AP-54

Plains
Hobbs Junction Mainline

Annual Report
2013

2013 ANNUAL GROUNDWATER MONITORING REPORT

HOBBS JUNCTION MAINLINE
LEA COUNTY, NEW MEXICO
NMOCD REF. # AP-054

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HOUSTON, TEXAS

TALON/LPE PROJECT NO. 700376.052.01

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NMOCD – New Mexico Oil Conservation Division
NMSLO – New Mexico State Land Office

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1.0 INTRODUCTION

1.1 Introduction and Site Background

The Hobbs Junction Mainline site is located approximately three miles west of Hobbs, in Lea County, New Mexico. The GPS coordinates of this site are 32° 42' 40.85" latitude and 103° 13' 42.01" longitude. The land on the southern portion of the site is owned by Ms. Faye Klein and the land on the northern portion of the site is owned by the State of New Mexico. A site plan is provided as Figure 1 included in Appendix A.

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 contains abundant eroded gravel to cobble size caliche fragments. Below the top soil is predominately unconsolidated sand to weakly cemented sandstone which has undergone calichification 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

Currently, a total of 27 monitor wells have been installed in the vicinity of the release (see Figure 1). Initial groundwater delineation activities began on February 13, 2003, by advancing a soil boring BH-1 to 28 feet below ground surface (bgs) where a well indurated caliche layer prevented further progress of the hollow stem auger. On March 5, 2003, using an air rotary rig, monitor wells MW-1 and MW-2 were installed to groundwater in order to evaluate the presence of phase separated hydrocarbons (PSH). After it was determined that monitor wells MW-1 and MW-2 were impacted with PSH; monitor wells MW-3 through MW-6 were installed in August 2003. PSH was detected in monitor wells MW-3 through MW-6 during the development process. On January 19 and 20, 2004, monitor wells MW-7 through MW-13 were installed in order to delineate the dissolved-phase plume. Subsequent to development, PSH was detected in monitor well MW-12. Monitor wells MW-14 through MW-17 were installed on May 24, 2004, outside the release perimeter. PSH was detected in monitor wells MW-14 and MW-17 as well. Monitor wells MW-18 through MW-20 were installed in November 2006, and monitor wells MW-21 and MW-22 were installed on December 5, 2007, in order to further delineate the dissolved phase plume. Monitor wells MW-23 and MW-24 were installed on March 17, 2008 as requested by the New Mexico Oil Conservation Division (NMOCD), in order to further delineate the dissolved phase plume down-gradient towards the southeast. Subsequently, monitor wells MW-25, MW-26, and MW-27 were installed in December of 2011 to increase the density of

pumping wells in order to increase drawdown of the groundwater level to further impede the migration of the dissolved-phase plume.

A quarterly groundwater monitoring program was implemented for the site that included PSH recovery utilizing an automated eductor system, which operated from March 2004 to March 2007. In March 2007, the eductor system was replaced with an automated pneumatic skimmer and bladder pump PSH recovery system. At that time, a total of eight (8) skimmer pumps were installed in monitor wells MW-1, MW-2, MW-3, MW-4, MW-6, MW-12, MW-14, and MW-17 and a pneumatic total fluid pump was installed in monitor well MW-5.

Currently, there are two (2) pneumatic specific gravity skimmers and bladder pumps in monitor wells MW-8 and MW-16 and fifteen (15) pneumatic total fluids pumps in monitor wells MW-1, through MW-6, MW-10, MW-11, MW-12, MW-14, MW-15, MW-20, MW-25, MW-26, and MW-27. The total fluids pumps in monitor wells MW-25, MW-26, and MW-27 were installed in early 2012. An electric total fluids pump was installed in MW-17 during the fourth quarter 2012. The recovered water is transferred to Occidental Permian's North Hobbs Satellite disposal facility via HDPE flow-line and the recovered oil is periodically collected with a vacuum truck and transported to the Plains Lea Station and re-introduced into the pipeline system.

1.4 Regulatory Framework

Groundwater analytical data collected from monitor wells during quarterly groundwater monitoring events at this site is evaluated to the New Mexico Water Quality Control Commission (NMWQCC) groundwater standards listed 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

The ensuing sections in the report provide summaries of the groundwater monitoring activities conducted at the site as well as analytical results from each groundwater sampling event in 2013. Analytical results for the four sampling events are presented in Table 2, in Appendix B, and Figures 3a through 3d in Appendix A. Fluid level measurements are provided in Table 1, Appendix B and gradient maps are presented as Figures 2a through 2d in Appendix A. Laboratory analytical reports and chains of custody documentation are included in Appendix C.

2.0 SITE ACTIVITIES

The sections that follow summarize groundwater monitoring and PSH recovery activities conducted at the subject site during the year 2013. The primary function of groundwater monitoring activities is to collect depth to fluid measurements and collect groundwater samples 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.

2.1 Groundwater Gauging, Purging, and Sampling Procedures

During each groundwater monitoring event, all monitor wells were measured to determine static water levels and to monitor the presence and/or absence of PSH accumulations. The top of groundwater elevation was corrected in monitor wells impacted with PSH by the following equation: Corrected groundwater elevation = the surveyed top of casing elevation – (measured depth to water) – (PSH thickness x the specific gravity of the PSH). Measured groundwater depths and elevations collected during the sampling events, along with historical measurements, are presented in Table 1 – Summary of Historical Fluid Level Measurements and contoured gradient maps are located in Appendix A.

All wells not impacted with PSH were purged a minimum of three (3) well volumes prior to sample collection. All 2-inch diameter monitor wells were purged utilizing dedicated disposable polyethylene bailers. All 4-inch monitor wells were purged utilizing a pump and vinyl tubing. The pumps and tubing used to purge the wells were decontaminated with Alconox® detergent and rinsed with distilled water prior to initial use and between sample collection events. All recovered groundwater from purging activities and recovered water used in the decontamination process was contained onsite in the system recovery tank until the water was transferred to the North Hobbs Unit disposal facility. An approximate total of 250 gallons of groundwater was purged during the four (4) quarterly groundwater monitoring events.

Groundwater samples were collected from monitoring wells not impacted with PSH utilizing dedicated disposable polyethylene bailers. The collected groundwater samples were transferred from the disposable bailer into laboratory supplied sample containers infused with the appropriate preservative for the analysis requested. The groundwater samples were maintained on ice in the custody of Talon/LPE, until delivery to TraceAnalysis, Inc. or Xenco laboratory in Lubbock or Midland, Texas for analysis. The collected samples were quantified for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method SW-846 8021b.

2.2 Groundwater Monitoring Activities

A total of four groundwater monitoring events were conducted by Talon/LPE: March 15, 2013; June 7, 2013; September 30, 2013; and December 2, 2013. Details of the gauging, purging, and sample collection activities are presented in Section 2.1.

During the March 2013 groundwater monitoring event, groundwater samples were collected from ten (10) monitor wells (MW-7, MW-9, MW-13, MW-18, MW-19, and MW-21 through MW-25). Seventeen (17) monitor wells (MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-20, MW-26, and MW-27) were not sampled due to the presence of PSH.

During the June 2013 groundwater monitoring event, groundwater samples were collected from nine (9) monitor wells (MW-7, MW-9, MW-13, MW-18, MW-19, and MW-21 through MW-24). Eighteen (18) monitor wells (MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-20, MW-25, MW-26, and MW-27) were not sampled due to the presence of PSH.

During the September 2013 groundwater monitoring event, groundwater samples were collected from five (5) monitor wells (MW-18, and MW-21 through MW-24). Samples were not collected from three (3) monitor wells (MW-7, MW-9, and MW-13) since they are scheduled for sample collection on an annual basis. Nineteen (19) monitor wells (MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-19, MW-20, MW-25, MW-26 and MW-27) were not sampled due to the presence of PSH.

During the December 2013 groundwater monitoring event, groundwater samples were collected from five (5) monitor wells (MW-18 and MW-21 through MW-24). Samples were not collected from three (3) monitor wells (MW-7, MW-9, and MW-13) since they are scheduled for sample collection on an annual basis. Eighteen (18) monitor wells (MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-20, MW-25, MW-26 and MW-27) were not sampled due to the presence of PSH. MW-19 was mistakenly not sampled, but will continue to be a part of regular sampling in the future.

2.3 Phase Separated Hydrocarbon and Groundwater Recovery

The crude oil and groundwater recovered with the total fluids and skimmer pumps were expelled to a 350 barrel frac tank used as a settling tank where the oil and water are gravity separated. The tank is equipped with a float switch, which operates a transfer pump. When the pump is engaged, the recovered water is transferred to Occidental Permian's North Hobbs Satellite disposal facility via four (4) inch HDPE flow line. The recovered oil that remains in the frac tank, is periodically collected with a vacuum truck and transported to the Plains Lea Station where it is re-introduced into the pipeline system.

The depth to water and PSH in the frac tank is periodically measured with an interface probe and the recovered volumes are calculated. During 2012 the quarterly groundwater and PSH recovery totals are as followed:

- 1st Quarter – approximately 60.7 bbls of oil and 14,155 bbls of water
- 2nd Quarter – approximately 41.69 bbls of oil and 11,020+ bbls of water
- 3rd Quarter – approximately 66.59 bbls of oil and 23,744+ bbls of water
- 4th Quarter – approximately 11.4 bbls of oil and 4718 bbls of water

Approximately 180 bbls of oil was recovered during 2013 and a total of 2,365 bbls of PSH has been recovered from the site to date.

3.0 GROUNDWATER MONITORING RESULTS

The results of the laboratory analyses are summarized in Table 2 – Summary of Groundwater Analytical Data in Appendix B. Laboratory analytical reports and chains of custody documentation are provided in Appendix C.

3.1 Groundwater Monitoring Results

The following sections present the results from the monitoring of the first water-bearing zone underlying the Hobbs Junction Mainline 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 (mi^2) 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 has 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 poteniometric surface generally mirrors the land surface elevation with the regional flow direction is 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 been approximately 40 feet below ground surface (bgs) and the groundwater flow direction is to the southeast at an average of 25 feet per mile.

The composition of Ogallala groundwater is defined as mixed-cation-HCO_3, 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

Water level measurements were collected from all monitor wells during all four (4) groundwater monitoring events. The data collected is summarized in Table 1, Summary of Historical Fluid Level Measurements, presented in Appendix B.

Potentiometric surface contour maps were constructed from the four (4) water level measurement datasets. These maps are Figure 2a through Figure 2d presented in Appendix A.

Based on fluid elevations measured at this site, the groundwater flow direction within the first

water-bearing zone underlying the Junction Mainline site is consistently towards the east-southeast.

3.1.3 Phase Separated Hydrocarbon (PSH)

The collection of water level measurement data was conducted using an oil/water interface probe, which was also used to determine the presence of PSH.

- In March 2013, PSH was observed in monitor wells MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-20, MW-26, and MW-27. PSH thickness ranged from 0.12 feet in MW-10 to 4.75 feet in MW-12.
- In June 2013, PSH was observed in monitor wells MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-20, MW-25, MW-26, and MW-27. PSH thickness ranged from 0.15 feet in MW-25 to 6.05 feet in MW-12.
- In September 2013, PSH was observed in monitor wells MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-19, MW-20, MW-25, MW-26, and MW-27. PSH thickness ranged from 0.10 feet in MW-25 to 6.03 feet in MW-12.
- In December 2013, PSH was observed in monitor wells MW-1 through MW-6, MW-8, MW-10, MW-11, MW-12, MW-14, MW-15, MW-16, MW-17, MW-20, MW-25, MW-26, and MW-27. PSH thickness ranged from 0.13 feet in MW-25 to 6.13 feet in MW-5.

PSH thickness isopleths maps are presented as Figure 3a through Figure 3d in Appendix A.

3.1.4 Groundwater Sampling Results

During the March 2013 sampling event, analytical results from the collected groundwater samples exhibited the following qualities:

- Benzene concentrations ranged from <0.000567 mg/L to 13.7 mg/L. Benzene concentrations exceeded the New Mexico Water Quality Control Commission (NMWQCC) remediation limit of 0.010 mg/L in groundwater samples collected from monitor wells MW-19, MW-21, MW-22, and MW-25.
- Toluene concentrations ranged from <0.000518 mg/L to 0.582 mg/L. Toluene concentrations did not exceed the NMWQCC remediation threshold of 0.750 mg/L in any of the groundwater samples collected.
- Ethylbenzene concentrations ranged from <0.000518 mg/L to 0.969 mg/L. Ethylbenzene concentrations exceeded the NMWQCC remediation threshold of 0.750 mg/L in samples collected monitor well MW-21.
- Xylene concentrations ranged from <0.00100 mg/L to 0.448 mg/L. Xylene concentrations did not exceed the NMWQCC remediation threshold of 0.620 mg/L in any of the groundwater samples collected.

During the June 2013 sampling event, analytical results from the collected groundwater samples exhibited the following qualities:

- Benzene concentrations ranged from <0.000500 mg/L to 14.0 mg/L. Benzene

concentrations exceeded the NMWQCC remediation threshold of 0.010 mg/L in groundwater samples collected from monitor wells MW-19, MW-21, and MW-22.

- Toluene concentrations ranged from <0.00100 mg/L to 0.762 mg/L. The toluene concentration exceeded the NMWQCC remediation threshold of 0.750 mg/L in samples collected from monitor well MW-19.
- Ethylbenzene concentrations ranged from <0.000700 mg/L to 1.05 mg/L. The ethylbenzene concentration exceeded the NMWQCC remediation threshold of 0.750 mg/L in samples collected from monitor well MW-21.
- Xylene concentrations ranged from <0.00100 mg/L to 0.461 mg/L. The xylene concentrations did not exceed the NMWQCC remediation threshold of 0.620 mg/L in any of the groundwater samples collected.

During the September 2013 groundwater monitoring event, analytical results from the collected groundwater samples exhibited the following qualities:

- Benzene concentrations ranged from <0.000567 mg/L to 17.2 mg/L. Benzene concentrations exceeded the NMWQCC remediation threshold of 0.010 mg/L in groundwater samples collected from monitor wells MW-21 and MW-22.
- Toluene concentrations ranged from <0.00518 mg/L to <0.0518 mg/L. The toluene concentration did not exceed the NMWQCC remediation threshold of 0.750 mg/L in any of the groundwater samples collected.
- Ethylbenzene concentrations ranged from <0.00100 mg/L to 0.999 mg/L. The ethylbenzene concentration exceeded the NMWQCC remediation threshold of 0.750 mg/L in samples collected from MW-21.
- Xylene concentrations ranged from <0.00100 mg/L to <0.100 mg/L. The xylene concentrations did not exceed the NMWQCC remediation threshold of 0.620 mg/L in any of the groundwater samples collected

During the December 2013 groundwater monitoring event, analytical results from the collected groundwater samples exhibited the following qualities:

- Benzene concentrations ranged from <0.000357 mg/L to 22.0 mg/L. Benzene concentrations exceeded the NMWQCC remediation threshold of 0.010 mg/L in groundwater samples collected from monitor wells MW-21 and MW-22.
- Toluene concentrations ranged from <0.000465 mg/L to <0.0518 mg/L. Toluene concentrations did not exceed the NMWQCC remediation threshold of 0.750 mg/L in any of the groundwater samples collected during this event.
- Ethylbenzene concentrations ranged from <0.000442 mg/L to 1.10 mg/L. The ethylbenzene concentrations exceeded the NMWQCC remediation threshold of 0.750 mg/L in samples collected from MW-21.
- Xylene concentrations ranged from <0.00100 mg/L to <0.100 mg/L. Total xylene concentrations did not exceed the NMWQCC remediation threshold of 0.620 mg/L in any groundwater sample collected during this event.

The results of the laboratory analyses are summarized in Table 2 – Summary of Historical

Groundwater Analytical Data in Appendix B. Laboratory analytical data reports and chain of custody documentation are provided in Appendix C

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following section presents a summary of the four 2013 groundwater monitoring events conducted at the Hobbs Junction Mainline site and provides recommendations for future actions.

4.1 Summary of Findings

- The groundwater flow direction at the site is to the east to southeast based upon the water level measurement data collected to date.
- Down-gradient monitor wells MW-23 and MW-24 did not exhibit BTEX concentrations above laboratory reporting limits during each of the four (4) quarterly groundwater monitoring events indicating that the system is inhibiting the down-gradient migration of the dissolved-phase plume (see Table 2).
- Currently, the number and locations of the existing monitor well array is not adequate to delineate the PSH and dissolved-phase plumes. A site map with proposed monitor well locations is attached. (Figure 4)

4.2 Recommendations

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

- Continue the quarterly groundwater monitoring program with quarterly updates and annual reporting in accordance with NMOCD directives.
- Continue PSH recovery utilizing skimmers and total fluid pumps.
- Continue collecting groundwater samples for quantification of BTEX from monitor wells MW-7, MW-9, and MW-13 on an semi-annual basis.
- Install monitor wells in order to reinstate delineated status.

