GW – 049 - 0

2010 AGWMR

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GW-049-2

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Via FedEx

December 3, 2010

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Mr. Glenn von Gonten
Senior Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Annual Groundwater Report for the Blanco North Flare Pit, Bloomfield, NM
NMOCD Case Number: GW-49-2

Dear Mr. von Gonten:

El Paso Tennessee Pipeline Company hereby submits the enclosed "2010 Blanco North Flare Pit Annual Report". The enclosed report details groundwater sampling and air sparge system operation activities between September 2009 and August 2010. This report also includes the recommended site activities for the 2010/2011 project year.

If you have any questions concerning the enclosed report or require additional information, please contact me at (713) 420-7361.

Sincerely,

Jed Smith for

Ian Yanagisawa
Project Manager for El Paso Tennessee Pipeline Co.

cc: Rodney Sartor – EPCO, Inc.
Brandon Powell – NMOCD Aztec
Jed Smith – MWH, w / o enclosures
Pit Groundwater Remediation – General File, w / enclosures

El Paso Tennessee Pipeline Company
1001 Louisiana Street
Houston, Texas 77002

El Paso Tennessee Pipeline Company

Blanco North Flare Pit
San Juan County, New Mexico

2010 Annual Report

December 2010

MWH

1801 California Street, Suite 2900
Denver, Colorado 80202

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ACRONYMS

AS	air sparging
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and total xylenes
EPFS	El Paso Field Services
EPNG	El Paso Natural Gas
EPTPC	El Paso Tennessee Pipeline Company
mg/L	milligrams per liter
µg/L	micrograms per liter
NMOCD	New Mexico Oil Conservation Division
NMWQCC	New Mexico Water Quality Control Commission
O&M	operation and maintenance
psig	pounds per square inch, gauge
scfm	standard cubic feet per minute

1.0 INTRODUCTION

The Blanco Plant is located in San Juan County just outside Bloomfield, New Mexico. This plant is comprised of three distinct natural gas compressor stations and associated unit operations, which included the North Flare Pit. The Blanco Plant layout is shown on Figure 1.

Site assessment work conducted between 1988 and 1990 identified subsurface petroleum hydrocarbon impacts near the North Flare Pit and a nearby wastewater evaporation pond. Constituents of concern at the Site include free-phase hydrocarbons (i.e., free-product) and benzene, ethylbenzene, toluene and total xylenes (BTEX). After years of remedial actions, the Site is currently being monitored, and free-product is recovered when observed.

This annual report presents the results of product recovery and groundwater monitoring activities conducted at the Blanco North Flare Pit site (Site) between September 2009 and August 2010 (reporting period). During this reporting period, product recovery was conducted on a monthly basis, and groundwater monitoring was conducted semiannually.

Section 2.0 summarizes the project history. A site description, particularly with respect to geology and hydrogeology is presented in Section 3.0. Section 4.0 discusses the remedial activities undertaken during the reporting period. The Site monitoring data are presented in Section 5.0. Conclusions and recommendations are discussed in Section 6.0; and Section 7.0 is a selective bibliography of previously submitted reports and work plans.

2.0 SITE BACKGROUND AND PREVIOUS ACTIVITIES

In 1987, the New Mexico Environmental Improvement Division, now the New Mexico Environment Department (NMED) conducted a site inspection at the Blanco Plant (**Figure 1**) and recommended further investigation to support the submittal of a groundwater discharge plan application. One monitor well (MW-2) was installed and sampled in 1988. In January 1990, a second monitor well (MW-19) was installed closer to the North Flare Pit. This well contained an oily sheen on the groundwater and BTEX levels above NMWQCC standards.

In February 1992, hydrocarbon-contaminated soils were excavated and removed from the North Flare Pit. El Paso Natural Gas (EPNG) subsequently submitted a work plan to NMOCD addressing subsurface investigation of the North Flare Pit. The investigation was conducted in September and October of 1992. Five groundwater monitor wells were installed (MW-20, MW-23, MW-24, MW-26, and MW-27) to the south of the North Flare Pit. Several additional soil borings were also advanced in the area, but significant groundwater was not encountered. Therefore, these additional borings were not completed as monitor wells. Free-product (as much as 3.6 feet thick) was encountered in MW-19, MW-26, and MW-27. BTEX concentrations above NMWQCC standards were found in MW-23 and MW-24 (BTEX concentrations from MW-20 were below detection limits). The 1992 investigation suggested two possible sources for hydrocarbon contamination: the North Flare pit and an evaporation pond, which was formerly an unlined pit (see Figure 1). Product analysis during this investigation showed a strong correlation with typical pipeline drip, which was known to have been discharged to both the North Flare Pit as well as the former unlined pit.

