A

Drawings

Figure 1 - Site Plan

Figure 2a - Groundwater Gradient Map – 02/18/2009

Figure 2b - Groundwater Gradient Map – 06/10/2009

Figure 2c - Groundwater Gradient Map – 08/25/2009

Figure 2d - Groundwater Gradient Map - 01/08/2010

Figure 3a - PSH Thickness & Groundwater Concentration Map - 02/19/2009

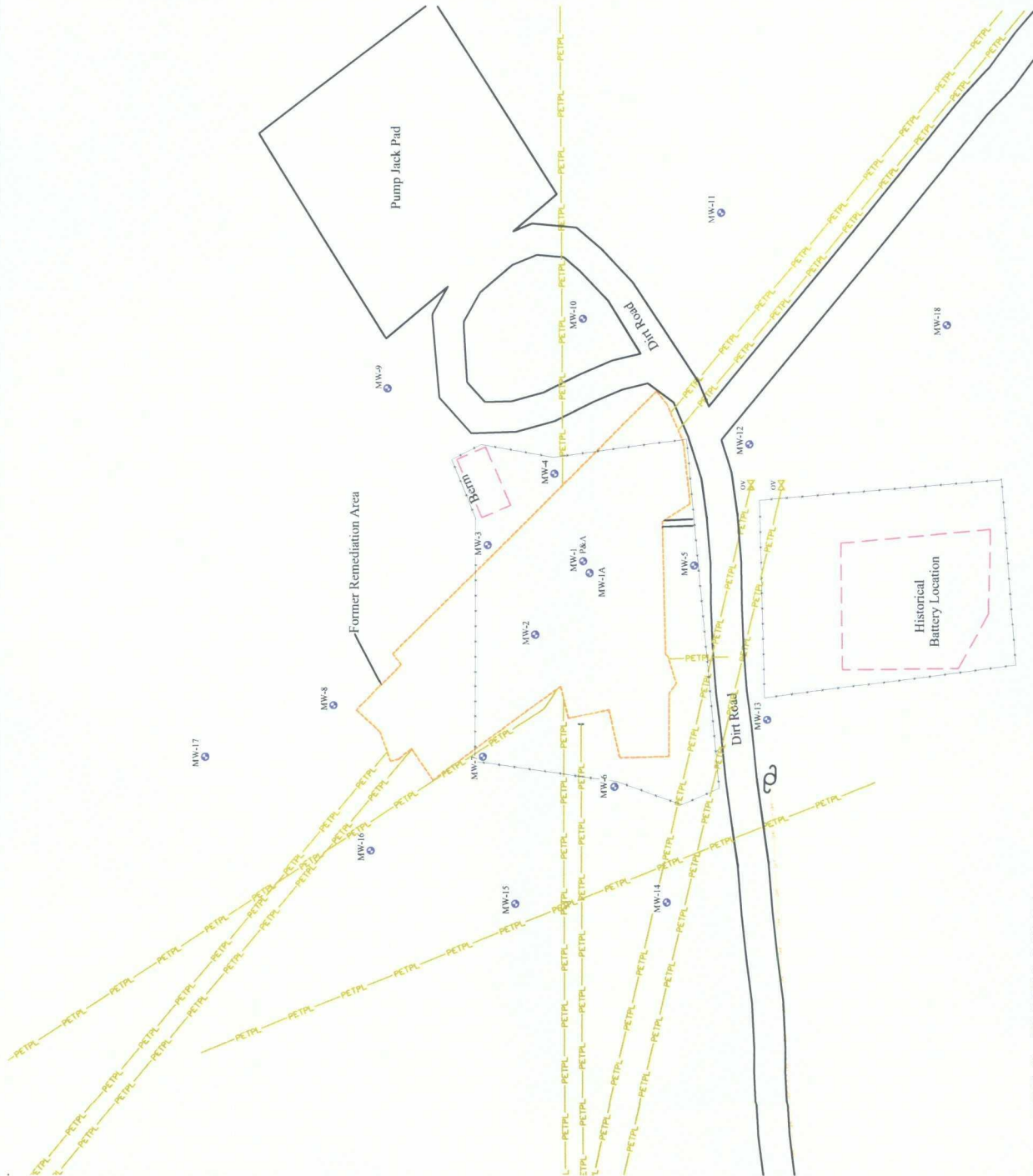
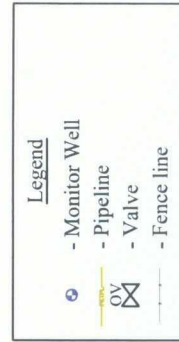
Figure 3b - PSH Thickness & Groundwater Concentration Map - 06/10/2009

Figure 3c - PSH Thickness & Groundwater Concentration Map - 08/25-26/2009

Figure 3d - PSH Thickness & Groundwater Concentration Map - 12/10/2009



0 50 100
Scale in Feet



Talon/LPE # : 700376.049.01



Date: 04/24/2009

Scale: 1" = 100'

Drawn By: SJA

C.S. Cayler

SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

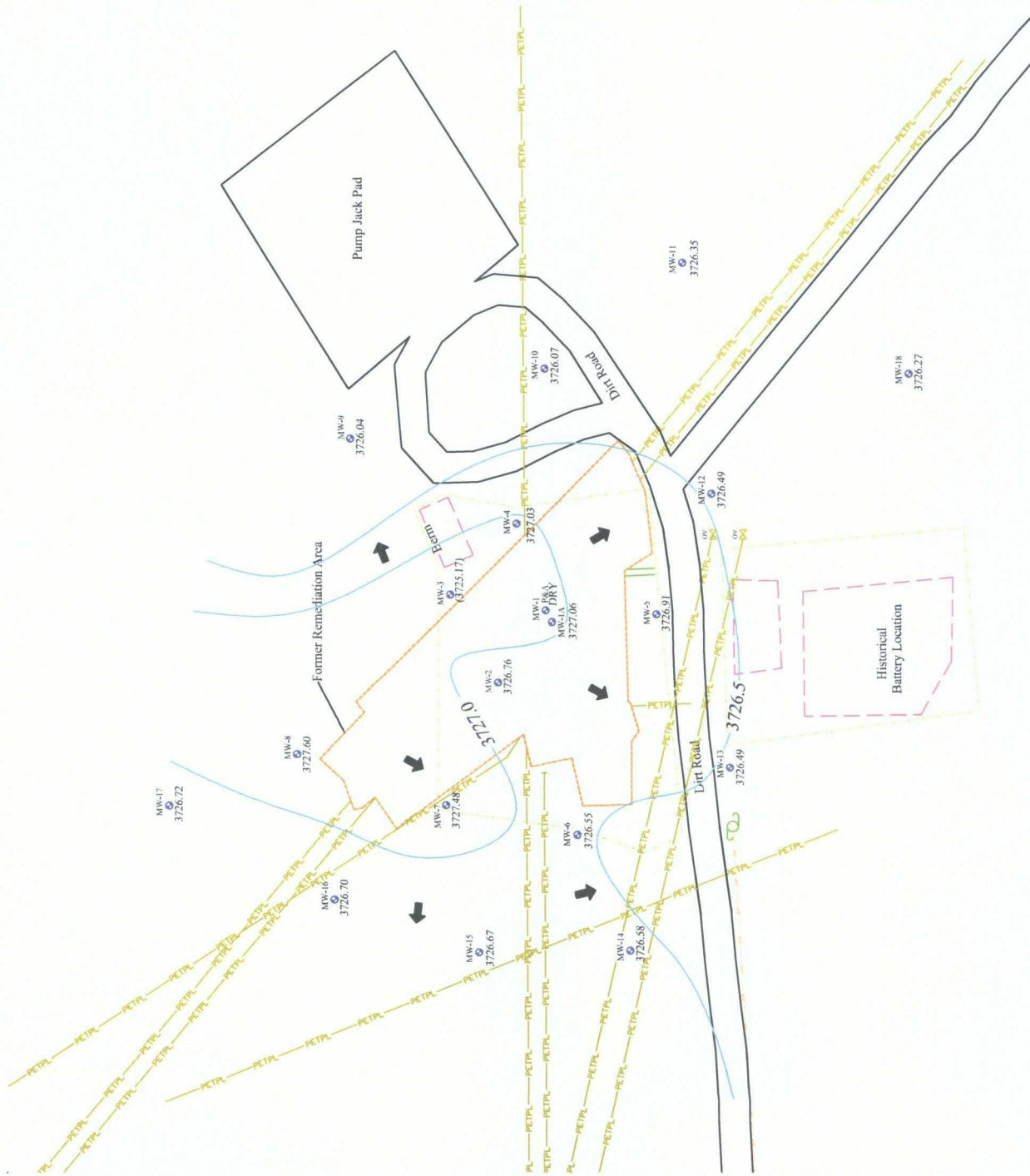
Lea County, New Mexico

Figure 1 - Site Plan



0 50 100
Scale in Feet

- Legend**
- Monitor Well
 - Pipeline
 - Valve
 - Fence line
 - Groundwater Elevation Contour Line
 - Groundwater Contour Elevation
 - Groundwater Flow Direction
 - (81.30) - Data Not Used



Talon/LPE # : PLAINS044SPL



Date: 04/24/2009

Scale: 1" = 100'

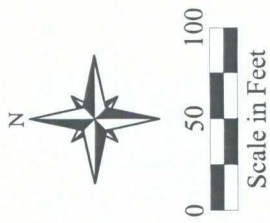
Drawn By: SJA

C.S. Caylor

SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

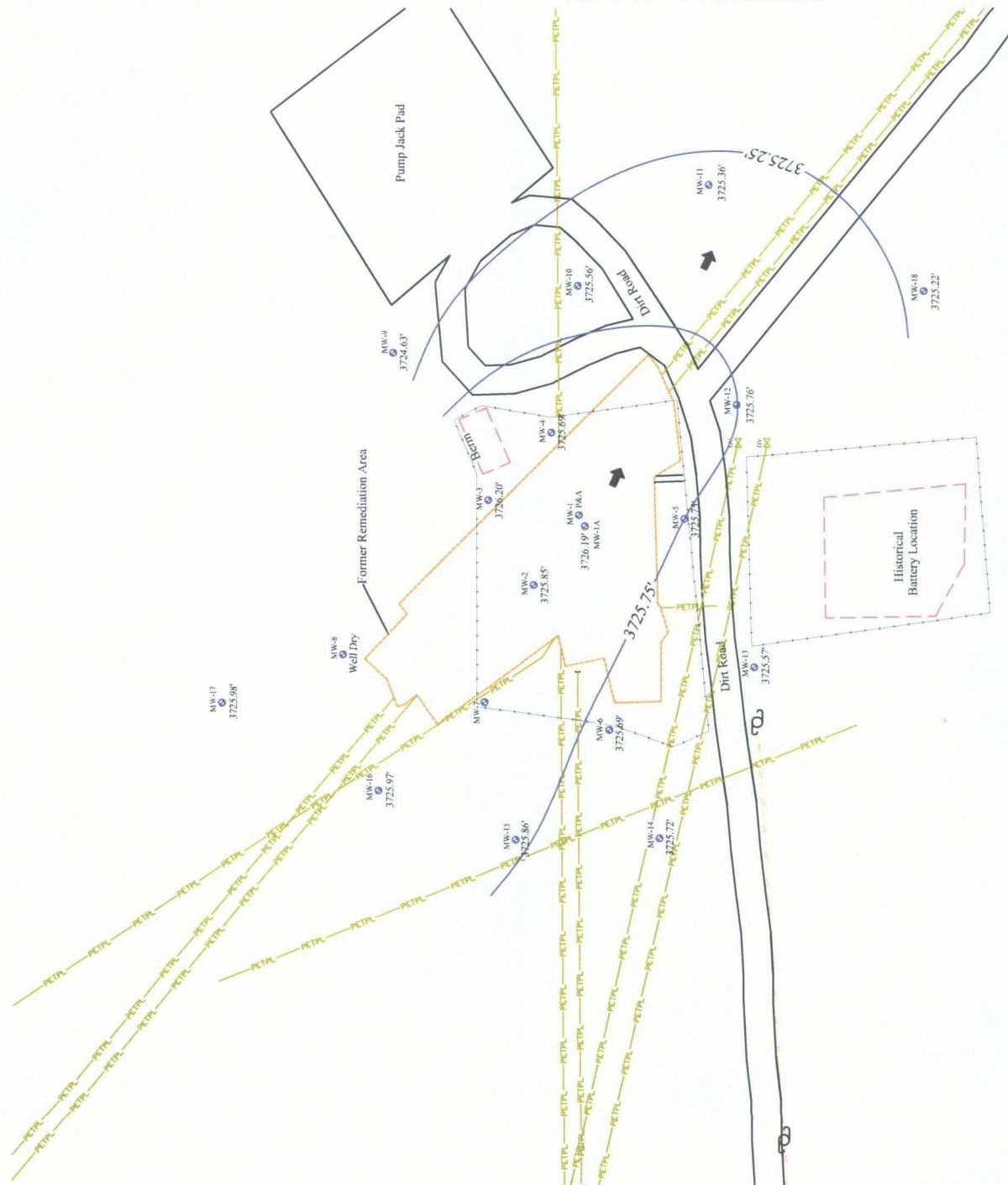
Lea County, New Mexico

Figure 2a - Groundwater Gradient Map, 02/18/2009



- Legend**
- Monitor Well
 - Pipeline
 - Valve
 - Fence line
 - Groundwater Elevation Contour Line
 - Groundwater Contour Elevation
 - Groundwater Flow Direction
 - Anomalous Data Not Used

MW-7 = Contains no groundwater
MW-8 = Dry Well



Talon/LPE #: 700376.049.01



Date: 01/18/2010

Scale: 1" = 100'

Drawn By: TJS

C.S. Cayler

SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

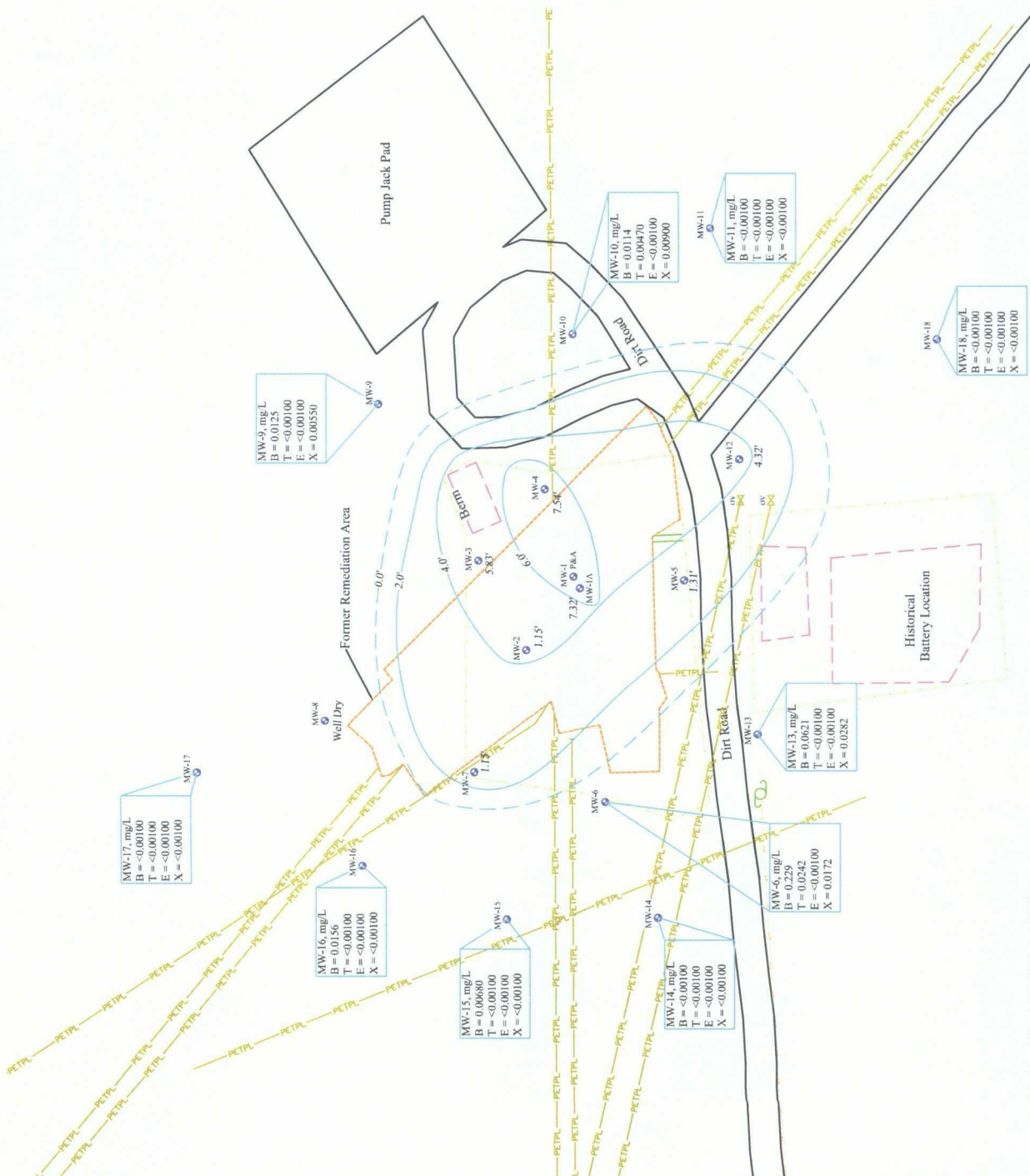
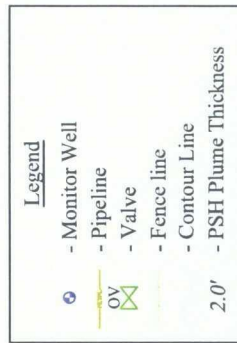
Lea County, New Mexico

Figure 2b - Groundwater Gradient Map (6/10/2009)



0 50 100
Scale in Feet

MW-7 = Contains no groundwater



Talon/LPE # : PLAINS044SPL



Date: 7/9/2009

Scale: 1" = 100'

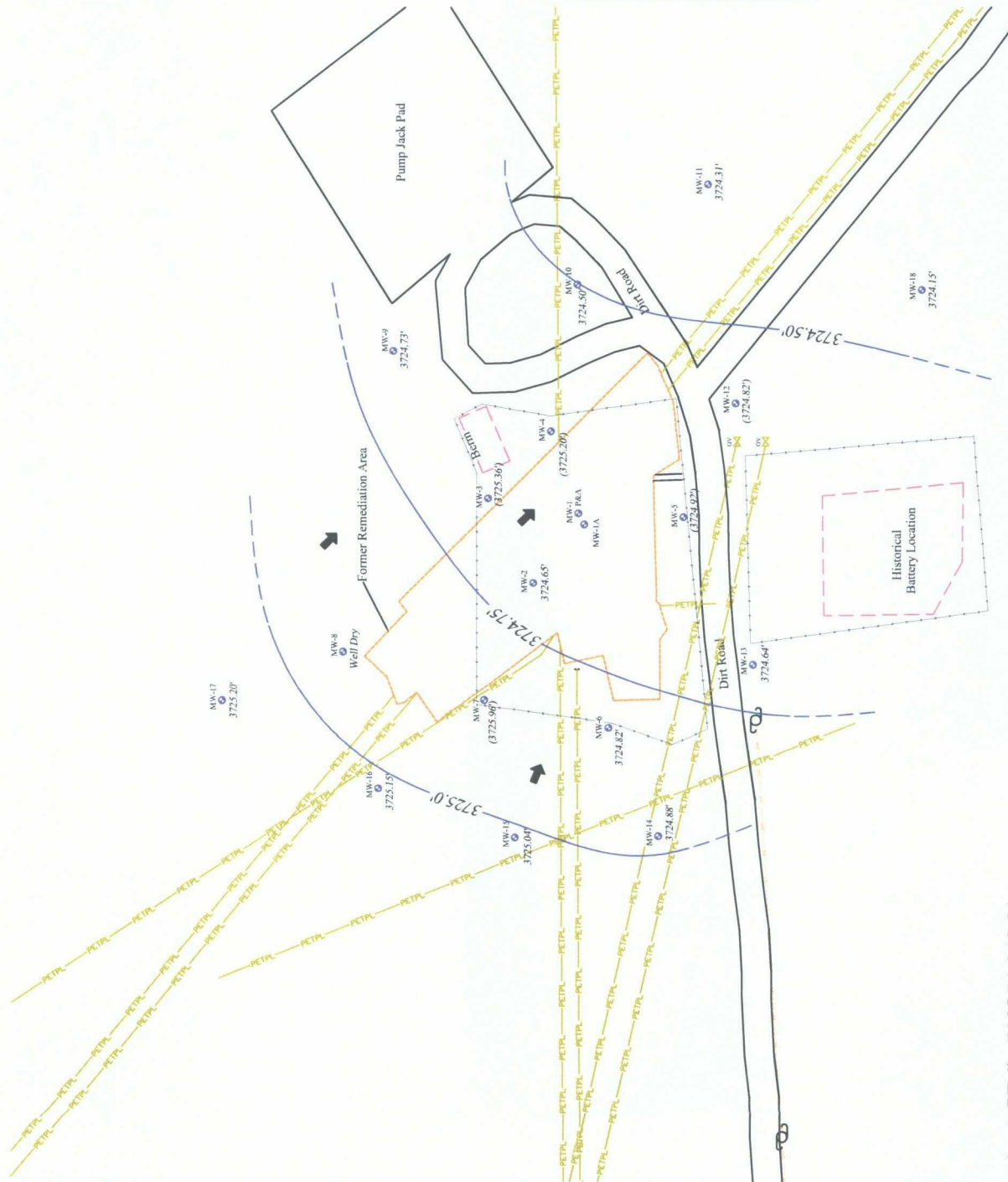
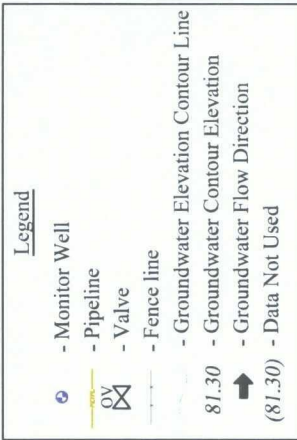
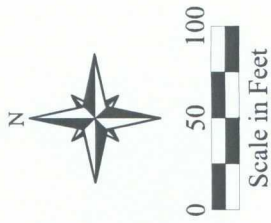
Drawn By: HDJ

C.S. Cayler

SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

Lea County, New Mexico

Figure 3b - PSH Thickness & Groundwater Concentration Map (6/10/2009)



Talon/LPE # : 700376.049.01



Date: 01/18/2010

Scale: 1" = 100'

Drawn By: TJIS

C.S. Cayler

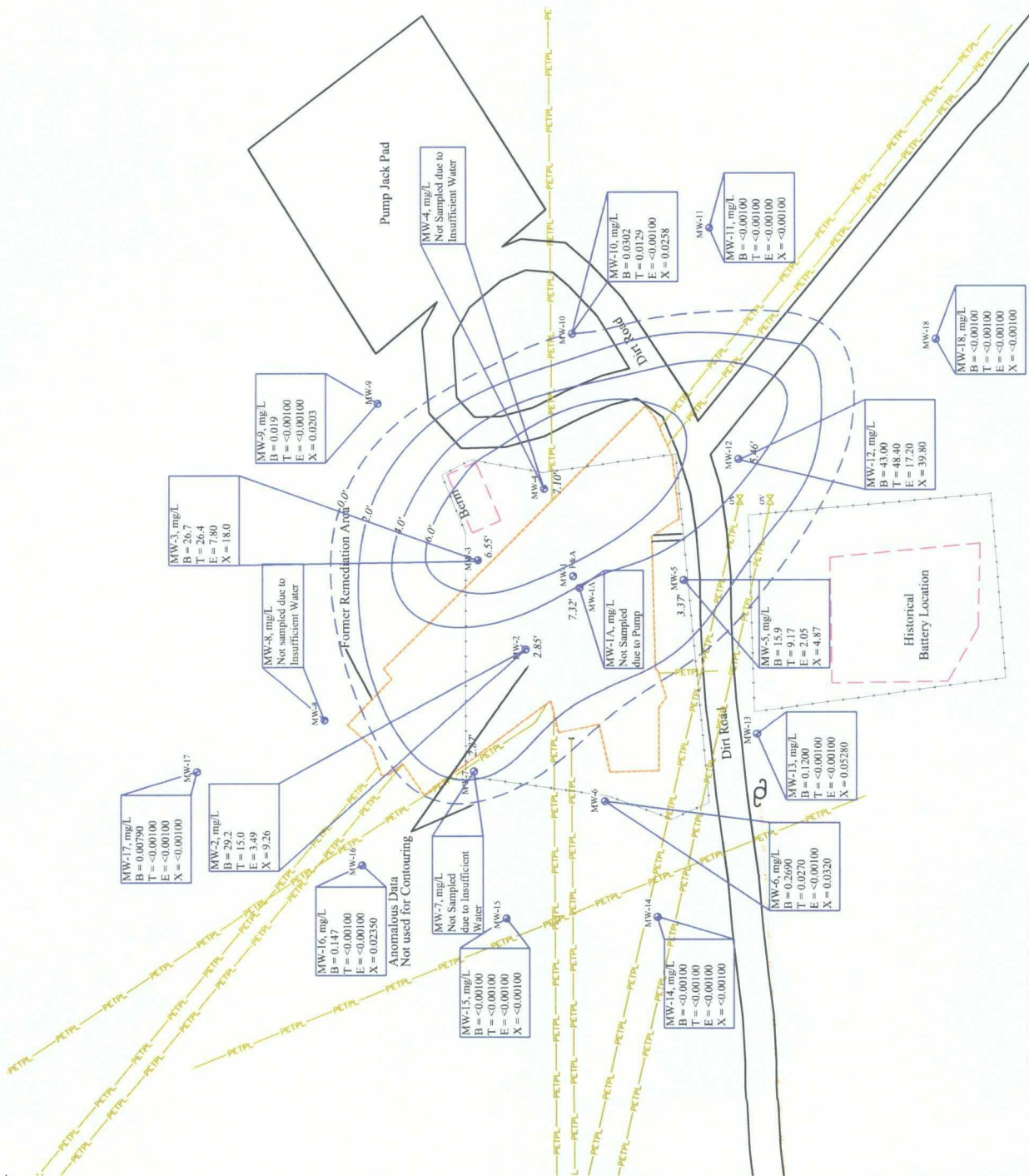
SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

Lea County, New Mexico

Figure 2c - Groundwater Gradient Map - 08/25/2009



0 50 100
Scale in Feet



Talon/LPE # : 700376.049.01



Date: 01/18/2010

Scale: 1" = 100'