APPENDIX A

Figures

Figure 1 – Site Plan

Figure 2a – Groundwater Gradient Map – 03/15/2013

Figure 2b – Groundwater Gradient Map – 06/07/2013

Figure 2c – Groundwater Gradient Map – 09/30/2013

Figure 2d – Groundwater Gradient Map – 12/02/2013

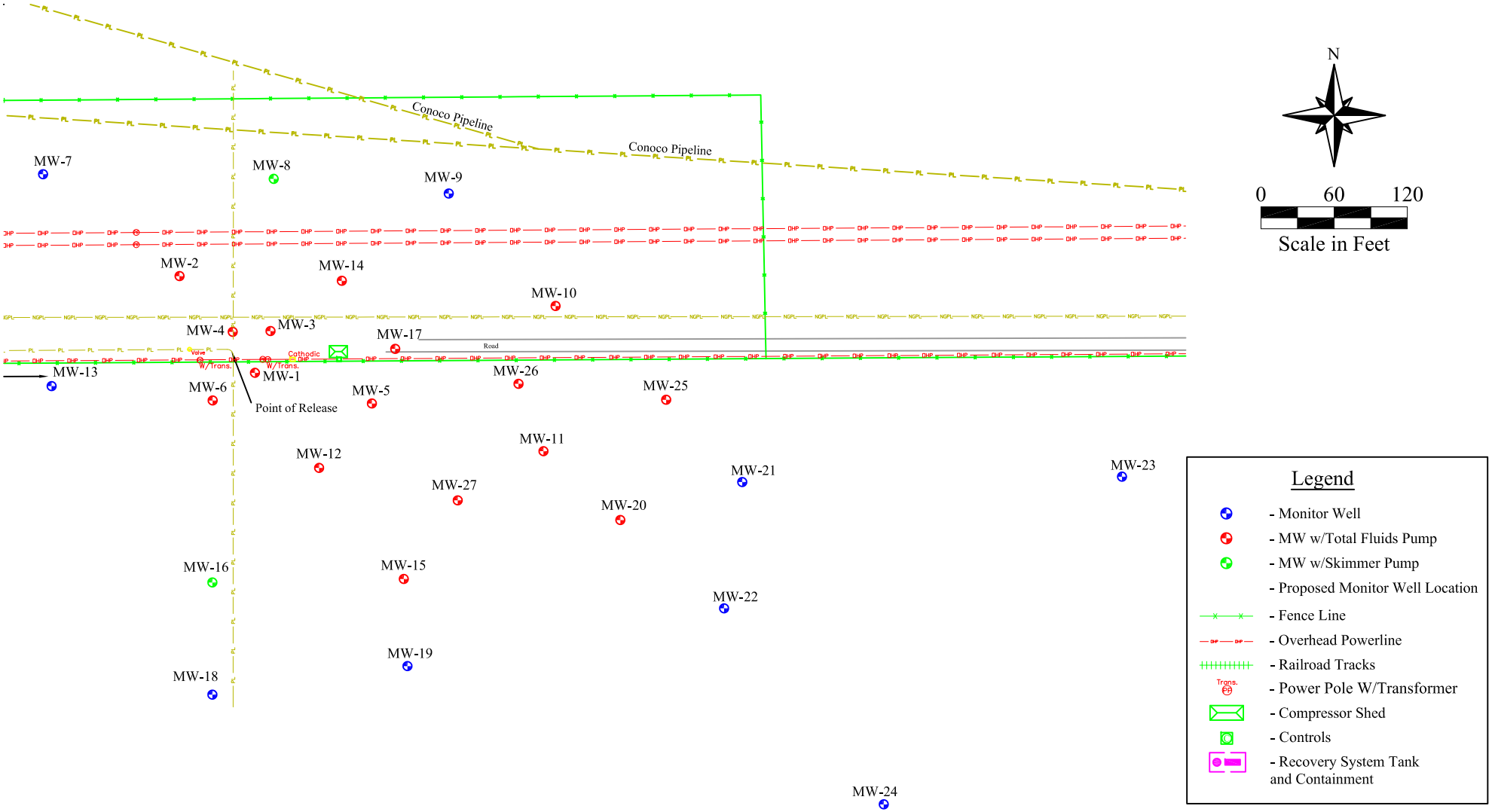
Figure 3a – PSH Thickness & Groundwater Concentration Map – 03/18/2013

Figure 3b – PSH Thickness & Groundwater Concentration Map – 06/07/2013

Figure 3c – PSH Thickness & Groundwater Concentration Map – 09/30/2013

Figure 3d – PSH Thickness & Groundwater Concentration Map – 12/02/2013

Figure 4 – Proposed Monitor Well Location Map



Project # 700376.052.01

TALON LPE

Date: 08/16/2011

Scale: 1" = 120'

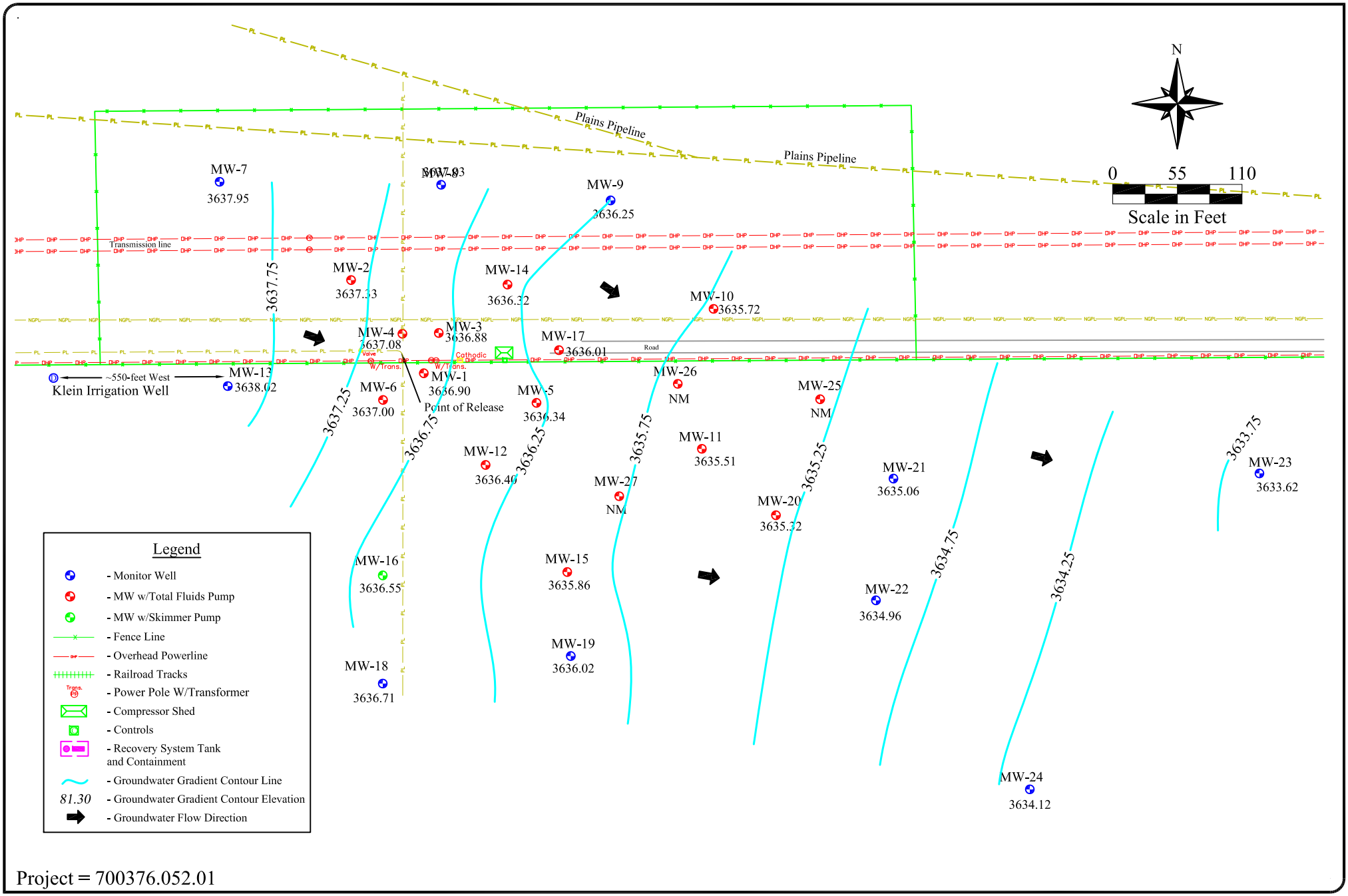
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054

SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico

Figure 1 - Site Map, (12/14/2011)



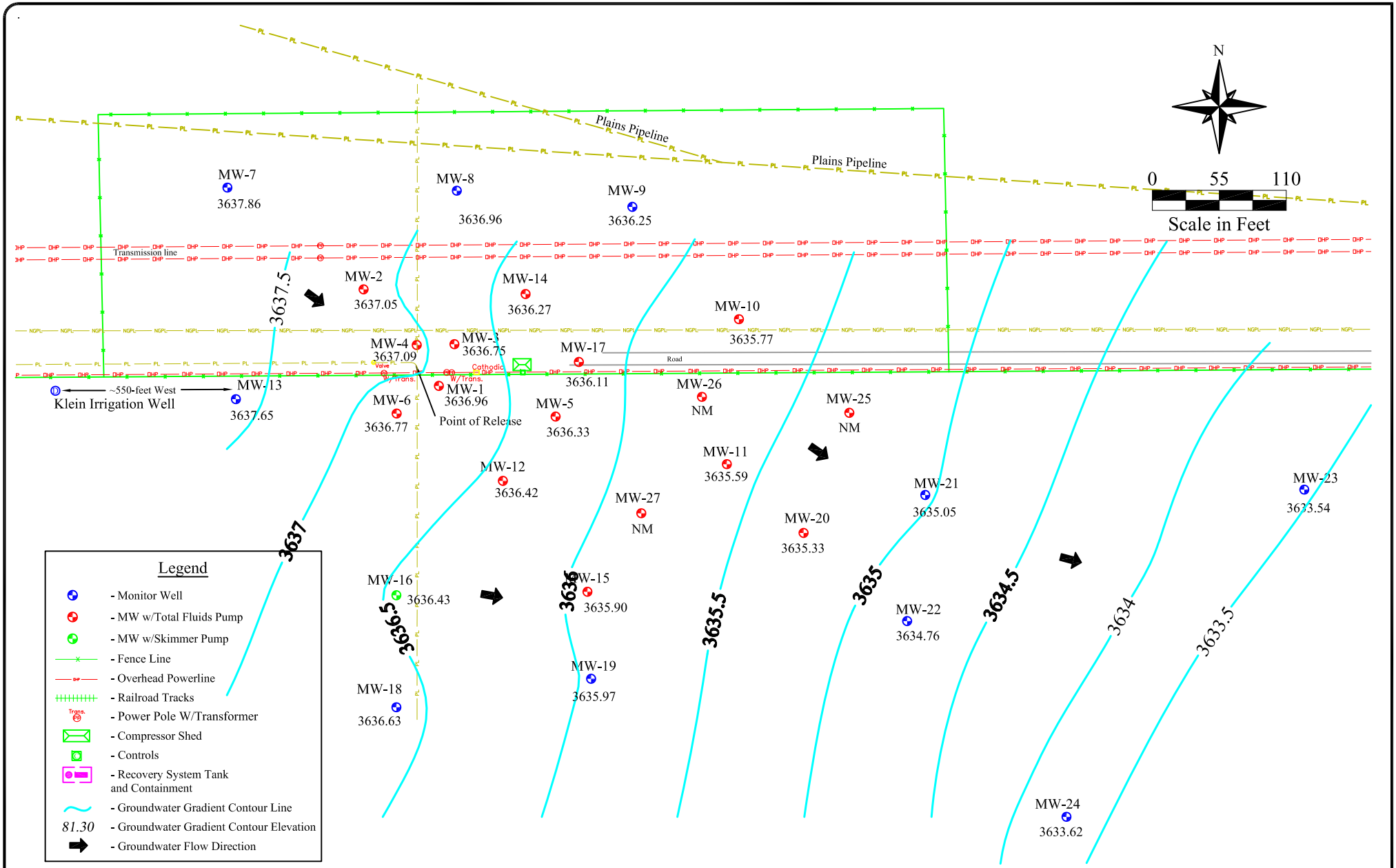
Project = 700376.052.01

TALON LPE

Date: 01/15/2014
Scale: 1" = 110'
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054
SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico
Figure 2a - Groundwater Gradient Map - 03/15/2013



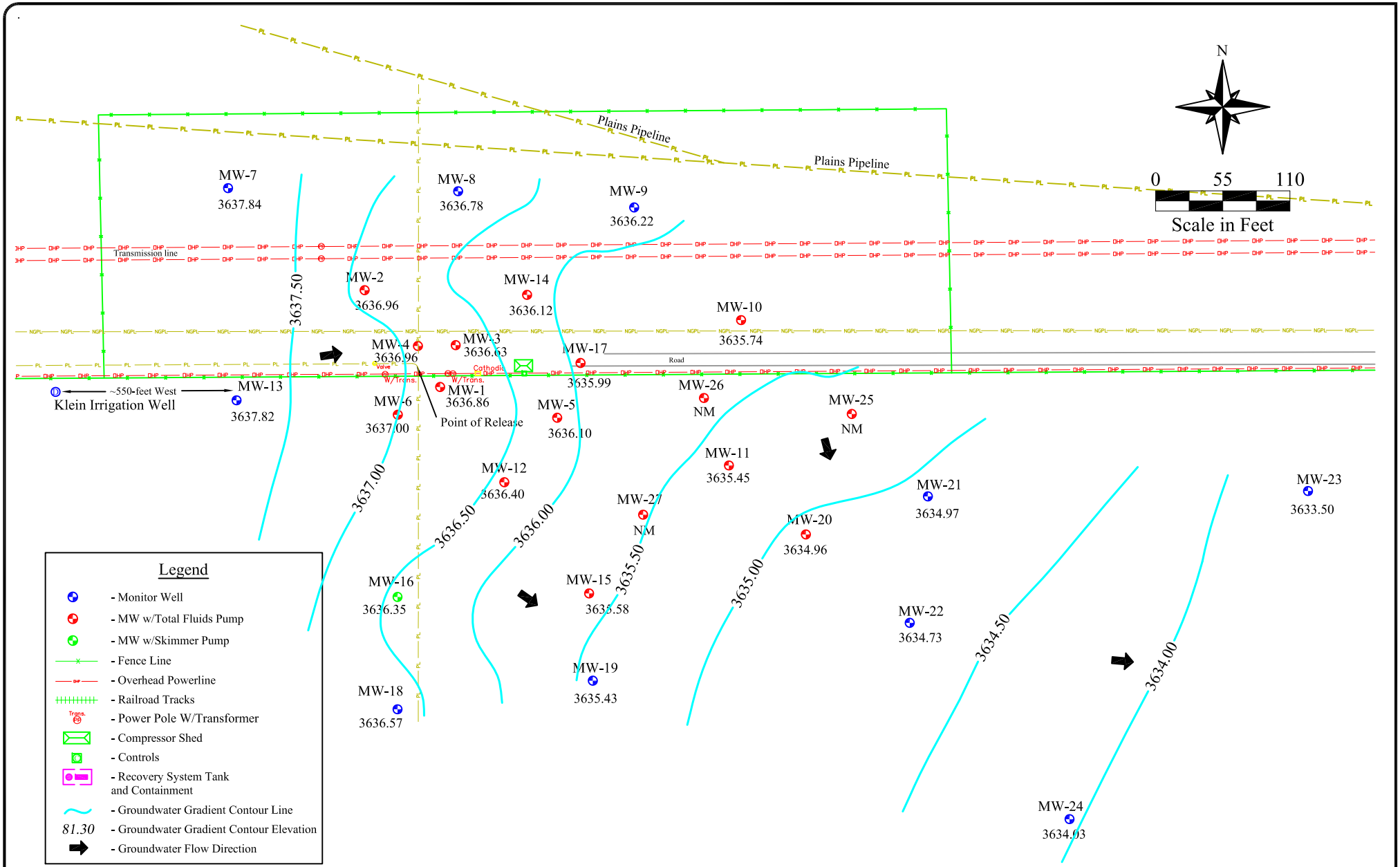
Project = 700376.052.01

TALON LPE

Date: 01/15/2014
Scale: 1" = 110'
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054
SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico
Figure 2b - Groundwater Gradient Map - 06/07/2013



Project = 700376.052.01

TALON LPE

Date: 01/15/2014

Scale: 1" = 110'