Removal of free-product from MW-19 and MW-26 was initiated by EPNG in 1993 and continued through June 1995 along with the regular groundwater monitoring. By August 1995, free-product was not detected in any of the wells; and EPNG submitted a sampling plan to NMOCD in September 1995 that included proposals to remediate BTEX impacts with nitrate addition, monitor groundwater quarterly, and then abandon the monitor wells once asymptotic levels had been attained. This work plan was not subsequently approved by the NMOCD, and routine site groundwater monitoring in the North Flare Pit area was suspended while the project focus shifted to the southern portion of the Blanco Plant.

In August 2001, management of the North Flare Pit project was transferred from EPNG to El Paso Field Services (EPFS), which supported El Paso's upstream operations. In October 2001, sludge from the lined evaporation pond was excavated and removed. At that time, the primary liner was pulled back and soil samples were collected from depths of 1 to 4 feet. These samples were all non-detect for petroleum hydrocarbons (EPA Method 8015 Modified).

In May 2002, NMOCD requested that EPFS submit all monitoring and remediation data related to the North Flare Pit from 1994 to the present. In July 2002, EPFS submitted this information to NMOCD and a work plan proposing installation and operation of a pilot air sparging (AS) system near monitor wells MW-19 and MW-26 to facilitate

groundwater remediation (MWH, 2002). The work plan was given final approval by NMOCD in February 2003.

One air sparge well (SW-1) was installed to the north of monitor well MW-26. At this time, approximately 1.4 feet of free-product was discovered in MW-26. In April 2003, a skimmer pump was installed in the well and free-product removal was initiated. As of July 2003, approximately 3.1 gallons of free-product had been removed from MW-26. Since that time, no significant occurrence or accumulation of free-product has been detected in MW-26 or in any other Site wells (except for monitor well MW-32, discussed below). Operation of the AS system began in June 2003 (MWH, 2003b). System maintenance and monitoring visits were generally conducted every two weeks; and groundwater monitoring was conducted on a quarterly basis.

In May 2006, three new monitor wells were installed (MW-31, MW-31, and MW-33) in an effort to more fully characterize the Site. Within weeks, monitor well MW-32 was exhibiting significant thicknesses of free-product; and a maximum static free-product thickness of 12.2 feet was measured in August 2006. In September 2006, a pneumatic skimmer was installed in MW-32. The skimmer operated for one year, recovering approximately 27 gallons of free-product. In response to minimal ongoing product recovery rates, the skimmer was replaced by product-absorbing socks.

During a biweekly O&M visit in June 2009, the air sparge compressor was found to be non-operational. El Paso took this opportunity, after six years of operation, to suspend air sparging and evaluate the area for hydrocarbon rebound. Groundwater monitoring and evaluation of any rebound is currently on-going.

3.0 SITE GEOLOGY/HYDROGEOLOGY

The geologic framework of the Site has been summarized by EPNG (EPNG, 1989), K.W. Brown and Associates (K.W. Brown, 1990), and Burlington Environmental (Burlington, 1992). Based on these assessments, the plant area is located on Quaternary alluvium, consisting of sand, silt, clay, and gravel. At the plant site, the thickness of the alluvium varies from less than 3 feet to more than 75 feet (EPNG, 1989). Underlying the alluvium is the Tertiary Nacimiento Formation, consisting of interbedded coarse- to medium-grained arkosic sandstone, siltstone, and shale, which were deposited as both channel fill and floodplain deposits (EPNG, 1989). Locally, orientation of the channel-fill sandstone deposits may control groundwater flow due to higher hydraulic conductivities through those features.

An initial assessment of Site hydrogeology and groundwater resources of the Blanco Plant area was conducted by EPNG in 1989 (EPNG, 1989). The average hydraulic conductivity was estimated to be 2.1×10^{-4} centimeters per second. Depth to groundwater ranged from 9 feet below ground surface (5,564 to 5,552 feet above sea level) to 50 feet (EPNG, 1989). These results were generally consistent with the findings of a later investigation by K.W. Brown.