Drawn By: TJS

C.S. Caylor

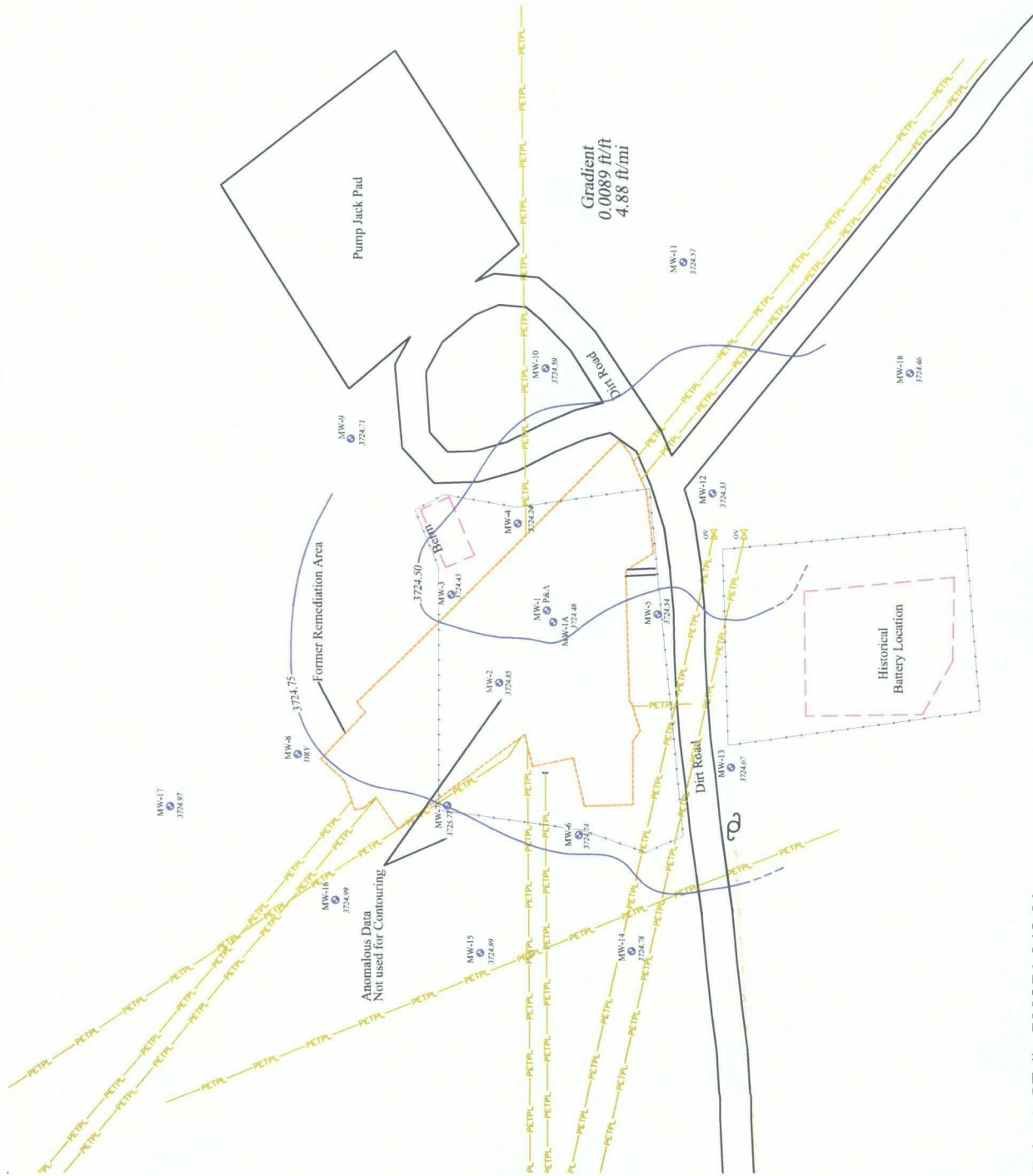
SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

Lea County, New Mexico

Figure 3c - PSH Plume Map (08/25/2009)



- Legend**
- Monitor Well
 - Pipeline
 - Valve
 - Fence line
 - Groundwater Elevation Contour Line
 - Groundwater Contour Elevation
 - Groundwater Flow Direction
 - Data Not Used



Talon/LPE #: 700376.049.01



Date: 01/18/2010

Scale: 1" = 100'

Drawn By: TJS

C.S. Cayler

SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

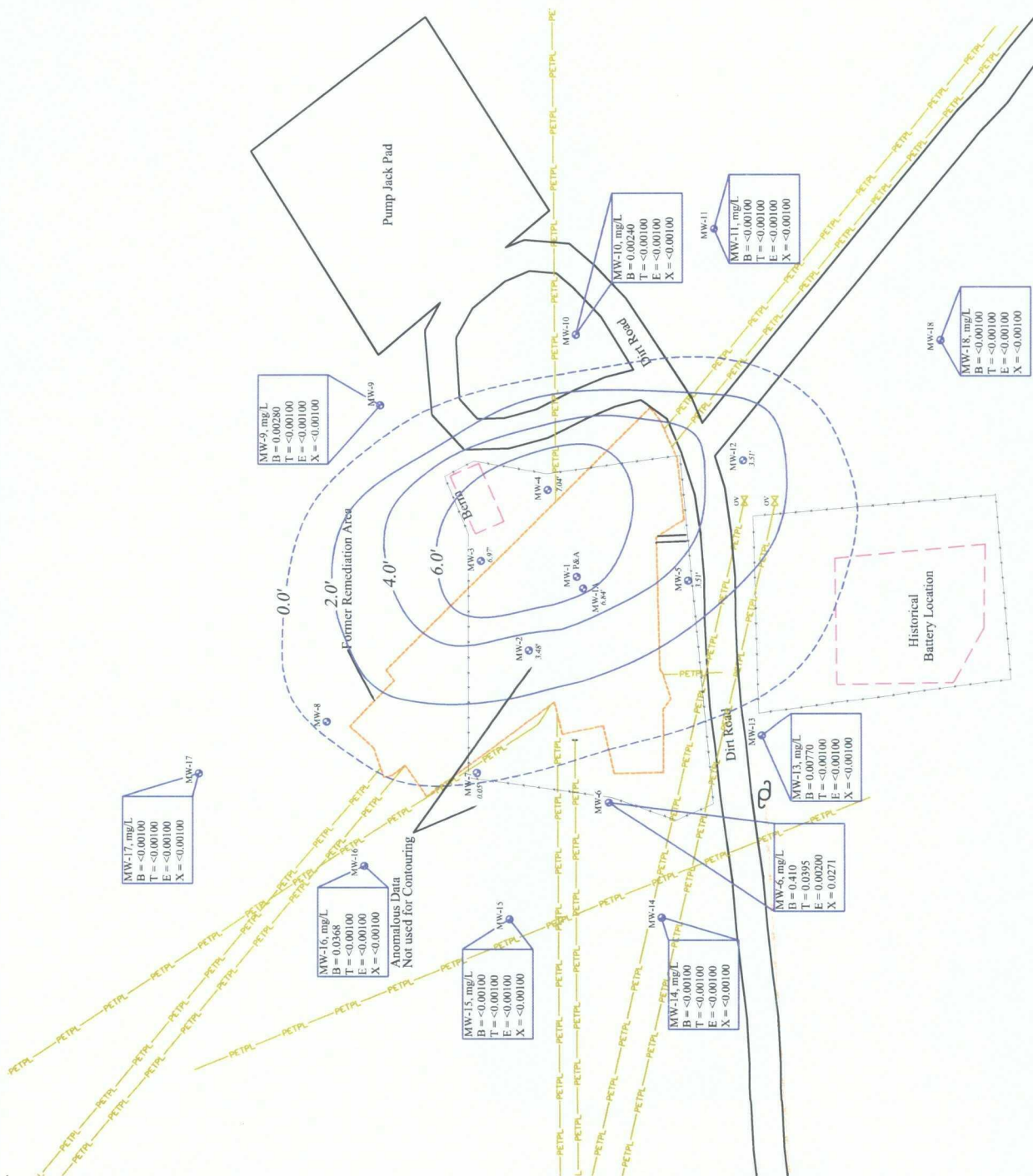
Lea County, New Mexico

Figure 2d - Groundwater Gradient Map - 01/08/2010



0 50 100
Scale in Feet

- Legend**
- Monitor Well
 - Pipeline
 - Valve
 - Fence line
 - Contour Line
 - PSH Plume Thickness



Talon/LPE #: 700376.049.01



Date: 01/18/2010

Scale: 1" = 100'

Drawn By: TJS

C.S. Caylor

SRS # 2002-10250, NMOCD REF. # AP-052 (OLD 1R-0382)

Lea County, New Mexico

Figure 3d - PSH Thickness & Groundwater Concentration Map, (12/10/2009)

APPENDIX B

Tables

Table 1 – Summary of Historical Fluid Level Measurements

Table 2 – Summary of Groundwater Analytical Results

Table 3 – Summary of Groundwater Analytical Results - Total Petroleum Hydrocarbons (TPH), Polynuclear Aromatic Hydrocarbon (PAH)

Table 4 – Summary of Groundwater Analytical Results in Monitor Wells Impacted with PSH - Total Petroleum Hydrocarbons (TPH), Polynuclear Aromatic Hydrocarbons (PAH)



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-1	10/17/02	WELL INSTALLED 17-Oct-02				
MW-1	03/07/03	3,803.97	72.28	84.20	11.92	3,729.72
MW-1	03/11/03		72.30	84.19	11.89	3,729.71
MW-1	03/17/03		72.33	84.25	11.92	3,729.67
MW-1	03/22/03		72.35	84.24	11.89	3,729.66
MW-1	05/06/03		71.55	83.11	11.56	3,730.51
MW-1	05/07/03		71.58	83.05	11.47	3,730.50
MW-1	05/08/03		71.55	83.03	11.48	3,730.53
MW-1	05/09/03		71.53	83.00	11.47	3,730.55
MW-1	05/15/03		71.57	83.01	11.44	3,730.51
MW-1	05/16/03		71.59	82.90	11.31	3,730.51
MW-1	05/28/03		71.65	82.50	10.85	3,730.53
MW-1	06/11/03		71.75	82.57	10.82	3,730.43
MW-1	08/14/03		63.45	73.41	9.96	3,738.88
MW-1	01/02/04		64.31	73.63	9.32	3,738.12
MW-1	04/12/04		64.74	73.74	9.00	3,737.75
MW-1	06/01/04		64.87	73.52	8.65	3,737.67
MW-1	06/21/04		65.04	73.49	8.45	3,737.54
MW-1	07/14/04		67.52	75.92	8.40	3,735.06
MW-1	10/17/04		68.38	73.28	4.90	3,734.78
MW-1	10/29/04		68.53	73.45	4.92	3,734.63
MW-1	03/31/05		68.23	73.00	4.77	3,734.95
MW-1	04/25/05		68.56	72.68	4.12	3,734.73
MW-1	05/31/05		68.57	72.61	4.04	3,734.73
MW-1	06/29/05		68.88	73.72	4.84	3,734.29
MW-1	09/15/05		69.79	73.63	3.84	3,733.55
MW-1	11/14/05		70.44	73.26	2.82	3,733.06
MW-1	01/23/06		70.72	73.80	3.08	3,732.74
MW-1	03/01/06		70.41	73.59	3.18	3,733.04
MW-1	05/25/06		71.05	73.20	2.15	3,732.57
MW-1	08/14/06		72.46	73.76	1.30	3,731.30



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-1	11/29/06		73.31	73.69	0.38	3,730.60
MW-1	01/11/07		73.31	73.69	0.38	3,730.60
MW-1	02/08/07		73.38	73.73	0.35	3,730.53
MW-1	04/03/07		73.86	82.21	8.35	3,728.73
MW-1	04/11/07		74.06	82.27	8.21	3,728.56
MW-1	04/17/07		74.21	82.63	8.42	3,728.37
MW-1	05/14/07		74.06	82.00	7.94	3,728.60
MW-1	06/26/07		73.80	NA		NA
MW-1	06/28/07		DRY			
MW-1	09/14/07		DRY			
MW-1	09/26/07		DRY			
MW-1	10/05/07		DRY			
MW-1	10/09/07		DRY			
MW-1	10/19/07		DRY			
MW-1	10/24/07		DRY			
MW-1	10/31/07		DRY			
MW-1	11/28/07		DRY			
MW-1	12/03/07		DRY			
MW-1	01/03/08		DRY			
MW-1	01/08/08		DRY			
MW-1	01/14/08		DRY			
MW-1	01/23/08		DRY			
MW-1	01/28/08		DRY			
MW-1	02/11/08		DRY			
MW-1	03/12/08		DRY			
MW-1	03/26/08		DRY			
MW-1	04/01/08		DRY			
MW-1	08/13/08		DRY			
MW-1	09/18/08	WELL PLUGGED 9/18/08				
MW-1A	09/18/08	WELL INSTALLED 9/18/08				
MW-1A	09/23/08	3,810.02	82.40	89.71	7.31	3,726.41

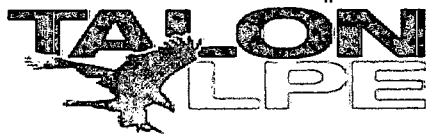


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-1A	12/04/08		82.50	89.55	7.05	3,726.36
MW-1A	01/21/09		82.11	89.61	7.50	3,726.67
MW-1A	02/18/09	3,810.14	82.34	89.70	7.36	3,726.59
MW-1A	04/06/09		82.76	90.26	7.50	3,726.14
MW-1A	06/10/09		83.22	90.54	7.32	3,725.71
MW-1A	08/25/09	Well Not Gauged Due to Total Fluid Pump				
MW-1A	12/10/09		84.68	91.52	6.84	3,724.33
MW-1A	01/08/10		84.65	90.80	6.15	3,724.48
MW-2	05/28/04	WELL INSTALLED 5/28/04				
MW-2	06/01/04	3,803.93	67.17	77.76	10.59	3,735.01
MW-2	06/21/04		67.27	77.93	10.66	3,734.90
MW-2	07/14/04		67.38	78.09	10.71	3,734.78
MW-2	10/16/04		68.79	74.04	5.25	3,734.27
MW-2	10/29/04		67.97	77.70	9.73	3,734.35
MW-2	03/31/05		68.23	78.50	10.27	3,734.01
MW-2	04/25/05		68.37	77.03	8.66	3,734.13
MW-2	05/31/05		68.46	76.97	8.51	3,734.07
MW-2	06/29/05		69.09	76.12	7.03	3,733.68
MW-2	09/15/05		69.75	79.14	9.39	3,732.63
MW-2	11/14/05		70.66	78.44	7.78	3,731.99
MW-2	01/23/06		70.95	78.27	7.32	3,731.77
MW-2	03/01/06		70.53	77.41	6.88	3,732.26
MW-2	05/25/06		72.19	75.49	3.30	3,731.20
MW-2	08/14/06		73.08	78.31	5.23	3,729.99
MW-2	11/29/06		74.09	78.20	4.11	3,729.16
MW-2	12/12/06		74.53	77.57	3.04	3,728.90
MW-2	01/11/07		74.22	78.81	4.59	3,728.95
MW-2	02/08/07		75.11	75.18	0.07	3,728.81
MW-2	04/03/07		73.95	82.11	8.16	3,728.63
MW-2	04/11/07		74.02	82.30	8.28	3,728.54

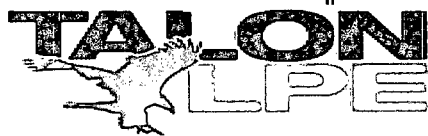


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-2	04/17/07		74.02	82.41	8.39	3,728.53
MW-2	05/14/07		74.03	82.55	8.52	3,728.49
MW-2	06/26/07		74.20	82.64	8.44	3,728.34
MW-2	06/28/07		74.36	82.48	8.12	3,728.23
MW-2	08/13/07		74.71	81.91	7.20	3,728.03
MW-2	08/17/07		75.66	79.30	3.64	3,727.67
MW-2	08/21/07		NA	76.19		3,727.74
MW-2	08/28/07		75.84	78.91	3.07	3,727.58
MW-2	09/14/07		75.63	79.29	3.66	3,727.70
MW-2	09/26/07		74.88	82.41	7.53	3,727.81
MW-2	10/05/07		74.85	82.70	7.85	3,727.78
MW-2	10/08/07		74.87	82.71	7.84	3,727.77
MW-2	10/19/07		74.87	82.96	8.09	3,727.73
MW-2	10/24/07		74.87	83.04	8.17	3,727.71
MW-2	10/31/07		74.88	83.11	8.23	3,727.69
MW-2	11/12/07		74.82	83.19	8.37	3,727.73
MW-2	11/28/07		74.89	83.27	8.38	3,727.66
MW-2	12/03/07		74.83	83.20	8.37	3,727.72
MW-2	01/03/08		75.32	83.50	8.18	3,727.26
MW-2	01/08/08		74.76	82.25	7.49	3,727.93
MW-2	01/14/08		75.49	83.23	7.74	3,727.16
MW-2	01/23/08		75.45	83.43	7.98	3,727.16
MW-2	01/28/08		75.38	83.47	8.09	3,727.22
MW-2	02/11/08		74.94	83.02	8.08	3,727.66
MW-2	03/12/08		75.40	83.54	8.14	3,727.19
MW-2	03/26/08		75.14	83.99	8.85	3,727.33
MW-2	04/01/08		76.19	83.34	7.15	3,726.56
MW-2	04/11/08		76.73	80.62	3.89	3,726.56
MW-2	04/15/08		76.33	79.08	2.75	3,727.15
MW-2	04/22/08		75.66	79.07	3.41	3,727.71
MW-2	04/28/08		76.00	83.17	7.17	3,726.75

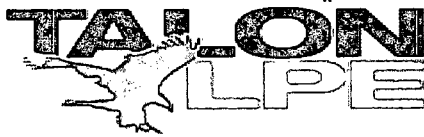


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-2	05/06/08		75.68	79.12	3.44	3,727.68
MW-2	05/16/08		75.40	83.02	7.62	3,727.27
MW-2	05/22/08		75.61	82.32	6.71	3,727.21
MW-2	07/25/08		79.90	87.72	7.82	3,722.74
MW-2	08/13/08		80.21	88.82	8.61	3,722.30
MW-2	09/23/08	3,807.67	79.34	85.88	6.54	3,727.25
MW-2	10/15/08			79.89	79.89	3,794.49
MW-2	12/04/08		79.68	84.90	5.22	3,727.13
MW-2	01/21/09		74.92	79.30	4.38	3,732.03
MW-2	02/18/09	3,807.38	79.99	86.26	6.27	3,726.36
MW-2	04/06/09		80.46	86.28	5.82	3,725.96
MW-2	06/10/09		81.05	85.86	4.81	3,725.54
MW-2	08/25/09		82.45	85.30	2.85	3,724.46
MW-2	12/10/09		82.74	86.22	3.48	3,724.07
MW-2	01/08/10		81.79	86.25	4.46	3,724.85
MW-3	05/31/04	WELL INSTALLED 31-May-04				
MW-3	06/21/04	3,810.20	75.51	75.51	0.00	3,734.69
MW-3	07/14/04		74.39	81.31	6.92	3,734.67
MW-3	08/26/04		74.75	84.31	9.56	3,733.87
MW-3	10/16/04		75.53	77.55	2.02	3,734.34
MW-3	10/29/04		75.45	79.00	3.55	3,734.16
MW-3	03/31/05		74.65	83.60	8.95	3,734.07
MW-3	04/25/05		74.81	82.74	7.93	3,734.08
MW-3	05/31/05		75.00	82.16	7.16	3,734.02
MW-3	06/29/05		75.83	80.44	4.61	3,733.61
MW-3	09/15/05		76.09	85.47	9.38	3,732.56
MW-3	11/14/05		77.81	81.11	3.30	3,731.85
MW-3	01/23/06		77.78	81.74	3.96	3,731.77
MW-3	03/01/06		77.43	81.49	4.06	3,732.10
MW-3	05/25/06		78.49	81.15	2.66	3,731.27

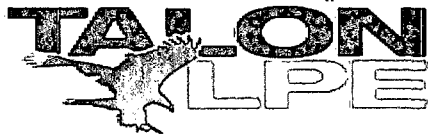


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-3	08/14/06		79.51	84.36	4.85	3,729.89
MW-3	01/11/07		80.78	84.05	3.27	3,728.88
MW-3	02/08/07		83.65	83.66	0.01	3,726.55
MW-3	04/03/07		80.25	88.51	8.26	3,728.59
MW-3	04/11/07		80.69	88.97	8.28	3,728.14
MW-3	04/17/07		80.38	88.78	8.40	3,728.43
MW-3	05/14/07		80.43	89.56	9.13	3,728.26
MW-3	06/26/07		81.74	89.12	7.38	3,727.24
MW-3	06/28/07		80.69	89.05	8.36	3,728.13
MW-3	08/13/07		81.08	89.43	8.35	3,727.74
MW-3	08/17/07		82.05	83.50	1.45	3,727.91
MW-3	08/21/07		82.65	82.68	0.03	3,727.55
MW-3	08/28/07		81.51	88.44	6.93	3,727.55
MW-3	09/14/07		81.42	86.89	5.47	3,727.88
MW-3	09/26/07		81.22	88.92	7.70	3,727.71
MW-3	10/05/07		81.14	88.99	7.85	3,727.76
MW-3	10/08/07		81.14	89.00	7.86	3,727.76
MW-3	10/19/07		81.23	89.39	8.16	3,727.62
MW-3	10/24/07		81.24	89.35	8.11	3,727.62
MW-3	10/31/07		81.24	89.47	8.23	3,727.60
MW-3	11/12/07		81.25	89.39	8.14	3,727.61
MW-3	11/28/07		81.26	89.44	8.18	3,727.59
MW-3	12/03/07		81.26	89.36	8.10	3,727.60
MW-3	01/03/08		81.17	89.41	8.24	3,727.67
MW-3	01/08/08		81.11	89.05	7.94	3,727.78
MW-3	01/14/08		81.62	88.39	6.77	3,727.46
MW-3	01/23/08		80.84	87.89	7.05	3,728.20
MW-3	01/28/08		80.31	88.20	7.89	3,728.59
MW-3	02/11/08		81.92	88.49	6.57	3,727.20
MW-3	03/12/08		81.43	87.43	6.00	3,727.78
MW-3	03/26/08		80.57	88.54	7.97	3,728.31



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-3	04/01/08		82.06	87.81	5.75	3,727.19
MW-3	04/11/08		81.90	87.81	5.91	3,727.32
MW-3	04/15/08		82.04	87.85	5.81	3,727.20
MW-3	04/22/08		82.01	87.90	5.89	3,727.22
MW-3	04/28/08		82.11	87.24	5.13	3,727.24
MW-3	05/06/08		82.00	87.94	5.94	3,727.22
MW-3	05/16/08		82.24	88.07	5.83	3,727.00
MW-3	05/22/08		82.94	89.22	6.28	3,726.22
MW-3	06/19/08		83.09	85.71	2.62	3,726.68
MW-3	07/25/08		83.35	88.33	4.98	3,726.03
MW-3	08/13/08		83.21	89.65	6.44	3,725.93
MW-3	09/23/08	3,810.35	83.28	86.97	3.69	3,726.46
MW-3	10/15/08		84.04	84.22	0.18	3,726.28
MW-3	12/04/08		83.61	85.01	1.40	3,726.51
MW-3	01/21/09		82.68	87.80	5.12	3,726.83
MW-3	02/18/09	3,810.36	84.82	88.49	3.67	3,724.93
MW-3	04/06/09		83.33	89.47	6.14	3,726.02
MW-3	06/10/09		83.58	89.41	5.83	3,725.82
MW-3	08/25/09		84.35	90.90	6.55	3,724.93
MW-3	12/10/09		85.04	92.01	6.97	3,724.17
MW-3	01/08/10		84.83	91.51	6.68	3,724.43
MW-4	06/01/04	WELL INSTALLED 01-Jun-04				
MW-4	06/21/04	3,810.70	76.04	76.04		3,734.66
MW-4	07/14/04		74.51	83.91	9.40	3,734.64
MW-4	08/26/04		74.21	83.61	9.40	3,734.94
MW-4	10/16/04		75.77	80.56	4.79	3,734.14
MW-4	10/17/04		75.76	80.96	5.20	3,734.08
MW-4	10/29/04		75.56	81.42	5.86	3,734.17
MW-4	03/31/05		73.51	81.95	8.44	3,735.80
MW-4	04/25/05		75.53	82.62	7.09	3,734.00

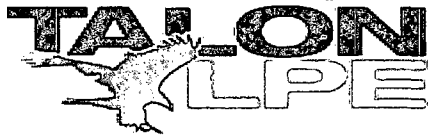


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-4	05/31/05		75.55	82.86	7.31	3,733.94
MW-4	06/29/05		75.96	83.51	7.55	3,733.49
MW-4	09/15/05		76.71	86.23	9.52	3,732.42
MW-4	11/14/05		77.64	85.38	7.74	3,731.78
MW-4	01/23/06		77.79	84.93	7.14	3,731.73
MW-4	03/01/06		77.48	84.12	6.64	3,732.12
MW-4	05/25/06		78.28	85.22	6.94	3,731.27
MW-4	08/14/06		79.78	86.67	6.89	3,729.78
MW-4	11/29/06		80.29	85.15	4.86	3,729.61
MW-4	12/12/06		81.71	86.01	4.30	3,728.28
MW-4	01/11/07		80.03	82.77	2.74	3,730.22
MW-4	02/08/07		81.28	82.70	1.42	3,729.19
MW-4	04/03/07		80.78	89.44	8.66	3,728.49
MW-4	04/11/07		80.85	89.55	8.70	3,728.41
MW-4	04/17/07		80.92	89.05	8.13	3,728.44
MW-4	05/14/07		80.96	89.68	8.72	3,728.30
MW-4	06/26/07		81.41	89.82	8.41	3,727.90
MW-4	06/28/07		81.28	89.71	8.43	3,728.03
MW-4	08/13/07		81.76	89.92	8.16	3,727.59
MW-4	08/17/07		80.36	87.55	7.19	3,729.15
MW-4	08/21/07		82.01	89.41	7.40	3,727.47
MW-4	08/28/07		NA	79.50		3,731.20
MW-4	09/14/07		81.76	89.85	8.09	3,727.61
MW-4	09/26/07		81.73	88.89	7.16	3,727.79
MW-4	10/05/07		81.66	89.80	8.14	3,727.70
MW-4	10/08/07		81.65	89.78	8.13	3,727.71
MW-4	10/19/07		81.80	90.05	8.25	3,727.54
MW-4	10/24/07		81.80	89.99	8.19	3,727.55
MW-4	10/31/07		81.82	90.07	8.25	3,727.52
MW-4	11/12/07		82.02	89.84	7.82	3,727.39
MW-4	11/28/07		81.93	89.82	7.89	3,727.47