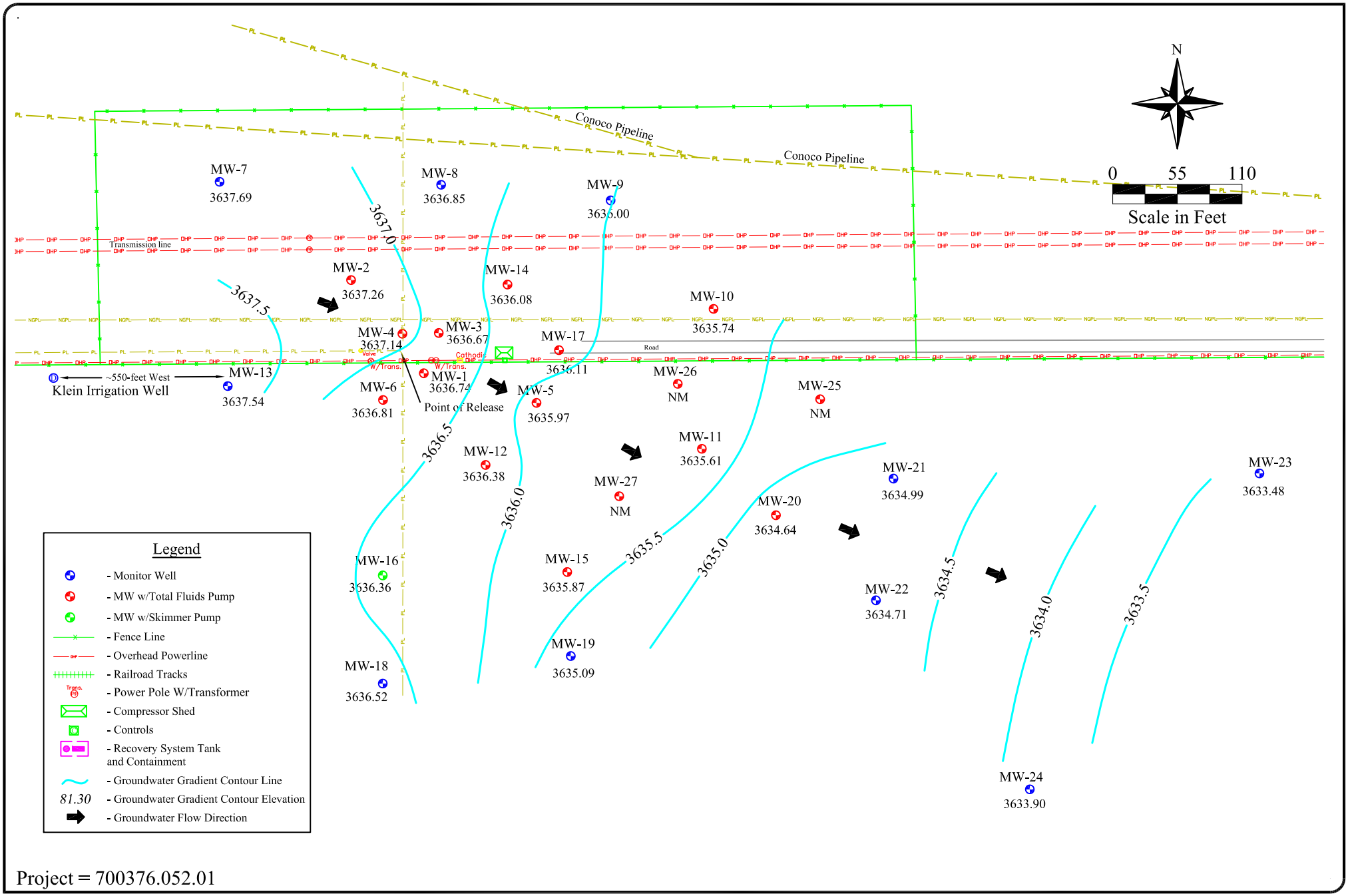
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054

SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico

Figure 2c - Groundwater Gradient Map - 09/30/2013



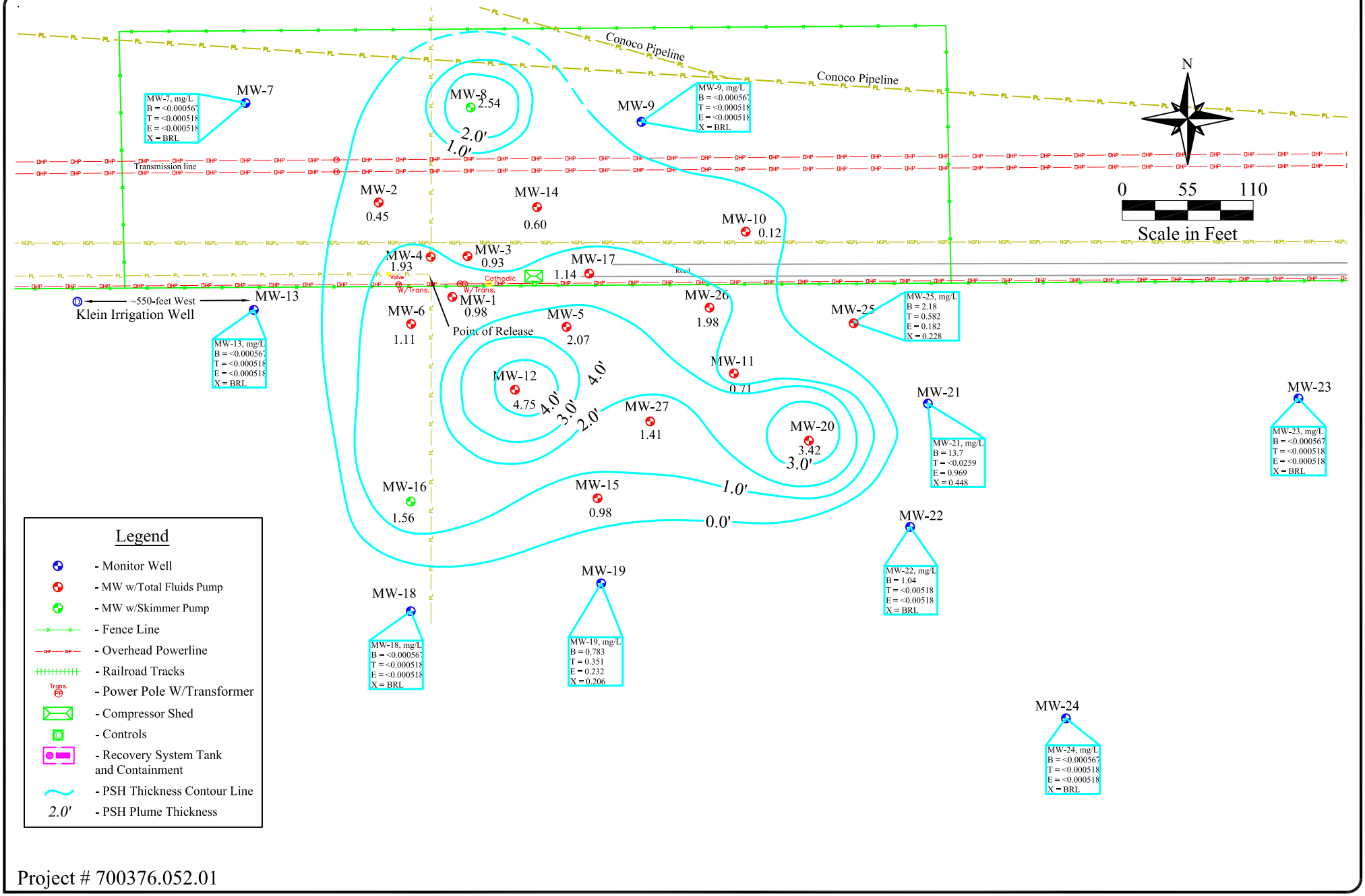
Project = 700376.052.01

TALON LPE

Date: 01/15/2014
Scale: 1" = 110'
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054
SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico
Figure 2d - Groundwater Gradient Map - (12/02/2013)



Project # 700376.052.01

TALON LPE

Date: 01/15/2014

Scale: 1" = 110'

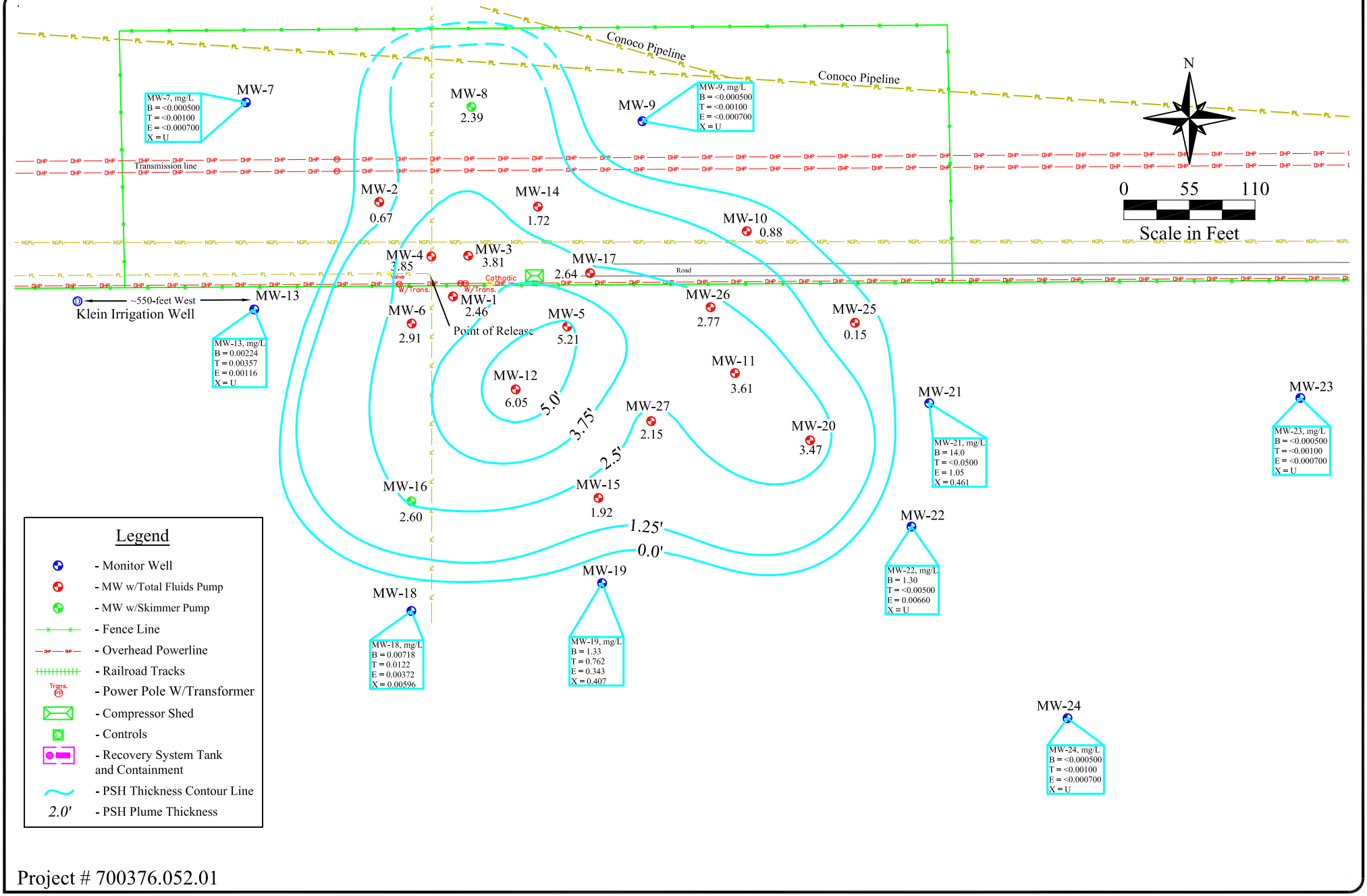
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054

SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico

Figure 3a - PSH Thickness & Groundwater Concentration Map - 03/18/2013



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Date: 01/15/2014
Scale: 1" = 110'
Drawn By: TJS

Hobbs Junction Mainline

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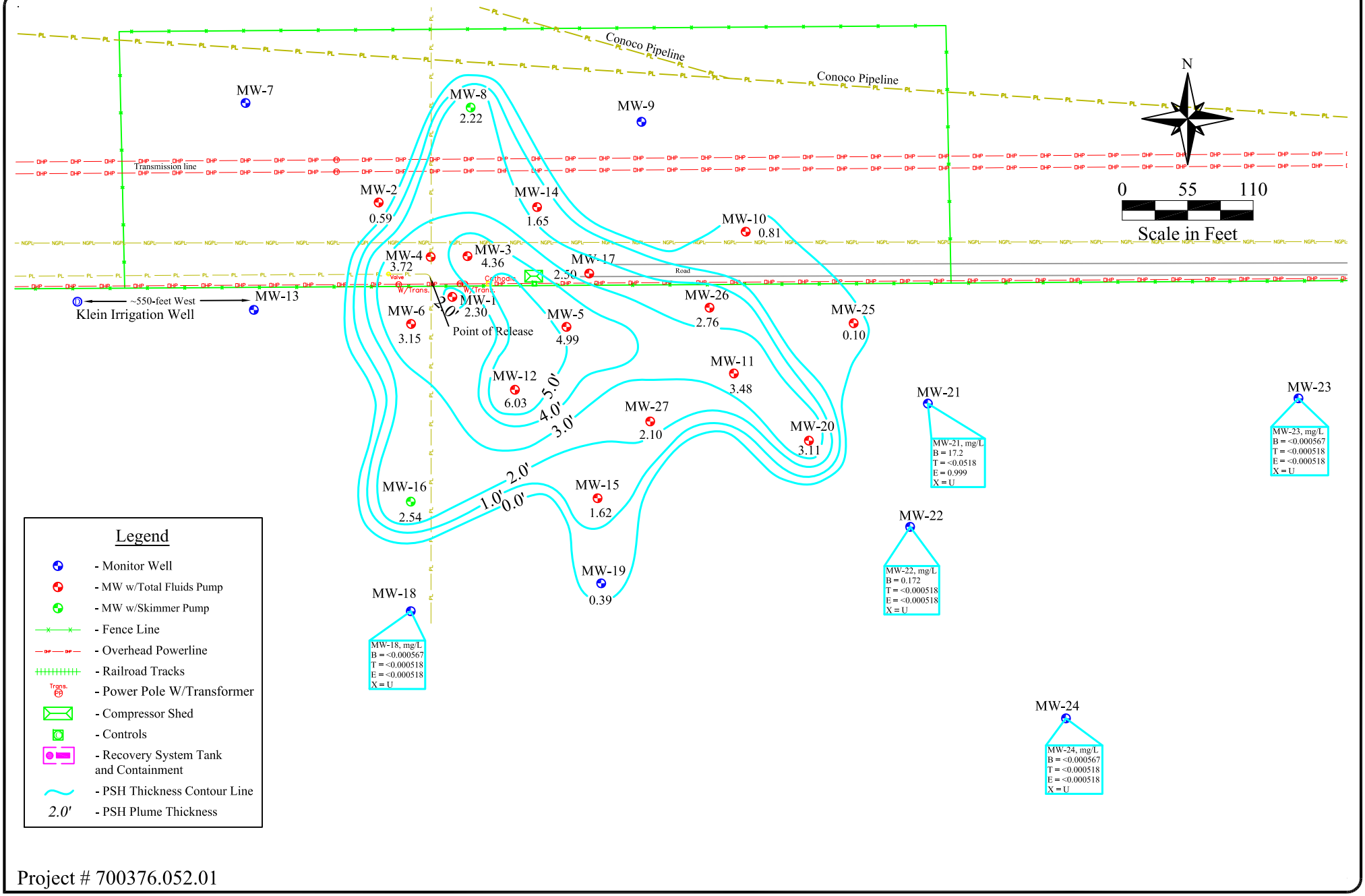
SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico

Figure 3b - PSH Thickness & Groundwater Concentration Map - 06/07/2013



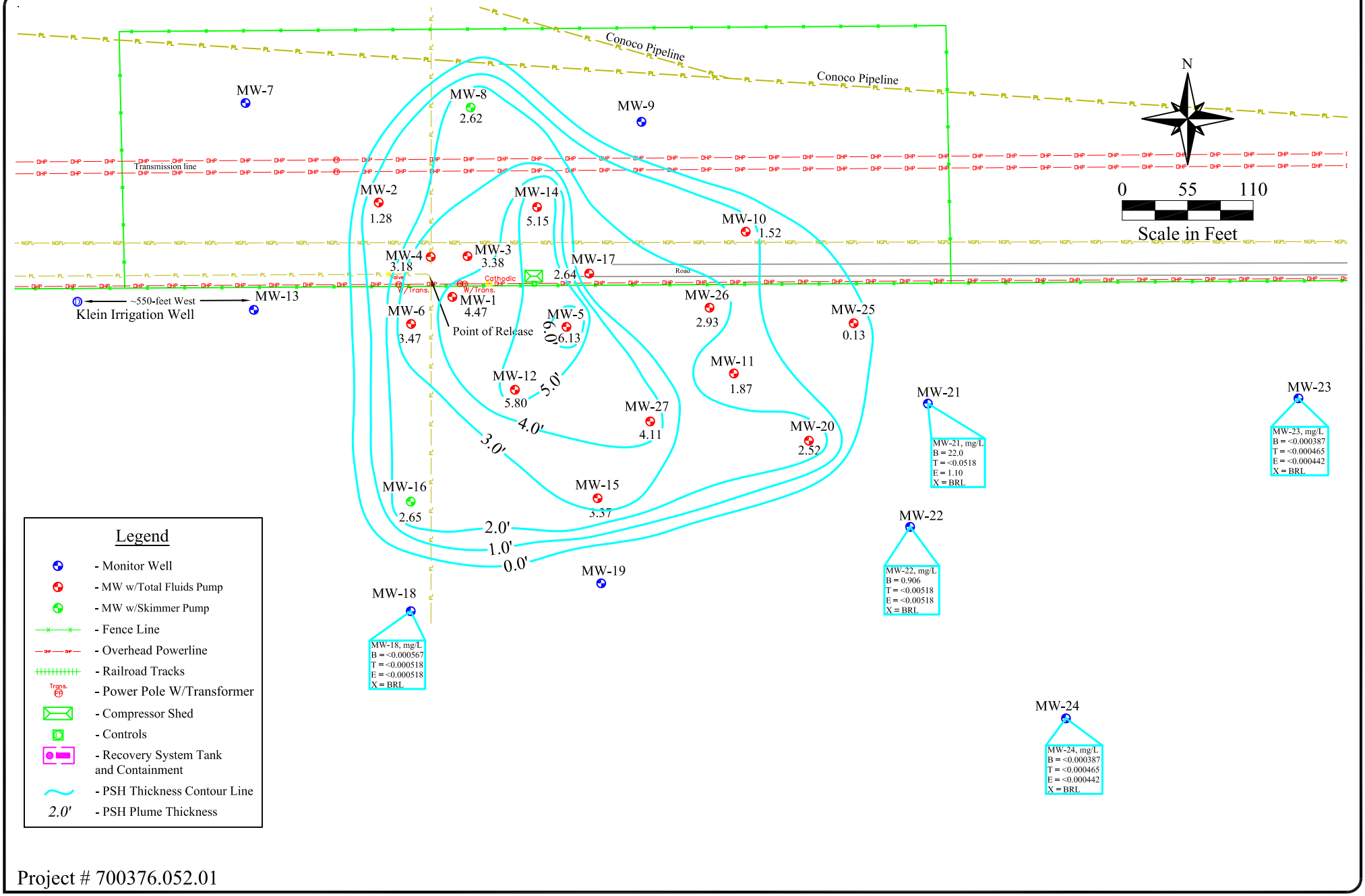
Project # 700376.052.01

TALON LPE

Date: 01/15/2014
Scale: 1" = 110'
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054
SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico
Figure 3c - PSH Thickness & Groundwater Concentration Map - 09/30/2013