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-4	12/03/07		81.91	89.72	7.81	3,727.50
MW-4	01/03/08		81.66	89.19	7.53	3,727.80
MW-4	01/08/08		81.70	89.31	7.61	3,727.74
MW-4	01/14/08		81.98	88.87	6.89	3,727.58
MW-4	01/23/08		82.17	87.76	5.59	3,727.61
MW-4	01/28/08		81.77	89.17	7.40	3,727.71
MW-4	02/11/08		81.29	88.75	7.46	3,728.18
MW-4	03/12/08		81.86	88.79	6.93	3,727.70
MW-4	03/26/08		82.67	86.36	3.69	3,727.42
MW-4	04/01/08		82.56	88.83	6.27	3,727.11
MW-4	04/11/08		82.49	88.94	6.45	3,727.15
MW-4	04/15/08		82.31	89.90	7.59	3,727.14
MW-4	04/22/08		82.36	89.26	6.90	3,727.20
MW-4	05/06/08		83.98	90.27	6.29	3,725.68
MW-4	05/16/08		82.89	90.01	7.12	3,726.64
MW-4	05/22/08		82.39	90.19	7.80	3,727.02
MW-4	06/19/08		82.78	90.45	7.67	3,726.65
MW-4	07/25/08		83.71	91.11	7.40	3,725.77
MW-4	08/13/08		83.60	91.07	7.47	3,725.87
MW-4	09/23/08	3,810.82	83.36	90.47	7.11	3,726.29
MW-4	10/15/08		83.78	88.43	4.65	3,726.27
MW-4	12/04/08		83.32	89.40	6.08	3,726.50
MW-4	01/21/09		82.79	90.31	7.52	3,726.79
MW-4	02/18/09	3,810.81	83.05	90.35	7.30	3,726.56
MW-4	04/06/09		84.24	91.58	7.34	3,725.36
MW-4	06/10/09		83.88	91.42	7.54	3,725.69
MW-4	08/25/09		84.90	92.00	7.10	3,724.74
MW-4	12/10/09		85.30	92.34	7.04	3,724.35
MW-4	01/08/10		85.47	92.15	6.68	3,724.24
MW-5	06/05/04		WELL INSTALLED 05-Jun-04			



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-5	06/21/04	3,809.05	--	74.42		3,734.63
MW-5	07/14/04		--	74.53		3,734.52
MW-5	10/29/04		--	75.00		3,734.05
MW-5	11/19/04		--	75.10		3,733.95
MW-5	03/31/05		--	75.18		3,733.87
MW-5	04/25/05		--	75.19		3,733.86
MW-5	05/12/05		--	75.22		3,733.83
MW-5	05/31/05		--	75.25		3,733.80
MW-5	06/29/05		--	75.67		3,733.38
MW-5	08/22/05		--	76.64		3,732.41
MW-5	09/15/05		--	76.75		3,732.30
MW-5	11/14/05		--	77.39		3,731.66
MW-5	01/23/06		77.21	79.19	1.98	3,732.48
MW-5	03/01/06		76.59	79.18	2.59	3,733.00
MW-5	05/25/06		77.41	79.93	2.52	3,732.19
MW-5	08/14/06		78.99	80.63	1.64	3,730.76
MW-5	11/29/06		78.91	85.95	7.04	3,729.95
MW-5	01/11/07		78.85	86.30	7.45	3,729.94
MW-5	02/08/07		78.82	86.29	7.47	3,729.97
MW-5	02/20/07		79.22	85.66	6.44	3,729.74
MW-5	03/06/07		79.15	86.07	6.92	3,729.73
MW-5	03/14/07		78.68	85.60	6.92	3,730.20
MW-5	03/27/07		79.64	86.03	6.39	3,729.33
MW-5	03/29/07		79.36	86.25	6.89	3,729.52
MW-5	04/03/07		79.38	86.71	7.33	3,729.43
MW-5	04/11/07		79.91	87.02	7.11	3,728.94
MW-5	04/17/07		79.52	88.90	9.38	3,728.95
MW-5	05/24/07		79.54	86.90	7.36	3,729.27
MW-5	06/26/07		79.94	87.32	7.38	3,728.86
MW-5	06/28/07		79.84	87.25	7.41	3,728.96
MW-5	08/13/07		80.26	81.66	1.40	3,729.53



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-5	08/21/07		80.39	87.63	7.24	3,728.44
MW-5	08/28/07		80.49	87.64	7.15	3,728.35
MW-5	09/14/07		80.32	87.59	7.27	3,728.50
MW-5	09/26/07		81.72	87.66	5.94	3,727.32
MW-5	10/05/07		80.22	87.51	7.29	3,728.60
MW-5	10/08/07		80.20	87.52	7.32	3,728.61
MW-5	10/19/07		80.44	87.66	7.22	3,728.39
MW-5	10/24/07		80.36	87.73	7.37	3,728.44
MW-5	10/31/07		80.37	87.85	7.48	3,728.42
MW-5	11/12/07		80.36	87.51	7.15	3,728.48
MW-5	12/28/07		80.83	87.61	6.78	3,728.07
MW-5	12/03/07		80.34	87.35	7.01	3,728.52
MW-5	01/03/08		80.17	86.72	6.55	3,728.77
MW-5	01/08/08		80.17	86.85	6.68	3,728.75
MW-5	01/14/08		80.32	86.74	6.42	3,728.64
MW-5	01/23/08		82.34	85.78	3.44	3,727.11
MW-5	01/28/08		80.25	87.03	6.78	3,728.65
MW-5	02/11/08		80.26	86.34	6.08	3,728.76
MW-5	03/12/08		80.28	86.93	6.65	3,728.64
MW-5	03/26/08		81.23	84.33	3.10	3,728.28
MW-5	04/01/08		81.38	84.40	3.02	3,728.14
MW-5	04/11/08		81.79	83.35	1.56	3,727.97
MW-5	04/15/08		81.77	83.38	1.61	3,727.98
MW-5	04/22/08		81.50	82.54	1.04	3,728.35
MW-5	04/28/08		81.87	82.13	0.26	3,728.11
MW-5	05/06/08		81.51	82.56	1.05	3,728.34
MW-5	05/16/08		82.15	82.56	0.41	3,727.80
MW-5	05/22/08		81.92	83.49	1.57	3,727.84
MW-5	06/19/08		81.24	88.59	7.35	3,727.57
MW-5	07/25/08		81.76	88.92	7.16	3,727.08
MW-5	08/13/08		82.07	89.27	7.20	3,726.76

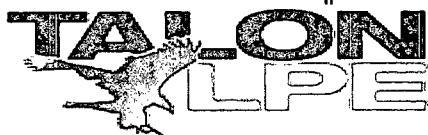


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-5	09/23/08	3,809.21	82.61	83.73	1.12	3,726.42
MW-5	10/15/08		82.98	83.20	0.22	3,726.19
MW-5	12/04/08		82.77	83.31	0.54	3,726.35
MW-5	01/21/09		81.48	87.40	5.92	3,726.75
MW-5	02/18/09	3,809.29	81.90	86.67	4.77	3,726.60
MW-5	04/06/09		82.40	86.98	4.58	3,726.13
MW-5	06/10/09		83.41	84.72	1.31	3,725.66
MW-5	08/25/09		84.03	87.40	3.37	3,724.70
MW-5	12/10/09		83.75	90.78	7.03	3,724.38
MW-5	01/08/10		83.69	90.13	6.44	3,724.54
MW-6	10/21/04	WELL INSTALLED 21-Oct-04				
MW-6	10/27/04	3,809.17		75.13		3,734.04
MW-6	10/29/04			75.13		3,734.04
MW-6	11/19/04			75.23		3,733.94
MW-6	03/31/05			75.33		3,733.84
MW-6	04/25/05			75.27		3,733.90
MW-6	05/12/05			75.30		3,733.87
MW-6	05/31/05			75.33		3,733.84
MW-6	06/29/05			75.68		3,733.49
MW-6	08/22/05			76.63		3,732.54
MW-6	09/15/05			76.80		3,732.37
MW-6	11/14/05			77.41		3,731.76
MW-6	01/23/06			77.60		3,731.57
MW-6	03/01/06			77.01		3,732.16
MW-6	05/25/06			77.92		3,731.25
MW-6	08/14/06			79.18		3,729.99
MW-6	11/29/06			80.12		3,729.05
MW-6	12/12/06			80.19		3,728.98
MW-6	01/11/07			80.20		3,728.97
MW-6	02/08/07			79.99		3,729.18



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-6	02/20/07			80.36		3,728.81
MW-6	03/06/07			80.40		3,728.77
MW-6	03/14/07			79.92		3,729.25
MW-6	03/27/07			80.62		3,728.55
MW-6	03/29/07			80.34		3,728.83
MW-6	04/03/07			80.68		3,728.49
MW-6	04/11/07			81.03		3,728.14
MW-6	04/17/07			80.82		3,728.35
MW-6	06/13/07			80.88		3,728.29
MW-6	06/26/07			81.04		3,728.13
MW-6	09/14/07			81.62		3,727.55
MW-6	10/19/07			81.64		3,727.53
MW-6	12/03/07			81.56		3,727.61
MW-6	01/08/08			81.78		3,727.39
MW-6	01/28/08			81.39		3,727.78
MW-6	03/12/08			81.39		3,727.78
MW-6	04/22/08			84.48		3,724.69
MW-6	06/19/08			82.10		3,727.07
MW-6	08/13/08			82.67		3,726.50
MW-6	10/15/08			82.99		3,726.18
MW-6	12/04/08			82.88		3,726.29
MW-6	01/21/09			82.59		3,726.58
MW-6	02/18/09	3,809.33		82.78		3,726.55
MW-6	04/06/09			83.17		3,726.16
MW-6	06/10/09			83.64		3,725.69
MW-6	08/25/09			84.51		3,724.82
MW-6	12/10/09			84.77		3,724.56
MW-6	01/08/10			84.59		3,724.74
MW-7	10/21/04	WELL INSTALLED 21-Oct-04				
MW-7	10/27/04	3,809.95	75.82	76.05	0.23	3,734.09



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-7	10/29/04		75.82	76.05	0.23	3,734.09
MW-7	11/19/04		75.21	79.14	3.93	3,734.09
MW-7	03/31/05		75.22	79.18	3.96	3,734.08
MW-7	04/25/05		74.37	82.84	8.47	3,734.18
MW-7	05/31/05		75.41	78.75	3.34	3,733.99
MW-7	06/29/05		74.86	83.31	8.45	3,733.70
MW-7	09/15/05		75.92	83.58	7.66	3,732.77
MW-7	11/14/05		76.75	83.17	6.42	3,732.14
MW-7	01/23/06		77.16	83.54	6.38	3,731.74
MW-7	03/01/06		76.71	82.60	5.89	3,732.27
MW-7	05/25/06		77.71	79.37	1.66	3,731.97
MW-7	08/14/06		78.61	83.34	4.73	3,730.56
MW-7	11/29/06		79.51	83.15	3.64	3,729.84
MW-7	12/12/06		79.95	83.00	3.05	3,729.50
MW-7	01/11/07		79.77	84.41	4.64	3,729.41
MW-7	02/08/07		79.63	84.15	4.52	3,729.57
MW-7	04/03/07		80.09	84.18	4.09	3,729.19
MW-7	04/11/07		80.73	84.91	4.18	3,728.53
MW-7	04/17/07		80.74	84.96	4.22	3,728.51
MW-7	05/14/07		80.30	84.42	4.12	3,728.97
MW-7	06/26/07		80.70	82.68	1.98	3,728.92
MW-7	06/28/07		80.52	83.66	3.14	3,728.91
MW-7	08/13/07		81.22	83.66	2.44	3,728.33
MW-7	08/21/07		81.37	83.44	2.07	3,728.24
MW-7	09/14/07		81.01	84.25	3.24	3,728.41
MW-7	09/26/07		80.97	84.30	3.33	3,728.43
MW-7	10/05/07		80.92	84.33	3.41	3,728.47
MW-7	10/08/07		80.92	84.32	3.40	3,728.47
MW-7	10/19/07		81.04	84.30	3.26	3,728.37
MW-7	10/24/07		81.05	84.30	3.25	3,728.36
MW-7	10/31/07		81.08	84.34	3.26	3,728.33



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-7	11/12/07		81.02	84.35	3.33	3,728.45
MW-7	11/28/07		80.89	NA		
MW-7	12/03/07		80.98	NA		
MW-7	01/03/08		79.83	NA		
MW-7	01/08/08		80.92	84.40*		
MW-7	01/14/08		81.34	84.37*		
MW-7	03/12/08		81.20	84.39*		
MW-7	03/26/08		81.54	84.45*		
MW-7	04/11/07		81.40	84.49	3.09	3,728.04
MW-7	04/15/07		82.67	83.16	0.49	3,727.20
MW-7	04/22/07		82.66	82.81	0.15	3,727.27
MW-7	04/28/07		82.75	83.14	0.39	3,727.14
MW-7	05/06/07		82.39	83.29	0.90	3,727.41
MW-7	05/16/07		83.03	83.26	0.23	3,726.88
MW-7	05/22/08		81.76	83.84	2.08	3,727.85
MW-7	06/19/08		81.91	84.64	2.73	3,727.59
MW-7	07/25/08		82.67	84.87	2.20	3,726.92
MW-7	08/13/08		82.76	84.95*		
MW-7	09/23/08		82.54	84.29*		
MW-7	10/15/08		83.48	84.29	0.81	3,726.34
MW-7	12/04/08		82.77	84.29	1.52	3,726.93
MW-7	01/21/09		82.59	84.27	1.68	3,727.08
MW-7	02/18/09	3,810.08	82.41	84.29	1.88	3,727.36
MW-7	04/06/09		82.92	84.29	1.37	3,726.93
MW-7	06/10/09		83.00	*84.15		
MW-7	08/25/09		83.83	86.70	2.87	3,725.78
MW-7	12/10/09		84.53	84.58	0.05	3,725.54
MW-7	01/08/10		84.25	84.60	0.35	3,725.77
MW-8	10/20/04	WELL INSTALLED 20-Oct-04				
MW-8	10/27/04	3,810.29	--	76.20		3,734.09



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-8	10/29/04		--	76.20		3,734.09
MW-8	11/19/04		--	76.26		3,734.03
MW-8	03/31/05		--	76.30		3,733.99
MW-8	04/25/05		--	76.29		3,734.00
MW-8	05/12/05		--	76.32		3,733.97
MW-8	05/31/05		--	76.34		3,733.95
MW-8	06/29/05		--	76.62		3,733.67
MW-8	08/22/05		77.42	78.08	0.66	3,732.76
MW-8	11/14/05		78.16	79.40	1.24	3,731.93
MW-8	01/23/06		78.25	80.13	1.88	3,731.73
MW-8	03/01/06		77.60	80.55	2.95	3,732.20
MW-8	05/25/06		78.43	81.31	2.88	3,731.38
MW-8	08/14/06		79.63	82.84	3.21	3,730.13
MW-8	11/29/06		80.50	83.79	3.29	3,729.25
MW-8	12/12/06		80.59	83.90	3.31	3,729.15
MW-8	01/11/07		80.63	83.88	3.25	3,729.12
MW-8	02/08/07		80.66	83.94	3.28	3,729.09
MW-8	02/20/07		80.81	84.07	3.26	3,728.94
MW-8	03/06/07		80.88	84.11	3.23	3,728.88
MW-8	03/14/07		80.09	83.26	3.17	3,729.68
MW-8	03/27/07		80.13	83.24	3.11	3,729.65
MW-8	04/03/07		81.10	83.04	1.94	3,728.87
MW-8	04/11/07		81.59	83.49	1.90	3,728.39
MW-8	04/17/07		81.61	83.51	1.90	3,728.37
MW-8	05/24/07		81.33	NA		
MW-8	06/26/07		81.62	NA		
MW-8	06/28/07		81.52	NA		
MW-8	08/13/07		81.86	NA		
MW-8	08/21/07		81.96	NA		
MW-8	08/28/07		82.02	NA		
MW-8	09/14/07		82.35	82.36	0.01	3,727.94

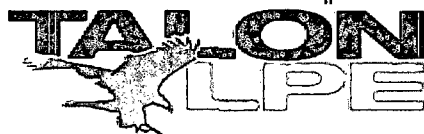


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOC D REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-8	09/26/07		81.99	83.03	1.04	3,728.13
MW-8	10/05/07		81.97	84.33	2.36	3,727.93
MW-8	10/08/07		81.96	83.63	1.67	3,728.05
MW-8	10/19/07		82.04	82.41	0.37	3,728.19
MW-8	11/12/07		82.04	82.43	0.39	3,728.19
MW-8	11/28/07		82.04	NA		
MW-8	12/03/07		82.11	NA		
MW-8	01/03/08		81.84	NA		
MW-8	01/08/08		81.85	82.56	0.71	
MW-8	01/14/08		82.13	83.33	1.20	3,727.96
MW-8	01/23/08		82.12	83.09	0.97	3,728.01
MW-8	01/28/08		82.04	83.30	1.26	3,728.04
MW-8	02/11/08		81.97	83.34	1.37	3,728.09
MW-8	03/12/08		81.93	83.34	1.41	3,728.13
MW-8	04/01/08		81.95	83.34	1.39	3,728.11
MW-8	04/11/08		82.37	83.94	1.57	3,727.66
MW-8	04/15/08		82.36	83.45	1.09	3,727.75
MW-8	04/22/08		82.33	83.48	1.15	3,727.77
MW-8	04/28/08		82.32	83.46	1.14	3,727.78
MW-8	05/06/08		82.67	82.82	0.15	3,727.60
MW-8	05/16/08		82.47	83.46	0.99	3,727.66
MW-8	06/19/08		82.61	NA		
MW-8	08/13/08		83.32	84.96*		
MW-8	09/23/08		82.89	83.29*		
MW-8	10/15/08			DRY		
MW-8	12/04/08		82.95	83.21*		
MW-8	01/21/09		82.66	83.21*		
MW-8	02/18/09	3,810.41	82.76	83.28	0.52	3,727.56
MW-8	04/06/09		83.09	83.25	0.16	3,727.29
MW-8	06/10/09			DRY		
MW-8	08/25/09			DRY		



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-8	12/10/09			DRY		
MW-8	01/08/10			DRY		
MW-9	10/19/04	WELL INSTALLED 19-Oct-04				
MW-9	10/27/04	3,809.81		75.85		3,733.96
MW-9	10/29/04			75.85		3,733.96
MW-9	11/19/04			75.91		3,733.90
MW-9	03/31/05			76.97		3,732.84
MW-9	04/25/05			75.91		3,733.90
MW-9	05/12/05			75.96		3,733.85
MW-9	05/31/05			75.99		3,733.82
MW-9	06/29/05			76.34		3,733.47
MW-9	08/22/05			77.31		3,732.50
MW-9	09/15/05			77.48		3,732.33
MW-9	11/14/05			78.15		3,731.66
MW-9	01/23/06			78.33		3,731.48
MW-9	03/01/06			77.78		3,732.03
MW-9	05/25/06			78.67		3,731.14
MW-9	08/14/06			79.90		3,729.91
MW-9	11/29/06			80.87		3,728.94
MW-9	12/12/06			80.93		3,728.88
MW-9	01/11/07			90.94		3,718.87
MW-9	02/08/07			80.70		3,729.11
MW-9	02/20/07			81.09		3,728.72
MW-9	03/06/07			81.15		3,728.66
MW-9	03/14/07			80.65		3,729.16
MW-9	03/27/07			81.34		3,728.47
MW-9	03/29/07			81.11		3,728.70
MW-9	04/03/07			81.12		3,728.69
MW-9	04/11/07			81.50		3,728.31
MW-9	04/17/07			81.60		3,728.21



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-9	05/21/07			81.61		3,728.20
MW-9	06/13/07			81.65		3,728.16
MW-9	06/26/07			81.78		3,728.03
MW-9	09/14/07			82.33		3,727.48
MW-9	10/19/07			82.37		3,727.44
MW-9	12/03/07			82.30		3,727.51
MW-9	01/08/08			82.10		3,727.71
MW-9	01/28/08			82.12		3,727.69
MW-9	03/12/08			82.11		3,727.70
MW-9	04/22/08			82.54		3,727.27
MW-9	05/16/08			82.66		3,727.15
MW-9	06/19/08			82.87		3,726.94
MW-9	08/13/08			83.41		3,726.40
MW-9	10/15/08			83.72		3,726.09
MW-9	12/04/08			83.59		3,726.22
MW-9	01/21/09			83.29		3,726.52
MW-9	02/18/09	3,809.98		86.94		3,723.04
MW-9	04/06/09			83.88		3,726.10
MW-9	06/10/09			85.35		3,724.63
MW-9	08/25/09			85.25		3,724.73
MW-9	12/10/09			85.47		3,724.51
MW-9	01/08/10			85.27		3,724.71
MW-10	10/20/04	WELL INSTALLED 20-Oct-04				
MW-10	10/27/04	3,809.64		75.76		3,733.88
MW-10	10/29/04			75.76		3,733.88
MW-10	11/19/04			75.84		3,733.80
MW-10	03/31/05			75.87		3,733.77
MW-10	04/25/05			75.85		3,733.79
MW-10	05/12/05			75.96		3,733.68
MW-10	05/31/05			75.91		3,733.73



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-10	06/29/05			76.30		3,733.34
MW-10	08/22/05			77.32		3,732.32
MW-10	09/15/05			77.46		3,732.18
MW-10	11/14/05			78.08		3,731.56
MW-10	01/23/06			78.22		3,731.42
MW-10	03/01/06			77.58		3,732.06
MW-10	05/25/06			78.66		3,730.98
MW-10	08/14/06			79.96		3,729.68
MW-10	11/29/06			80.84		3,728.80
MW-10	12/12/06			80.91		3,728.73
MW-10	01/11/07			80.84		3,728.80
MW-10	02/08/07			80.59		3,729.05
MW-10	02/20/07			81.00		3,728.64
MW-10	03/06/07			81.08		3,728.56
MW-10	03/14/07			80.52		3,729.12
MW-10	03/27/07			81.33		3,728.31
MW-10	03/29/07			81.07		3,728.57
MW-10	04/03/07			81.37		3,728.27
MW-10	04/11/07			81.46		3,728.18
MW-10	04/17/07			81.53		3,728.11
MW-10	05/24/07			81.54		3,728.10
MW-10	06/13/07			81.59		3,728.05
MW-10	06/26/07			81.78		3,727.86
MW-10	09/14/07			82.30		3,727.34
MW-10	10/19/07			82.33		3,727.31
MW-10	12/03/07			85.26		3,724.38
MW-10	01/08/08			82.01		3,727.63
MW-10	01/28/08			82.02		3,727.62
MW-10	03/12/08			82.04		3,727.60
MW-10	04/22/08			82.51		3,727.13
MW-10	05/16/08			82.64		3,727.00

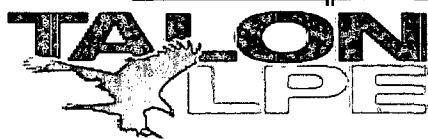


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-10	06/19/08			82.88		3,726.76
MW-10	08/13/08			83.42		3,726.22
MW-10	10/15/08			83.73		3,725.91
MW-10	12/04/08			83.51		3,726.13
MW-10	01/21/09			83.19		3,726.45
MW-10	02/18/09	3809.79		86.72		3,723.07
MW-10	04/06/09			83.87		3,725.92
MW-10	06/10/09			84.23		3,725.56
MW-10	08/25/09			85.29		3,724.50
MW-10	12/10/09			85.42		3,724.37
MW-10	01/08/10			85.20		3,724.59
MW-11	02/21/06	WELL INSTALLED 2/21/06				
MW-11	03/01/06	3,808.95		76.95		3,732.00
MW-11	05/25/06			78.06		3,730.89
MW-11	08/14/06			79.57		3,729.38
MW-11	11/29/06			80.26		3,728.69
MW-11	12/12/06			80.27		3,728.68
MW-11	01/11/07			80.19		3,728.76
MW-11	02/08/07			79.91		3,729.04
MW-11	02/20/07			80.35		3,728.60
MW-11	03/06/07			80.42		3,728.53
MW-11	03/14/07			80.01		3,728.94
MW-11	03/27/09			80.43		3,728.52
MW-11	03/29/09			80.46		3,728.49
MW-11	04/03/07			80.96		3,727.99
MW-11	04/11/07			80.86		3,728.09
MW-11	04/17/07			80.94		3,728.01
MW-11	05/24/07			80.89		3,728.06
MW-11	06/13/07			81.08		3,727.87
MW-11	06/26/07			81.19		3,727.76

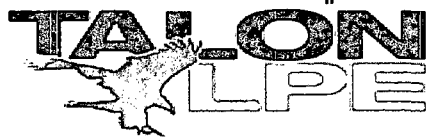


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-11	09/14/07			81.68		3,727.27
MW-11	10/19/07			81.76		3,727.19
MW-11	12/03/07			81.60		3,727.35
MW-11	01/08/08			81.35		3,727.60
MW-11	01/28/08			81.36		3,727.59
MW-11	03/12/08			81.43		3,727.52
MW-11	04/22/08			81.91		3,727.04
MW-11	05/16/08			82.07		3,726.88
MW-11	06/19/08			82.31		3,726.64
MW-11	08/13/08			82.88		3,726.07
MW-11	10/15/08			83.15		3,725.80
MW-11	12/04/08			82.88		3,726.07
MW-11	01/21/09			82.53		3,726.42
MW-11	02/18/09	3,809.12		82.77		3,726.35
MW-11	04/06/09			83.28		3,725.84
MW-11	06/10/09			83.76		3,725.36
MW-11	08/25/09			84.81		3,724.31
MW-11	12/10/09			84.08		3,725.04
MW-11	01/08/10			84.55		3,724.57
MW-12	02/23/06	WELL INSTALLED 2/23/06				
MW-12	03/01/06	3,809.63		77.60		3,732.03
MW-12	05/25/06			78.68		3,730.95
MW-12	08/14/06			79.99		3,729.64
MW-12	11/29/06			80.86		3,728.77
MW-12	12/12/06			80.90		3,728.73
MW-12	01/11/07			80.81		3,728.82
MW-12	02/08/07			80.55		3,729.08
MW-12	02/20/07			80.96		3,728.67
MW-12	03/06/07			81.04		3,728.59
MW-12	03/14/07			81.15		3,728.48



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-12	03/27/07			81.31		3,728.32
MW-12	03/29/07			81.15		3,728.48
MW-12	04/03/07			81.35		3,728.28
MW-12	04/11/07			81.87		3,727.76
MW-12	04/17/07			81.50		3,728.13
MW-12	05/24/07			81.45		3,728.18
MW-12	06/26/07			81.79		3,727.84
MW-12	09/14/07			82.29		3,727.34
MW-12	10/19/07			82.36		3,727.27
MW-12	12/03/07			82.20		3,727.43
MW-12	01/08/08			81.99		3,727.64
MW-12	01/28/08			81.98		3,727.65
MW-12	03/12/08			82.07		3,727.56
MW-12	04/22/08			82.52		3,727.11
MW-12	05/16/08			82.07		3,727.56
MW-12	06/19/08			82.91		3,726.72
MW-12	08/13/08			83.46		3,726.17
MW-12	10/15/08			83.74		3,725.89
MW-12	12/04/08		83.38	84.10	0.72	#REF!
MW-12	01/21/09		83.08	83.71	0.63	3,726.45
MW-12	02/18/09	3809.81	83.20	84.42	1.22	3,726.41
MW-12	04/06/09		83.51	85.66	2.15	3,725.95
MW-12	06/10/09		83.62	87.94	4.32	3,725.48
MW-12	08/25/09		84.44	89.90	5.46	3,724.47
MW-12	12/10/09		85.09	88.60	3.51	3,724.14
MW-12	01/08/10		84.93	88.26	3.33	3,724.33
MW-13	02/22/06	WELL INSTALLED 2/22/06				
MW-13	03/01/06	3,809.42		77.33		3,732.09
MW-13	05/25/06			78.35		3,731.07
MW-13	08/14/06			79.59		3,729.83