Project # 700376.052.01

TALON LPE

Date: 01/15/2014

Scale: 1" = 110'

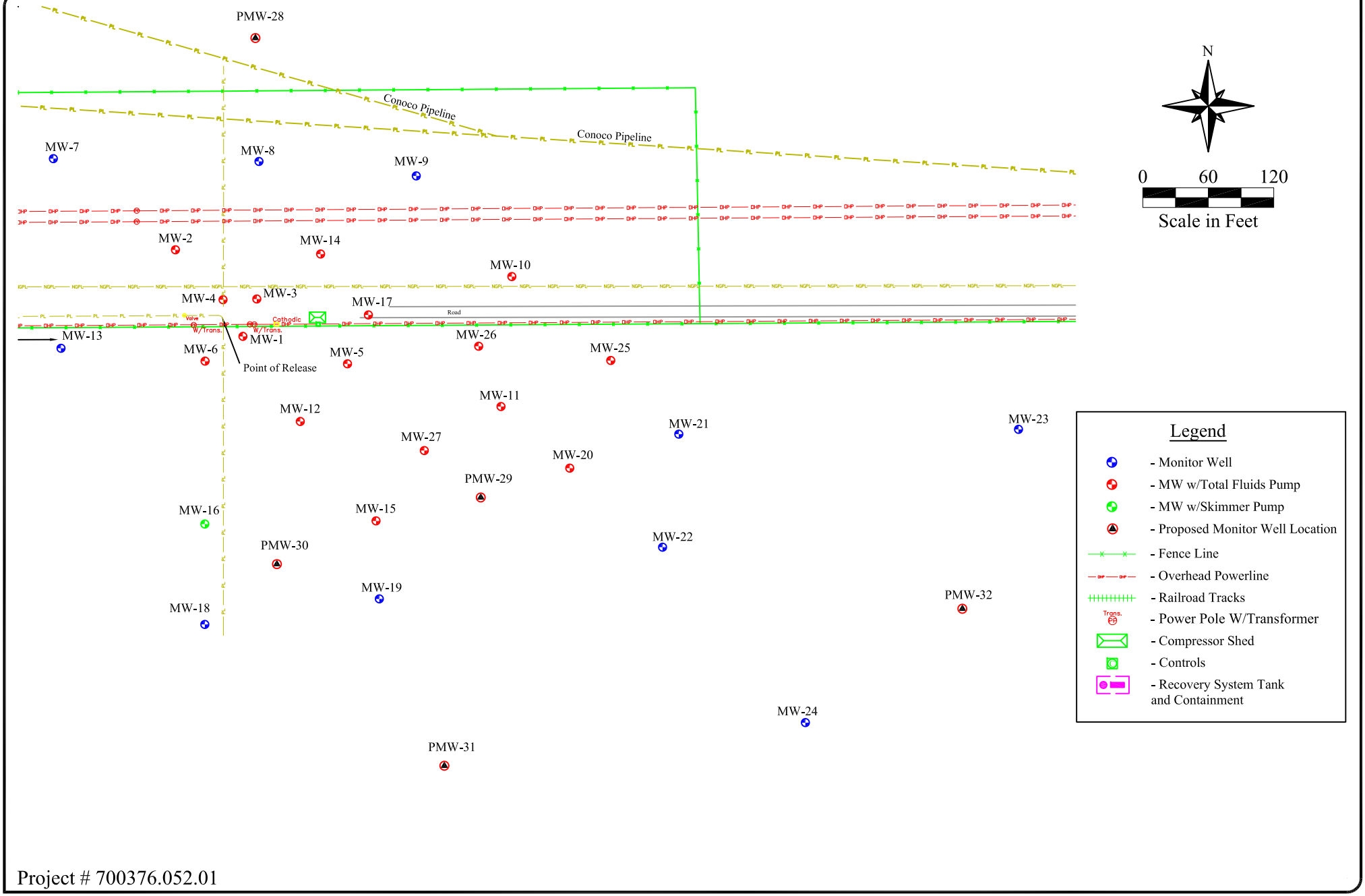
Drawn By: TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054

SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico

Figure 3d - PSH Thickness & Groundwater Concentration Map - (12/02/2013)



Project # 700376.052.01

TALON LPE

Date:	12/20/2013
Scale:	1" = 120'
Drawn By:	TJS

Hobbs Junction Mainline

SRS # 2003-00017, NMOCD REF. # AP-054

SW 1/4, SW 1/4, of Sec. 26, T18S, R37E, Lea County, New Mexico

Figure 4 - Proposed Monitor Well Location Map

APPENDIX B

Tables

Summary of Historical Fluid Level Measurements
Hobbs Junction Main Line
SRS #: 2003-0017

Well	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Depth to PSH (ft)	PSH Thickness (ft)	Corrected Groundwater Elevation (ft)
MW-1			Diameter: 4 in.	Screened Interval: 39 ft. to 54 ft.		TD: 54.2 ft.
	06/27/12	3678.50	45.23	40.64	4.59	3637.10
	09/18/12	3678.50	44.50	40.92	3.58	3636.99
	12/18/12	3678.50	43.02	41.50	1.52	3636.75
	03/15/13	3678.50	42.42	41.44	0.98	3636.90
	06/07/13	3678.50	43.59	41.13	2.46	3636.96
	09/30/13	3678.50	43.56	41.26	2.30	3636.86
	12/02/13	3678.50	45.49	41.02	4.47	3636.74
MW-2			Diameter: 4 in.	Screened Interval: 38 ft. to 53 ft.		TD: 53.4 ft.
	06/27/12	3679.47	43.30	41.76	1.54	3637.46
	09/18/12	3679.47	43.41	41.86	1.55	3637.35
	12/18/12	3679.47	43.90	41.93	1.97	3637.21
	03/15/13	3679.47	42.52	42.07	0.45	3637.33
	06/07/13	3679.47	42.98	42.31	0.67	3637.05
	09/30/13	3679.47	43.00	42.41	0.59	3636.96
	12/02/13	3679.47	43.28	42.00	1.28	3637.26
MW-3			Diameter: 4 in.	Screened Interval: 39 ft. to 54 ft.		TD: 54.7 ft.
	06/27/12	3679.81	46.55	41.94	4.61	3637.11
	09/18/12	3679.81	46.72	42.05	4.67	3636.99
	12/18/12	3679.81	45.96	42.40	3.56	3636.82
	03/15/13	3679.81	43.71	42.78	0.93	3636.88
	06/07/13	3679.81	46.24	42.43	3.81	3636.75
	09/30/13	3679.81	46.82	42.46	4.36	3636.63
	12/02/13	3679.81	45.96	42.58	3.38	3636.67
MW-4			Diameter: 4 in.	Screened Interval: 39 ft. to 54 ft.		TD: 54.6 ft.
	06/27/12	3679.64	45.50	41.80	3.70	3637.23
	09/18/12	3679.64	45.89	41.83	4.06	3637.14
	12/18/12	3679.64	45.54	42.08	3.46	3636.99
	03/15/13	3679.64	44.17	42.24	1.93	3637.08
	06/07/13	3679.64	45.76	41.91	3.85	3637.09
	09/30/13	3679.64	45.79	42.07	3.72	3636.96
	12/02/13	3679.64	45.16	41.98	3.18	3637.14
MW-5			Diameter: 4 in.	Screened Interval: 40 ft. to 55 ft.		TD: 55 ft.
	06/27/12	3679.26	47.13	41.75	5.38	3636.62
	09/18/12	3679.26	46.51	42.00	4.51	3636.52
	12/18/12	3679.26	46.83	42.22	4.61	3636.28
	03/15/13	3679.26	44.65	42.58	2.07	3636.34
	06/07/13	3679.26	47.28	42.07	5.21	3636.33
	09/30/13	3679.26	47.33	42.34	4.99	3636.10
	12/02/13	3679.26	48.41	42.28	6.13	3635.97
MW-6			Diameter: 4 in.	Screened Interval: 40 ft. to 55 ft.		TD: 55 ft.
	06/27/12	3680.63	47.08	42.70	4.38	3637.21
	09/18/12	3680.63	46.57	42.95	3.62	3637.08
	12/18/12	3680.63	44.70	43.65	1.05	3636.81
	03/15/13	3680.63	44.56	43.45	1.11	3637.00
	06/07/13	3680.63	46.29	43.38	2.91	3636.77
	09/30/13	3680.63	46.26	43.11	3.15	3637.00
	12/02/13	3680.63	46.72	43.25	3.47	3636.81
MW-7			Diameter: 2 in.	Screened Interval: 38 ft. to 53 ft.		TD: 53 ft.
	06/27/12	3679.85	41.68	-	-	3638.17
	09/18/12	3679.85	42.00	-	-	3637.85
	12/18/12	3679.85	42.14	-	-	3637.71
	03/15/13	3679.85	41.90	-	-	3637.95
	06/07/13	3679.85	41.99	-	-	3637.86
	09/30/13	3679.85	42.01	-	-	3637.84
	12/02/13	3679.85	42.16	-	-	3637.69

Summary of Historical Fluid Level Measurements
Hobbs Junction Main Line
SRS #: 2003-0017

Well	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Depth to PSH (ft)	PSH Thickness (ft)	Corrected Groundwater Elevation (ft)
MW-8			Diameter: 2 in.	Screened Interval: 35 ft. to 50 ft.		TD: 50 ft.
	06/27/12	3679.07	43.40	41.68	1.72	3637.11
	09/18/12	3679.07	43.91	41.70	2.21	3637.01
	12/18/12	3679.07	44.02	41.83	2.19	3636.88
	03/15/13	3679.07	44.16	41.62	2.54	3637.03
	06/07/13	3679.07	44.11	41.72	2.39	3636.96
	09/30/13	3679.07	44.14	41.92	2.22	3636.78
	12/02/13	3679.07	44.41	41.79	2.62	3636.85
MW-9			Diameter: 2 in.	Screened Interval: 37 ft. to 52 ft.		TD: 52 ft.
	06/27/12	3678.76	42.33	-	-	3636.43
	09/18/12	3678.76	43.43	-	-	3635.33
	12/18/12	3678.76	42.81	-	-	3635.95
	03/15/13	3678.76	42.51	-	-	3636.25
	06/07/13	3678.76	42.51	-	-	3636.25
	09/30/13	3678.76	42.54	-	-	3636.22
	12/02/13	3678.76	42.76	-	-	3636.00
MW-10			Diameter: 2 in.	Screened Interval: 37 ft. to 52 ft.		TD: 52 ft.
	06/27/12	3678.36	43.00	42.30	0.70	3635.94
	09/18/12	3678.36	44.35	42.19	2.16	3635.81
	12/18/12	3678.36	42.87	42.70	0.17	3635.63
	03/15/13	3678.36	42.74	42.62	0.12	3635.72
	06/07/13	3678.36	43.32	42.44	0.88	3635.77
	09/30/13	3678.36	43.30	42.49	0.81	3635.74
	12/02/13	3678.36	43.89	42.37	1.52	3635.74
MW-11			Diameter: 4 in.	Screened Interval: 36 ft. to 51 ft.		TD: 51 ft.
	06/27/12	3678.03	44.86	41.70	3.16	3635.81
	09/18/12	3678.03	44.40	41.99	2.41	3635.64
	12/18/12	3678.03	45.34	42.05	3.29	3635.44
	03/15/13	3678.03	43.11	42.40	0.71	3635.51
	06/07/13	3678.03	45.45	41.84	3.61	3635.59
	09/30/13	3678.03	45.49	42.01	3.48	3635.45
	12/02/13	3678.03	43.98	42.11	1.87	3635.61
MW-12			Diameter: 4 in.	Screened Interval: 36 ft. to 51 ft.		TD: 51 ft.
	06/27/12	3679.63	47.60	41.95	5.65	3636.75
	09/18/12	3679.63	46.56	42.36	4.20	3636.58
	12/18/12	3679.63	47.52	42.35	5.17	3636.43
	03/15/13	3679.63	47.20	42.45	4.75	3636.40
	06/07/13	3679.63	48.26	42.21	6.05	3636.42
	09/30/13	3679.63	48.27	42.24	6.03	3636.40
	12/02/13	3679.63	48.09	42.29	5.80	3636.38
MW-13			Diameter: 2 in.	Screened Interval: ft. to ft.		TD: 51.3 ft.
	06/27/12	3681.42	43.68	-	-	3637.74
	09/18/12	3681.42	43.75	-	-	3637.67
	12/18/12	3681.42	43.92	-	-	3637.50
	03/15/13	3681.42	43.40	-	-	3638.02
	06/07/13	3681.42	43.77	-	-	3637.65
	09/30/13	3681.42	43.60	-	-	3637.82
	12/02/13	3681.42	43.88	-	-	3637.54
MW-14			Diameter: 4 in.	Screened Interval: 36 ft. to 51 ft.		TD: 51 ft.
	06/27/12	3679.00	46.65	41.53	5.12	3636.63
	09/18/12	3679.00	46.60	41.69	4.91	3636.50
	12/18/12	3679.00	44.80	42.33	2.47	3636.26
	03/15/13	3679.00	43.18	42.58	0.60	3636.32
	06/07/13	3679.00	44.17	42.45	1.72	3636.27
	09/30/13	3679.00	44.26	42.61	1.65	3636.12
	12/02/13	3679.00	47.22	42.07	5.15	3636.08

Summary of Historical Fluid Level Measurements
Hobbs Junction Main Line
SRS #: 2003-0017

Well	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Depth to PSH (ft)	PSH Thickness (ft)	Corrected Groundwater Elevation (ft)
MW-15			Diameter: 4 in.	Screened Interval:	34 ft. to 49 ft.	TD: 49.0 ft.
	06/27/12	3674.92	42.20	38.22	3.98	3636.04
	09/18/12	3674.92	41.38	38.49	2.89	3635.95
	12/18/12	3674.92	41.03	38.81	2.22	3635.74
	03/15/13	3674.92	39.88	38.90	0.98	3635.86
	06/07/13	3674.92	40.62	38.70	1.92	3635.90
	09/30/13	3674.92	40.69	39.07	1.62	3635.58
	12/02/13	3674.92	41.86	38.49	3.37	3635.87
MW-16			Diameter: 4 in.	Screened Interval:	33 ft. to 48 ft.	TD: 48 ft.
	06/27/12	3676.86	40.85	40.05	0.80	3636.68
	09/18/12	3676.86	40.90	40.16	0.74	3636.58
	12/18/12	3676.86	41.42	40.26	1.16	3636.41
	03/15/13	3676.86	41.61	40.05	1.56	3636.55
	06/07/13	3676.86	42.60	40.00	2.60	3636.43
	09/30/13	3676.86	42.63	40.09	2.54	3636.35
	12/02/13	3676.86	42.71	40.06	2.65	3636.36
MW-17			Diameter: 4 in.	Screened Interval:	36 ft. to 51 ft.	TD: 51 ft.
	06/27/12	3679.01	46.80	41.84	4.96	3636.35
	09/18/12	3679.01	45.15	42.37	2.78	3636.18
	12/18/12	3679.01	45.95	42.40	3.55	3636.02
	03/15/13	3679.01	43.95	42.81	1.14	3636.01
	06/07/13	3679.01	45.10	42.46	2.64	3636.11
	09/30/13	3679.01	45.11	42.61	2.50	3635.99
	12/02/13	3679.01	45.10	42.46	2.64	3636.11
MW-18			Diameter: 2 in.	Screened Interval:	30 ft. to 45 ft.	TD: 45 ft.
	06/27/12	3675.68	38.91	-	-	3636.77
	09/18/12	3675.68	39.03	-	-	3636.65
	12/18/12	3675.68	39.23	-	-	3636.45
	03/15/13	3675.68	38.97	-	-	3636.71
	06/07/13	3675.68	39.05	-	-	3636.63
	09/30/13	3675.68	39.11	-	-	3636.57
	12/02/13	3675.68	39.16	-	-	3636.52
MW-19			Diameter: 2 in.	Screened Interval:	31 ft. to 46 ft.	TD: 46 ft.
	06/27/12	3674.96	38.48	-	-	3636.48
	09/18/12	3674.96	38.92	-	-	3636.04
	12/18/12	3674.96	39.12	-	-	3635.84
	03/15/13	3674.96	38.94	-	-	3636.02
	06/07/13	3674.96	38.99	-	-	3635.97
	09/30/13	3674.96	39.86	39.47	0.39	3635.43
	12/02/13	3674.96	39.87	-	-	3635.09
MW-20			Diameter: 2 in.	Screened Interval:	31 ft. to 46 ft.	TD: 46 ft.
	06/27/12	3674.38	41.25	38.38	2.87	3635.53
	09/18/12	3674.38	41.00	38.58	2.42	3635.40
	12/18/12	3674.38	40.05	39.02	1.03	3635.19
	03/15/13	3674.38	41.92	38.50	3.42	3635.32
	06/07/13	3674.38	41.95	38.48	3.47	3635.33
	09/30/13	3674.38	42.02	38.91	3.11	3634.96
	12/02/13	3674.38	41.84	39.32	2.52	3634.64
MW-21			Diameter: 2 in.	Screened Interval:	23 ft. to 53 ft.	TD: 53.0 ft.
	06/27/12	3674.38	39.15	-	-	3635.23
	09/18/12	3674.38	39.27	-	-	3635.11
	12/18/12	3674.38	38.64	-	-	3635.74
	03/15/13	3674.38	39.32	-	-	3635.06
	06/07/13	3674.38	39.33	-	-	3635.05
	09/30/13	3674.38	39.41	-	-	3634.97
	12/02/13	3674.38	39.39	-	-	3634.99