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-13	11/29/06			80.51		3,728.91
MW-13	12/12/06			80.68		3,728.74
MW-13	01/11/07			80.48		3,728.94
MW-13	02/08/07			80.25		3,729.17
MW-13	02/20/07			80.86		3,728.56
MW-13	03/06/07			80.71		3,728.71
MW-13	03/14/07			80.82		3,728.60
MW-13	03/27/07			79.97		3,729.45
MW-13	03/29/07			80.70		3,728.72
MW-13	04/03/07			81.02		3,728.40
MW-13	04/11/07			81.62		3,727.80
MW-13	04/17/07			81.17		3,728.25
MW-13	05/24/07			81.19		3,728.23
MW-13	06/26/07			81.42		3,728.00
MW-13	09/14/07			81.99		3,727.43
MW-13	10/19/07			82.02		3,727.40
MW-13	12/03/07			81.91		3,727.51
MW-13	01/08/08			81.71		3,727.71
MW-13	01/28/08			81.71		3,727.71
MW-13	03/12/08			81.74		3,727.68
MW-13	04/22/08			82.17		3,727.25
MW-13	05/16/08			82.31		3,727.11
MW-13	06/19/08			82.54		3,726.88
MW-13	08/13/08			83.06		3,726.36
MW-13	10/15/08			83.37		3,726.05
MW-13	12/04/08			83.21		3,726.21
MW-13	01/21/09			82.91		3,726.51
MW-13	02/18/09	3,809.59		83.10		3,726.49
MW-13	04/06/09			83.54		3,726.05
MW-13	06/10/09			84.02		3,725.57
MW-13	08/25/09			84.95		3,724.64



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-13	12/10/09			85.13		3,724.46
MW-13	01/08/10			84.92		3,724.67
MW-14	02/21/06	WELL INSTALLED 2/21/06				
MW-14	03/01/06	3,809.46		77.31		3,732.15
MW-14	05/25/06			78.29		3,731.17
MW-14	08/14/06			79.41		3,730.05
MW-14	11/29/06			80.37		3,729.09
MW-14	12/12/06			80.51		3,728.95
MW-14	01/11/07			80.53		3,728.93
MW-14	02/08/07			80.20		3,729.26
MW-14	02/20/07			80.61		3,728.85
MW-14	03/06/07			80.65		3,728.81
MW-14	03/14/07			80.02		3,729.44
MW-14	03/27/07			80.85		3,728.61
MW-14	03/29/07			80.59		3,728.87
MW-14	04/03/07			80.91		3,728.55
MW-14	04/11/07			80.59		3,728.87
MW-14	04/17/07			81.04		3,728.42
MW-14	05/24/07			81.10		3,728.36
MW-14	06/26/07			81.28		3,728.18
MW-14	09/14/07			81.88		3,727.58
MW-14	10/19/07			81.89		3,727.57
MW-14	12/03/07			81.78		3,727.68
MW-14	01/08/08			81.66		3,727.80
MW-14	01/28/08			81.68		3,727.78
MW-14	03/12/08			81.68		3,727.78
MW-14	04/22/08			82.11		3,727.35
MW-14	05/16/08			82.19		3,727.27
MW-14	06/19/08			82.41		3,727.05
MW-14	08/13/08			82.91		3,726.55



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-14	10/15/08			83.23		3,726.23
MW-14	12/04/08			83.15		3,726.31
MW-14	01/21/09			82.08		3,727.38
MW-14	02/18/09	3,809.63		83.05		3,726.58
MW-14	04/06/09			83.43		3,726.20
MW-14	06/10/09			83.91		3,725.72
MW-14	08/25/09			84.75		3,724.88
MW-14	12/10/09			85.04		3,724.59
MW-14	01/08/10			84.85		3,724.78
MW-15	02/22/06		WELL INSTALLED 2/22/06			
MW-15	03/01/06	3,810.77		78.50		3,732.27
MW-15	05/25/06			79.41		3,731.36
MW-15	08/14/06			80.54		3,730.23
MW-15	11/29/06			81.54		3,729.23
MW-15	12/12/06			81.63		3,729.14
MW-15	01/11/07			81.67		3,729.10
MW-15	02/08/07			81.43		3,729.34
MW-15	02/20/07			81.81		3,728.96
MW-15	03/06/07			81.85		3,728.92
MW-15	03/14/07			81.16		3,729.61
MW-15	03/27/07			82.07		3,728.70
MW-15	03/29/07			81.40		3,729.37
MW-15	04/03/07			82.11		3,728.66
MW-15	04/11/07			82.70		3,728.07
MW-15	04/17/07			82.24		3,728.53
MW-15	05/24/07			82.30		3,728.47
MW-15	06/26/07			82.48		3,728.29
MW-15	09/14/07			83.05		3,727.72
MW-15	10/19/07			83.06		3,727.71
MW-15	12/03/07			83.02		3,727.75

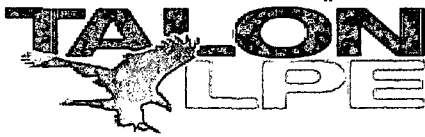


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-15	01/08/08			82.89		3,727.88
MW-15	01/28/08			82.81		3,727.96
MW-15	03/12/08			82.86		3,727.91
MW-15	04/22/08			83.23		3,727.54
MW-15	05/16/08			83.31		3,727.46
MW-15	06/19/08			83.57		3,727.20
MW-15	08/13/08			84.07		3,726.70
MW-15	10/15/08			84.41		3,726.36
MW-15	12/04/08			84.34		3,726.43
MW-15	01/21/09			84.07		3,726.70
MW-15	02/18/09	3,810.93		84.26		3,726.67
MW-15	04/06/09			84.61		3,726.32
MW-15	06/10/09			85.07		3,725.86
MW-15	08/25/09			85.89		3,725.04
MW-15	12/10/09			86.22		3,724.71
MW-15	01/08/10			86.04		3,724.89
MW-16	02/23/06		WELL INSTALLED 2/23/06			
MW-16	03/01/06	3,812.02		79.72		3,732.30
MW-16	05/25/06			80.58		3,731.44
MW-16	08/14/06			81.71		3,730.31
MW-16	11/29/06			82.74		3,729.28
MW-16	12/12/06			82.84		3,729.18
MW-16	01/11/07			82.90		3,729.12
MW-16	02/08/07			82.66		3,729.36
MW-16	02/20/07			83.06		3,728.96
MW-16	03/06/07			83.07		3,728.95
MW-16	03/14/07			82.69		3,729.33
MW-16	03/27/07			83.27		3,728.75
MW-16	03/29/07			83.01		3,729.01
MW-16	04/03/07			83.33		3,728.69

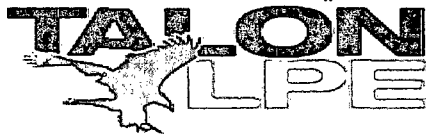


TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-16	04/11/07			84.02		3,728.00
MW-16	04/17/07			83.44		3,728.58
MW-16	05/24/07			83.55		3,728.47
MW-16	06/26/07			83.69		3,728.33
MW-16	09/14/07			84.25		3,727.77
MW-16	10/19/07			84.28		3,727.74
MW-16	12/03/07			84.24		3,727.78
MW-16	01/08/08			84.10		3,727.92
MW-16	01/28/08			84.09		3,727.93
MW-16	03/12/08			84.07		3,727.95
MW-16	04/22/08			80.09		3,731.93
MW-16	05/16/08			85.55		3,726.47
MW-16	06/19/08			84.76		3,727.26
MW-16	08/13/08			85.25		3,726.77
MW-16	10/15/08			85.63		3,726.39
MW-16	12/04/08			85.58		3,726.44
MW-16	01/21/09			85.32		3,726.70
MW-16	02/18/09	3,812.23		85.53		3,726.70
MW-16	04/06/09			85.80		3,726.43
MW-16	06/10/09			86.26		3,725.97
MW-16	08/25/09			87.08		3,725.15
MW-16	12/10/09			85.30		3,726.93
MW-16	01/08/10			87.24		3,724.99
MW-17	02/23/06	WELL INSTALLED 2/23/06				
MW-17	03/01/06	3,810.40		78.07		3,732.33
MW-17	05/25/06			78.92		3,731.48
MW-17	08/14/06			80.02		3,730.38
MW-17	11/29/06			81.10		3,729.30
MW-17	12/12/06			81.20		3,729.20
MW-17	01/11/07			81.25		3,729.15



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-17	02/08/07			81.06		3,729.34
MW-17	02/20/07			81.45		3,728.95
MW-17	03/06/07			81.48		3,728.92
MW-17	03/14/07			80.89		3,729.51
MW-17	03/27/07			81.65		3,728.75
MW-17	03/29/07			81.40		3,729.00
MW-17	04/03/07			81.70		3,728.70
MW-17	04/11/07			82.11		3,728.29
MW-17	04/17/07			81.83		3,728.57
MW-17	05/22/07			81.92		3,728.48
MW-17	06/26/07			82.06		3,728.34
MW-17	09/14/07			82.59		3,727.81
MW-17	10/19/07			82.60		3,727.80
MW-17	12/03/07			82.56		3,727.84
MW-17	01/08/08			82.48		3,727.92
MW-17	01/28/08			82.47		3,727.93
MW-17	03/12/08			82.41		3,727.99
MW-17	04/22/08			80.42		3,729.98
MW-17	05/16/08			82.89		3,727.51
MW-17	06/19/08			83.10		3,727.30
MW-17	08/13/08			83.68		3,726.72
MW-17	10/15/08			83.98		3,726.42
MW-17	12/04/08			83.92		3,726.48
MW-17	01/21/09			83.66		3,726.74
MW-17	02/18/09	3,810.57		83.85		3,726.72
MW-17	04/06/09			84.17		3,726.40
MW-17	06/10/09			84.59		3,725.98
MW-17	08/25/09			85.37		3,725.20
MW-17	12/10/09			85.71		3,724.86
MW-17	01/08/10			85.60		3,724.97



TABLE 1
SUMMARY OF HISTORICAL FLUID LEVEL MEASUREMENTS
Plains PIPELINE, L.P. - SRS#2002-10250
C. S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

Monitoring Well	Date Gauged	Surveyed Top of Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
		(ft amsl)	BTOC (ft btoc)	BTOC (ft btoc)	(feet)	(feet amsl)
MW-18	03/18/08	WELL INSTALLED 3/18/08				
MW-18	03/25/08	3,809.09		82.07		3,727.02
MW-18	04/22/08			82.19		3,726.90
MW-18	05/16/08			82.36		3,726.73
MW-18	06/19/08			82.61		3,726.48
MW-18	08/13/08			83.19		3,725.90
MW-18	10/15/08			83.45		3,725.64
MW-18	12/04/08			83.11		3,725.98
MW-18	01/21/09			82.78		3,726.31
MW-18	02/18/09	3,809.28		83.01		3,726.27
MW-18	04/06/09			83.60		3,725.68
MW-18	06/10/09			84.06		3,725.22
MW-18	08/25/09			85.13		3,724.15
MW-18	12/10/09			85.09		3,724.19
MW-18	01/08/10			84.82		3,724.46

Corrected Groundwater Elevation = Top of Casing Elevation - (Depth to Water Below Top of Casing - (SG)(PSH Thickness)) SG=0.835

** Estimated Product Thickness using Total Depth of Well as the Depth to Water.

ND = Not Detected

btoc = Below Top of Casing

amsl = Above Mean Sea Level

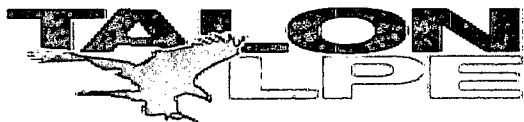


TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PLAINS PIPELINE, L.P. - SRS# 2002-10250
C.S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

All concentrations are in mg/L

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Xylene
MW-1A	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	08/25/09	Not Sampled Due to Obstruction from Total Fluid Pump			
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
MW-2	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	08/26/09	29.2	15.0	3.49	9.26
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
MW-3	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	08/26/09	26.7	26.4	7.80	18.0
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
MW-4	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	8/25/209	Not Sampled Due to Insufficient Water			
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
MW-5	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	08/26/09	15.9	9.17	2.05	4.87
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
MW-6	02/19/09	0.116	0.00910	<0.00100	0.00250
	06/10/09	0.229	0.0242	<0.00100	0.0172
	08/25/09	0.269	0.0270	<0.00100	0.0320
	12/11/09	0.410	0.0395	0.00200	0.0271
MW-7	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	08/25/09	Not Sampled Due to Insufficient Water			
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			



TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PLAINS PIPELINE, L.P. - SRS# 2002-10250
C.S. CAYLER
NMOCD REF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

All concentrations are in mg/L

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Xylene
MW-8	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	08/25/09	Not Sampled Due to Insufficient Water			
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
MW-9	02/19/09	0.00290	<0.00100	<0.00100	<0.00100
	06/10/09	0.0125	<0.00100	<0.00100	0.00550
	08/25/09	0.019	<0.00100	<0.00100	0.0203
	12/11/09	0.00280	<0.00100	<0.00100	<0.00100
MW-10	02/19/09	0.00310	<0.00100	<0.00100	<0.00100
	06/10/09	0.0114	0.00470	<0.00100	0.00900
	08/25/09	0.0302	0.0129	<0.00100	0.0258
	12/11/09	0.00240	<0.00100	<0.00100	<0.00100
MW-11	02/19/09	<0.00100	<0.00100	<0.00100	<0.00100
	06/10/09	<0.00100	<0.00100	<0.00100	<0.00100
	08/25/09	<0.00100	<0.00100	<0.00100	<0.00100
	12/11/09	<0.00100	<0.00100	<0.00100	<0.00100
MW-12	02/19/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	06/10/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
	08/26/09	43.00	48.40	17.20	39.80
	12/11/09	Not Sampled Due to Presence of Phase Separated Hydrocarbons			
MW-13	02/19/09	0.0634	<0.00100	<0.00100	0.00400
	06/10/09	0.0621	<0.00100	<0.00100	0.0282
	08/25/09	0.1200	<0.00100	<0.00100	0.05280
	12/11/09	0.00770	<0.00100	<0.00100	<0.00100
MW-14	02/19/09	<0.00100	<0.00100	<0.00100	<0.00100
	06/10/09	<0.00100	<0.00100	<0.00100	<0.00100
	08/25/09	<0.00100	<0.00100	<0.00100	<0.00100
	12/11/09	<0.00100	<0.00100	<0.00100	<0.00100

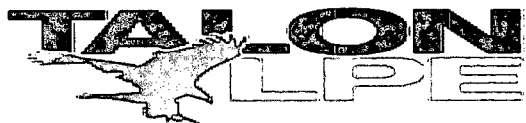


TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PLAINS PIPELINE, L.P. - SRS# 2002-10250
C.S. CAYLER
NMOCDF. # AP-052 (OLD 1R-0382)
LEA COUNTY, NEW MEXICO
TALON/LPE PROJECT NUMBER 700376.049.01

All concentrations are in mg/L

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Xylene
MW-15	02/19/09	<0.00100	<0.00100	<0.00100	<0.00100
	06/10/09	0.00680	<0.00100	<0.00100	<0.00100
	08/25/09	<0.00100	<0.00100	<0.00100	<0.00100
	12/11/09	<0.00100	<0.00100	<0.00100	<0.00100
MW-16	02/19/09	0.00280	<0.00100	<0.00100	<0.00100
	06/10/09	0.0156	<0.00100	<0.00100	<0.00100
	08/25/09	0.147	<0.00100	<0.00100	0.02350
	12/11/09	0.0368	<0.00100	<0.00100	<0.00100
MW-17	02/19/09	<0.00100	<0.00100	<0.00100	<0.00100
	06/10/09	<0.00100	<0.00100	<0.00100	<0.00100
	08/25/09	0.00790	<0.00100	<0.00100	<0.00100
	12/11/09	0.00790	<0.00100	<0.00100	<0.00100
MW-18	02/19/09	<0.00100	<0.00100	<0.00100	<0.00100
	06/10/09	<0.00100	<0.00100	<0.00100	<0.00100
	08/25/09	<0.00100	<0.00100	<0.00100	<0.00100
	12/11/09	<0.00100	<0.00100	<0.00100	<0.00100
NMWQCC Remedial Limits		0.010	0.750	0.750	0.620

¹ **Bolded** values are in excess of the NMWQCC Remediation Thresholds

BTEX analyzed by EPA Method 8021

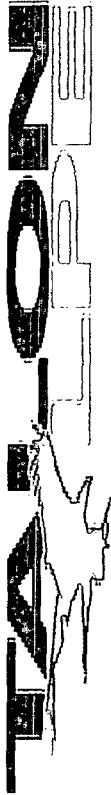


TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS (TPH)
POLY-NUCLEAR AROMATIC HYDROCARBONS (PAH)
PLAINS PIPELINE, L.P.

CS CAYLER

NMOCD REF. # AP-052 (OLD 1R-0382)

LEA COUNTY, NEW MEXICO - SRS# 2002-10250

Talon/LPE Project Number 700376.049.01

All concentrations are in mg/L

Sample Location	Sample Date	TPH DRO	TPH GRO	Total TPH	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]-anthracene	Benzo[a]-pyrene	Benzo[b]-fluoranthene	Benzo[g,h,i]-perylene	Benzo[k]-fluoranthene	Chrysene	Dibenz[a,h]-anthracene	Dibenzofuran	Fluoranthene	Indeno[1,2,3-cd]-pyrene	2-Methylnaphthalene	1-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
MW-6	08/25/09	<5.00	1.14	1.14	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186
MW-9	08/25/09	<5.00	0.156	0.156	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185
MW-10	08/25/09	<5.00	0.234	0.234	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
MW-11	08/25/09	<5.00	<0.100	<5.00	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186
MW-13	08/25/09	<5.00	0.608	0.608	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
MW-14	08/25/09	<5.00	<0.100	<5.00	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926
MW-15	08/25/09	<5.00	<0.100	<5.00	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
MW-16	08/25/09	<5.00	0.428	0.428	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922	<0.000922
MW-17	08/25/09	<5.00	<0.100	<5.00	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
MW-18	08/25/09	<5.00	<0.100	<5.00	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000212	<0.000184	<0.000184
NMWQCC Remedial Limits							0.007													0.030		

¹ Bolded values are in excess of the NMWQCC Remediation Thresholds



TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (MONITOR WELLS CONTAINING PSH)
TOTAL PETROLEUM HYDROCARBONS (TPH)
POLY-NUCLEAR AROMATIC HYDROCARBONS (PAH)
PLAINS PIPELINE, L.P.
C.S. CAYLER
NMOCD REF. # AP-052 (Old 1R-0382)
LEA COUNTY, NEW MEXICO - SRS# 2002-10250
Talon/LPE Project Number 700376.049.01

All concentrations are in mg/L

Sample Location	Sample Date	TPH DRO	TPH GRO	Total TPH	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]-anthracene	Benzo[a]-pyrene	Benzo[b]-fluoranthene	Benzo[g,h,i]-perylene	Benzo[k]-fluoranthene	Chrysene	Dibenzo[a,h]-anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno[1,2,3-cd]-pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
MW-1A	08/25/09																						
MW-2	08/26/09	123	163	286	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	0.143	<0.00184	0.882	<0.00184	1.24	<0.00184	11.1	13.3	5.77	1.27	0.0743
MW-3	08/26/09	735	338	1073	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	0.338	<0.00459	1.51	<0.00459	2.04	<0.00459	27.1	31.7	14.1	3.01	0.184
MW-4	08/25/09																						
MW-5	08/26/09	162	81.6	243.6	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	<0.00184	0.0703	<0.00184	0.318	<0.00184	0.420	<0.00184	4.38	5.28	2.30	0.576	0.0406
MW-7	08/25/09																						
MW8	08/25/09																						
MW-12	08/26/09	502	576	1078	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	<0.00459	0.410	<0.00459	2.88	<0.00459	3.86	<0.00459	46.1	52.8	21.6	4.09	<0.00459
NMWQCC Remedial Limits									0.0007												0.030		

Bolded values are in excess of the NMWQCC Remediation Thresholds

APPENDIX C

Laboratory Analytical Data Reports and Chains of Custody Documentation



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

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Shanna Smith
Talon LPE-Amarillo
921 North Bivins
Amarillo, TX, 79107

Report Date: February 25, 2009

Work Order: 9022021



Project Location: Lea County, NM
Project Name: C.S. Cayler
Project Number: PLAINS044SPL
SRS #: 2002-10250

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
188093	MW-6	water	2009-02-19	11:50	2009-02-20
188094	MW-9	water	2009-02-19	10:57	2009-02-20
188095	MW-10	water	2009-02-19	12:24	2009-02-20
188096	MW-11	water	2009-02-19	12:13	2009-02-20
188097	MW-13	water	2009-02-19	11:55	2009-02-20
188098	MW-14	water	2009-02-19	11:35	2009-02-20
188099	MW-15	water	2009-02-19	11:32	2009-02-20
188100	MW-16	water	2009-02-19	11:20	2009-02-20
188101	MW-17	water	2009-02-19	11:08	2009-02-20
188102	MW-18	water	2009-02-19	12:07	2009-02-20

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 12 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.

Case Narrative

Samples for project C.S. Cayler were received by TraceAnalysis, Inc. on 2009-02-20 and assigned to work order 9022021. Samples for work order 9022021 were received intact without headspace and at a temperature of 3.4 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	48736	2009-02-20 at 15:14	57046	2009-02-20 at 15:14
BTEX	S 8021B	48756	2009-02-23 at 09:48	57108	2009-02-23 at 13:30

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9022021 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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



Report Date: February 25, 2009
PLAINS044SPL

Work Order: 9022021
C.S. Cayler

Page Number: 4 of 12
Lea County, NM

Analytical Report

Sample: 188093 - MW-6

Laboratory: Midland
Analysis: BTEX
QC Batch: 57046
Prep Batch: 48736

Analytical Method: S 8021B
Date Analyzed: 2009-02-20
Sample Preparation: 2009-02-20

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.116	mg/L	1	0.00100
Toluene		0.00910	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.00250	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0971	mg/L	1	0.100	97	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0745	mg/L	1	0.100	74	40.1 - 136



Sample: 188094 - MW-9

Laboratory: Midland
Analysis: BTEX
QC Batch: 57108
Prep Batch: 48756

Analytical Method: S 8021B
Date Analyzed: 2009-02-23
Sample Preparation: 2009-02-23

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00290	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)		0.0981	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.107	mg/L	1	0.100	107	40.1 - 136

Sample: 188095 - MW-10

Laboratory: Midland
Analysis: BTEX
QC Batch: 57108
Prep Batch: 48756

Analytical Method: S 8021B
Date Analyzed: 2009-02-23
Sample Preparation: 2009-02-23

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME



Report Date: February 25, 2009
PLAINS044SPL

Work Order: 9022021
C.S. Cayler

Page Number: 5 of 12
Lea County, NM

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00310	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)		0.0995	mg/L	1	0.100	100	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0985	mg/L	1	0.100	98	40.1 - 136

Sample: 188096 - MW-11

Laboratory: Midland
Analysis: BTEX
QC Batch: 57108
Prep Batch: 48756

Analytical Method: S 8021B
Date Analyzed: 2009-02-23
Sample Preparation: 2009-02-23

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

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)		0.0984	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0952	mg/L	1	0.100	95	40.1 - 136

Sample: 188097 - MW-13

Laboratory: Midland
Analysis: BTEX
QC Batch: 57108
Prep Batch: 48756

Analytical Method: S 8021B
Date Analyzed: 2009-02-23
Sample Preparation: 2009-02-23

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0634	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.00400	mg/L	1	0.00100

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0989	mg/L	1	0.100	99	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0920	mg/L	1	0.100	92	40.1 - 136

Sample: 188098 - MW-14

Laboratory: Midland

Analysis: BTEX

QC Batch: 57108

Prep Batch: 48756

Analytical Method: S 8021B

Date Analyzed: 2009-02-23

Sample Preparation: 2009-02-23

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

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)		0.0975	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0853	mg/L	1	0.100	85	40.1 - 136

Sample: 188099 - MW-15

Laboratory: Midland

Analysis: BTEX

QC Batch: 57108

Prep Batch: 48756

Analytical Method: S 8021B

Date Analyzed: 2009-02-23

Sample Preparation: 2009-02-23

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

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)		0.0967	mg/L	1	0.100	97	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0837	mg/L	1	0.100	84	40.1 - 136

Sample: 188100 - MW-16

Laboratory: Midland
Analysis: BTEX
QC Batch: 57108
Prep Batch: 48756

Analytical Method: S 8021B
Date Analyzed: 2009-02-23
Sample Preparation: 2009-02-23

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00280	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)		0.0984	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0842	mg/L	1	0.100	84	40.1 - 136

Sample: 188101 - MW-17

Laboratory: Midland
Analysis: BTEX
QC Batch: 57108
Prep Batch: 48756

Analytical Method: S 8021B
Date Analyzed: 2009-02-23
Sample Preparation: 2009-02-23

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

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)		0.0980	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0840	mg/L	1	0.100	84	40.1 - 136

Sample: 188102 - MW-18

Laboratory: Midland
Analysis: BTEX
QC Batch: 57108
Prep Batch: 48756

Analytical Method: S 8021B
Date Analyzed: 2009-02-23
Sample Preparation: 2009-02-23

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

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)		0.0979	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.0813	mg/L	1	0.100	81	40.1 - 136

Method Blank (1) QC Batch: 57046

QC Batch: 57046
Prep Batch: 48736

Date Analyzed: 2009-02-20
QC Preparation: 2009-02-20

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000300	mg/L	0.001
Toluene		<0.000200	mg/L	0.001
Ethylbenzene		<0.000500	mg/L	0.001
Xylene		<0.000400	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0976	mg/L	1	0.100	98	77.2 - 129.1
4-Bromofluorobenzene (4-BFB)		0.0888	mg/L	1	0.100	89	69.1 - 132.3

Method Blank (1) QC Batch: 57108

QC Batch: 57108
Prep Batch: 48756

Date Analyzed: 2009-02-23
QC Preparation: 2009-02-23

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000300	mg/L	0.001
Toluene		<0.000200	mg/L	0.001
Ethylbenzene		<0.000500	mg/L	0.001
Xylene		<0.000400	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0942	mg/L	1	0.100	94	77.2 - 129.1
4-Bromofluorobenzene (4-BFB)		0.0889	mg/L	1	0.100	89	69.1 - 132.3

Laboratory Control Spike (LCS-1)

QC Batch: 57046
Prep Batch: 48736

Date Analyzed: 2009-02-20
QC Preparation: 2009-02-20

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0937	mg/L	1	0.100	<0.00110	94	84 - 119.7
Toluene	0.0938	mg/L	1	0.100	<0.00100	94	84.9 - 118.2
Ethylbenzene	0.0931	mg/L	1	0.100	<0.00100	93	84.4 - 118.6
Xylene	0.275	mg/L	1	0.300	<0.00290	92	84.8 - 117.8

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0982	mg/L	1	0.100	<0.00110	98	84 - 119.7	5	20
Toluene	0.0986	mg/L	1	0.100	<0.00100	99	84.9 - 118.2	5	20
Ethylbenzene	0.100	mg/L	1	0.100	<0.00100	100	84.4 - 118.6	7	20
Xylene	0.296	mg/L	1	0.300	<0.00290	99	84.8 - 117.8	7	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0982	0.0985	mg/L	1	0.100	98	98	80 - 128.3
4-Bromofluorobenzene (4-BFB)	0.0907	0.0911	mg/L	1	0.100	91	91	59.7 - 136.3

Laboratory Control Spike (LCS-1)

QC Batch: 57108
Prep Batch: 48756

Date Analyzed: 2009-02-23
QC Preparation: 2009-02-23

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0948	mg/L	1	0.100	<0.00110	95	84 - 119.7
Toluene	0.0944	mg/L	1	0.100	<0.00100	94	84.9 - 118.2
Ethylbenzene	0.0943	mg/L	1	0.100	<0.00100	94	84.4 - 118.6
Xylene	0.280	mg/L	1	0.300	<0.00290	93	84.8 - 117.8

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0980	mg/L	1	0.100	<0.00110	98	84 - 119.7	3	20
Toluene	0.0983	mg/L	1	0.100	<0.00100	98	84.9 - 118.2	4	20
Ethylbenzene	0.0984	mg/L	1	0.100	<0.00100	98	84.4 - 118.6	4	20
Xylene	0.292	mg/L	1	0.300	<0.00290	97	84.8 - 117.8	4	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)	0.0984	0.0976	mg/L	1	0.100	98	98	80 - 128.3
4-Bromofluorobenzene (4-BFB)	0.0945	0.0957	mg/L	1	0.100	94	96	59.7 - 136.3

Matrix Spike (MS-1) Spiked Sample: 187831

QC Batch: 57046
Prep Batch: 48736

Date Analyzed: 2009-02-20
QC Preparation: 2009-02-20

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.81	mg/L	10	1.00	0.9229	89	77.5 - 121.1
Toluene	0.892	mg/L	10	1.00	<0.0100	89	78.8 - 119.6
Ethylbenzene	0.883	mg/L	10	1.00	<0.0100	88	77.9 - 120.5
Xylene	2.64	mg/L	10	3.00	0.0456	86	78 - 119.4

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	1.72	mg/L	10	1.00	0.9229	73	77.5 - 121.1	5	20
Toluene	0.888	mg/L	10	1.00	<0.0100	89	78.8 - 119.6	0	20
Ethylbenzene	0.894	mg/L	10	1.00	<0.0100	89	77.9 - 120.5	1	20
Xylene	2.66	mg/L	10	3.00	0.0456	87	78 - 119.4	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.970	0.969	mg/L	10	1	97	97	86.6 - 118.9
4-Bromofluorobenzene (4-BFB)	0.753	0.751	mg/L	10	1	75	75	59.4 - 127.3

Matrix Spike (MS-1) Spiked Sample: 188129

QC Batch: 57108
Prep Batch: 48756

Date Analyzed: 2009-02-23
QC Preparation: 2009-02-23

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.447	mg/L	5	0.500	<0.00550	89	77.5 - 121.1
Toluene	0.436	mg/L	5	0.500	<0.00500	87	78.8 - 119.6
Ethylbenzene	0.442	mg/L	5	0.500	<0.00500	88	77.9 - 120.5

continued ...