Summary of Historical Fluid Level Measurements
Hobbs Junction Main Line
SRS #: 2003-0017

Well	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Depth to PSH (ft)	PSH Thickness (ft)	Corrected Groundwater Elevation (ft)
MW-22			Diameter: 2 in.	Screened Interval: 20 ft. to 50 ft.		TD: 50 ft.
	06/27/12	3674.07	38.94	-	-	3635.13
	09/18/12	3674.07	39.07	-	-	3635.00
	12/18/12	3674.07	39.28	-	-	3634.79
	03/15/13	3674.07	39.11	-	-	3634.96
	06/07/13	3674.07	39.31	-	-	3634.76
	09/30/13	3674.07	39.34	-	-	3634.73
	12/02/13	3674.07	39.36	-	-	3634.71
MW-23			Diameter: 2 in.	Screened Interval: 29 ft. to 49 ft.		TD: 49 ft.
	06/27/12	3672.39	38.68	-	-	3633.71
	09/18/12	3672.39	38.82	-	-	3633.57
	12/18/12	3672.39	39.02	-	-	3633.37
	03/15/13	3672.39	38.77	-	-	3633.62
	06/07/13	3672.39	38.85	-	-	3633.54
	09/30/13	3672.39	38.89	-	-	3633.50
	12/02/13	3672.39	38.91	-	-	3633.48
MW-24			Diameter: 2 in.	Screened Interval: 30 ft. to 50 ft.		TD: 50 ft.
	06/27/12	3672.79	38.58	-	-	3634.21
	09/18/12	3672.79	38.78	-	-	3634.01
	12/18/12	3672.79	38.93	-	-	3633.86
	03/15/13	3672.79	38.67	-	-	3634.12
	06/07/13	3672.79	38.81	-	-	3633.98
	09/30/13	3672.79	38.76	-	-	3634.03
	12/02/13	3672.79	38.89	-	-	3633.90
MW-25			Diameter: 4 in.	Screened Interval: ft. to ft.		TD: 57.0 ft.
	06/27/12		41.20	41.18	0.02	
	09/18/12		41.33	41.32	0.01	
	12/18/12		41.41	41.40	0.01	
	03/15/13		41.31	-	-	
	06/07/13		41.65	41.50	0.15	
	09/30/13		41.67	41.57	0.10	
	12/02/13		41.65	41.52	0.13	
MW-26			Diameter: 4 in.	Screened Interval: ft. to ft.		TD: 56.5 ft.
	06/27/12		43.90	40.50	3.40	
	09/18/12		44.28	40.55	3.73	
	12/18/12		43.41	41.41	2.00	
	03/15/13		42.98	41.00	1.98	
	06/07/13		43.54	40.77	2.77	
	09/30/13		43.59	40.83	2.76	
	12/02/13		43.91	40.98	2.93	
MW-27			Diameter: in.	Screened Interval: ft. to ft.		TD: 54.5 ft.
	06/27/12		41.97	38.15	3.82	
	09/18/12		41.44	38.41	3.03	
	12/18/12		41.37	38.71	2.66	
	03/15/13		40.21	38.80	1.41	
	06/07/13		40.77	38.62	2.15	
	09/30/13		40.79	38.69	2.10	
	12/02/13		42.41	38.30	4.11	

Summary of Historical Fluid Level Measurements
Hobbs Junction Main Line
SRS #: 2003-0017

Well	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Depth to PSH (ft)	PSH Thickness (ft)	Corrected Groundwater Elevation (ft)

Specific Gravity: 0.835

NG - Not Gauged
NSch - Not scheduled to be gauged
Block - Well blocked/obstructed
Locate - Can not locate/find well
Dry - Well is dry
P&A - Plug and Abandon
WD - Well Destroyed

Summary of Historical Groundwater Analytical Data
Hobbs Junction Main Line
SRS #: 2003-0017

Sample Designation	Date Sampled	Concentration (mg/L)				
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX
MW-7	06/28/12	<0.000371	<0.000347	<0.000326	BRL	-
	09/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	12/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	03/18/13	<0.000567	<0.000518	<0.000518	BRL	-
	06/07/13	<0.000500	<0.00100	<0.000700	U	U
MW-9	06/28/12	<0.000371	<0.000347	<0.000326	BRL	-
	09/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	12/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	03/18/13	<0.000567	<0.000518	<0.000518	BRL	-
	06/07/13	<0.000500	<0.00100	<0.000700	U	U
MW-13	06/28/12	<0.000371	<0.000347	<0.000326	BRL	-
	09/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	12/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	03/18/13	<0.000567	<0.000518	<0.000518	BRL	-
	06/07/13	0.00224	0.00357	0.00116	U	0.00697
MW-18	06/28/12	<0.000371	<0.000347	<0.000326	BRL	-
	09/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	12/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	03/18/13	<0.000567	<0.000518	<0.000518	BRL	-
	06/07/13	0.00718	0.0122	0.00372	0.00596	0.0291
	09/30/13	<0.000567	<0.000518	<0.000518	BRL	-
	12/03/13	<0.000567	<0.000518	<0.000518	BRL	-
MW-19	06/28/12	0.491	<0.0174	0.250	BRL	-
	09/18/12	0.204	0.0607	0.0989	0.0427	-
	12/18/12	0.146	0.0720	0.0716	0.0363	-
	03/18/13	0.783	0.351	0.232	0.206	-
	06/07/13	1.33	0.762	0.343	0.407	2.84

Summary of Historical Groundwater Analytical Data
Hobbs Junction Main Line
SRS #: 2003-0017

Sample Designation	Date Sampled	Concentration (mg/L)				
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX
MW-21	06/28/12	4.84	<0.0347	0.257	BRL	-
	09/18/12	9.17	<0.0174	0.694	0.298	-
	12/18/12	7.82	<0.0174	0.563	0.247	-
	03/18/13	13.7	<0.0259	0.969	0.448	-
	06/07/13	14.0	<0.0500	1.05	0.461	15.5
	09/30/13	17.2	<0.0518	0.999	BRL	-
	12/03/13	22.0	<0.0518	1.10	BRL	-
MW-22	06/28/12	2.27	<0.0347	<0.0326	BRL	-
	09/18/12	0.972	<0.00130	0.0442	BRL	-
	12/18/12	1.76	<0.00347	0.0278	BRL	-
	03/18/13	1.04	<0.00518	<0.00518	BRL	-
	06/07/13	1.30	<0.00500	0.00660	U	1.31
	09/30/13	0.172	<0.000518	<0.000518	BRL	-
	12/03/13	0.906	<0.00518	<0.00518	BRL	-
MW-23	06/28/12	<0.000371	<0.000347	<0.000326	BRL	-
	09/18/12	<0.000310	<0.000259	<0.000291	BRL	-
	12/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	03/18/13	<0.000567	<0.000518	<0.000518	BRL	-
	06/07/13	<0.000500	<0.00100	<0.000700	U	U
	09/30/13	<0.000567	<0.000518	<0.000518	BRL	-
	12/02/13	<0.000387	<0.000465	<0.000442	BRL	-
MW-24	06/28/12	<0.000371	<0.000347	<0.000326	BRL	-
	09/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	12/18/12	<0.000371	<0.000347	<0.000326	BRL	-
	03/18/13	<0.000567	<0.000518	<0.000518	BRL	-
	06/07/13	<0.000500	<0.00100	<0.000700	U	U
	09/30/13	<0.000567	<0.000518	<0.000518	BRL	-
	12/02/13	<0.000387	<0.000465	<0.000442	BRL	-
MW-25	03/18/13	2.18	0.582	0.182	0.228	-

APPENDIX C

Laboratory Analytical Data Reports and Chains of Custody Documentation

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Brad Ivy
Talon LPE-Midland
2901 State Highway 349
Midland, TX, 79706

Report Date: March 22, 2013

Work Order: 13031919

Project Location: Hobbs, NM
Project Name: Hobbs Junction Mainline
Project Number: 700376.052.01
SRS#: 2003-00017

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
323915	MW-7	water	2013-03-18	11:35	2013-03-19
323916	MW-9	water	2013-03-18	11:50	2013-03-19
323917	MW-13	water	2013-03-18	11:15	2013-03-19
323918	MW-18	water	2013-03-18	10:35	2013-03-19
323919	MW-19	water	2013-03-18	10:20	2013-03-19
323920	MW-21	water	2013-03-18	10:05	2013-03-19
323921	MW-22	water	2013-03-18	10:50	2013-03-19
323922	MW-23	water	2013-03-18	09:40	2013-03-19
323923	MW-24	water	2013-03-18	09:25	2013-03-19
323924	MW-25	water	2013-03-18	12:10	2013-03-19

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

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

Report Contents

Case Narrative

Samples for project Hobbs Junction Mainline were received by TraceAnalysis, Inc. on 2013-03-19 and assigned to work order 13031919. Samples for work order 13031919 were received intact at a temperature of 2.8 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	84599	2013-03-20 at 13:49	99860	2013-03-20 at 13:49
BTEX	S 8021B	84630	2013-03-21 at 15:21	99888	2013-03-21 at 15:21

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 13031919 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: 323915 - MW-7

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99860	Date Analyzed:	2013-03-20	Analyzed By:	MT
Prep Batch:	84599	Sample Preparation:	2013-03-20	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0948	mg/L	1	0.100	95	80 - 120
4-Bromofluorobenzene (4-BFB)			0.0980	mg/L	1	0.100	98	80 - 120

Sample: 323916 - MW-9

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99860	Date Analyzed:	2013-03-20	Analyzed By:	MT
Prep Batch:	84599	Sample Preparation:	2013-03-20	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0967	mg/L	1	0.100	97	80 - 120
4-Bromofluorobenzene (4-BFB)			0.0997	mg/L	1	0.100	100	80 - 120

Sample: 323917 - MW-13

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99860	Date Analyzed:	2013-03-20	Analyzed By:	MT
Prep Batch:	84599	Sample Preparation:	2013-03-20	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0959	mg/L	1	0.100	96	80 - 120
4-Bromofluorobenzene (4-BFB)			0.0989	mg/L	1	0.100	99	80 - 120

Sample: 323918 - MW-18

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99860	Date Analyzed:	2013-03-20	Analyzed By:	MT
Prep Batch:	84599	Sample Preparation:	2013-03-20	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0979	mg/L	1	0.100	98	80 - 120
4-Bromofluorobenzene (4-BFB)			0.102	mg/L	1	0.100	102	80 - 120

Sample: 323919 - MW-19

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99860	Date Analyzed:	2013-03-20	Analyzed By:	MT
Prep Batch:	84599	Sample Preparation:	2013-03-20	Prepared By:	MT

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**0.783**	mg/L	50	0.00100
Toluene		1	**0.351**	mg/L	50	0.00100
Ethylbenzene		1	**0.232**	mg/L	50	0.00100
Xylene		1	**0.206**	mg/L	50	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.89	mg/L	50	5.00	98	80 - 120
4-Bromofluorobenzene (4-BFB)			5.05	mg/L	50	5.00	101	80 - 120

Sample: 323920 - MW-21

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99860	Date Analyzed:	2013-03-20	Analyzed By:	MT
Prep Batch:	84599	Sample Preparation:	2013-03-20	Prepared By:	MT

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**13.7**	mg/L	50	0.00100
Toluene	U	1	<0.0500	mg/L	50	0.00100
Ethylbenzene		1	**0.969**	mg/L	50	0.00100
Xylene		1	**0.448**	mg/L	50	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.86	mg/L	50	5.00	97	80 - 120
4-Bromofluorobenzene (4-BFB)			5.02	mg/L	50	5.00	100	80 - 120

Sample: 323921 - MW-22

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99888	Date Analyzed:	2013-03-21	Analyzed By:	MT
Prep Batch:	84630	Sample Preparation:	2013-03-21	Prepared By:	MT

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**1.04**	mg/L	10	0.00100
Toluene	U	1	<0.0100	mg/L	10	0.00100
Ethylbenzene	U	1	<0.0100	mg/L	10	0.00100
Xylene	U	1	<0.0100	mg/L	10	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.934	mg/L	10	1.00	93	80 - 120
4-Bromofluorobenzene (4-BFB)			0.927	mg/L	10	1.00	93	80 - 120

Sample: 323922 - MW-23

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99888	Date Analyzed:	2013-03-21	Analyzed By:	MT
Prep Batch:	84630	Sample Preparation:	2013-03-21	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0941	mg/L	1	0.100	94	80 - 120
4-Bromofluorobenzene (4-BFB)			0.0926	mg/L	1	0.100	93	80 - 120

Sample: 323923 - MW-24

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99860	Date Analyzed:	2013-03-20	Analyzed By:	MT
Prep Batch:	84599	Sample Preparation:	2013-03-20	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0941	mg/L	1	0.100	94	80 - 120
4-Bromofluorobenzene (4-BFB)			0.0959	mg/L	1	0.100	96	80 - 120

Sample: 323924 - MW-25

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	99888	Date Analyzed:	2013-03-21	Analyzed By:	MT
Prep Batch:	84630	Sample Preparation:	2013-03-21	Prepared By:	MT

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**2.18**	mg/L	10	0.00100
Toluene		1	**0.582**	mg/L	10	0.00100
Ethylbenzene		1	**0.182**	mg/L	10	0.00100
Xylene		1	**0.228**	mg/L	10	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.939	mg/L	10	1.00	94	80 - 120
4-Bromofluorobenzene (4-BFB)			0.905	mg/L	10	1.00	90	80 - 120

Method Blanks

Method Blank (1) QC Batch: 99860

QC Batch: 99860 | Date Analyzed: 2013-03-20 | Analyzed By: MT
Prep Batch: 84599 | QC Preparation: 2013-03-20 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000567	mg/L	0.001
Toluene		1	<0.000518	mg/L	0.001
Ethylbenzene		1	<0.000518	mg/L	0.001
Xylene		1	<0.000548	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0969	mg/L	1	0.100	97	80 - 120
4-Bromofluorobenzene (4-BFB)			0.101	mg/L	1	0.100	101	80 - 120

Method Blank (1) QC Batch: 99888

QC Batch: 99888 | Date Analyzed: 2013-03-21 | Analyzed By: MT
Prep Batch: 84630 | QC Preparation: 2013-03-21 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000567	mg/L	0.001
Toluene		1	<0.000518	mg/L	0.001
Ethylbenzene		1	<0.000518	mg/L	0.001
Xylene		1	<0.000548	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0931	mg/L	1	0.100	93	80 - 120
4-Bromofluorobenzene (4-BFB)			0.0924	mg/L	1	0.100	92	80 - 120

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 99860 | Date Analyzed: 2013-03-20 | Analyzed By: MT
Prep Batch: 84599 | QC Preparation: 2013-03-20 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0954	mg/L	1	0.100	<0.000567	95	80 - 120
Toluene		1	0.0995	mg/L	1	0.100	<0.000518	100	80 - 120
Ethylbenzene		1	0.0994	mg/L	1	0.100	<0.000518	99	80 - 120
Xylene		1	0.295	mg/L	1	0.300	<0.000548	98	80 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0958	mg/L	1	0.100	<0.000567	96	80 - 120	0	20
Toluene		1	0.103	mg/L	1	0.100	<0.000518	103	80 - 120	4	20
Ethylbenzene		1	0.104	mg/L	1	0.100	<0.000518	104	80 - 120	4	20
Xylene		1	0.308	mg/L	1	0.300	<0.000548	103	80 - 120	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)	0.0960	0.0946	mg/L	1	0.100	96	95	80 - 120
4-Bromofluorobenzene (4-BFB)	0.0969	0.0969	mg/L	1	0.100	97	97	80 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 99888 | Date Analyzed: 2013-03-21 | Analyzed By: MT
Prep Batch: 84630 | QC Preparation: 2013-03-21 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0927	mg/L	1	0.100	<0.000567	93	80 - 120
Toluene		1	0.0979	mg/L	1	0.100	<0.000518	98	80 - 120
Ethylbenzene		1	0.100	mg/L	1	0.100	<0.000518	100	80 - 120
Xylene		1	0.291	mg/L	1	0.300	<0.000548	97	80 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0932	mg/L	1	0.100	<0.000567	93	80 - 120	0	20
Toluene		1	0.0991	mg/L	1	0.100	<0.000518	99	80 - 120	1	20
Ethylbenzene		1	0.0995	mg/L	1	0.100	<0.000518	100	80 - 120	1	20
Xylene		1	0.293	mg/L	1	0.300	<0.000548	98	80 - 120	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0930	0.0921	mg/L	1	0.100	93	92	80 - 120
4-Bromofluorobenzene (4-BFB)	0.0902	0.0887	mg/L	1	0.100	90	89	80 - 120

Matrix Spike (MS-1) Spiked Sample: 323910

QC Batch: 99860 | Date Analyzed: 2013-03-20 | Analyzed By: MT
Prep Batch: 84599 | QC Preparation: 2013-03-20 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0857	mg/L	1	0.100	<0.000567	86	64.6 - 120
Toluene		1	0.0906	mg/L	1	0.100	<0.000518	91	62.9 - 123
Ethylbenzene		1	0.0904	mg/L	1	0.100	<0.000518	90	64.2 - 123
Xylene		1	0.267	mg/L	1	0.300	<0.000548	89	63.1 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0900	mg/L	1	0.100	<0.000567	90	64.6 - 120	5	20
Toluene		1	0.0956	mg/L	1	0.100	<0.000518	96	62.9 - 123	5	20
Ethylbenzene		1	0.0954	mg/L	1	0.100	<0.000518	95	64.2 - 123	5	20
Xylene		1	0.282	mg/L	1	0.300	<0.000548	94	63.1 - 121	6	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)	0.0972	0.0957	mg/L	1	0.1	97	96	80 - 120
4-Bromofluorobenzene (4-BFB)	0.0989	0.0968	mg/L	1	0.1	99	97	80 - 120

Matrix Spike (MS-1) Spiked Sample: 323921

QC Batch: 99888 | Date Analyzed: 2013-03-21 | Analyzed By: MT
Prep Batch: 84630 | QC Preparation: 2013-03-21 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.00	mg/L	10	1.00	1.04	96	64.6 - 120
Toluene		1	0.996	mg/L	10	1.00	<0.00518	100	62.9 - 123
Ethylbenzene		1	1.00	mg/L	10	1.00	<0.00518	100	64.2 - 123
Xylene		1	2.93	mg/L	10	3.00	<0.00548	98	63.1 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.90	mg/L	10	1.00	1.04	86	64.6 - 120	5	20
Toluene		1	0.971	mg/L	10	1.00	<0.00518	97	62.9 - 123	2	20
Ethylbenzene		1	0.974	mg/L	10	1.00	<0.00518	97	64.2 - 123	3	20
Xylene		1	2.86	mg/L	10	3.00	<0.00548	95	63.1 - 121	2	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)	0.931	0.920	mg/L	10	1	93	92	80 - 120
4-Bromofluorobenzene (4-BFB)	0.905	0.888	mg/L	10	1	90	89	80 - 120

Calibration Standards

Standard (CCV-1)

QC Batch: 99860 | Date Analyzed: 2013-03-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2013-03-20
Toluene		1	mg/L	0.100	0.105	105	80 - 120	2013-03-20
Ethylbenzene		1	mg/L	0.100	0.106	106	80 - 120	2013-03-20
Xylene		1	mg/L	0.300	0.312	104	80 - 120	2013-03-20

Standard (CCV-2)

QC Batch: 99860 | Date Analyzed: 2013-03-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0931	93	80 - 120	2013-03-20
Toluene		1	mg/L	0.100	0.0986	99	80 - 120	2013-03-20
Ethylbenzene		1	mg/L	0.100	0.0985	98	80 - 120	2013-03-20
Xylene		1	mg/L	0.300	0.293	98	80 - 120	2013-03-20

Standard (CCV-3)

QC Batch: 99860 | Date Analyzed: 2013-03-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0962	96	80 - 120	2013-03-20
Toluene		1	mg/L	0.100	0.100	100	80 - 120	2013-03-20
Ethylbenzene		1	mg/L	0.100	0.100	100	80 - 120	2013-03-20
Xylene		1	mg/L	0.300	0.299	100	80 - 120	2013-03-20

Standard (CCV-1)

QC Batch: 99888 Date Analyzed: 2013-03-21 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0970	97	80 - 120	2013-03-21
Toluene		1	mg/L	0.100	0.101	101	80 - 120	2013-03-21
Ethylbenzene		1	mg/L	0.100	0.101	101	80 - 120	2013-03-21
Xylene		1	mg/L	0.300	0.297	99	80 - 120	2013-03-21

Standard (CCV-2)

QC Batch: 99888 Date Analyzed: 2013-03-21 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0948	95	80 - 120	2013-03-21
Toluene		1	mg/L	0.100	0.100	100	80 - 120	2013-03-21
Ethylbenzene		1	mg/L	0.100	0.0993	99	80 - 120	2013-03-21
Xylene		1	mg/L	0.300	0.293	98	80 - 120	2013-03-21

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 1303919

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

8808 Camp Bowie Blvd. West, Suite 180
Ft. Worth, Texas 76116
Tel (817) 201-5260
Fax (817) 560-4336

Company Name: TALON LPE
Phone #: 432-522-2133
Address: (Street, City, Zip) 2901 S HWY 349, MIDLAND, TX
Fax #: 432-522-2183
Contact Person: BRAD IVY
E-mail: BIVY@TALONLPE.COM
Invoice to: (If different from above) PLAINS SRS # 2003-00017
Project #: 700376.052.01
Project Name: HOBBS JCT MAINLINE
Project Location (including state): HOBBS, NM
Sampler Signature: [signature]

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
325915	MW-7	3	VOA	X				X				X		3/18/13	1135
916	MW-9	3	VOA	X				X				X			1150
917	MW-13	3	VOA	X				X				X			1115
918	MW-18	3	VOA	X				X				X			1035
919	MW-19	3	VOA	X				X				X			1020
920	MW-21	3	VOA	X				X				X			1005
921	MW-22	3	VOA	X				X				X			1050
922	MW-23	3	VOA	X				X				X			0940
923	MW-24	3	VOA	X				X				X			0925
924	MW-25	3	VOA	X				X				X			1210

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	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	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Turn Around Time if different from standard	Hold
	X																	

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°C:
[signature]	TALON	3/19/13	1:47					
				[signature]		3/19/13	1:47	

LAB USE ONLY
Intact Y / N
Headspace Y / N / NA
P2 3.4/2.8
Log-in-Review [signature]

REMARKS:

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

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

Carrier # [signature]

Analytical Report 464816

for

PLAINS ALL AMERICAN EH&S

Project Manager: Brad Ivy

Hobbs Jct.Mainline

700376.052.05

13-JUN-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

13-JUN-13

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

Reference: XENCO Report No(s): **464816**
Hobbs Jct.Mainline
Project Address: Lea County, NM

Brad Ivy:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464816. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464816 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-7	W	06-07-13 10:00		464816-001
MW-9	W	06-07-13 09:30		464816-002
MW-13	W	06-07-13 13:00		464816-003
MW-18	W	06-07-13 14:30		464816-004
MW-19	W	06-07-13 15:00		464816-005
MW-21	W	06-07-13 16:30		464816-006
MW-22	W	06-07-13 15:45		464816-007
MW-23	W	06-07-13 16:45		464816-008
MW-24	W	06-07-13 16:15		464816-009

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-7**	Matrix: Water	Date Received:06.07.13 17.30
Lab Sample Id:	464816-001	Date Collected: 06.07.13 10.00	
Analytical Method:	BTEX by EPA 8021B		Prep Method: SW5030B
Tech:	DYV		% Moisture:
Analyst:	DYV	Date Prep: 06.12.13 08.00	
Seq Number:	916109		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	06.13.13 14.28	U	1
Toluene	108-88-3	ND	0.00200	mg/L	06.13.13 14.28	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	06.13.13 14.28	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	06.13.13 14.28	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	06.13.13 14.28	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	06.13.13 14.28	U	1
Total BTEX		ND	0.00100	mg/L	06.13.13 14.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	80-120	06.13.13 14.28	
4-Bromofluorobenzene	460-00-4	82	%	80-120	06.13.13 14.28	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-9**	Matrix: Water	Date Received:06.07.13 17.30
Lab Sample Id:	464816-002	Date Collected: 06.07.13 09.30	
Analytical Method:	BTEX by EPA 8021B		Prep Method: SW5030B
Tech:	DYV		% Moisture:
Analyst:	DYV	Date Prep: 06.12.13 08.00	
Seq Number:	916109		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	06.12.13 14.46	U	1
Toluene	108-88-3	ND	0.00200	mg/L	06.12.13 14.46	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	06.12.13 14.46	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	06.12.13 14.46	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	06.12.13 14.46	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	06.12.13 14.46	U	1
Total BTEX		ND	0.00100	mg/L	06.12.13 14.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	80-120	06.12.13 14.46	
4-Bromofluorobenzene	460-00-4	83	%	80-120	06.12.13 14.46	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-13**	Matrix:	Water	Date Received:	06.07.13 17.30
Lab Sample Id:	464816-003	Date Collected:	06.07.13 13.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DYV			% Moisture:	
Analyst:	DYV	Date Prep:	06.12.13 08.00		
Seq Number:	916109				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00224**	0.00100	mg/L	06.12.13 15.02		1
Toluene	108-88-3	**0.00357**	0.00200	mg/L	06.12.13 15.02		1
Ethylbenzene	100-41-4	**0.00116**	0.00100	mg/L	06.12.13 15.02		1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	06.12.13 15.02	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	06.12.13 15.02	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	06.12.13 15.02	U	1
Total BTEX		**0.00697**	0.00100	mg/L	06.12.13 15.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	80-120	06.12.13 15.02	
4-Bromofluorobenzene	460-00-4	84	%	80-120	06.12.13 15.02	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-18**	Matrix:	Water	Date Received:	06.07.13 17.30
Lab Sample Id:	464816-004	Date Collected:	06.07.13 14.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DYV			% Moisture:	
Analyst:	DYV	Date Prep:	06.12.13 08.00		
Seq Number:	916109				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00718**	0.00100	mg/L	06.12.13 15.19		1
Toluene	108-88-3	**0.0122**	0.00200	mg/L	06.12.13 15.19		1
Ethylbenzene	100-41-4	**0.00372**	0.00100	mg/L	06.12.13 15.19		1
m,p-Xylenes	179601-23-1	**0.00419**	0.00200	mg/L	06.12.13 15.19		1
o-Xylene	95-47-6	**0.00177**	0.00100	mg/L	06.12.13 15.19		1
Total Xylenes	1330-20-7	**0.00596**	0.00100	mg/L	06.12.13 15.19		1
Total BTEX		**0.0291**	0.00100	mg/L	06.12.13 15.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	80-120	06.12.13 15.19	
4-Bromofluorobenzene	460-00-4	93	%	80-120	06.12.13 15.19	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-19**	Matrix:	Water	Date Received:	06.07.13 17.30
Lab Sample Id:	464816-005	Date Collected:	06.07.13 15.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DYV			% Moisture:	
Analyst:	DYV	Date Prep:	06.12.13 08.00		
Seq Number:	916109				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**1.33**	0.00500	mg/L	06.13.13 14.12		5
Toluene	108-88-3	**0.762**	0.0100	mg/L	06.13.13 14.12		5
Ethylbenzene	100-41-4	**0.343**	0.00500	mg/L	06.13.13 14.12		5
m,p-Xylenes	179601-23-1	**0.232**	0.0100	mg/L	06.13.13 14.12		5
o-Xylene	95-47-6	**0.175**	0.00500	mg/L	06.13.13 14.12		5
Total Xylenes	1330-20-7	**0.407**	0.00500	mg/L	06.13.13 14.12		5
Total BTEX		**2.84**	0.00500	mg/L	06.13.13 14.12		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	80-120	06.13.13 14.12	
4-Bromofluorobenzene	460-00-4	104	%	80-120	06.13.13 14.12	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-21**	Matrix: Water	Date Received:06.07.13 17.30
Lab Sample Id:	464816-006	Date Collected: 06.07.13 16.30	
Analytical Method:	BTEX by EPA 8021B		Prep Method: SW5030B
Tech:	DYV		% Moisture:
Analyst:	DYV	Date Prep: 06.12.13 17.00	
Seq Number:	916137		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**14.0**	0.0500	mg/L	06.13.13 16.30		50
Toluene	108-88-3	ND	0.100	mg/L	06.13.13 16.30	U	50
Ethylbenzene	100-41-4	**1.05**	0.0500	mg/L	06.13.13 16.30		50
m,p-Xylenes	179601-23-1	**0.283**	0.100	mg/L	06.13.13 16.30		50
o-Xylene	95-47-6	**0.178**	0.0500	mg/L	06.13.13 16.30		50
Total Xylenes	1330-20-7	**0.461**	0.0500	mg/L	06.13.13 16.30		50
Total BTEX		**15.5**	0.0500	mg/L	06.13.13 16.30		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	80	%	80-120	06.13.13 16.30	
4-Bromofluorobenzene	460-00-4	84	%	80-120	06.13.13 16.30	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-22**	Matrix:	Water	Date Received:	06.07.13 17.30
Lab Sample Id:	464816-007	Date Collected:	06.07.13 15.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DYV			% Moisture:	
Analyst:	DYV	Date Prep:	06.12.13 17.00		
Seq Number:	916137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**1.30**	0.00500	mg/L	06.13.13 16.14		5
Toluene	108-88-3	ND	0.0100	mg/L	06.13.13 16.14	U	5
Ethylbenzene	100-41-4	**0.00660**	0.00500	mg/L	06.13.13 16.14		5
m,p-Xylenes	179601-23-1	ND	0.0100	mg/L	06.13.13 16.14	U	5
o-Xylene	95-47-6	ND	0.00500	mg/L	06.13.13 16.14	U	5
Total Xylenes	1330-20-7	ND	0.00500	mg/L	06.13.13 16.14	U	5
Total BTEX		**1.31**	0.00500	mg/L	06.13.13 16.14		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	80-120	06.13.13 16.14	
4-Bromofluorobenzene	460-00-4	91	%	80-120	06.13.13 16.14	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-23**	Matrix:	Water	Date Received:	06.07.13 17.30
Lab Sample Id:	464816-008	Date Collected:	06.07.13 16.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DYV			% Moisture:	
Analyst:	DYV	Date Prep:	06.12.13 17.00		
Seq Number:	916137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	06.13.13 15.58	U	1
Toluene	108-88-3	ND	0.00200	mg/L	06.13.13 15.58	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	06.13.13 15.58	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	06.13.13 15.58	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	06.13.13 15.58	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	06.13.13 15.58	U	1
Total BTEX		ND	0.00100	mg/L	06.13.13 15.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	80-120	06.13.13 15.58	
4-Bromofluorobenzene	460-00-4	84	%	80-120	06.13.13 15.58	

Certificate of Analytical Results 464816

PLAINS ALL AMERICAN EH&S, Midland, TX

Hobbs Jct.Mainline

Sample Id:	**MW-24**	Matrix:	Water	Date Received:	06.07.13 17.30
Lab Sample Id:	464816-009	Date Collected:	06.07.13 16.15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DYV			% Moisture:	
Analyst:	DYV	Date Prep:	06.12.13 17.00		
Seq Number:	916137				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	06.13.13 15.41	U	1
Toluene	108-88-3	ND	0.00200	mg/L	06.13.13 15.41	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	06.13.13 15.41	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	06.13.13 15.41	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	06.13.13 15.41	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	06.13.13 15.41	U	1
Total BTEX		ND	0.00100	mg/L	06.13.13 15.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	80-120	06.13.13 15.41	
4-Bromofluorobenzene	460-00-4	94	%	80-120	06.13.13 15.41	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

PLAINS ALL AMERICAN EH&S

Hobbs Jct.Mainline

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 916109 Matrix: Water Date Prep: 06.12.13
MB Sample Id: 639605-1-BLK LCS Sample Id: 639605-1-BKS LCSD Sample Id: 639605-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0910	91	0.0904	90	70-125	1	25	mg/L	06.12.13 08:21	
Toluene	<0.00200	0.100	0.0862	86	0.0891	89	70-125	3	25	mg/L	06.12.13 08:21	
Ethylbenzene	<0.00100	0.100	0.0902	90	0.0960	96	71-129	6	25	mg/L	06.12.13 08:21	
m,p-Xylenes	<0.00200	0.200	0.182	91	0.195	98	70-131	7	25	mg/L	06.12.13 08:21	
o-Xylene	<0.00100	0.100	0.0937	94	0.101	101	71-133	7	25	mg/L	06.12.13 08:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		104		107		80-120	%	06.12.13 08:21
4-Bromofluorobenzene	86		103		116		80-120	%	06.12.13 08:21

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 916137 Matrix: Water Date Prep: 06.12.13
MB Sample Id: 639606-1-BLK LCS Sample Id: 639606-1-BKS LCSD Sample Id: 639606-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0880	88	0.0919	92	70-125	4	25	mg/L	06.12.13 20:12	
Toluene	<0.00200	0.100	0.0832	83	0.0857	86	70-125	3	25	mg/L	06.12.13 20:12	
Ethylbenzene	<0.00100	0.100	0.0877	88	0.0890	89	71-129	1	25	mg/L	06.12.13 20:12	
m,p-Xylenes	<0.00200	0.200	0.177	89	0.178	89	70-131	1	25	mg/L	06.12.13 20:12	
o-Xylene	<0.00100	0.100	0.0917	92	0.0929	93	71-133	1	25	mg/L	06.12.13 20:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		101		106		80-120	%	06.12.13 20:12
4-Bromofluorobenzene	80		94		99		80-120	%	06.12.13 20:12