¹ Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene	1.28	mg/L	5	1.50	<0.0145	85	78 - 119.4

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	0.469	mg/L	5	0.500	<0.00550	94	77.5 - 121.1	5	20
Toluene	0.464	mg/L	5	0.500	<0.00500	93	78.8 - 119.6	6	20
Ethylbenzene	0.474	mg/L	5	0.500	<0.00500	95	77.9 - 120.5	7	20
Xylene	1.38	mg/L	5	1.50	<0.0145	92	78 - 119.4	8	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.478	0.482	mg/L	5	0.5	96	96	86.6 - 118.9
4-Bromofluorobenzene (4-BFB)	0.401	0.402	mg/L	5	0.5	80	80	59.4 - 127.3

Standard (CCV-1)

QC Batch: 57046

Date Analyzed: 2009-02-20

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0906	91	85 - 115	2009-02-20
Toluene		mg/L	0.100	0.0905	90	85 - 115	2009-02-20
Ethylbenzene		mg/L	0.100	0.0903	90	85 - 115	2009-02-20
Xylene		mg/L	0.300	0.260	87	85 - 115	2009-02-20

Standard (CCV-2)

QC Batch: 57046

Date Analyzed: 2009-02-20

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0874	87	85 - 115	2009-02-20
Toluene		mg/L	0.100	0.0875	88	85 - 115	2009-02-20
Ethylbenzene		mg/L	0.100	0.0887	89	85 - 115	2009-02-20
Xylene		mg/L	0.300	0.257	86	85 - 115	2009-02-20

Standard (ICV-1)

QC Batch: 57108

Date Analyzed: 2009-02-23

Analyzed By: ME



Report Date: February 25, 2009
PLAINS044SPL

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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0997	100	85 - 115	2009-02-23
Toluene		mg/L	0.100	0.100	100	85 - 115	2009-02-23
Ethylbenzene		mg/L	0.100	0.101	101	85 - 115	2009-02-23
Xylene		mg/L	0.300	0.294	98	85 - 115	2009-02-23

Standard (CCV-1)

QC Batch: 57108

Date Analyzed: 2009-02-23

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0901	90	85 - 115	2009-02-23
Toluene		mg/L	0.100	0.0904	90	85 - 115	2009-02-23
Ethylbenzene		mg/L	0.100	0.0908	91	85 - 115	2009-02-23
Xylene		mg/L	0.300	0.266	89	85 - 115	2009-02-23

Standard (CCV-2)

QC Batch: 57108

Date Analyzed: 2009-02-23

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0874	87	85 - 115	2009-02-23
Toluene		mg/L	0.100	0.0887	89	85 - 115	2009-02-23
Ethylbenzene		mg/L	0.100	0.0913	91	85 - 115	2009-02-23
Xylene		mg/L	0.300	0.265	88	85 - 115	2009-02-23





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Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Shanna Smith
Talon LPE-Amarillo
921 North Bivins
Amarillo, TX, 79107

Report Date: June 15, 2009

Work Order: 9061203



Project Location: Hobbs, NM
Project Name: C.S. Cayler
Project Number: PLAINS044SPL
SRS #: 2002-10250

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
198684	MW-17	water	2009-06-10	14:25	2009-06-12
198685	MW-16	water	2009-06-10	14:35	2009-06-12
198686	MW-15	water	2009-06-10	14:45	2009-06-12
198687	MW-14	water	2009-06-10	15:00	2009-06-12
198688	MW-6	water	2009-06-10	15:10	2009-06-12
198689	MW-9	water	2009-06-10	15:25	2009-06-12
198690	MW-10	water	2009-06-10	15:35	2009-06-12
198691	MW-11	water	2009-06-11	11:25	2009-06-12
198692	MW-18	water	2009-06-11	11:40	2009-06-12
198693	MW-13	water	2009-06-11	12:00	2009-06-12



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.



Case Narrative

Samples for project C.S. Cayler were received by TraceAnalysis, Inc. on 2009-06-12 and assigned to work order 9061203. Samples for work order 9061203 were received intact without headspace and at a temperature of 1.4 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	51530	2009-06-12 at 12:36	60400	2009-06-12 at 12:36

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9061203 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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



Report Date: June 15, 2009
PLAINS044SPL

Work Order: 9061203
C.S. Cayler

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Hobbs, NM

Analytical Report

Sample: 198684 - MW-17

Laboratory: Midland
Analysis: BTEX
QC Batch: 60400
Prep Batch: 51530

Analytical Method: S 8021B
Date Analyzed: 2009-06-12
Sample Preparation: 2009-06-12

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

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)		0.0998	mg/L	1	0.100	100	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.115	mg/L	1	0.100	115	40.1 - 136



Sample: 198685 - MW-16

Laboratory: Midland
Analysis: BTEX
QC Batch: 60400
Prep Batch: 51530

Analytical Method: S 8021B
Date Analyzed: 2009-06-12
Sample Preparation: 2009-06-12

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0156	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)		0.0987	mg/L	1	0.100	99	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.104	mg/L	1	0.100	104	40.1 - 136

Sample: 198686 - MW-15

Laboratory: Midland
Analysis: BTEX
QC Batch: 60400
Prep Batch: 51530

Analytical Method: S 8021B
Date Analyzed: 2009-06-12
Sample Preparation: 2009-06-12

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME



Report Date: June 15, 2009
PLAINS044SPL

Work Order: 9061203
C.S. Cayler

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Hobbs, NM

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00680	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)		0.0993	mg/L	1	0.100	99	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.107	mg/L	1	0.100	107	40.1 - 136

Sample: 198687 - MW-14

Laboratory: Midland

Analysis: BTEX

QC Batch: 60400

Prep Batch: 51530

Analytical Method: S 8021B

Date Analyzed: 2009-06-12

Sample Preparation: 2009-06-12

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

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)		0.0992	mg/L	1	0.100	99	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.103	mg/L	1	0.100	103	40.1 - 136

Sample: 198688 - MW-6

Laboratory: Midland

Analysis: BTEX

QC Batch: 60400

Prep Batch: 51530

Analytical Method: S 8021B

Date Analyzed: 2009-06-12

Sample Preparation: 2009-06-12

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.229	mg/L	1	0.00100
Toluene		0.0242	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.0172	mg/L	1	0.00100

Report Date: June 15, 2009
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Work Order: 9061203
C.S. Cayler

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Hobbs, NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.101	mg/L	1	0.100	101	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.108	mg/L	1	0.100	108	40.1 - 136

Sample: 198689 - MW-9

Laboratory: Midland

Analysis: BTEX

QC Batch: 60400

Prep Batch: 51530

Analytical Method: S 8021B

Date Analyzed: 2009-06-12

Sample Preparation: 2009-06-12

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0125	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.00550	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0984	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.109	mg/L	1	0.100	109	40.1 - 136

Sample: 198690 - MW-10

Laboratory: Midland

Analysis: BTEX

QC Batch: 60400

Prep Batch: 51530

Analytical Method: S 8021B

Date Analyzed: 2009-06-12

Sample Preparation: 2009-06-12

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0114	mg/L	1	0.00100
Toluene		0.00470	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.00900	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0956	mg/L	1	0.100	96	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.106	mg/L	1	0.100	106	40.1 - 136



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Work Order: 9061203
C.S. Cayler

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Hobbs, NM

Sample: 198691 - MW-11

Laboratory: Midland
Analysis: BTEX
QC Batch: 60400
Prep Batch: 51530

Analytical Method: S 8021B
Date Analyzed: 2009-06-12
Sample Preparation: 2009-06-12

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

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)		0.0984	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.108	mg/L	1	0.100	108	40.1 - 136

Sample: 198692 - MW-18

Laboratory: Midland
Analysis: BTEX
QC Batch: 60400
Prep Batch: 51530

Analytical Method: S 8021B
Date Analyzed: 2009-06-12
Sample Preparation: 2009-06-12

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

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)		0.0981	mg/L	1	0.100	98	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.109	mg/L	1	0.100	109	40.1 - 136

Sample: 198693 - MW-13

Laboratory: Midland
Analysis: BTEX
QC Batch: 60400
Prep Batch: 51530

Analytical Method: S 8021B
Date Analyzed: 2009-06-12
Sample Preparation: 2009-06-12

Prep Method: S 5030B
Analyzed By: ME
Prepared By: ME

Report Date: June 15, 2009
PLAINS044SPL

Work Order: 9061203
C.S. Cayler

Page Number: 8 of 10
Hobbs, NM

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0621	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.0282	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0969	mg/L	1	0.100	97	77.8 - 121.1
4-Bromofluorobenzene (4-BFB)		0.109	mg/L	1	0.100	109	40.1 - 136

Method Blank (1) QC Batch: 60400

QC Batch: 60400
Prep Batch: 51530

Date Analyzed: 2009-06-12
QC Preparation: 2009-06-12

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000300	mg/L	0.001
Toluene		<0.000200	mg/L	0.001
Ethylbenzene		<0.000500	mg/L	0.001
Xylene		<0.000400	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0987	mg/L	1	0.100	99	77.2 - 129.1
4-Bromofluorobenzene (4-BFB)		0.0996	mg/L	1	0.100	100	69.1 - 132.3

Laboratory Control Spike (LCS-1)

QC Batch: 60400
Prep Batch: 51530

Date Analyzed: 2009-06-12
QC Preparation: 2009-06-12

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.105	mg/L	1	0.100	<0.00110	105	84 - 119.7
Toluene	0.105	mg/L	1	0.100	<0.00100	105	84.9 - 118.2
Ethylbenzene	0.104	mg/L	1	0.100	<0.00100	104	84.4 - 118.6
Xylene	0.318	mg/L	1	0.300	<0.00290	106	84.8 - 117.8

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	0.109	mg/L	1	0.100	<0.00110	109	84 - 119.7	4	20
Toluene	0.109	mg/L	1	0.100	<0.00100	109	84.9 - 118.2	4	20
Ethylbenzene	0.110	mg/L	1	0.100	<0.00100	110	84.4 - 118.6	6	20
Xylene	0.343	mg/L	1	0.300	<0.00290	114	84.8 - 117.8	8	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0980	0.0981	mg/L	1	0.100	98	98	80 - 128.3
4-Bromofluorobenzene (4-BFB)	0.104	0.105	mg/L	1	0.100	104	105	59.7 - 136.3

Standard (CCV-1)

QC Batch: 60400

Date Analyzed: 2009-06-12

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.104	104	80 - 120	2009-06-12
Toluene		mg/L	0.100	0.105	105	80 - 120	2009-06-12
Ethylbenzene		mg/L	0.100	0.107	107	80 - 120	2009-06-12
Xylene		mg/L	0.300	0.330	110	80 - 120	2009-06-12

Standard (CCV-2)

QC Batch: 60400

Date Analyzed: 2009-06-12

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.110	110	80 - 120	2009-06-12
Toluene		mg/L	0.100	0.109	109	80 - 120	2009-06-12
Ethylbenzene		mg/L	0.100	0.108	108	80 - 120	2009-06-12
Xylene		mg/L	0.300	0.331	110	80 - 120	2009-06-12

Standard (CCV-3)

QC Batch: 60400

Date Analyzed: 2009-06-12

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.111	111	80 - 120	2009-06-12

continued ...

Report Date: June 15, 2009
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C.S. Cayler

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standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene		mg/L	0.100	0.112	112	80 - 120	2009-06-12
Ethylbenzene		mg/L	0.100	0.114	114	80 - 120	2009-06-12
Xylene		mg/L	0.300	0.354	118	80 - 120	2009-06-12

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Contact Person: Shanna Smith E-mail: ssmith@taylorlpe.com
Invoice to: Plains - Jason Henry
Project #: PLAINSOCHSAL SES 2002-10250 Project Name: C-S-Cayler
Project Location (including state): Hobbs, N.M. Sampler Signature: [Signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX				PRESERVATIVE METHOD					SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE
09084	MW-17.	3	40 Vol	✓				✓				✓	6-10-09	1425
09085	MW-16.	3	40 Vol	✓				✓				✓	6-10-09	1435
09086	MW-15.	3	40 Vol	✓				✓				✓	6-10-09	1445
09087	MW-14.	3	40 Vol	✓				✓				✓	6-10-09	1500
09088	MW-13.	3	40 Vol	✓				✓				✓	6-10-09	1510
09089	MW-9.	3	40 Vol	✓				✓				✓	6-10-09	1525
09090	MW-10.	3	40 Vol	✓				✓				✓	6-10-09	1535
09091	MW-11.	3	40 Vol	✓				✓				✓	6-11-09	1125
09092	MW-18.	3	40 Vol	✓				✓				✓	6-11-09	1140
09093	MW-13.	3	40 Vol	✓				✓				✓	6-11-09	1200

Relinquished by: TraceAnalysis, Inc. Company: TraceAnalysis, Inc. Date: 6-12-09 Time: 9:20
Relinquished by: TraceAnalysis, Inc. Company: TraceAnalysis, Inc. Date: 6-12-09 Time: 9:20
Relinquished by: TraceAnalysis, Inc. Company: TraceAnalysis, Inc. Date: 6-12-09 Time: 9:20

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B / 602 / 8260B / 624	✓	TPH 418.1 / TX1005 / TX1005 Ex(C35)	PAH 8015 GRO / DRO / TVHC	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCBs 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Turn Around Time if different from standard
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REMARKS: All tests Midland

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

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

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Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Shanna Smith
Talon LPE-Midland
2901 State Highway 349
Midland, TX, 79706

Report Date: September 2, 2009

Work Order: 9082626



Project Location: Lovington, NM
Project Name: C.S. Cayler
Project Number: 700376.015.01
SRS #: 2002-10250

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
207899	MW-6	water	2009-08-25	14:58	2009-08-26
207900	MW-9	water	2009-08-25	13:15	2009-08-26
207901	MW-10	water	2009-08-25	13:35	2009-08-26
207902	MW-11	water	2009-08-25	14:00	2009-08-26
207903	MW-13	water	2009-08-25	14:35	2009-08-26
207904	MW-14	water	2009-08-25	12:10	2009-08-26
207905	MW-15	water	2009-08-25	11:40	2009-08-26
207906	MW-16	water	2009-08-25	12:35	2009-08-26
207907	MW-17	water	2009-08-25	12:55	2009-08-26
207908	MW-18	water	2009-08-25	14:10	2009-08-26

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 32 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project C.S. Cayler were received by TraceAnalysis, Inc. on 2009-08-26 and assigned to work order 9082626. Samples for work order 9082626 were received intact without headspace and at a temperature of 3.8 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	53815	2009-08-28 at 10:00	63047	2009-08-28 at 23:54
PAH	S 8270C	53918	2009-08-27 at 15:00	63169	2009-09-02 at 11:32
TPH DRO	Mod. 8015B	53718	2009-08-27 at 10:22	62945	2009-08-27 at 10:22
TPH GRO	S 8015B	53815	2009-08-28 at 10:00	63048	2009-08-29 at 00:21

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9082626 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 207899 - MW-6

Laboratory: Midland
Analysis: BTEX
QC Batch: 63047
Prep Batch: 53815

Analytical Method: S 8021B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.269	mg/L	1	0.00100
Toluene		0.0273	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.0320	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0975	mg/L	1	0.100	98	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0652	mg/L	1	0.100	65	49.8 - 130.8

Sample: 207899 - MW-6

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000186	mg/L	0.93	0.000200
2-Methylnaphthalene		<0.000186	mg/L	0.93	0.000200
1-Methylnaphthalene		<0.000186	mg/L	0.93	0.000200
Acenaphthylene		<0.000186	mg/L	0.93	0.000200
Acenaphthene		<0.000186	mg/L	0.93	0.000200
Dibenzofuran		<0.000186	mg/L	0.93	0.000200
Fluorene		<0.000186	mg/L	0.93	0.000200
Anthracene		<0.000186	mg/L	0.93	0.000200
Phenanthrene		<0.000186	mg/L	0.93	0.000200
Fluoranthene		<0.000186	mg/L	0.93	0.000200
Pyrene		<0.000186	mg/L	0.93	0.000200
Benzo(a)anthracene		<0.000186	mg/L	0.93	0.000200
Chrysene		<0.000186	mg/L	0.93	0.000200
Benzo(b)fluoranthene		<0.000186	mg/L	0.93	0.000200
Benzo(k)fluoranthene		<0.000186	mg/L	0.93	0.000200
Benzo(a)pyrene		<0.000186	mg/L	0.93	0.000200

continued ...

sample 207899 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Indeno(1,2,3-cd)pyrene		<0.000186	mg/L	0.93	0.000200
Dibenzo(a,h)anthracene		<0.000186	mg/L	0.93	0.000200
Benzo(g,h,i)perylene		<0.000186	mg/L	0.93	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	1	0.0134	mg/L	0.93	0.0800	17	25.9 - 97.5
2-Fluorobiphenyl		0.0163	mg/L	0.93	0.0800	20	13.9 - 100
Terphenyl-d14		0.0302	mg/L	0.93	0.0800	38	37.7 - 114

Sample: 207899 - MW-6

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 62945
Prep Batch: 53718

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-27
Sample Preparation: 2009-08-27

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		10.2	mg/L	1	10.0	102	70 - 130

Sample: 207899 - MW-6

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63048
Prep Batch: 53815

Analytical Method: S 8015B
Date Analyzed: 2009-08-29
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1.14	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0942	mg/L	1	0.100	94	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0744	mg/L	1	0.100	74	70 - 130

¹ 8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

Report Date: September 2, 2009
700376.015.01

Work Order: 9082626
C.S. Cayler

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Lovington, NM

Sample: 207900 - MW-9

Laboratory: Midland
Analysis: BTEX
QC Batch: 63047
Prep Batch: 53815

Analytical Method: S 8021B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0190	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.0203	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0951	mg/L	1	0.100	95	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0675	mg/L	1	0.100	68	49.8 - 130.8

Sample: 207900 - MW-9

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000185	mg/L	0.926	0.000200
2-Methylnaphthalene		<0.000185	mg/L	0.926	0.000200
1-Methylnaphthalene		<0.000185	mg/L	0.926	0.000200
Acenaphthylene		<0.000185	mg/L	0.926	0.000200
Acenaphthene		<0.000185	mg/L	0.926	0.000200
Dibenzofuran		<0.000185	mg/L	0.926	0.000200
Fluorene		<0.000185	mg/L	0.926	0.000200
Anthracene		<0.000185	mg/L	0.926	0.000200
Phenanthrene		<0.000185	mg/L	0.926	0.000200
Fluoranthene		<0.000185	mg/L	0.926	0.000200
Pyrene		<0.000185	mg/L	0.926	0.000200
Benzo(a)anthracene		<0.000185	mg/L	0.926	0.000200
Chrysene		<0.000185	mg/L	0.926	0.000200
Benzo(b)fluoranthene		<0.000185	mg/L	0.926	0.000200
Benzo(k)fluoranthene		<0.000185	mg/L	0.926	0.000200
Benzo(a)pyrene		<0.000185	mg/L	0.926	0.000200
Indeno(1,2,3-cd)pyrene		<0.000185	mg/L	0.926	0.000200
Dibenzo(a,h)anthracene		<0.000185	mg/L	0.926	0.000200
Benzo(g,h,i)perylene		<0.000185	mg/L	0.926	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0245	mg/L	0.926	0.0800	31	25.9 - 97.5
2-Fluorobiphenyl		0.0252	mg/L	0.926	0.0800	32	13.9 - 100
Terphenyl-d14	²	0.0268	mg/L	0.926	0.0800	34	37.7 - 114

Sample: 207900 - MW-9

Laboratory: Midland
 Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A
 QC Batch: 62945 Date Analyzed: 2009-08-27 Analyzed By: kg
 Prep Batch: 53718 Sample Preparation: 2009-08-27 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.80	mg/L	1	10.0	98	70 - 130

Sample: 207900 - MW-9

Laboratory: Midland
 Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5030B
 QC Batch: 63048 Date Analyzed: 2009-08-29 Analyzed By: AG
 Prep Batch: 53815 Sample Preparation: 2009-08-28 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		0.156	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0933	mg/L	1	0.100	93	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0765	mg/L	1	0.100	76	70 - 130

Sample: 207901 - MW-10

Laboratory: Midland
 Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B
 QC Batch: 63047 Date Analyzed: 2009-08-28 Analyzed By: AG
 Prep Batch: 53815 Sample Preparation: 2009-08-28 Prepared By: AG

²8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

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Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0302	mg/L	1	0.00100
Toluene		0.0129	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.0258	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0949	mg/L	1	0.100	95	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0678	mg/L	1	0.100	68	49.8 - 130.8

Sample: 207901 - MW-10

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000184	mg/L	0.922	0.000200
2-Methylnaphthalene		<0.000184	mg/L	0.922	0.000200
1-Methylnaphthalene		<0.000184	mg/L	0.922	0.000200
Acenaphthylene		<0.000184	mg/L	0.922	0.000200
Acenaphthene		<0.000184	mg/L	0.922	0.000200
Dibenzofuran		<0.000184	mg/L	0.922	0.000200
Fluorene		<0.000184	mg/L	0.922	0.000200
Anthracene		<0.000184	mg/L	0.922	0.000200
Phenanthrene		<0.000184	mg/L	0.922	0.000200
Fluoranthene		<0.000184	mg/L	0.922	0.000200
Pyrene		<0.000184	mg/L	0.922	0.000200
Benzo(a)anthracene		<0.000184	mg/L	0.922	0.000200
Chrysene		<0.000184	mg/L	0.922	0.000200
Benzo(b)fluoranthene		<0.000184	mg/L	0.922	0.000200
Benzo(k)fluoranthene		<0.000184	mg/L	0.922	0.000200
Benzo(a)pyrene		<0.000184	mg/L	0.922	0.000200
Indeno(1,2,3-cd)pyrene		<0.000184	mg/L	0.922	0.000200
Dibenzo(a,h)anthracene		<0.000184	mg/L	0.922	0.000200
Benzo(g,h,i)perylene		<0.000184	mg/L	0.922	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	3	0.0181	mg/L	0.922	0.0800	23	25.9 - 97.5
2-Fluorobiphenyl		0.0207	mg/L	0.922	0.0800	26	13.9 - 100

continued ...

³8270 Only - Two basic surrogates are out of control limits. The other basic surrogate shows extraction was performed properly.



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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Terphenyl-d14	4	0.0294	mg/L	0.922	0.0800	37	37.7 - 114

Sample: 207901 - MW-10

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 62945
Prep Batch: 53718

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-27
Sample Preparation: 2009-08-27

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.81	mg/L	1	10.0	98	70 - 130



Sample: 207901 - MW-10

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63048
Prep Batch: 53815

Analytical Method: S 8015B
Date Analyzed: 2009-08-29
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		0.234	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0937	mg/L	1	0.100	94	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0762	mg/L	1	0.100	76	70 - 130

Sample: 207902 - MW-11

Laboratory: Midland
Analysis: BTEX
QC Batch: 63047
Prep Batch: 53815

Analytical Method: S 8021B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

⁴8270 Only - Two basic surrogates are out of control limits. The other basic surrogate shows extraction was performed properly.



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)		0.0985	mg/L	1	0.100	98	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0646	mg/L	1	0.100	65	49.8 - 130.8

Sample: 207902 - MW-11

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000186	mg/L	0.93	0.000200
2-Methylnaphthalene		<0.000186	mg/L	0.93	0.000200
1-Methylnaphthalene		<0.000186	mg/L	0.93	0.000200
Acenaphthylene		<0.000186	mg/L	0.93	0.000200
Acenaphthene		<0.000186	mg/L	0.93	0.000200
Dibenzofuran		<0.000186	mg/L	0.93	0.000200
Fluorene		<0.000186	mg/L	0.93	0.000200
Anthracene		<0.000186	mg/L	0.93	0.000200
Phenanthrene		<0.000186	mg/L	0.93	0.000200
Fluoranthene		<0.000186	mg/L	0.93	0.000200
Pyrene		<0.000186	mg/L	0.93	0.000200
Benzo(a)anthracene		<0.000186	mg/L	0.93	0.000200
Chrysene		<0.000186	mg/L	0.93	0.000200
Benzo(b)fluoranthene		<0.000186	mg/L	0.93	0.000200
Benzo(k)fluoranthene		<0.000186	mg/L	0.93	0.000200
Benzo(a)pyrene		<0.000186	mg/L	0.93	0.000200
Indeno(1,2,3-cd)pyrene		<0.000186	mg/L	0.93	0.000200
Dibenzo(a,h)anthracene		<0.000186	mg/L	0.93	0.000200
Benzo(g,h,i)perylene		<0.000186	mg/L	0.93	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	5	0.0158	mg/L	0.93	0.0800	20	25.9 - 97.5
2-Fluorobiphenyl		0.0177	mg/L	0.93	0.0800	22	13.9 - 100

continued ...

⁵8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Terphenyl-d14		0.0315	mg/L	0.93	0.0800	39	37.7 - 114

Sample: 207902 - MW-11

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 62945
Prep Batch: 53718

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-27
Sample Preparation: 2009-08-27

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.71	mg/L	1	10.0	97	70 - 130

Sample: 207902 - MW-11

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63048
Prep Batch: 53815

Analytical Method: S 8015B
Date Analyzed: 2009-08-29
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<0.100	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0951	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0737	mg/L	1	0.100	74	70 - 130

Sample: 207903 - MW-13

Laboratory: Midland
Analysis: BTEX
QC Batch: 63047
Prep Batch: 53815

Analytical Method: S 8021B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG



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Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.120	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.0528	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0994	mg/L	1	0.100	99	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0750	mg/L	1	0.100	75	49.8 - 130.8

Sample: 207903 - MW-13

Laboratory: Lubbock

Analysis: PAH

QC Batch: 63169

Prep Batch: 53918

Analytical Method: S 8270C

Date Analyzed: 2009-09-02

Sample Preparation: 2009-08-27

Prep Method: S 3510C

Analyzed By: MN

Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000183	mg/L	0.913	0.000200
2-Methylnaphthalene		<0.000183	mg/L	0.913	0.000200
1-Methylnaphthalene		<0.000183	mg/L	0.913	0.000200
Acenaphthylene		<0.000183	mg/L	0.913	0.000200
Acenaphthene		<0.000183	mg/L	0.913	0.000200
Dibenzofuran		<0.000183	mg/L	0.913	0.000200
Fluorene		<0.000183	mg/L	0.913	0.000200
Anthracene		<0.000183	mg/L	0.913	0.000200
Phenanthrene		<0.000183	mg/L	0.913	0.000200
Fluoranthene		<0.000183	mg/L	0.913	0.000200
Pyrene		<0.000183	mg/L	0.913	0.000200
Benzo(a)anthracene		<0.000183	mg/L	0.913	0.000200
Chrysene		<0.000183	mg/L	0.913	0.000200
Benzo(b)fluoranthene		<0.000183	mg/L	0.913	0.000200
Benzo(k)fluoranthene		<0.000183	mg/L	0.913	0.000200
Benzo(a)pyrene		<0.000183	mg/L	0.913	0.000200
Indeno(1,2,3-cd)pyrene		<0.000183	mg/L	0.913	0.000200
Dibenzo(a,h)anthracene		<0.000183	mg/L	0.913	0.000200
Benzo(g,h,i)perylene		<0.000183	mg/L	0.913	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0312	mg/L	0.913	0.0800	39	25.9 - 97.5
2-Fluorobiphenyl		0.0327	mg/L	0.913	0.0800	41	13.9 - 100
Terphenyl-d14		0.0334	mg/L	0.913	0.0800	42	37.7 - 114



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Sample: 207903 - MW-13

Laboratory: Midland

Analysis: TPH DRO

QC Batch: 62945

Prep Batch: 53718

Analytical Method: Mod. 8015B

Date Analyzed: 2009-08-27

Sample Preparation: 2009-08-27

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.55	mg/L	1	10.0	96	70 - 130

Sample: 207903 - MW-13

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 63048

Prep Batch: 53815

Analytical Method: S 8015B

Date Analyzed: 2009-08-29

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		0.608	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0943	mg/L	1	0.100	94	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0955	mg/L	1	0.100	96	70 - 130

Sample: 207904 - MW-14

Laboratory: Midland

Analysis: BTEX

QC Batch: 63047

Prep Batch: 53815

Analytical Method: S 8021B

Date Analyzed: 2009-08-28

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

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



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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0989	mg/L	1	0.100	99	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0674	mg/L	1	0.100	67	49.8 - 130.8

Sample: 207904 - MW-14

Laboratory: Lubbock

Analysis: PAH

QC Batch: 63169

Prep Batch: 53918

Analytical Method: S 8270C

Date Analyzed: 2009-09-02

Sample Preparation: 2009-08-27

Prep Method: S 3510C

Analyzed By: MN

Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	⁶	<0.000926	mg/L	4.63	0.000200
2-Methylnaphthalene		<0.000926	mg/L	4.63	0.000200
1-Methylnaphthalene		<0.000926	mg/L	4.63	0.000200
Acenaphthylene		<0.000926	mg/L	4.63	0.000200
Acenaphthene		<0.000926	mg/L	4.63	0.000200
Dibenzofuran		<0.000926	mg/L	4.63	0.000200
Fluorene		<0.000926	mg/L	4.63	0.000200
Anthracene		<0.000926	mg/L	4.63	0.000200
Phenanthrene		<0.000926	mg/L	4.63	0.000200
Fluoranthene		<0.000926	mg/L	4.63	0.000200
Pyrene		<0.000926	mg/L	4.63	0.000200
Benzo(a)anthracene		<0.000926	mg/L	4.63	0.000200
Chrysene		<0.000926	mg/L	4.63	0.000200
Benzo(b)fluoranthene		<0.000926	mg/L	4.63	0.000200
Benzo(k)fluoranthene		<0.000926	mg/L	4.63	0.000200
Benzo(a)pyrene		<0.000926	mg/L	4.63	0.000200
Indeno(1,2,3-cd)pyrene		<0.000926	mg/L	4.63	0.000200
Dibenzo(a,h)anthracene		<0.000926	mg/L	4.63	0.000200
Benzo(g,h,i)perylene		<0.000926	mg/L	4.63	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0238	mg/L	4.63	0.0800	30	25.9 - 97.5
2-Fluorobiphenyl		0.0272	mg/L	4.63	0.0800	34	13.9 - 100
Terphenyl-d14		0.0560	mg/L	4.63	0.0800	70	37.7 - 114

Sample: 207904 - MW-14

Laboratory: Midland

Analysis: TPH DRO

QC Batch: 62945

Prep Batch: 53718

Analytical Method: Mod. 8015B

Date Analyzed: 2009-08-27

Sample Preparation: 2009-08-27

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

⁶Dilution due to matrix difficulty. •



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Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.63	mg/L	1	10.0	96	70 - 130

Sample: 207904 - MW-14

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 63048

Prep Batch: 53815

Analytical Method: S 8015B

Date Analyzed: 2009-08-29

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<0.100	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0948	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0759	mg/L	1	0.100	76	70 - 130

Sample: 207905 - MW-15

Laboratory: Midland

Analysis: BTEX

QC Batch: 63047

Prep Batch: 53815

Analytical Method: S 8021B

Date Analyzed: 2009-08-28

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

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)		0.101	mg/L	1	0.100	101	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0689	mg/L	1	0.100	69	49.8 - 130.8

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Sample: 207905 - MW-15

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000184	mg/L	0.922	0.000200
2-Methylnaphthalene		<0.000184	mg/L	0.922	0.000200
1-Methylnaphthalene		<0.000184	mg/L	0.922	0.000200
Acenaphthylene		<0.000184	mg/L	0.922	0.000200
Acenaphthene		<0.000184	mg/L	0.922	0.000200
Dibenzofuran		<0.000184	mg/L	0.922	0.000200
Fluorene		<0.000184	mg/L	0.922	0.000200
Anthracene		<0.000184	mg/L	0.922	0.000200
Phenanthrene		<0.000184	mg/L	0.922	0.000200
Fluoranthene		<0.000184	mg/L	0.922	0.000200
Pyrene		<0.000184	mg/L	0.922	0.000200
Benzo(a)anthracene		<0.000184	mg/L	0.922	0.000200
Chrysene		<0.000184	mg/L	0.922	0.000200
Benzo(b)fluoranthene		<0.000184	mg/L	0.922	0.000200
Benzo(k)fluoranthene		<0.000184	mg/L	0.922	0.000200
Benzo(a)pyrene		<0.000184	mg/L	0.922	0.000200
Indeno(1,2,3-cd)pyrene		<0.000184	mg/L	0.922	0.000200
Dibenzo(a,h)anthracene		<0.000184	mg/L	0.922	0.000200
Benzo(g,h,i)perylene		<0.000184	mg/L	0.922	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0255	mg/L	0.922	0.0800	32	25.9 - 97.5
2-Fluorobiphenyl		0.0286	mg/L	0.922	0.0800	36	13.9 - 100
Terphenyl-d14		0.0358	mg/L	0.922	0.0800	45	37.7 - 114

Sample: 207905 - MW-15

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 62945
Prep Batch: 53718

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-27
Sample Preparation: 2009-08-27

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00



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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.70	mg/L	1	10.0	97	70 - 130

Sample: 207905 - MW-15

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 63048

Prep Batch: 53815

Analytical Method: S 8015B

Date Analyzed: 2009-08-29

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<0.100	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0962	mg/L	1	0.100	96	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0766	mg/L	1	0.100	77	70 - 130



Sample: 207906 - MW-16

Laboratory: Midland

Analysis: BTEX

QC Batch: 63047

Prep Batch: 53815

Analytical Method: S 8021B

Date Analyzed: 2009-08-28

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.147	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		0.0235	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0974	mg/L	1	0.100	97	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0698	mg/L	1	0.100	70	49.8 - 130.8



Sample: 207906 - MW-16

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	7	<0.000922	mg/L	4.608	0.000200
2-Methylnaphthalene		<0.000922	mg/L	4.608	0.000200
1-Methylnaphthalene		<0.000922	mg/L	4.608	0.000200
Acenaphthylene		<0.000922	mg/L	4.608	0.000200
Acenaphthene		<0.000922	mg/L	4.608	0.000200
Dibenzofuran		<0.000922	mg/L	4.608	0.000200
Fluorene		<0.000922	mg/L	4.608	0.000200
Anthracene		<0.000922	mg/L	4.608	0.000200
Phenanthrene		<0.000922	mg/L	4.608	0.000200
Fluoranthene		<0.000922	mg/L	4.608	0.000200
Pyrene		<0.000922	mg/L	4.608	0.000200
Benzo(a)anthracene		<0.000922	mg/L	4.608	0.000200
Chrysene		<0.000922	mg/L	4.608	0.000200
Benzo(b)fluoranthene		<0.000922	mg/L	4.608	0.000200
Benzo(k)fluoranthene		<0.000922	mg/L	4.608	0.000200
Benzo(a)pyrene		<0.000922	mg/L	4.608	0.000200
Indeno(1,2,3-cd)pyrene		<0.000922	mg/L	4.608	0.000200
Dibenzo(a,h)anthracene		<0.000922	mg/L	4.608	0.000200
Benzo(g,h,i)perylene		<0.000922	mg/L	4.608	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0207	mg/L	4.608	0.0800	26	25.9 - 97.5
2-Fluorobiphenyl		0.0360	mg/L	4.608	0.0800	45	13.9 - 100
Terphenyl-d14		0.0717	mg/L	4.608	0.0800	90	37.7 - 114

Sample: 207906 - MW-16

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 62945
Prep Batch: 53718

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-27
Sample Preparation: 2009-08-27

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

⁷Dilution due to matrix difficulty. •



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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.72	mg/L	1	10.0	97	70 - 130

Sample: 207906 - MW-16

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63048
Prep Batch: 53815

Analytical Method: S 8015B
Date Analyzed: 2009-08-29
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		0.428	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0950	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0784	mg/L	1	0.100	78	70 - 130



Sample: 207907 - MW-17

Laboratory: Midland
Analysis: BTEX
QC Batch: 63047
Prep Batch: 53815

Analytical Method: S 8021B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00790	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)		0.101	mg/L	1	0.100	101	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0692	mg/L	1	0.100	69	49.8 - 130.8



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Sample: 207907 - MW-17

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000183	mg/L	0.913	0.000200
2-Methylnaphthalene		<0.000183	mg/L	0.913	0.000200
1-Methylnaphthalene		<0.000183	mg/L	0.913	0.000200
Acenaphthylene		<0.000183	mg/L	0.913	0.000200
Acenaphthene		<0.000183	mg/L	0.913	0.000200
Dibenzofuran		<0.000183	mg/L	0.913	0.000200
Fluorene		<0.000183	mg/L	0.913	0.000200
Anthracene		<0.000183	mg/L	0.913	0.000200
Phenanthrene		<0.000183	mg/L	0.913	0.000200
Fluoranthene		<0.000183	mg/L	0.913	0.000200
Pyrene		<0.000183	mg/L	0.913	0.000200
Benzo(a)anthracene		<0.000183	mg/L	0.913	0.000200
Chrysene		<0.000183	mg/L	0.913	0.000200
Benzo(b)fluoranthene		<0.000183	mg/L	0.913	0.000200
Benzo(k)fluoranthene		<0.000183	mg/L	0.913	0.000200
Benzo(a)pyrene		<0.000183	mg/L	0.913	0.000200
Indeno(1,2,3-cd)pyrene		<0.000183	mg/L	0.913	0.000200
Dibenzo(a,h)anthracene		<0.000183	mg/L	0.913	0.000200
Benzo(g,h,i)perylene		<0.000183	mg/L	0.913	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	⁸	0.0121	mg/L	0.913	0.0800	15	25.9 - 97.5
2-Fluorobiphenyl		0.0174	mg/L	0.913	0.0800	22	13.9 - 100
Terphenyl-d14		0.0359	mg/L	0.913	0.0800	45	37.7 - 114

Sample: 207907 - MW-17

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 62945
Prep Batch: 53718

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-27
Sample Preparation: 2009-08-27

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

⁸8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.



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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.52	mg/L	1	10.0	95	70 - 130

Sample: 207907 - MW-17

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 63048

Prep Batch: 53815

Analytical Method: S 8015B

Date Analyzed: 2009-08-29

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<0.100	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0949	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0770	mg/L	1	0.100	77	70 - 130



Sample: 207908 - MW-18

Laboratory: Midland

Analysis: BTEX

QC Batch: 63047

Prep Batch: 53815

Analytical Method: S 8021B

Date Analyzed: 2009-08-28

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

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)		0.0986	mg/L	1	0.100	99	87 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0691	mg/L	1	0.100	69	49.8 - 130.8



Sample: 207908 - MW-18

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		0.000212	mg/L	0.922	0.000200
2-Methylnaphthalene		<0.000184	mg/L	0.922	0.000200
1-Methylnaphthalene		<0.000184	mg/L	0.922	0.000200
Acenaphthylene		<0.000184	mg/L	0.922	0.000200
Acenaphthene		<0.000184	mg/L	0.922	0.000200
Dibenzofuran		<0.000184	mg/L	0.922	0.000200
Fluorene		<0.000184	mg/L	0.922	0.000200
Anthracene		<0.000184	mg/L	0.922	0.000200
Phenanthrene		<0.000184	mg/L	0.922	0.000200
Fluoranthene		<0.000184	mg/L	0.922	0.000200
Pyrene		<0.000184	mg/L	0.922	0.000200
Benzo(a)anthracene		<0.000184	mg/L	0.922	0.000200
Chrysene		<0.000184	mg/L	0.922	0.000200
Benzo(b)fluoranthene		<0.000184	mg/L	0.922	0.000200
Benzo(k)fluoranthene		<0.000184	mg/L	0.922	0.000200
Benzo(a)pyrene		<0.000184	mg/L	0.922	0.000200
Indeno(1,2,3-cd)pyrene		<0.000184	mg/L	0.922	0.000200
Dibenzo(a,h)anthracene		<0.000184	mg/L	0.922	0.000200
Benzo(g,h,i)perylene		<0.000184	mg/L	0.922	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	⁹	0.0152	mg/L	0.922	0.0800	19	25.9 - 97.5
2-Fluorobiphenyl		0.0156	mg/L	0.922	0.0800	20	13.9 - 100
Terphenyl-d14	¹⁰	0.0239	mg/L	0.922	0.0800	30	37.7 - 114

Sample: 207908 - MW-18

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 62945
Prep Batch: 53718

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-27
Sample Preparation: 2009-08-27

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<5.00	mg/L	1	5.00

⁹8270 Only - Two basic surrogates are out of control limits. The other basic surrogate shows extraction was performed properly.

¹⁰8270 Only - Two basic surrogates are out of control limits. The other basic surrogate shows extraction was performed properly.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.07	mg/L	1	10.0	91	70 - 130

Sample: 207908 - MW-18

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63048
Prep Batch: 53815

Analytical Method: S 8015B
Date Analyzed: 2009-08-29
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<0.100	mg/L	1	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0938	mg/L	1	0.100	94	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0787	mg/L	1	0.100	79	70 - 130

Method Blank (1) QC Batch: 62945

QC Batch: 62945
Prep Batch: 53718

Date Analyzed: 2009-08-27
QC Preparation: 2009-08-27

Analyzed By: kg
Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<0.801	mg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		10.5	mg/L	1	10.0	105	70 - 160

Method Blank (1) QC Batch: 63047

QC Batch: 63047
Prep Batch: 53815

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000300	mg/L	0.001
Toluene		<0.000200	mg/L	0.001
Ethylbenzene		<0.000500	mg/L	0.001

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Parameter	Flag	MDL Result	Units	RL
Xylene		<0.000400	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0979	mg/L	1	0.100	98	85.4 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0698	mg/L	1	0.100	70	52.8 - 124.2

Method Blank (1) QC Batch: 63048

QC Batch: 63048
Prep Batch: 53815

Date Analyzed: 2009-08-29
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
GRO		<0.0351	mg/L	0.1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0946	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0785	mg/L	1	0.100	78	70 - 130

Method Blank (1) QC Batch: 63169

QC Batch: 63169
Prep Batch: 53918

Date Analyzed: 2009-09-02
QC Preparation: 2009-08-27

Analyzed By: MN
Prepared By: MN

Parameter	Flag	MDL Result	Units	RL
Naphthalene		<0.0000784	mg/L	0.0002
2-Methylnaphthalene		<0.0000747	mg/L	0.0002
1-Methylnaphthalene		<0.0000575	mg/L	0.0002
Acenaphthylene		<0.0000963	mg/L	0.0002
Acenaphthene		<0.0000617	mg/L	0.0002
Dibenzofuran		<0.0000952	mg/L	0.0002
Fluorene		<0.000134	mg/L	0.0002
Anthracene		<0.000441	mg/L	0.0002
Phenanthrene		<0.000435	mg/L	0.0002
Fluoranthene		<0.000476	mg/L	0.0002
Pyrene		<0.000590	mg/L	0.0002
Benzo(a)anthracene		<0.000118	mg/L	0.0002
Chrysene		<0.0000766	mg/L	0.0002

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Benzo(b)fluoranthene		<0.000146	mg/L	0.0002
Benzo(k)fluoranthene		<0.000141	mg/L	0.0002
Benzo(a)pyrene		<0.000132	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		<0.0000702	mg/L	0.0002
Dibenzo(a,h)anthracene		<0.0000534	mg/L	0.0002
Benzo(g,h,i)perylene		<0.0000473	mg/L	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0225	mg/L	1	0.0800	28	25.9 - 97.5
2-Fluorobiphenyl		0.0234	mg/L	1	0.0800	29	13.9 - 100
Terphenyl-d14		0.0392	mg/L	1	0.0800	49	37.7 - 114

Laboratory Control Spike (LCS-1)

QC Batch: 62945
Prep Batch: 53718

Date Analyzed: 2009-08-27
QC Preparation: 2009-08-27

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	21.0	mg/L	1	25.0	<0.801	84	70 - 130

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
DRO	21.1	mg/L	1	25.0	<0.801	84	70 - 130	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
n-Triacontane	9.36	9.63	mg/L	1	10.0	94	96	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 63047
Prep Batch: 53815

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0859	mg/L	1	0.100	<0.00110	86	74.3 - 123.4

continued ...



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control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Toluene	0.0856	mg/L	1	0.100	<0.00100	86	70.1 - 126.2
Ethylbenzene	0.0848	mg/L	1	0.100	<0.00100	85	68.6 - 124.7
Xylene	0.244	mg/L	1	0.300	<0.00290	81	64.8 - 127.2

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	0.0883	mg/L	1	0.100	<0.00110	88	74.3 - 123.4	3	20
Toluene	0.0884	mg/L	1	0.100	<0.00100	88	70.1 - 126.2	3	20
Ethylbenzene	0.0885	mg/L	1	0.100	<0.00100	88	68.6 - 124.7	4	20
Xylene	0.255	mg/L	1	0.300	<0.00290	85	64.8 - 127.2	4	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)	0.0985	0.0983	mg/L	1	0.100	98	98	84.8 - 110.8
4-Bromofluorobenzene (4-BFB)	0.0723	0.0694	mg/L	1	0.100	72	69	51.7 - 134.7



Laboratory Control Spike (LCS-1)

QC Batch: 63048
Prep Batch: 53815

Date Analyzed: 2009-08-29
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	0.799	mg/L	1	1.00	<0.0351	80	70 - 130

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
GRO	0.727	mg/L	1	1.00	<0.0351	73	70 - 130	9	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)	0.0983	0.0969	mg/L	1	0.100	98	97	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0818	0.0786	mg/L	1	0.100	82	79	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 63169
Prep Batch: 53918

Date Analyzed: 2009-09-02
QC Preparation: 2009-08-27

Analyzed By: MN
Prepared By: MN



Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Naphthalene	0.0271	mg/L	1	0.0800	<0.0000784	34	22.2 - 87.9
2-Methylnaphthalene	0.0333	mg/L	1	0.0800	<0.0000747	42	23.3 - 86.1
1-Methylnaphthalene	0.0348	mg/L	1	0.0800	<0.0000575	44	24.6 - 87.8
Acenaphthylene	0.0403	mg/L	1	0.0800	<0.0000963	50	27.4 - 114
Acenaphthene	0.0409	mg/L	1	0.0800	<0.0000617	51	27.2 - 111
Dibenzofuran	0.0389	mg/L	1	0.0800	<0.0000952	49	27.3 - 100
Fluorene	0.0488	mg/L	1	0.0800	<0.000134	61	31.5 - 122
Anthracene	0.0513	mg/L	1	0.0800	<0.000441	64	32.4 - 115
Phenanthrene	0.0493	mg/L	1	0.0800	<0.000435	62	34.2 - 111
Fluoranthene	0.0558	mg/L	1	0.0800	<0.000476	70	40.1 - 114
Pyrene	0.0485	mg/L	1	0.0800	<0.000590	61	39.2 - 124
Benzo(a)anthracene	0.0481	mg/L	1	0.0800	<0.000118	60	39.4 - 114
Chrysene	0.0514	mg/L	1	0.0800	<0.0000766	64	38.2 - 116
Benzo(b)fluoranthene	0.0506	mg/L	1	0.0800	<0.000146	63	34.5 - 118
Benzo(k)fluoranthene	0.0629	mg/L	1	0.0800	<0.000141	79	38.7 - 133
Benzo(a)pyrene	0.0659	mg/L	1	0.0800	<0.000132	82	38 - 134
Indeno(1,2,3-cd)pyrene	0.0579	mg/L	1	0.0800	<0.0000702	72	34.6 - 124
Dibenzo(a,h)anthracene	0.0590	mg/L	1	0.0800	<0.0000534	74	33.9 - 120
Benzo(g,h,i)perylene	0.0572	mg/L	1	0.0800	<0.0000473	72	33.8 - 138

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	0.0265	mg/L	1	0.0800	<0.0000784	33	22.2 - 87.9	2	20
2-Methylnaphthalene	0.0332	mg/L	1	0.0800	<0.0000747	42	23.3 - 86.1	0	20
1-Methylnaphthalene	0.0344	mg/L	1	0.0800	<0.0000575	43	24.6 - 87.8	1	20
Acenaphthylene	0.0392	mg/L	1	0.0800	<0.0000963	49	27.4 - 114	3	20
Acenaphthene	0.0397	mg/L	1	0.0800	<0.0000617	50	27.2 - 111	3	20
Dibenzofuran	0.0375	mg/L	1	0.0800	<0.0000952	47	27.3 - 100	4	20
Fluorene	0.0468	mg/L	1	0.0800	<0.000134	58	31.5 - 122	4	20
Anthracene	0.0504	mg/L	1	0.0800	<0.000441	63	32.4 - 115	2	20
Phenanthrene	0.0487	mg/L	1	0.0800	<0.000435	61	34.2 - 111	1	20
Fluoranthene	0.0552	mg/L	1	0.0800	<0.000476	69	40.1 - 114	1	20
Pyrene	0.0482	mg/L	1	0.0800	<0.000590	60	39.2 - 124	1	20
Benzo(a)anthracene	0.0482	mg/L	1	0.0800	<0.000118	60	39.4 - 114	0	20
Chrysene	0.0508	mg/L	1	0.0800	<0.0000766	64	38.2 - 116	1	20
Benzo(b)fluoranthene	0.0531	mg/L	1	0.0800	<0.000146	66	34.5 - 118	5	20
Benzo(k)fluoranthene	0.0678	mg/L	1	0.0800	<0.000141	85	38.7 - 133	8	20
Benzo(a)pyrene	0.0646	mg/L	1	0.0800	<0.000132	81	38 - 134	2	20
Indeno(1,2,3-cd)pyrene	0.0556	mg/L	1	0.0800	<0.0000702	70	34.6 - 124	4	20
Dibenzo(a,h)anthracene	0.0563	mg/L	1	0.0800	<0.0000534	70	33.9 - 120	5	20
Benzo(g,h,i)perylene	0.0552	mg/L	1	0.0800	<0.0000473	69	33.8 - 138	4	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Nitrobenzene-d5	0.0273	0.0286	mg/L	1	0.0800	34	36	25.9 - 97.5
2-Fluorobiphenyl	0.0319	0.0307	mg/L	1	0.0800	40	38	13.9 - 100
Terphenyl-d14	0.0489	0.0485	mg/L	1	0.0800	61	61	37.7 - 114

Matrix Spike (MS-1) Spiked Sample: 207908

QC Batch: 62945
Prep Batch: 53718

Date Analyzed: 2009-08-27
QC Preparation: 2009-08-27

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	20.3	mg/L	1	25.0	<0.801	81	70 - 130

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
DRO	20.2	mg/L	1	25.0	<0.801	81	70 - 130	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	9.37	9.67	mg/L	1	10	94	97	70 - 130

Matrix Spike (MS-1) Spiked Sample: 208309

QC Batch: 63047
Prep Batch: 53815

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	24.9	mg/L	100	10.0	15.876	90	61 - 130
Toluene	18.0	mg/L	100	10.0	9.1749	88	69.2 - 121.4
Ethylbenzene	10.6	mg/L	100	10.0	2.0528	85	56.3 - 124.9
Xylene	29.1	mg/L	100	30.0	4.8721	81	60.2 - 122.9

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	24.4	mg/L	100	10.0	15.876	85	61 - 130	2	20
Toluene	19.0	mg/L	100	10.0	9.1749	98	69.2 - 121.4	5	20
Ethylbenzene	11.1	mg/L	100	10.0	2.0528	90	56.3 - 124.9	5	20
Xylene	30.4	mg/L	100	30.0	4.8721	85	60.2 - 122.9	4	20