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 916109 Matrix: Water Date Prep: 06.12.13
Parent Sample Id: 464816-001 MS Sample Id: 464816-001 S MSD Sample Id: 464816-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0921	92	0.0898	90	70-125	3	25	mg/L	06.12.13 13:42	
Toluene	<0.00200	0.100	0.0853	85	0.0850	85	70-125	0	25	mg/L	06.12.13 13:42	
Ethylbenzene	<0.00100	0.100	0.0880	88	0.0887	89	71-129	1	25	mg/L	06.12.13 13:42	
m,p-Xylenes	<0.00200	0.200	0.176	88	0.178	89	70-131	1	25	mg/L	06.12.13 13:42	
o-Xylene	<0.00100	0.100	0.0906	91	0.0916	92	71-133	1	25	mg/L	06.12.13 13:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		80-120	%	06.12.13 13:42
4-Bromofluorobenzene	90		98		80-120	%	06.12.13 13:42

QC Summary 464816

PLAINS ALL AMERICAN EH&S

Hobbs Jct.Mainline

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 916137 Matrix: Water Date Prep: 06.12.13

Parent Sample Id: 464702-003 MS Sample Id: 464702-003 S MSD Sample Id: 464702-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0856	86	0.0880	88	70-125	3	25	mg/L	06.12.13 23:58	
Toluene	<0.00200	0.100	0.0819	82	0.0838	84	70-125	2	25	mg/L	06.12.13 23:58	
Ethylbenzene	<0.00100	0.100	0.0868	87	0.0883	88	71-129	2	25	mg/L	06.12.13 23:58	
m,p-Xylenes	<0.00200	0.200	0.174	87	0.177	89	70-131	2	25	mg/L	06.12.13 23:58	
o-Xylene	<0.00100	0.100	0.0901	90	0.0914	91	71-133	1	25	mg/L	06.12.13 23:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		100		80-120	%	06.12.13 23:58
4-Bromofluorobenzene	94		94		80-120	%	06.12.13 23:58

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Brad Ivy
Company Name: Talon/LPE
Company Address: 921 N. Bivins St
City/State/Zip: Amarillo, Tx 79107
Telephone No: (432) 978-5414 Fax No: (806) 467-0622
Sampler Signature:
e-mail: Bivy@Talonlpe.com

Project Name: Hobbs Jct. Mainline
Project #: 700376.052.03
Project Loc: Lea Co, NM
PO #: Plains
Report Formal: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only) ORDER #: 464816

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TOTAL: TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	MW-7			6.7.13	10:00		3	X		X						GW									X				X
	MW-9			6-7-13	9:30		3	X		X						GW									X				X
	MW-13			6-7-13	13:00		3	X		X						GW									X				X
	MW-18			6-7-13	14:30		3	X		X						GW									X				X
	MW-19			6-7-13	15:00		3	X		X						GW									X				X
	MW-21			6-7-13	16:30		3	X		X						GW									X				X
	MW-22			6-7-13	15:45		3	X		X						GW									X				X
	MW-23			6-7-13	16:45		3	X		X						GW									X				X
	MW-24			6-7-13	16:15		3	X		X						GW									X				X

Special Instructions:

	Date	Time		Date	Time
Relinquished by:	6.7.13	17:25	Received by:	6/7/13	5:30
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date 6-11-13	Time 13:45

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 2.0 °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/07/2013 05:30:00 PM

Work Order #: 464816

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 06/11/2013

Checklist reviewed by: Kelsey Brooks Date: 06/11/2013

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
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(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Brad Ivy
Talon LPE-Amarillo
921 North Bivins
Amarillo, TX, 79107

Report Date: October 8, 2013

Work Order: 13100209

Project Location: Lea Co. New Mexico
Project Name: Hobbs Jct. Mainline
Project Number: 700376.052.01
SRS #: 2003-00017

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
343091	MW-18	water	2013-09-30	08:00	2013-10-01
343092	MW-21	water	2013-09-30	09:00	2013-10-01
343093	MW-22	water	2013-09-30	09:30	2013-10-01
343094	MW-23	water	2013-09-30	10:00	2013-10-01
343095	MW-24	water	2013-09-30	10:30	2013-10-01

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

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

Report Contents

Case Narrative

Samples for project Hobbs Jct. Mainline were received by TraceAnalysis, Inc. on 2013-10-01 and assigned to work order 13100209. Samples for work order 13100209 were received intact without headspace and at a temperature of 2.5 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	89535	2013-10-03 at 15:28	105715	2013-10-03 at 15:28
BTEX	S 8021B	89584	2013-10-07 at 12:45	105775	2013-10-07 at 12:45

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 13100209 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: 343091 - MW-18

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	105715	Date Analyzed:	2013-10-03	Analyzed By:	JS
Prep Batch:	89535	Sample Preparation:	2013-10-03	Prepared By:	JS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.111	mg/L	1	0.100	111	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.114	mg/L	1	0.100	114	74.6 - 120

Sample: 343092 - MW-21

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	105775	Date Analyzed:	2013-10-07	Analyzed By:	JS
Prep Batch:	89584	Sample Preparation:	2013-10-07	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**17.2**	mg/L	100	0.00100
Toluene	U	1	<0.100	mg/L	100	0.00100
Ethylbenzene		1	**0.999**	mg/L	100	0.00100
Xylene		1	<0.100	mg/L	100	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.39	mg/L	100	10.0	94	75.4 - 120
4-Bromofluorobenzene (4-BFB)			10.1	mg/L	100	10.0	101	74.6 - 120

Sample: 343093 - MW-22

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	105775	Date Analyzed:	2013-10-07	Analyzed By:	JS
Prep Batch:	89584	Sample Preparation:	2013-10-07	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**0.172**	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0972	mg/L	1	0.100	97	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.104	mg/L	1	0.100	104	74.6 - 120

Sample: 343094 - MW-23

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	105775	Date Analyzed:	2013-10-07	Analyzed By:	JS
Prep Batch:	89584	Sample Preparation:	2013-10-07	Prepared By:	JS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.104	mg/L	1	0.100	104	74.6 - 120

Sample: 343095 - MW-24

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	105715	Date Analyzed:	2013-10-03	Analyzed By:	JS
Prep Batch:	89535	Sample Preparation:	2013-10-03	Prepared By:	JS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.105	mg/L	1	0.100	105	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.106	mg/L	1	0.100	106	74.6 - 120

Method Blanks

Method Blank (1) QC Batch: 105715

QC Batch: 105715 | Date Analyzed: 2013-10-03 | Analyzed By: JS
Prep Batch: 89535 | QC Preparation: 2013-10-03 | Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000567	mg/L	0.001
Toluene		1	<0.000518	mg/L	0.001
Ethylbenzene		1	<0.000518	mg/L	0.001
Xylene		1	<0.000548	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.106	mg/L	1	0.100	106	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.107	mg/L	1	0.100	107	74.6 - 120

Method Blank (1) QC Batch: 105775

QC Batch: 105775 | Date Analyzed: 2013-10-07 | Analyzed By: JS
Prep Batch: 89584 | QC Preparation: 2013-10-07 | Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000567	mg/L	0.001
Toluene		1	<0.000518	mg/L	0.001
Ethylbenzene		1	<0.000518	mg/L	0.001
Xylene		1	<0.000548	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.107	mg/L	1	0.100	107	74.6 - 120

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 105715 | Date Analyzed: 2013-10-03 | Analyzed By: JS
Prep Batch: 89535 | QC Preparation: 2013-10-03 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.104	mg/L	1	0.100	<0.000567	104	74.3 - 120
Toluene		1	0.103	mg/L	1	0.100	<0.000518	103	77.6 - 120
Ethylbenzene		1	0.105	mg/L	1	0.100	<0.000518	105	78.5 - 120
Xylene		1	0.317	mg/L	1	0.300	<0.000548	106	77.6 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.102	mg/L	1	0.100	<0.000567	102	74.3 - 120	2	20
Toluene		1	0.101	mg/L	1	0.100	<0.000518	101	77.6 - 120	2	20
Ethylbenzene		1	0.103	mg/L	1	0.100	<0.000518	103	78.5 - 120	2	20
Xylene		1	0.313	mg/L	1	0.300	<0.000548	104	77.6 - 120	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.102	0.101	mg/L	1	0.100	102	101	75.4 - 120
4-Bromofluorobenzene (4-BFB)	0.103	0.103	mg/L	1	0.100	103	103	74.6 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 105775 | Date Analyzed: 2013-10-07 | Analyzed By: JS
Prep Batch: 89584 | QC Preparation: 2013-10-07 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0916	mg/L	1	0.100	<0.000567	92	74.3 - 120
Toluene		1	0.0923	mg/L	1	0.100	<0.000518	92	77.6 - 120
Ethylbenzene		1	0.0961	mg/L	1	0.100	<0.000518	96	78.5 - 120
Xylene		1	0.289	mg/L	1	0.300	<0.000548	96	77.6 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0864	mg/L	1	0.100	<0.000567	86	74.3 - 120	6	20
Toluene		1	0.0874	mg/L	1	0.100	<0.000518	87	77.6 - 120	5	20
Ethylbenzene		1	0.0906	mg/L	1	0.100	<0.000518	91	78.5 - 120	6	20
Xylene		1	0.276	mg/L	1	0.300	<0.000548	92	77.6 - 120	5	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)	0.0968	0.0904	mg/L	1	0.100	97	90	75.4 - 120
4-Bromofluorobenzene (4-BFB)	0.0995	0.0941	mg/L	1	0.100	100	94	74.6 - 120

Matrix Spike (MS-1) Spiked Sample: 343082

QC Batch: 105715 | Date Analyzed: 2013-10-03 | Analyzed By: JS
Prep Batch: 89535 | QC Preparation: 2013-10-03 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0867	mg/L	1	0.100	<0.000567	87	50.2 - 129
Toluene		1	0.0849	mg/L	1	0.100	<0.000518	85	58.1 - 129
Ethylbenzene		1	0.0860	mg/L	1	0.100	<0.000518	86	58.1 - 127
Xylene		1	0.262	mg/L	1	0.300	<0.000548	87	53.1 - 128

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

Param		F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	Qr	Qr	1	0.0647	mg/L	1	0.100	<0.000567	65	50.2 - 129	29	20
Toluene	Qr	Qr	1	0.0624	mg/L	1	0.100	<0.000518	62	58.1 - 129	30	20
Ethylbenzene	Qr	Qr	1	0.0647	mg/L	1	0.100	<0.000518	65	58.1 - 127	28	20
Xylene	Qr	Qr	1	0.196	mg/L	1	0.300	<0.000548	65	53.1 - 128	29	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)	0.0977	0.0998	mg/L	1	0.1	98	100	75.4 - 120
4-Bromofluorobenzene (4-BFB)	0.0988	0.101	mg/L	1	0.1	99	101	74.6 - 120

Matrix Spike (MS-1) Spiked Sample: 343087

QC Batch: 105775 | Date Analyzed: 2013-10-07 | Analyzed By: JS
Prep Batch: 89584 | QC Preparation: 2013-10-07 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	8.43	mg/L	50	5.00	3.63	96	50.2 - 129
Toluene		1	4.56	mg/L	50	5.00	<0.0259	91	58.1 - 129
Ethylbenzene		1	5.08	mg/L	50	5.00	0.0526	100	58.1 - 127
Xylene		1	14.5	mg/L	50	15.0	<0.0274	97	53.1 - 128

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	8.72	mg/L	50	5.00	3.63	102	50.2 - 129	3	20
Toluene		1	4.71	mg/L	50	5.00	<0.0259	94	58.1 - 129	3	20
Ethylbenzene		1	5.04	mg/L	50	5.00	0.0526	100	58.1 - 127	1	20
Xylene		1	14.8	mg/L	50	15.0	<0.0274	99	53.1 - 128	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	4.70	4.78	mg/L	50	5	94	96	75.4 - 120
4-Bromofluorobenzene (4-BFB)	4.94	5.06	mg/L	50	5	99	101	74.6 - 120

Calibration Standards

Standard (CCV-1)

QC Batch: 105715 Date Analyzed: 2013-10-03 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0997	100	80 - 120	2013-10-03
Toluene		1	mg/L	0.100	0.0988	99	80 - 120	2013-10-03
Ethylbenzene		1	mg/L	0.100	0.102	102	80 - 120	2013-10-03
Xylene		1	mg/L	0.300	0.305	102	80 - 120	2013-10-03

Standard (CCV-2)

QC Batch: 105715 Date Analyzed: 2013-10-03 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.102	102	80 - 120	2013-10-03
Toluene		1	mg/L	0.100	0.101	101	80 - 120	2013-10-03
Ethylbenzene		1	mg/L	0.100	0.104	104	80 - 120	2013-10-03
Xylene		1	mg/L	0.300	0.311	104	80 - 120	2013-10-03

Standard (CCV-3)

QC Batch: 105715 Date Analyzed: 2013-10-03 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0993	99	80 - 120	2013-10-03
Toluene		1	mg/L	0.100	0.0985	98	80 - 120	2013-10-03
Ethylbenzene		1	mg/L	0.100	0.101	101	80 - 120	2013-10-03
Xylene		1	mg/L	0.300	0.304	101	80 - 120	2013-10-03

Standard (CCV-1)

QC Batch: 105775 Date Analyzed: 2013-10-07 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0931	93	80 - 120	2013-10-07
Toluene		1	mg/L	0.100	0.0934	93	80 - 120	2013-10-07
Ethylbenzene		1	mg/L	0.100	0.0979	98	80 - 120	2013-10-07
Xylene		1	mg/L	0.300	0.293	98	80 - 120	2013-10-07

Standard (CCV-2)

QC Batch: 105775 Date Analyzed: 2013-10-07 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0947	95	80 - 120	2013-10-07
Toluene		1	mg/L	0.100	0.0950	95	80 - 120	2013-10-07
Ethylbenzene		1	mg/L	0.100	0.0983	98	80 - 120	2013-10-07
Xylene		1	mg/L	0.300	0.296	99	80 - 120	2013-10-07

Standard (CCV-3)

QC Batch: 105775 Date Analyzed: 2013-10-07 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0935	94	80 - 120	2013-10-07
Toluene		1	mg/L	0.100	0.0934	93	80 - 120	2013-10-07
Ethylbenzene		1	mg/L	0.100	0.0966	97	80 - 120	2013-10-07
Xylene		1	mg/L	0.300	0.292	97	80 - 120	2013-10-07

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-13-9	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 13100209

Page _____ of _____

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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1 (800) 378-1296

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200 East Sunset Rd., Suite E
El Paso, Texas 79922
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1 (888) 588-3443

BioAquatic Testing
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Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: Talon / LPE
Phone #: 806-350-8877
Address: (Street, City, Zip) 921 N. Bivins (Amarillo, Tx 79107)
Fax #: 806-467-0622
Contact Person: Brad Ivy
E-mail: Bivy@talonlpe.com
Invoice to: (If different from above) Plains (SRS# 2003-000174)
Project #: Hobbs Jct. Mainline
Project Name: 700376.052.01
Project Location (including state): Lea Co., NM
Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
343091	MW-18	3		X				X				X		9.30.13	8:00
092	MW-21	3		X				X				X		9.30.13	9:00
093	MW-22	3		X				X				X		9.30.13	9:30
094	MW-23	3		X				X				X		9.30.13	10:00
095	MW-24	3		X				X				X		9.30.13	10:30

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB #	MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity	Na, Ca, Mg, K, TDS, EC					Turn Around Time if different from standard	Hold
343091		X																						
092		X																						
093		X																						
094		X																						
095		X																						

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
Mark Ruiz	Talon	10/1/13	3:02					INST ____ °C OBS ____ °C COR ____ °C
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
			PM					INST ____ °C OBS ____ °C COR ____ °C
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
				Brenda Ward	TA Lubbock	10/1/13	3:02	INST IR-3 °C OBS 2.5 °C COR 2.5 °C

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

REMARKS:

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

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

Carrier # Courier

ORIGINAL COPY

TRACEANALYSIS, INC.