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

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	9.98	9.84	mg/L	100	10	100	98	85.6 - 108.1
4-Bromofluorobenzene (4-BFB)	7.39	7.57	mg/L	100	10	74	76	53.7 - 127.3

Standard (CCV-1)

QC Batch: 62945

Date Analyzed: 2009-08-27

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	207	83	80 - 120	2009-08-27

Standard (CCV-2)

QC Batch: 62945

Date Analyzed: 2009-08-27

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	219	88	80 - 120	2009-08-27

Standard (CCV-3)

QC Batch: 62945

Date Analyzed: 2009-08-27

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	209	84	80 - 120	2009-08-27

Standard (CCV-1)

QC Batch: 63047

Date Analyzed: 2009-08-28

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	0.0891	89	80 - 120	2009-08-28
Toluene		mg/L	0.100	0.0891	89	80 - 120	2009-08-28
Ethylbenzene		mg/L	0.100	0.0891	89	80 - 120	2009-08-28
Xylene		mg/L	0.300	0.252	84	80 - 120	2009-08-28

Standard (CCV-2)

QC Batch: 63047

Date Analyzed: 2009-08-28

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	0.0894	89	80 - 120	2009-08-28
Toluene		mg/L	0.100	0.0888	89	80 - 120	2009-08-28
Ethylbenzene		mg/L	0.100	0.0875	88	80 - 120	2009-08-28
Xylene		mg/L	0.300	0.249	83	80 - 120	2009-08-28

Standard (CCV-3)

QC Batch: 63047

Date Analyzed: 2009-08-28

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	0.0927	93	80 - 120	2009-08-28
Toluene		mg/L	0.100	0.0942	94	80 - 120	2009-08-28
Ethylbenzene		mg/L	0.100	0.0939	94	80 - 120	2009-08-28
Xylene		mg/L	0.300	0.269	90	80 - 120	2009-08-28

Standard (CCV-1)

QC Batch: 63048

Date Analyzed: 2009-08-29

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	0.865	86	80 - 120	2009-08-29

Standard (CCV-2)

QC Batch: 63048

Date Analyzed: 2009-08-29

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	0.962	96	80 - 120	2009-08-29

Standard (CCV-3)

QC Batch: 63048

Date Analyzed: 2009-08-29

Analyzed By: AG

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	0.971	97	80 - 120	2009-08-29

Standard (CCV-1)

QC Batch: 63169

Date Analyzed: 2009-09-02

Analyzed By: MN

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	57.6	96	80 - 120	2009-09-02
2-Methylnaphthalene		mg/L	60.0	64.4	107	80 - 120	2009-09-02
1-Methylnaphthalene		mg/L	60.0	64.4	107	80 - 120	2009-09-02
Acenaphthylene		mg/L	60.0	58.8	98	80 - 120	2009-09-02
Acenaphthene		mg/L	60.0	59.1	98	80 - 120	2009-09-02
Dibenzofuran		mg/L	60.0	61.7	103	80 - 120	2009-09-02
Fluorene		mg/L	60.0	64.2	107	80 - 120	2009-09-02
Anthracene		mg/L	60.0	59.4	99	80 - 120	2009-09-02
Phenanthrene		mg/L	60.0	57.2	95	80 - 120	2009-09-02
Fluoranthene		mg/L	60.0	57.0	95	80 - 120	2009-09-02
Pyrene		mg/L	60.0	56.8	95	80 - 120	2009-09-02
Benzo(a)anthracene		mg/L	60.0	55.5	92	80 - 120	2009-09-02
Chrysene		mg/L	60.0	56.0	93	80 - 120	2009-09-02
Benzo(b)fluoranthene		mg/L	60.0	53.8	90	80 - 120	2009-09-02
Benzo(k)fluoranthene		mg/L	60.0	61.5	102	80 - 120	2009-09-02
Benzo(a)pyrene		mg/L	60.0	69.0	115	80 - 120	2009-09-02
Indeno(1,2,3-cd)pyrene		mg/L	60.0	57.6	96	80 - 120	2009-09-02
Dibenzo(a,h)anthracene		mg/L	60.0	58.3	97	80 - 120	2009-09-02
Benzo(g,h,i)perylene		mg/L	60.0	56.0	93	80 - 120	2009-09-02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5		60.9	mg/L	1	60.0	102	80 - 120
2-Fluorobiphenyl		56.4	mg/L	1	60.0	94	80 - 120
Terphenyl-d14		53.7	mg/L	1	60.0	90	80 - 120

Standard (CCV-2)

QC Batch: 63169

Date Analyzed: 2009-09-02

Analyzed By: MN

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	57.7	96	80 - 120	2009-09-02

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
2-Methylnaphthalene		mg/L	60.0	64.9	108	80 - 120	2009-09-02
1-Methylnaphthalene		mg/L	60.0	64.8	108	80 - 120	2009-09-02
Acenaphthylene		mg/L	60.0	58.5	98	80 - 120	2009-09-02
Acenaphthene		mg/L	60.0	58.8	98	80 - 120	2009-09-02
Dibenzofuran		mg/L	60.0	61.8	103	80 - 120	2009-09-02
Fluorene		mg/L	60.0	63.6	106	80 - 120	2009-09-02
Anthracene		mg/L	60.0	59.4	99	80 - 120	2009-09-02
Phenanthrene		mg/L	60.0	57.2	95	80 - 120	2009-09-02
Fluoranthene		mg/L	60.0	58.0	97	80 - 120	2009-09-02
Pyrene		mg/L	60.0	57.0	95	80 - 120	2009-09-02
Benzo(a)anthracene		mg/L	60.0	55.8	93	80 - 120	2009-09-02
Chrysene		mg/L	60.0	56.4	94	80 - 120	2009-09-02
Benzo(b)fluoranthene		mg/L	60.0	63.4	106	80 - 120	2009-09-02
Benzo(k)fluoranthene		mg/L	60.0	59.4	99	80 - 120	2009-09-02
Benzo(a)pyrene		mg/L	60.0	67.9	113	80 - 120	2009-09-02
Indeno(1,2,3-cd)pyrene		mg/L	60.0	57.9	96	80 - 120	2009-09-02
Dibenzo(a,h)anthracene		mg/L	60.0	59.4	99	80 - 120	2009-09-02
Benzo(g,h,i)perylene		mg/L	60.0	56.7	94	80 - 120	2009-09-02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5		60.9	mg/L	1	60.0	102	80 - 120
2-Fluorobiphenyl		56.4	mg/L	1	60.0	94	80 - 120
Terphenyl-d14		54.4	mg/L	1	60.0	91	80 - 120



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Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Shanna Smith
Talon LPE-Midland
2901 State Highway 349
Midland, TX, 79706

Report Date: September 2, 2009

Work Order: 9082735



Project Location: Lovington, NM
Project Name: C.S. Cayler
Project Number: 700376.015.01
SRS #: 2002-10250

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
208307	MW-3	water	2009-08-26	12:20	2009-08-27
208308	MW-2	water	2009-08-26	12:40	2009-08-27
208309	MW-5	water	2009-08-26	11:10	2009-08-27
208310	MW-12	water	2009-08-26	13:00	2009-08-27

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 19 pages and shall not be reproduced except in its entirety, without written approval of





TraceAnalysis, Inc.

Michael Abel

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

Standard Flags

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



Case Narrative

Samples for project C.S. Cayler were received by TraceAnalysis, Inc. on 2009-08-27 and assigned to work order 9082735. Samples for work order 9082735 were received intact without headspace and at a temperature of 4.4 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	53815	2009-08-28 at 10:00	63047	2009-08-28 at 23:54
PAH	S 8270C	53918	2009-08-27 at 15:00	63169	2009-09-02 at 11:32
TPH DRO	Mod. 8015B	53766	2009-08-28 at 11:05	63005	2009-08-28 at 11:05
TPH GRO	S 8015B	53815	2009-08-28 at 10:00	63048	2009-08-29 at 00:21

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9082735 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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



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Work Order: 9082735
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Analytical Report

Sample: 208307 - MW-3

Laboratory: Midland

Analysis: BTEX

QC Batch: 63047

Prep Batch: 53815

Analytical Method: S 8021B

Date Analyzed: 2009-08-28

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		26.7	mg/L	100	0.00100
Toluene		26.4	mg/L	100	0.00100
Ethylbenzene		7.80	mg/L	100	0.00100
Xylene		18.0	mg/L	100	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.88	mg/L	100	10.0	99	87 - 105.2
4-Bromofluorobenzene (4-BFB)		8.23	mg/L	100	10.0	82	49.8 - 130.8



Sample: 208307 - MW-3

Laboratory: Lubbock

Analysis: PAH

QC Batch: 63169

Prep Batch: 53918

Analytical Method: S 8270C

Date Analyzed: 2009-09-02

Sample Preparation: 2009-08-27

Prep Method: S 3510C

Analyzed By: MN

Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	¹	14.1	mg/L	22.936	0.000200
2-Methylnaphthalene	²	31.7	mg/L	22.936	0.000200
1-Methylnaphthalene	³	27.1	mg/L	22.936	0.000200
Acenaphthylene		<0.00459	mg/L	22.936	0.000200
Acenaphthene		<0.00459	mg/L	22.936	0.000200
Dibenzofuran		1.51	mg/L	22.936	0.000200
Fluorene		2.04	mg/L	22.936	0.000200
Anthracene		<0.00459	mg/L	22.936	0.000200
Phenanthrene	⁴	3.01	mg/L	22.936	0.000200
Fluoranthene		<0.00459	mg/L	22.936	0.000200
Pyrene		0.184	mg/L	22.936	0.000200
Benzo(a)anthracene		<0.00459	mg/L	22.936	0.000200

continued ...

¹Estimated concentration value greater than standard range.

²Estimated concentration value greater than standard range.

³Estimated concentration value greater than standard range.

⁴Estimated concentration value greater than standard range.



sample 208307 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Chrysene		0.338	mg/L	22.936	0.000200
Benzo(b)fluoranthene		<0.00459	mg/L	22.936	0.000200
Benzo(k)fluoranthene		<0.00459	mg/L	22.936	0.000200
Benzo(a)pyrene		<0.00459	mg/L	22.936	0.000200
Indeno(1,2,3-cd)pyrene		<0.00459	mg/L	22.936	0.000200
Dibenzo(a,h)anthracene		<0.00459	mg/L	22.936	0.000200
Benzo(g,h,i)perylene		<0.00459	mg/L	22.936	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	⁵	0.345	mg/L	22.936	0.0800	431	25.9 - 97.5
2-Fluorobiphenyl		0.0706	mg/L	22.936	0.0800	88	13.9 - 100
Terphenyl-d14		0.0843	mg/L	22.936	0.0800	105	37.7 - 114

Sample: 208307 - MW-3

Laboratory: Midland	Analytical Method: Mod. 8015B	Prep Method: N/A
Analysis: TPH DRO	Date Analyzed: 2009-08-28	Analyzed By: kg
QC Batch: 63005	Sample Preparation: 2009-08-28	Prepared By: kg
Prep Batch: 53766		

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		735	mg/L	5	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁶	40.4	mg/L	5	10.0	404	70 - 130

Sample: 208307 - MW-3

Laboratory: Midland	Analytical Method: S 8015B	Prep Method: S 5030B
Analysis: TPH GRO	Date Analyzed: 2009-08-29	Analyzed By: AG
QC Batch: 63048	Sample Preparation: 2009-08-28	Prepared By: AG
Prep Batch: 53815		

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		338	mg/L	100	0.100

⁵8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

⁶High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.52	mg/L	100	10.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)		10.9	mg/L	100	10.0	109	70 - 130

Sample: 208308 - MW-2

Laboratory: Midland

Analysis: BTEX

QC Batch: 63047

Prep Batch: 53815

Analytical Method: S 8021B

Date Analyzed: 2009-08-28

Sample Preparation: 2009-08-28

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		29.2	mg/L	200	0.00100
Toluene		15.0	mg/L	200	0.00100
Ethylbenzene		3.49	mg/L	200	0.00100
Xylene		9.26	mg/L	200	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		19.8	mg/L	200	20.0	99	87 - 105.2
4-Bromofluorobenzene (4-BFB)		15.0	mg/L	200	20.0	75	49.8 - 130.8

Sample: 208308 - MW-2

Laboratory: Lubbock

Analysis: PAH

QC Batch: 63169

Prep Batch: 53918

Analytical Method: S 8270C

Date Analyzed: 2009-09-02

Sample Preparation: 2009-08-27

Prep Method: S 3510C

Analyzed By: MN

Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	⁷	5.77	mg/L	9.217	0.000200
2-Methylnaphthalene	⁸	13.3	mg/L	9.217	0.000200
1-Methylnaphthalene	⁹	11.1	mg/L	9.217	0.000200
Acenaphthylene		<0.00184	mg/L	9.217	0.000200
Acenaphthene		<0.00184	mg/L	9.217	0.000200
Dibenzofuran		0.882	mg/L	9.217	0.000200
Fluorene	¹⁰	1.24	mg/L	9.217	0.000200
Anthracene		<0.00184	mg/L	9.217	0.000200

continued ...

⁷Estimated concentration value greater than standard range.

⁸Estimated concentration value greater than standard range.

⁹Estimated concentration value greater than standard range.

¹⁰Estimated concentration value greater than standard range.

sample 208308 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Phenanthrene	¹¹	1.27	mg/L	9.217	0.000200
Fluoranthene		<0.00184	mg/L	9.217	0.000200
Pyrene		0.0743	mg/L	9.217	0.000200
Benzo(a)anthracene		<0.00184	mg/L	9.217	0.000200
Chrysene		0.143	mg/L	9.217	0.000200
Benzo(b)fluoranthene		<0.00184	mg/L	9.217	0.000200
Benzo(k)fluoranthene		<0.00184	mg/L	9.217	0.000200
Benzo(a)pyrene		<0.00184	mg/L	9.217	0.000200
Indeno(1,2,3-cd)pyrene		<0.00184	mg/L	9.217	0.000200
Dibenzo(a,h)anthracene		<0.00184	mg/L	9.217	0.000200
Benzo(g,h,i)perylene		<0.00184	mg/L	9.217	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	¹²	0.191	mg/L	9.217	0.0800	239	25.9 - 97.5
2-Fluorobiphenyl		0.0461	mg/L	9.217	0.0800	58	13.9 - 100
Terphenyl-d14		0.0426	mg/L	9.217	0.0800	53	37.7 - 114

Sample: 208308 - MW-2

Laboratory: Midland	Analytical Method: Mod. 8015B	Prep Method: N/A
Analysis: TPH DRO	Date Analyzed: 2009-08-28	Analyzed By: kg
QC Batch: 63005	Sample Preparation: 2009-08-28	Prepared By: kg
Prep Batch: 53766		

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		123	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹³	14.2	mg/L	1	10.0	142	70 - 130

Sample: 208308 - MW-2

Laboratory: Midland	Analytical Method: S 8015B	Prep Method: S 5030B
Analysis: TPH GRO	Date Analyzed: 2009-08-29	Analyzed By: AG
QC Batch: 63048	Sample Preparation: 2009-08-28	Prepared By: AG
Prep Batch: 53815		

¹¹Estimated concentration value greater than standard range.

¹²8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

¹³High surrogate recovery due to peak interference.

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Parameter	Flag	RL Result	Units	Dilution	RL
GRO		163	mg/L	200	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		18.7	mg/L	200	20.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)		17.7	mg/L	200	20.0	88	70 - 130

Sample: 208309 - MW-5

Laboratory: Midland
Analysis: BTEX
QC Batch: 63047
Prep Batch: 53815

Analytical Method: S 8021B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		15.9	mg/L	100	0.00100
Toluene		9.17	mg/L	100	0.00100
Ethylbenzene		2.05	mg/L	100	0.00100
Xylene		4.87	mg/L	100	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.91	mg/L	100	10.0	99	87 - 105.2
4-Bromofluorobenzene (4-BFB)		7.26	mg/L	100	10.0	73	49.8 - 130.8

Sample: 208309 - MW-5

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	¹⁴	2.30	mg/L	9.217	0.000200
2-Methylnaphthalene	¹⁵	5.28	mg/L	9.217	0.000200
1-Methylnaphthalene	¹⁶	4.38	mg/L	9.217	0.000200
Acenaphthylene		<0.00184	mg/L	9.217	0.000200
Acenaphthene		<0.00184	mg/L	9.217	0.000200

continued ...

¹⁴Estimated concentration value greater than standard range.

¹⁵Estimated concentration value greater than standard range.

¹⁶Estimated concentration value greater than standard range.

sample 208309 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Dibenzofuran		0.318	mg/L	9.217	0.000200
Fluorene		0.420	mg/L	9.217	0.000200
Anthracene		<0.00184	mg/L	9.217	0.000200
Phenanthrene		0.576	mg/L	9.217	0.000200
Fluoranthene		<0.00184	mg/L	9.217	0.000200
Pyrene		0.0406	mg/L	9.217	0.000200
Benzo(a)anthracene		<0.00184	mg/L	9.217	0.000200
Chrysene		0.0703	mg/L	9.217	0.000200
Benzo(b)fluoranthene		<0.00184	mg/L	9.217	0.000200
Benzo(k)fluoranthene		<0.00184	mg/L	9.217	0.000200
Benzo(a)pyrene		<0.00184	mg/L	9.217	0.000200
Indeno(1,2,3-cd)pyrene		<0.00184	mg/L	9.217	0.000200
Dibenzo(a,h)anthracene		<0.00184	mg/L	9.217	0.000200
Benzo(g,h,i)perylene		<0.00184	mg/L	9.217	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0765	mg/L	9.217	0.0800	96	25.9 - 97.5
2-Fluorobiphenyl		0.0520	mg/L	9.217	0.0800	65	13.9 - 100
Terphenyl-d14		0.0552	mg/L	9.217	0.0800	69	37.7 - 114

Sample: 208309 - MW-5

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63005
Prep Batch: 53766

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		162	mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁷	18.0	mg/L	1	10.0	180	70 - 130

Sample: 208309 - MW-5

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63048
Prep Batch: 53815

Analytical Method: S 8015B
Date Analyzed: 2009-08-29
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

¹⁷High surrogate recovery due to peak interference.

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Parameter	Flag	RL Result	Units	Dilution	RL
GRO		81.6	mg/L	100	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.44	mg/L	100	10.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)		8.33	mg/L	100	10.0	83	70 - 130

Sample: 208310 - MW-12

Laboratory: Midland
Analysis: BTEX
QC Batch: 63047
Prep Batch: 53815

Analytical Method: S 8021B
Date Analyzed: 2009-08-28
Sample Preparation: 2009-08-28

Prep Method: S 5030B
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		43.0	mg/L	200	0.00100
Toluene		48.4	mg/L	200	0.00100
Ethylbenzene		17.2	mg/L	200	0.00100
Xylene		39.8	mg/L	200	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		19.6	mg/L	200	20.0	98	87 - 105.2
4-Bromofluorobenzene (4-BFB)		16.6	mg/L	200	20.0	83	49.8 - 130.8

Sample: 208310 - MW-12

Laboratory: Lubbock
Analysis: PAH
QC Batch: 63169
Prep Batch: 53918

Analytical Method: S 8270C
Date Analyzed: 2009-09-02
Sample Preparation: 2009-08-27

Prep Method: S 3510C
Analyzed By: MN
Prepared By: MN

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	¹⁸	21.6	mg/L	22.936	0.000200
2-Methylnaphthalene	¹⁹	52.8	mg/L	22.936	0.000200
1-Methylnaphthalene	²⁰	46.1	mg/L	22.936	0.000200
Acenaphthylene		<0.00459	mg/L	22.936	0.000200
Acenaphthene		<0.00459	mg/L	22.936	0.000200

continued ...

¹⁸Estimated concentration value greater than standard range.

¹⁹Estimated concentration value greater than standard range.

²⁰Estimated concentration value greater than standard range.

sample 208310 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Dibenzofuran	21	2.88	mg/L	22.936	0.000200
Fluorene	22	3.86	mg/L	22.936	0.000200
Anthracene		<0.00459	mg/L	22.936	0.000200
Phenanthrene	23	4.09	mg/L	22.936	0.000200
Fluoranthene		<0.00459	mg/L	22.936	0.000200
Pyrene		<0.00459	mg/L	22.936	0.000200
Benzo(a)anthracene		<0.00459	mg/L	22.936	0.000200
Chrysene		0.410	mg/L	22.936	0.000200
Benzo(b)fluoranthene		<0.00459	mg/L	22.936	0.000200
Benzo(k)fluoranthene		<0.00459	mg/L	22.936	0.000200
Benzo(a)pyrene		<0.00459	mg/L	22.936	0.000200
Indeno(1,2,3-cd)pyrene		<0.00459	mg/L	22.936	0.000200
Dibenzo(a,h)anthracene		<0.00459	mg/L	22.936	0.000200
Benzo(g,h,i)perylene		<0.00459	mg/L	22.936	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	24	2.89	mg/L	22.936	0.0800	3612	25.9 - 97.5
2-Fluorobiphenyl		0.0227	mg/L	22.936	0.0800	28	13.9 - 100
Terphenyl-d14		0.0437	mg/L	22.936	0.0800	55	37.7 - 114

Sample: 208310 - MW-12

Laboratory: Midland	Analytical Method: Mod. 8015B	Prep Method: N/A
Analysis: TPH DRO	Date Analyzed: 2009-08-28	Analyzed By: kg
QC Batch: 63005	Sample Preparation: 2009-08-28	Prepared By: kg
Prep Batch: 53766		

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		502	mg/L	5	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	25	25.7	mg/L	5	10.0	257	70 - 130

Sample: 208310 - MW-12

Laboratory: Midland	Analytical Method: S 8015B	Prep Method: S 5030B
Analysis: TPH GRO	Date Analyzed: 2009-08-29	Analyzed By: AG
QC Batch: 63048	Sample Preparation: 2009-08-28	Prepared By: AG
Prep Batch: 53815		

²¹Estimated concentration value greater than standard range.

²²Estimated concentration value greater than standard range.

²³Estimated concentration value greater than standard range.

²⁴8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

²⁵High surrogate recovery due to peak interference.

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Parameter	Flag	RL Result	Units	Dilution	RL
GRO		576	mg/L	200	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		19.0	mg/L	200	20.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)		23.3	mg/L	200	20.0	116	70 - 130

Method Blank (1) QC Batch: 63005

QC Batch: 63005
Prep Batch: 53766

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: kg
Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<0.801	mg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		11.6	mg/L	1	10.0	116	70 - 160

Method Blank (1) QC Batch: 63047

QC Batch: 63047
Prep Batch: 53815

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000300	mg/L	0.001
Toluene		<0.000200	mg/L	0.001
Ethylbenzene		<0.000500	mg/L	0.001
Xylene		<0.000400	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0979	mg/L	1	0.100	98	85.4 - 105.2
4-Bromofluorobenzene (4-BFB)		0.0698	mg/L	1	0.100	70	52.8 - 124.2

Method Blank (1) QC Batch: 63048

QC Batch: 63048
Prep Batch: 53815

Date Analyzed: 2009-08-29
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

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Parameter	Flag	MDL Result	Units	RL
GRO		<0.0351	mg/L	0.1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0946	mg/L	1	0.100	95	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0785	mg/L	1	0.100	78	70 - 130

Method Blank (1) QC Batch: 63169

QC Batch: 63169
Prep Batch: 53918

Date Analyzed: 2009-09-02
QC Preparation: 2009-08-27

Analyzed By: MN
Prepared By: MN

Parameter	Flag	MDL Result	Units	RL
Naphthalene		<0.000784	mg/L	0.0002
2-Methylnaphthalene		<0.000747	mg/L	0.0002
1-Methylnaphthalene		<0.000575	mg/L	0.0002
Acenaphthylene		<0.000963	mg/L	0.0002
Acenaphthene		<0.000617	mg/L	0.0002
Dibenzofuran		<0.000952	mg/L	0.0002
Fluorene		<0.000134	mg/L	0.0002
Anthracene		<0.000441	mg/L	0.0002
Phenanthrene		<0.000435	mg/L	0.0002
Fluoranthene		<0.000476	mg/L	0.0002
Pyrene		<0.000590	mg/L	0.0002
Benzo(a)anthracene		<0.000118	mg/L	0.0002
Chrysene		<0.000766	mg/L	0.0002
Benzo(b)fluoranthene		<0.000146	mg/L	0.0002
Benzo(k)fluoranthene		<0.000141	mg/L	0.0002
Benzo(a)pyrene		<0.000132	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		<0.000702	mg/L	0.0002
Dibenzo(a,h)anthracene		<0.000534	mg/L	0.0002
Benzo(g,h,i)perylene		<0.000473	mg/L	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0225	mg/L	1	0.0800	28	25.9 - 97.5
2-Fluorobiphenyl		0.0234	mg/L	1	0.0800	29	13.9 - 100
Terphenyl-d14		0.0392	mg/L	1	0.0800	49	37.7 - 114



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Laboratory Control Spike (LCS-1)

QC Batch: 63005
Prep Batch: 53766

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	20.3	mg/L	1	25.0	<0.801	81	70 - 130

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
DRO	21.5	mg/L	1	25.0	<0.801	86	70 - 130	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	11.0	9.71	mg/L	1	10.0	110	97	70 - 130

Laboratory Control Spike (LCS-1)



QC Batch: 63047
Prep Batch: 53815

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0859	mg/L	1	0.100	<0.00110	86	74.3 - 123.4
Toluene	0.0856	mg/L	1	0.100	<0.00100	86	70.1 - 126.2
Ethylbenzene	0.0848	mg/L	1	0.100	<0.00100	85	68.6 - 124.7
Xylene	0.244	mg/L	1	0.300	<0.00290	81	64.8 - 127.2

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	0.0883	mg/L	1	0.100	<0.00110	88	74.3 - 123.4	3	20
Toluene	0.0884	mg/L	1	0.100	<0.00100	88	70.1 - 126.2	3	20
Ethylbenzene	0.0885	mg/L	1	0.100	<0.00100	88	68.6 - 124.7	4	20
Xylene	0.255	mg/L	1	0.300	<0.00290	85	64.8 - 127.2	4	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)	0.0985	0.0983	mg/L	1	0.100	98	98	84.8 - 110.8
4-Bromofluorobenzene (4-BFB)	0.0723	0.0694	mg/L	1	0.100	72	69	51.7 - 134.7



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Laboratory Control Spike (LCS-1)

QC Batch: 63048
Prep Batch: 53815

Date Analyzed: 2009-08-29
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	0.799	mg/L	1	1.00	<0.0351	80	70 - 130

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
GRO	0.727	mg/L	1	1.00	<0.0351	73	70 - 130	9	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)	0.0983	0.0969	mg/L	1	0.100	98	97	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0818	0.0786	mg/L	1	0.100	82	79	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 63169
Prep Batch: 53918

Date Analyzed: 2009-09-02
QC Preparation: 2009-08-27

Analyzed By: MN
Prepared By: MN

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Naphthalene	0.0271	mg/L	1	0.0800	<0.0000784	34	22.2 - 87.9
2-Methylnaphthalene	0.0333	mg/L	1	0.0800	<0.0000747	42	23.3 - 86.1
1-Methylnaphthalene	0.0348	mg/L	1	0.0800	<0.0000575	44	24.6 - 87.8
Acenaphthylene	0.0403	mg/L	1	0.0800	<0.0000963	50	27.4 - 114
Acenaphthene	0.0409	mg/L	1	0.0800	<0.0000617	51	27.2 - 111
Dibenzofuran	0.0389	mg/L	1	0.0800	<0.0000952	49	27.3 - 100
Fluorene	0.0488	mg/L	1	0.0800	<0.000134	61	31.5 - 122
Anthracene	0.0513	mg/L	1	0.0800	<0.000441	64	32.4 - 115
Phenanthrene	0.0493	mg/L	1	0.0800	<0.000435	62	34.2 - 111
Fluoranthene	0.0558	mg/L	1	0.0800	<0.000476	70	40.1 - 114
Pyrene	0.0485	mg/L	1	0.0800	<0.000590	61	39.2 - 124
Benzo(a)anthracene	0.0481	mg/L	1	0.0800	<0.000118	60	39.4 - 114
Chrysene	0.0514	mg/L	1	0.0800	<0.0000766	64	38.2 - 116
Benzo(b)fluoranthene	0.0506	mg/L	1	0.0800	<0.000146	63	34.5 - 118
Benzo(k)fluoranthene	0.0629	mg/L	1	0.0800	<0.000141	79	38.7 - 133
Benzo(a)pyrene	0.0659	mg/L	1	0.0800	<0.000132	82	38 - 134
Indeno(1,2,3-cd)pyrene	0.0579	mg/L	1	0.0800	<0.0000702	72	34.6 - 124
Dibenzo(a,h)anthracene	0.0590	mg/L	1	0.0800	<0.0000534	74	33.9 - 120

continued ...

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzo(g,h,i)perylene	0.0572	mg/L	1	0.0800	<0.0000473	72	33.8 - 138

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	0.0265	mg/L	1	0.0800	<0.0000784	33	22.2 - 87.9	2	20
2-Methylnaphthalene	0.0332	mg/L	1	0.0800	<0.0000747	42	23.3 - 86.1	0	20
1-Methylnaphthalene	0.0344	mg/L	1	0.0800	<0.0000575	43	24.6 - 87.8	1	20
Acenaphthylene	0.0392	mg/L	1	0.0800	<0.0000963	49	27.4 - 114	3	20
Acenaphthene	0.0397	mg/L	1	0.0800	<0.0000617	50	27.2 - 111	3	20
Dibenzofuran	0.0375	mg/L	1	0.0800	<0.0000952	47	27.3 - 100	4	20
Fluorene	0.0468	mg/L	1	0.0800	<0.000134	58	31.5 - 122	4	20
Anthracene	0.0504	mg/L	1	0.0800	<0.000441	63	32.4 - 115	2	20
Phenanthrene	0.0487	mg/L	1	0.0800	<0.000435	61	34.2 - 111	1	20
Fluoranthene	0.0552	mg/L	1	0.0800	<0.000476	69	40.1 - 114	1	20
Pyrene	0.0482	mg/L	1	0.0800	<0.000590	60	39.2 - 124	1	20
Benzo(a)anthracene	0.0482	mg/L	1	0.0800	<0.000118	60	39.4 - 114	0	20
Chrysene	0.0508	mg/L	1	0.0800	<0.0000766	64	38.2 - 116	1	20
Benzo(b)fluoranthene	0.0531	mg/L	1	0.0800	<0.000146	66	34.5 - 118	5	20
Benzo(k)fluoranthene	0.0678	mg/L	1	0.0800	<0.000141	85	38.7 - 133	8	20
Benzo(a)pyrene	0.0646	mg/L	1	0.0800	<0.000132	81	38 - 134	2	20
Indeno(1,2,3-cd)pyrene	0.0556	mg/L	1	0.0800	<0.0000702	70	34.6 - 124	4	20
Dibenzo(a,h)anthracene	0.0563	mg/L	1	0.0800	<0.0000534	70	33.9 - 120	5	20
Benzo(g,h,i)perylene	0.0552	mg/L	1	0.0800	<0.0000473	69	33.8 - 138	4	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	0.0273	0.0286	mg/L	1	0.0800	34	36	25.9 - 97.5
2-Fluorobiphenyl	0.0319	0.0307	mg/L	1	0.0800	40	38	13.9 - 100
Terphenyl-d14	0.0489	0.0485	mg/L	1	0.0800	61	61	37.7 - 114

Matrix Spike (MS-1) Spiked Sample: 208309

QC Batch: 63005
Prep Batch: 53766

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	²⁶ 195	mg/L	1	25.0	162	132	70 - 130

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

²⁶Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

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Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	186	mg/L	1	25.0	162	96	70 - 130	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane ^{27 28}	17.5	15.0	mg/L	1	10	175	150	70 - 130

Matrix Spike (MS-1) Spiked Sample: 208309

QC Batch: 63047
Prep Batch: 53815

Date Analyzed: 2009-08-28
QC Preparation: 2009-08-28

Analyzed By: AG
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	24.9	mg/L	100	10.0	15.876	90	61 - 130
Toluene	18.0	mg/L	100	10.0	9.1749	88	69.2 - 121.4
Ethylbenzene	10.6	mg/L	100	10.0	2.0528	85	56.3 - 124.9
Xylene	29.1	mg/L	100	30.0	4.8721	81	60.2 - 122.9

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	24.4	mg/L	100	10.0	15.876	85	61 - 130	2	20
Toluene	19.0	mg/L	100	10.0	9.1749	98	69.2 - 121.4	5	20
Ethylbenzene	11.1	mg/L	100	10.0	2.0528	90	56.3 - 124.9	5	20
Xylene	30.4	mg/L	100	30.0	4.8721	85	60.2 - 122.9	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	9.98	9.84	mg/L	100	10	100	98	85.6 - 108.1
4-Bromofluorobenzene (4-BFB)	7.39	7.57	mg/L	100	10	74	76	53.7 - 127.3

Standard (CCV-1)

QC Batch: 63005

Date Analyzed: 2009-08-28

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	212	85	80 - 120	2009-08-28

²⁷High surrogate recovery due to peak interference.

²⁸High surrogate recovery due to peak interference.



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Standard (CCV-2)

QC Batch: 63005

Date Analyzed: 2009-08-28

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	209	84	80 - 120	2009-08-28

Standard (CCV-2)

QC Batch: 63047

Date Analyzed: 2009-08-28

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	0.0894	89	80 - 120	2009-08-28
Toluene		mg/L	0.100	0.0888	89	80 - 120	2009-08-28
Ethylbenzene		mg/L	0.100	0.0875	88	80 - 120	2009-08-28
Xylene		mg/L	0.300	0.249	83	80 - 120	2009-08-28



Standard (CCV-3)

QC Batch: 63047

Date Analyzed: 2009-08-28

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	0.0927	93	80 - 120	2009-08-28
Toluene		mg/L	0.100	0.0942	94	80 - 120	2009-08-28
Ethylbenzene		mg/L	0.100	0.0939	94	80 - 120	2009-08-28
Xylene		mg/L	0.300	0.269	90	80 - 120	2009-08-28

Standard (CCV-2)

QC Batch: 63048

Date Analyzed: 2009-08-29

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	0.962	96	80 - 120	2009-08-29

Standard (CCV-3)

QC Batch: 63048

Date Analyzed: 2009-08-29

Analyzed By: AG



Report Date: September 2, 2009
700376.015.01

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	0.971	97	80 - 120	2009-08-29

Standard (CCV-2)

QC Batch: 63169

Date Analyzed: 2009-09-02

Analyzed By: MN

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	57.7	96	80 - 120	2009-09-02
2-Methylnaphthalene		mg/L	60.0	64.9	108	80 - 120	2009-09-02
1-Methylnaphthalene		mg/L	60.0	64.8	108	80 - 120	2009-09-02
Acenaphthylene		mg/L	60.0	58.5	98	80 - 120	2009-09-02
Acenaphthene		mg/L	60.0	58.8	98	80 - 120	2009-09-02
Dibenzofuran		mg/L	60.0	61.8	103	80 - 120	2009-09-02
Fluorene		mg/L	60.0	63.6	106	80 - 120	2009-09-02
Anthracene		mg/L	60.0	59.4	99	80 - 120	2009-09-02
Phenanthrene		mg/L	60.0	57.2	95	80 - 120	2009-09-02
Fluoranthene		mg/L	60.0	58.0	97	80 - 120	2009-09-02
Pyrene		mg/L	60.0	57.0	95	80 - 120	2009-09-02
Benzo(a)anthracene		mg/L	60.0	55.8	93	80 - 120	2009-09-02
Chrysene		mg/L	60.0	56.4	94	80 - 120	2009-09-02
Benzo(b)fluoranthene		mg/L	60.0	63.4	106	80 - 120	2009-09-02
Benzo(k)fluoranthene		mg/L	60.0	59.4	99	80 - 120	2009-09-02
Benzo(a)pyrene		mg/L	60.0	67.9	113	80 - 120	2009-09-02
Indeno(1,2,3-cd)pyrene		mg/L	60.0	57.9	96	80 - 120	2009-09-02
Dibenzo(a,h)anthracene		mg/L	60.0	59.4	99	80 - 120	2009-09-02
Benzo(g,h,i)perylene		mg/L	60.0	56.7	94	80 - 120	2009-09-02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5		60.9	mg/L	1	60.0	102	80 - 120
2-Fluorobiphenyl		56.4	mg/L	1	60.0	94	80 - 120
Terphenyl-d14		54.4	mg/L	1	60.0	91	80 - 120

TraceAnalysis, Inc.

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Company Name:	TALON LPE	
Address:	(Street, City, Zip) KAYLA-Hwy Midland TX	
Contact Person:	SHARNA SMITH	
Invoice to:	JASON HENRY	
(If different from above)	P/Hins	
Project #:	20036.015.01	
Project Location (including state):	Livingston NM	
Project Name:	SRJ# 2002-10250	
Sampler Signature:	<i>[Signature]</i>	

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX			PRESERVATIVE METHOD						SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE
208307	MW-3	7		X				X			X		8/24/09	1220
308	MW-2	↓		↓				↓			↓		↓	1240
309	MW-5	↓		↓				↓			↓		↓	1110
310	MW-12	↓		↓				↓			↓		↓	1300

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST	OBS	COR
<i>[Signature]</i>	TALON LPE	8/27/09	800	<i>[Signature]</i>	Trace	8/27/09	800			
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST	OBS	COR
<i>[Signature]</i>	Trace	8/27/09	1733	<i>[Signature]</i>	Trace	8/27/09	15:33		4.4	
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST	OBS	COR
<i>[Signature]</i>	Trace	8/28/09	1700	<i>[Signature]</i>	Trace	8/28/09	16:15		4.4	

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

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Carrier #

LS 75564345

ANALYSIS REQUEST (Circle or Specify Method No.)

☐	MTBE	8021 / 602 / 8260 / 624
☐	BTEX	8021 / 602 / 8260 / 624
☐	TPH	418.1 / TX1005 / TX1005 Ex(C35)
☐	TPH	8015 GRO / DRO / TVHC
☐	PAH	8270 / 625
☐	Total Metals	Ag As Ba Cd Cr Pb Se Hg 6010/200.7
☐	TCLP Metals	Ag As Ba Cd Cr Pb Se Hg
☐	TCLP Semi Volatiles	
☐	TCLP Pesticides	
☐	RCI	
☐	GC/MS Vol.	8260 / 624
☐	GC/MS Semi. Vol.	8270 / 625
☐	PCBs	8082 / 608
☐	Pesticides	8081 / 608
☐	BOD, TSS, pH	
☐	Moisture Content	
☐	Turn Around Time	If different from standard

REMARKS:

BTEX, TPH-Midland
PAH-Lubbock

LAB USE ONLY

Intac	☒	N
Headspace	☐	Y
Log-In-Review	☒	

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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Steve Killingsworth
Talon LPE-Midland
2901 State Highway 349
Midland, TX, 79706

Report Date: December 18, 2009

Work Order: 9121127



Project Location: Lovington, NM
Project Name: C.S. Cayler
Project Number: 700376.015.01
SRS #: 2002-10250

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
217020	MW-6	water	2009-12-11	10:40	2009-12-11
217021	MW-9	water	2009-12-11	09:54	2009-12-11
217022	MW-10	water	2009-12-11	10:01	2009-12-11
217023	MW-11	water	2009-12-11	10:10	2009-12-11
217024	MW-13	water	2009-12-11	10:26	2009-12-11
217025	MW-14	water	2009-12-11	11:20	2009-12-11
217026	MW-15	water	2009-12-11	11:28	2009-12-11
217027	MW-16	water	2009-12-11	11:40	2009-12-11
217028	MW-17	water	2009-12-11	12:00	2009-12-11
217029	MW-18	water	2009-12-11	10:45	2009-12-11



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.

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
Dr. Michael Abel, Project Manager

Standard Flags

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

Case Narrative

Samples for project C.S. Cayler were received by TraceAnalysis, Inc. on 2009-12-11 and assigned to work order 9121127. Samples for work order 9121127 were received intact without headspace and at a temperature of 4.0 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	56504	2009-12-17 at 10:59	66094	2009-12-17 at 14:19

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9121127 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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



Report Date: December 18, 2009
700376.015.01

Work Order: 9121127
C.S. Cayler

Page Number: 4 of 10
Lovington, NM

Analytical Report

Sample: 217020 - MW-6

Laboratory: Midland
Analysis: BTEX
QC Batch: 66094
Prep Batch: 56504

Analytical Method: S 8021B
Date Analyzed: 2009-12-17
Sample Preparation: 2009-12-17

Prep Method: S 5030B
Analyzed By: tn
Prepared By: tn

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.410	mg/L	1	0.00100
Toluene		0.0395	mg/L	1	0.00100
Ethylbenzene		0.00200	mg/L	1	0.00100
Xylene		0.0271	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.115	mg/L	1	0.100	115	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0993	mg/L	1	0.100	99	57.1 - 118.8



Sample: 217021 - MW-9

Laboratory: Midland
Analysis: BTEX
QC Batch: 66094
Prep Batch: 56504

Analytical Method: S 8021B
Date Analyzed: 2009-12-17
Sample Preparation: 2009-12-17

Prep Method: S 5030B
Analyzed By: tn
Prepared By: tn

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00280	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)		0.115	mg/L	1	0.100	115	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0965	mg/L	1	0.100	96	57.1 - 118.8

Sample: 217022 - MW-10

Laboratory: Midland
Analysis: BTEX
QC Batch: 66094
Prep Batch: 56504

Analytical Method: S 8021B
Date Analyzed: 2009-12-17
Sample Preparation: 2009-12-17

Prep Method: S 5030B
Analyzed By: tn
Prepared By: tn



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Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00240	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)		0.108	mg/L	1	0.100	108	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0981	mg/L	1	0.100	98	57.1 - 118.8

Sample: 217023 - MW-11

Laboratory: Midland

Analysis: BTEX

QC Batch: 66094

Prep Batch: 56504

Analytical Method: S 8021B

Date Analyzed: 2009-12-17

Sample Preparation: 2009-12-17

Prep Method: S 5030B

Analyzed By: tn

Prepared By: tn

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)		0.115	mg/L	1	0.100	115	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0992	mg/L	1	0.100	99	57.1 - 118.8

Sample: 217024 - MW-13

Laboratory: Midland

Analysis: BTEX

QC Batch: 66094

Prep Batch: 56504

Analytical Method: S 8021B

Date Analyzed: 2009-12-17

Sample Preparation: 2009-12-17

Prep Method: S 5030B

Analyzed By: tn

Prepared By: tn

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00770	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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.108	mg/L	1	0.100	108	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0917	mg/L	1	0.100	92	57.1 - 118.8

Sample: 217025 - MW-14

Laboratory: Midland

Analysis: BTEX

QC Batch: 66094

Prep Batch: 56504

Analytical Method: S 8021B

Date Analyzed: 2009-12-17

Sample Preparation: 2009-12-17

Prep Method: S 5030B

Analyzed By: tn

Prepared By: tn

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)		0.116	mg/L	1	0.100	116	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0966	mg/L	1	0.100	97	57.1 - 118.8

Sample: 217026 - MW-15

Laboratory: Midland

Analysis: BTEX

QC Batch: 66094

Prep Batch: 56504

Analytical Method: S 8021B

Date Analyzed: 2009-12-17

Sample Preparation: 2009-12-17

Prep Method: S 5030B

Analyzed By: tn

Prepared By: tn

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)		0.119	mg/L	1	0.100	119	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0989	mg/L	1	0.100	99	57.1 - 118.8

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Sample: 217027 - MW-16

Laboratory: Midland
Analysis: BTEX
QC Batch: 66094
Prep Batch: 56504

Analytical Method: S 8021B
Date Analyzed: 2009-12-17
Sample Preparation: 2009-12-17

Prep Method: S 5030B
Analyzed By: tn
Prepared By: tn

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0368	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)		0.116	mg/L	1	0.100	116	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0968	mg/L	1	0.100	97	57.1 - 118.8

Sample: 217028 - MW-17

Laboratory: Midland
Analysis: BTEX
QC Batch: 66094
Prep Batch: 56504

Analytical Method: S 8021B
Date Analyzed: 2009-12-17
Sample Preparation: 2009-12-17

Prep Method: S 5030B
Analyzed By: tn
Prepared By: tn

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)		0.116	mg/L	1	0.100	116	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0955	mg/L	1	0.100	96	57.1 - 118.8

Sample: 217029 - MW-18

Laboratory: Midland
Analysis: BTEX
QC Batch: 66094
Prep Batch: 56504

Analytical Method: S 8021B
Date Analyzed: 2009-12-17
Sample Preparation: 2009-12-17

Prep Method: S 5030B
Analyzed By: tn
Prepared By: tn

Report Date: December 18, 2009
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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)		0.0973	mg/L	1	0.100	97	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0833	mg/L	1	0.100	83	57.1 - 118.8

Method Blank (1) QC Batch: 66094

QC Batch: 66094
Prep Batch: 56504

Date Analyzed: 2009-12-17
QC Preparation: 2009-12-17

Analyzed By: tn
Prepared By: tn

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000300	mg/L	0.001
Toluene		<0.000200	mg/L	0.001
Ethylbenzene		<0.000200	mg/L	0.001
Xylene		<0.000900	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.111	mg/L	1	0.100	111	73.6 - 126.6
4-Bromofluorobenzene (4-BFB)		0.0916	mg/L	1	0.100	92	70.6 - 117.5

Laboratory Control Spike (LCS-1)

QC Batch: 66094
Prep Batch: 56504

Date Analyzed: 2009-12-17
QC Preparation: 2009-12-17

Analyzed By: tn
Prepared By: tn

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0993	mg/L	1	0.100	<0.000300	99	79.4 - 111.8
Toluene	0.102	mg/L	1	0.100	<0.000200	102	79.3 - 110
Ethylbenzene	0.101	mg/L	1	0.100	<0.000200	101	73.8 - 113.1
Xylene	0.302	mg/L	1	0.300	<0.000900	101	73.9 - 113.6

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

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Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0922	mg/L	1	0.100	<0.000300	92	79.4 - 111.8	7	20
Toluene	0.0943	mg/L	1	0.100	<0.000200	94	79.3 - 110	8	20
Ethylbenzene	0.0940	mg/L	1	0.100	<0.000200	94	73.8 - 113.1	7	20
Xylene	0.280	mg/L	1	0.300	<0.000900	93	73.9 - 113.6	8	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.123	0.118	mg/L	1	0.100	123	118	76.2 - 129.6
4-Bromofluorobenzene (4-BFB)	0.110	0.105	mg/L	1	0.100	110	105	77.9 - 119.8

Matrix Spike (MS-1) Spiked Sample: 217132

QC Batch: 66094
Prep Batch: 56504

Date Analyzed: 2009-12-17
QC Preparation: 2009-12-17

Analyzed By: tn
Prepared By: tn

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.799	mg/L	5	0.500	0.3754	85	77.3 - 117.4
Toluene	0.438	mg/L	5	0.500	<0.00100	88	75 - 111.8
Ethylbenzene	0.609	mg/L	5	0.500	0.1577	90	78.8 - 106.6
Xylene	1.41	mg/L	5	1.50	0.1171	86	68.9 - 114

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	0.795	mg/L	5	0.500	0.3754	84	77.3 - 117.4	0	20
Toluene	0.445	mg/L	5	0.500	<0.00100	89	75 - 111.8	2	20
Ethylbenzene	0.610	mg/L	5	0.500	0.1577	90	78.8 - 106.6	0	20
Xylene	1.45	mg/L	5	1.50	0.1171	89	68.9 - 114	3	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)	0.538	0.554	mg/L	5	0.5	108	111	76.3 - 129.8
4-Bromofluorobenzene (4-BFB)	0.499	0.516	mg/L	5	0.5	100	103	75.2 - 112.8

Standard (CCV-1)

QC Batch: 66094

Date Analyzed: 2009-12-17

Analyzed By: tn

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0893	89	80 - 120	2009-12-17
Toluene		mg/L	0.100	0.0910	91	80 - 120	2009-12-17
Ethylbenzene		mg/L	0.100	0.0922	92	80 - 120	2009-12-17
Xylene		mg/L	0.300	0.274	91	80 - 120	2009-12-17

Standard (CCV-2)

QC Batch: 66094

Date Analyzed: 2009-12-17

Analyzed By: tn

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0940	94	80 - 120	2009-12-17
Toluene		mg/L	0.100	0.0954	95	80 - 120	2009-12-17
Ethylbenzene		mg/L	0.100	0.0945	94	80 - 120	2009-12-17
Xylene		mg/L	0.300	0.282	94	80 - 120	2009-12-17

Standard (CCV-3)

QC Batch: 66094

Date Analyzed: 2009-12-17

Analyzed By: tn

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	80 - 120	2009-12-17
Toluene		mg/L	0.100	0.0893	89	80 - 120	2009-12-17
Ethylbenzene		mg/L	0.100	0.0884	88	80 - 120	2009-12-17
Xylene		mg/L	0.300	0.263	88	80 - 120	2009-12-17

LAB Order ID # 9121127Page 1 of 1**TraceAnalysis, Inc.**

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-12965002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 685-6301
Fax (432) 689-6313BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750
1 (888) 588-3443

Company Name:

Trace/LPE

Phone #:

432-522-2133

Address:

(Street, City, Zip)

2201 Rankin Hwy

Fax #:

Contact Person:

Steve Killingsworth

E-mail:

SKillingsworth@traceanalysis.com

Invoice to:

(If different from above)

Ph. Atkins

Project #:

700576-015-01

Project Name:

Jason Henry

Project Location (including state):

Lovington, NM

Sampler Signature:

Carl Vessels**ANALYSIS REQUEST**

(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		TIME	DATE	Turn Around Time if different from standard
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE			
017000	MW-Lc	3	VOA-P					X							12/18/00	
021	MW-9	3													0994	
022	MW-10	3													1001	
023	MW-11	3													1010	
024	MW-13	3													1026	
025	MW-14	3													1120	
026	MW-15	3													1128	
027	MW-16	3													1140	
028	MW-17	3													1200	
029	MW-18	3													1045	

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST	OBS	COR
<u>Trace/LPE</u>	<u>Trace</u>	<u>12/18/00</u>	<u>16:20</u>	<u>Trace</u>	<u>Trace</u>	<u>12/18/00</u>	<u>16:20</u>			
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST	OBS	COR
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST	OBS	COR

LAB USE

ONLY

REMARKS: All tests-MidlandDry Weight Basis Required
TRRP Report Required
Check if Special Reporting Limits Are Needed

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

ORIGINAL COPY

Carrier #

Cargill

APPENDIX D

NMOCD C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR "INFORMATION ONLY NON-REPORTABLE" ☒ Initial Report ☐ Final Report

Name of Company EOTT Energy Pipeline	Contact Frank Hernandez
Address 5805 East Highway 80 / P.O. Box 1660, Midland, TX 79703	Telephone No. 915.638.3799
Facility Name: Moore to Kimbrough 8" Sweet Vacuum (C.S. Caylor) 9-19-02 #2002-10250	Facility Type Crude Oil Pipeline

Surface Owner Robert C. Rice	Mineral Owner	Lease No.
---------------------------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter B	Section 6	Township 17S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat.: 32°52'2.45"N Lon: 103°17'17.73"W
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NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 70 bbls	Volume Recovered 0 bbls
Source of Release 8" steel pipeline	Date and Hour of Occurrence 9-19-02 8:00 AM	Date and Hour of Discovery 9-19-02 12:00 PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Paul Sheeley, Hobbs NMOCD	
By Whom? Pat McCasland (Environmental Plus, Inc.)	Date and Hour: NMOCD notified on 9-19-02 3:15 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

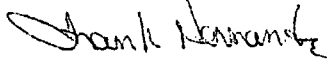
Describe Cause of Problem and Remedial Action Taken.*

The cause of the leak was internal/external corrosion. The contaminated soil was stockpiled on a plastic barrier on site awaiting remediation.

Describe Area Affected and Cleanup Action Taken.*

Spill Area = ~2,199 ft² Near surface soil will be characterized in accordance with 40 CFR 261 and with NMOCD approval, disposed of in a NMOCD approved facility. The site will be delineated and remediated.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Frank Hernandez	Approved by District Supervisor:	
Title: District Environmental Supervisor	Approval Date:	Expiration Date:
Date: October 2, 2002 Phone: 915.638.3799	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

EOTT Energy Pipeline		Incident Date and NMOCD Notified?:	
Site Information and Metrics		Discovered 9-19-02 NMOCD verbally notified on 9-19-02	
SITE: 8" Sweet Vacuum (C.S. Cayler) 9-19-02		Assigned Site Reference #: #2002-10250	
Company: EOTT Energy Pipeline			
Street Address: 5805 East Highway 80			
Mailing Address: P.O. Box 1660			
City, State, Zip: Midland, Texas 79703			
Representative: Frank Hernandez, District Environmental Supervisor			
Representative Telephone: 915.638.3799			
Telephone:			
Fluid volume released (bbls): 70 bbls		Recovered (bbls): 0	
>25 bbls : Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: 8" Sweet Vacuum (C.S. Cayler) 9-19-02 #2002-10250			
Source of contamination: Crude Oil Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: Robert C. Rice			
LSP Dimensions 85' X 45'			
LSP Area: Spill Area 2,199 ft ²			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32°52'2.45"N			
Longitude: 103°17'17.73"W			
Elevation above mean sea level: ~3,805 'amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: UL-B NW ¼ of the NE ¼			
Location- Section: 6			
Location- Township: 17S			
Location- Range: 37E			
Surface water body within 1000 ' radius of site: None			
Domestic water wells within 1000' radius of site: None			
Agricultural water wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site: None			
Depth from land surface to ground water (DG) ~40.0' below ground surface			
Depth of contamination (DC) - ?			
Depth to ground water (DG - DC = DtGW) - to be determined			
1. Ground Water		2. Wellhead Protection Area	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points		If >1000' from water source, or; >200' from private domestic water source: 0 points	
If Depth to GW >100 feet: 0 points		Wellhead Protection Area Score = 0	
Ground water Score = 20		Surface Water Score = 0	
Site Rank (1+2+3) = 20			
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19 (Surface to 40.0'bgs)	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			