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(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Brad Ivy
Talon LPE-Amarillo
921 North Bivins
Amarillo, TX, 79107

Report Date: December 17, 2013

Work Order: 13121112

Project Location: Lea Co. New Mexico
Project Name: Hobbs Jct. Mainline
Project Number: 700376.052.01
SRS #: 2003-00017

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
348435	MW-18	water	2013-12-03	09:45	2013-12-10
348436	MW-21	water	2013-12-03	09:00	2013-12-10
348437	MW-22	water	2013-12-03	09:30	2013-12-10
348438	MW-23	water	2013-12-02	16:45	2013-12-10
348439	MW-24	water	2013-12-02	16:50	2013-12-10

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

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

Report Contents

Case Narrative

Samples for project Hobbs Jct. Mainline were received by TraceAnalysis, Inc. on 2013-12-10 and assigned to work order 13121112. Samples for work order 13121112 were received intact without headspace and at a temperature of 1.4 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	91013	2013-12-11 at 16:13	107491	2013-12-11 at 16:13
BTEX	S 8021B	91050	2013-12-12 at 15:22	107543	2013-12-12 at 15:22
BTEX	S 8021B	91109	2013-12-16 at 14:09	107626	2013-12-16 at 14:09

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 13121112 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: 348435 - MW-18

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	107626	Date Analyzed:	2013-12-16	Analyzed By:	MT
Prep Batch:	91109	Sample Preparation:	2013-12-16	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.108	mg/L	1	0.100	108	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.0941	mg/L	1	0.100	94	74.6 - 120

Sample: 348436 - MW-21

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	107543	Date Analyzed:	2013-12-12	Analyzed By:	JS
Prep Batch:	91050	Sample Preparation:	2013-12-12	Prepared By:	JS

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**22.0**	mg/L	100	0.00100
Toluene	Qc,Qs,U	1	<0.100	mg/L	100	0.00100
Ethylbenzene		1	**1.10**	mg/L	100	0.00100
Xylene	Qc,Qs	1	<0.100	mg/L	100	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			10.5	mg/L	100	10.0	105	75.4 - 120
4-Bromofluorobenzene (4-BFB)			10.4	mg/L	100	10.0	104	74.6 - 120

Sample: 348437 - MW-22

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	107543	Date Analyzed:	2013-12-12	Analyzed By:	JS
Prep Batch:	91050	Sample Preparation:	2013-12-12	Prepared By:	JS

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Benzene		1	**0.906**		mg/L	10	0.00100
Toluene	Qc,Qs,U	1	<0.0100		mg/L	10	0.00100
Ethylbenzene	U	1	<0.0100		mg/L	10	0.00100
Xylene	Qc,Qs,U	1	<0.0100		mg/L	10	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.12	mg/L	10	1.00	112	75.4 - 120
4-Bromofluorobenzene (4-BFB)			1.04	mg/L	10	1.00	104	74.6 - 120

Sample: 348438 - MW-23

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	107491	Date Analyzed:	2013-12-11	Analyzed By:	JS
Prep Batch:	91013	Sample Preparation:	2013-12-11	Prepared By:	JS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	68.8 - 120
4-Bromofluorobenzene (4-BFB)			0.0995	mg/L	1	0.100	100	67.5 - 120

Sample: 348439 - MW-24

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	107491	Date Analyzed:	2013-12-11	Analyzed By:	JS
Prep Batch:	91013	Sample Preparation:	2013-12-11	Prepared By:	JS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0988	mg/L	1	0.100	99	68.8 - 120
4-Bromofluorobenzene (4-BFB)			0.0889	mg/L	1	0.100	89	67.5 - 120

Method Blanks

Method Blank (1) QC Batch: 107491

QC Batch: 107491 | Date Analyzed: 2013-12-11 | Analyzed By: JS
Prep Batch: 91013 | QC Preparation: 2013-12-11 | Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000387	mg/L	0.001
Toluene		1	<0.000465	mg/L	0.001
Ethylbenzene		1	<0.000442	mg/L	0.001
Xylene		1	<0.000413	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.106	mg/L	1	0.100	106	68.8 - 120
4-Bromofluorobenzene (4-BFB)			0.0952	mg/L	1	0.100	95	67.5 - 120

Method Blank (1) QC Batch: 107543

QC Batch: 107543 | Date Analyzed: 2013-12-12 | Analyzed By: JS
Prep Batch: 91050 | QC Preparation: 2013-12-12 | Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000567	mg/L	0.001
Toluene		1	<0.000518	mg/L	0.001
Ethylbenzene		1	<0.000518	mg/L	0.001
Xylene		1	<0.000548	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.110	mg/L	1	0.100	110	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.102	mg/L	1	0.100	102	74.6 - 120

Method Blank (1) QC Batch: 107626

QC Batch: 107626 | Date Analyzed: 2013-12-16 | Analyzed By: MT
Prep Batch: 91109 | QC Preparation: 2013-12-16 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000567	mg/L	0.001
Toluene		1	<0.000518	mg/L	0.001
Ethylbenzene		1	<0.000518	mg/L	0.001
Xylene		1	<0.000548	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.110	mg/L	1	0.100	110	75.4 - 120
4-Bromofluorobenzene (4-BFB)			0.0981	mg/L	1	0.100	98	74.6 - 120

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 107491 | Date Analyzed: 2013-12-11 | Analyzed By: JS
Prep Batch: 91013 | QC Preparation: 2013-12-11 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.101	mg/L	1	0.100	<0.000387	101	71.6 - 120
Toluene		1	0.102	mg/L	1	0.100	<0.000465	102	71.6 - 120
Ethylbenzene		1	0.100	mg/L	1	0.100	<0.000442	100	71.1 - 120
Xylene		1	0.304	mg/L	1	0.300	<0.000413	101	72.5 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0968	mg/L	1	0.100	<0.000387	97	71.6 - 120	4	20
Toluene		1	0.102	mg/L	1	0.100	<0.000465	102	71.6 - 120	0	20
Ethylbenzene		1	0.0987	mg/L	1	0.100	<0.000442	99	71.1 - 120	1	20
Xylene		1	0.300	mg/L	1	0.300	<0.000413	100	72.5 - 120	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0888	0.0929	mg/L	1	0.100	89	93	68.8 - 120
4-Bromofluorobenzene (4-BFB)	0.0850	0.0900	mg/L	1	0.100	85	90	67.5 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 107543 | Date Analyzed: 2013-12-12 | Analyzed By: JS
Prep Batch: 91050 | QC Preparation: 2013-12-12 | Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.119	mg/L	1	0.100	<0.000567	119	74.3 - 120
Toluene	Qs Qs	1	0.121	mg/L	1	0.100	<0.000518	121	77.6 - 120
Ethylbenzene		1	0.120	mg/L	1	0.100	<0.000518	120	78.5 - 120
Xylene	Qs Qs	1	0.365	mg/L	1	0.300	<0.000548	122	77.6 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.115	mg/L	1	0.100	<0.000567	115	74.3 - 120	3	20
Toluene		1	0.117	mg/L	1	0.100	<0.000518	117	77.6 - 120	3	20
Ethylbenzene		1	0.116	mg/L	1	0.100	<0.000518	116	78.5 - 120	3	20
Xylene		1	0.353	mg/L	1	0.300	<0.000548	118	77.6 - 120	3	20

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

Surrogate			LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)			0.115	0.108	mg/L	1	0.100	115	108	75.4 - 120
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	0.121	0.115	mg/L	1	0.100	121	115	74.6 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 107626 | Date Analyzed: 2013-12-16 | Analyzed By: MT
Prep Batch: 91109 | QC Preparation: 2013-12-16 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.113	mg/L	1	0.100	<0.000567	113	74.3 - 120
Toluene		1	0.114	mg/L	1	0.100	<0.000518	114	77.6 - 120
Ethylbenzene		1	0.111	mg/L	1	0.100	<0.000518	111	78.5 - 120
Xylene		1	0.336	mg/L	1	0.300	<0.000548	112	77.6 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.112	mg/L	1	0.100	<0.000567	112	74.3 - 120	1	20
Toluene		1	0.114	mg/L	1	0.100	<0.000518	114	77.6 - 120	0	20
Ethylbenzene		1	0.110	mg/L	1	0.100	<0.000518	110	78.5 - 120	1	20
Xylene		1	0.332	mg/L	1	0.300	<0.000548	111	77.6 - 120	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.111	0.110	mg/L	1	0.100	111	110	75.4 - 120
4-Bromofluorobenzene (4-BFB)	0.113	0.111	mg/L	1	0.100	113	111	74.6 - 120

Matrix Spike (MS-1) Spiked Sample: 348469

QC Batch: 107491 | Date Analyzed: 2013-12-11 | Analyzed By: JS
Prep Batch: 91013 | QC Preparation: 2013-12-11 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0954	mg/L	1	0.100	<0.000387	95	54.2 - 120
Toluene		1	0.101	mg/L	1	0.100	<0.000465	101	55.6 - 120
Ethylbenzene		1	0.0976	mg/L	1	0.100	<0.000442	98	59.6 - 120
Xylene		1	0.294	mg/L	1	0.300	<0.000413	98	61.4 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0952	mg/L	1	0.100	<0.000387	95	54.2 - 120	0	20
Toluene		1	0.0975	mg/L	1	0.100	<0.000465	98	55.6 - 120	4	20
Ethylbenzene		1	0.0954	mg/L	1	0.100	<0.000442	95	59.6 - 120	2	20
Xylene		1	0.289	mg/L	1	0.300	<0.000413	96	61.4 - 120	2	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)	0.0852	0.0820	mg/L	1	0.1	85	82	68.8 - 120
4-Bromofluorobenzene (4-BFB)	0.0916	0.0821	mg/L	1	0.1	92	82	67.5 - 120

Matrix Spike (MS-1) Spiked Sample: 348609

QC Batch: 107543 | Date Analyzed: 2013-12-12 | Analyzed By: JS
Prep Batch: 91050 | QC Preparation: 2013-12-12 | Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.111	mg/L	1	0.100	<0.000567	111	50.2 - 129
Toluene		1	0.113	mg/L	1	0.100	<0.000518	113	58.1 - 129
Ethylbenzene		1	0.112	mg/L	1	0.100	<0.000518	112	58.1 - 127
Xylene		1	0.339	mg/L	1	0.300	<0.000548	113	53.1 - 128

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0961	mg/L	1	0.100	<0.000567	96	50.2 - 129	14	20
Toluene		1	0.0970	mg/L	1	0.100	<0.000518	97	58.1 - 129	15	20

continued ...

matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Ethylbenzene		1	0.0949	mg/L	1	0.100	<0.000518	95	58.1 - 127	16	20
Xylene		1	0.290	mg/L	1	0.300	<0.000548	97	53.1 - 128	16	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)	0.110	0.109	mg/L	1	0.1	110	109	75.4 - 120
4-Bromofluorobenzene (4-BFB)	0.115	0.112	mg/L	1	0.1	115	112	74.6 - 120

Matrix Spike (MS-1) Spiked Sample: 348302

QC Batch: 107626 | Date Analyzed: 2013-12-16 | Analyzed By: MT
Prep Batch: 91109 | QC Preparation: 2013-12-16 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.89	mg/L	10	1.00	0.736	115	50.2 - 129
Toluene		1	1.15	mg/L	10	1.00	<0.00518	115	58.1 - 129
Ethylbenzene		1	1.23	mg/L	10	1.00	0.0622	117	58.1 - 127
Xylene		1	3.45	mg/L	10	3.00	0.0268	114	53.1 - 128

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.86	mg/L	10	1.00	0.736	112	50.2 - 129	2	20
Toluene		1	1.13	mg/L	10	1.00	<0.00518	113	58.1 - 129	2	20
Ethylbenzene		1	1.20	mg/L	10	1.00	0.0622	114	58.1 - 127	2	20
Xylene		1	3.38	mg/L	10	3.00	0.0268	112	53.1 - 128	2	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)	1.17	1.16	mg/L	10	1	117	116	75.4 - 120
4-Bromofluorobenzene (4-BFB)	1.13	1.12	mg/L	10	1	113	112	74.6 - 120

Calibration Standards

Standard (CCV-1)

QC Batch: 107491 | Date Analyzed: 2013-12-11 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0980	98	80 - 120	2013-12-11
Toluene		1	mg/L	0.100	0.0996	100	80 - 120	2013-12-11
Ethylbenzene		1	mg/L	0.100	0.0984	98	80 - 120	2013-12-11
Xylene		1	mg/L	0.300	0.299	100	80 - 120	2013-12-11

Standard (CCV-2)

QC Batch: 107491 | Date Analyzed: 2013-12-11 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0967	97	80 - 120	2013-12-11
Toluene		1	mg/L	0.100	0.102	102	80 - 120	2013-12-11
Ethylbenzene		1	mg/L	0.100	0.0979	98	80 - 120	2013-12-11
Xylene		1	mg/L	0.300	0.297	99	80 - 120	2013-12-11

Standard (CCV-3)

QC Batch: 107491 | Date Analyzed: 2013-12-11 | Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0963	96	80 - 120	2013-12-11
Toluene		1	mg/L	0.100	0.101	101	80 - 120	2013-12-11
Ethylbenzene		1	mg/L	0.100	0.0973	97	80 - 120	2013-12-11
Xylene		1	mg/L	0.300	0.296	99	80 - 120	2013-12-11

Standard (CCV-1)

QC Batch: 107543 Date Analyzed: 2013-12-12 Analyzed By: JS

Param		Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene			1	mg/L	0.100	0.119	119	80 - 120	2013-12-12
Toluene	Qc	Qc	1	mg/L	0.100	0.122	122	80 - 120	2013-12-12
Ethylbenzene			1	mg/L	0.100	0.120	120	80 - 120	2013-12-12
Xylene	Qc	Qc	1	mg/L	0.300	0.368	123	80 - 120	2013-12-12

Standard (CCV-2)

QC Batch: 107543 Date Analyzed: 2013-12-12 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.113	113	80 - 120	2013-12-12
Toluene		1	mg/L	0.100	0.113	113	80 - 120	2013-12-12
Ethylbenzene		1	mg/L	0.100	0.110	110	80 - 120	2013-12-12
Xylene		1	mg/L	0.300	0.334	111	80 - 120	2013-12-12

Standard (CCV-3)

QC Batch: 107543 Date Analyzed: 2013-12-12 Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.113	113	80 - 120	2013-12-12
Toluene		1	mg/L	0.100	0.113	113	80 - 120	2013-12-12
Ethylbenzene		1	mg/L	0.100	0.110	110	80 - 120	2013-12-12
Xylene		1	mg/L	0.300	0.334	111	80 - 120	2013-12-12

Standard (CCV-1)

QC Batch: 107626 Date Analyzed: 2013-12-16 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.113	113	80 - 120	2013-12-16
Toluene		1	mg/L	0.100	0.114	114	80 - 120	2013-12-16
Ethylbenzene		1	mg/L	0.100	0.112	112	80 - 120	2013-12-16
Xylene		1	mg/L	0.300	0.339	113	80 - 120	2013-12-16

Standard (CCV-2)

QC Batch: 107626 Date Analyzed: 2013-12-16 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.116	116	80 - 120	2013-12-16
Toluene		1	mg/L	0.100	0.117	117	80 - 120	2013-12-16
Ethylbenzene		1	mg/L	0.100	0.114	114	80 - 120	2013-12-16
Xylene		1	mg/L	0.300	0.345	115	80 - 120	2013-12-16

Standard (CCV-3)

QC Batch: 107626 Date Analyzed: 2013-12-16 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.118	118	80 - 120	2013-12-16
Toluene		1	mg/L	0.100	0.118	118	80 - 120	2013-12-16
Ethylbenzene		1	mg/L	0.100	0.114	114	80 - 120	2013-12-16
Xylene		1	mg/L	0.300	0.344	115	80 - 120	2013-12-16

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-13-9	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 13121112

Page _____ of _____

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

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

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: Talon/LPE
Phone #: 806-467-0607
Address: (Street, City, Zip) 921 N. Bivins
Fax #: 806-467-0622
Contact Person: Brad Ivy
E-mail: Bivy@talonlpe.com
Invoice to: (If different from above) Plains: (GRS#2003-00017)
Project #: 700376.052.01
Project Name: Hobbs Junction Mainline
Project Location (including state): Lea Co., NM
Sampler Signature:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity	Na, Ca, Mg, K, TDS, EC							Turn Around Time if different from standard	Hold
348/435	MW-18	3		X				X				X		12.3.13	9:45		X																									
436	MW-21	3		X				X				X		12.3.13	9:00		X																									
437	MW-22	3		X				X				X		12.3.13	9:30		X																									
438	MW-23	3		X				X				X		12.2.13	16:45		X																									
439	MW-24	3		X				X				X		12.2.13	16:50		X																									

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
	Talon	12.10.13		BCJ	BTC	12-10-13		INST ____ °C OBS ____ °C COR ____ °C
								INST ____ °C OBS ____ °C COR ____ °C
					TA	12/11/13	9:25	INST 0.2 °C OBS 2.7 °C COR 1.4 °C

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

REMARKS:

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

Carrier # 25 421874

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

ORIGINAL COPY

APPENDIX D

Regulatory Documentation

NMOCD Initial 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

☑ Initial Report ☐ Final Report

Name of Company	Contact
EOTT Energy Pipeline, LP	**Frank Hernandez**
Address	Telephone No.
5805 East Hwy 80	**915-638-3799**
Facility Name	Facility Type
Hobbs Junction Mainline	**10" Crude Oil Pipeline**

Surface Owner	Mineral Owner	Lease No.
State of NM	**NA**	**NA**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County:
M	**26**	**18S**	**37E**	**15**	**700**	**W103:13:42.01**	**N32:42:40.85**	**Lea**

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Crude Oil	**50 bbl**	**24 bbl**
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Steel Pipeline	**1/23/03-8:00 AM**	**1/23/03-10:45 AM**
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? **Sylvia Dickie - Hobbs NMOCD**	
By Whom? **Pat McCasland - EPI**	Date and Hour **1/23/03-11:35 AM**	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Corroded pipeline (internal), repaired with clamp

Describe Area Affected and Cleanup Action Taken.*
~12500-ft^2 surface area affected; 50-bbl released; 24-bbl of crude recovered. Removal and disposal of contaminated soil above remedial goals was commenced by EPI.

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: Frank Hernandez	**OIL CONSERVATION DIVISION**	
Printed Name: **Frank Hernandez**	Approved by District Supervisor:	
Title: **District Environmental Supervisor**	Approval Date:	Expiration Date:
Date: **1/24/03** Phone: **915-638-3799**	Conditions of Approval:	☐ Attached .

Attach Additional Sheets If Necessary