Burlington Environmental conducted a hydrogeologic investigation in 1992, specific to the North Flare Pit area (Burlington, 1992). Eight borings were drilled in the area to the south of the North Flare Pit (**Figure 1**). Three of the borings did not encounter significant groundwater, and the other five were completed as monitor wells. In general, these borings were advanced through approximately 19 feet of silty/clayey sand, underlain by silty/sandy clay with laminated siltstone and mudstone. In the MW-24, MW-26, and MW-27 borings, a sand layer with gravel and clay was encountered just above the sandstone bedrock, possibly indicating a relict channel feature. Similarly, a thick sandy unit was encountered in the MW-19 boring (K.W. Brown, 1990). Sandstone was encountered at depths ranging from approximately 50 to 70 feet below ground surface, with the greatest depths occurring beneath the possible relict channel feature. In places, the upper portion of the sandstone was described as friable; however, all borings terminated in gypsum-cemented sandstone that the report characterized as an apparent aquitard. Groundwater saturation was encountered either within or just above the sandstone, depending on the location.

Based on the available data from monitor wells such as MW-2, MW-19, and MW-27, it appears that groundwater potentiometric surface elevations, at least within the apparent relict channel, appear to have decreased by approximately 15 feet since the initial environmental investigation in 1988. It is likely that a large contributor to the observed groundwater was infiltration from the former North Flare Pit and/or the original unlined evaporation pond. It is noted, however, that the groundwater potentiometric surface elevation in monitor well MW-23 has remained stable since 1992. Water level stability or rise appears to be a common pattern among those site wells (i.e., MW-23 and MW-32) that are completed away from the apparent relict channel, in locations where the competent bedrock surface is higher. The hydraulic connection, if any, between groundwater encountered higher in the bedrock with groundwater occurring in the apparent relict channel is currently not well understood.

4.0 REMEDIAL ACTIVITIES

4.1 AIR SPARGING SYSTEM OPERATION

For the six years between June 2003 and June 2009, EPTPC operated an AS system in the central area of the Site to remediate dissolved-phase hydrocarbon impacts and reduce BTEX concentrations to below NMWQCC standards. The system did not operate during the current reporting period.

4.2 FREE-PRODUCT REMOVAL

During the reporting period, free-product was only present in monitor well MW-32. Passive recovery was conducted via product-absorbing socks, which were generally checked on a monthly basis. Approximately 1.5 gallons of product were recovered during the reporting period. **Table 1** summarizes the product recovery data from monitor well MW-32 since its installation in 2006. Field notes associated with product recovery activities conducted during the reporting period are included as **Appendix A**.

5.0 GROUNDWATER MONITORING

5.1 GROUNDWATER SAMPLING

During the reporting period, semiannual groundwater sampling was conducted at four monitor wells in the North Flare Pit area (MW-23, MW-26, MW-27, and MW-33) and one groundwater sample was collected from monitor well MW-32, which contained product. The groundwater samples were analyzed for BTEX using EPA SW-846 Method 8021B. Sampling events were performed in February 2010 and August 2010. During each sampling event, groundwater levels and field parameters (pH, temperature, and specific conductance) were measured. Groundwater sample collection field forms are attached in **Appendix A**. Laboratory analytical reports are included in **Appendix B**.

Samples were not collected from MW-2, MW-19, MW-24, or MW-31 during the reporting period. These wells were either dry or inaccessible. Monitor well MW-19 has apparently lost structural integrity midway down the casing, precluding gauging and sampling.

5.2 DISCUSSION OF MONITORING RESULTS

Analytical results are presented along with the historic data (June 1991 to present) in **Table 2**. BTEX concentrations for each of the groundwater sampling events are presented on **Figures 2 and 3**. These semiannual maps also present the approximate groundwater flow direction, based on the measured static water levels and previous interpretations. **Figure 4** is a trend chart of the historic groundwater elevations measured in the monitor well network. All elevations are shown relative to sea level, based on the September 2009 survey of the monitor wells. **Figure 5** depicts the long-term trends in the benzene data.

The semiannual monitoring results from monitor well MW-23 indicated consistent exceedances of the NMWQCC groundwater standard for benzene and total xylenes (which are 10 µg/L and 620 µg/L, respectively). Benzene was detected at concentrations of 6,550 µg/L (February 2010) and 5,500 µg/L (August 2010). Similarly, total xylenes were present at concentrations of 1,500 µg/L and 1,220 µg/L. Toluene was not detected; and ethylbenzene was detected at concentrations below its NMWQCC standard of 750 µg/L. The BTEX concentrations in this well have not historically exhibited significant seasonal fluctuations.

The semiannual monitoring results from monitor wells MW-26 and MW-27 did not indicate exceedances of the NMWQCC control standards. BTEX constituents were only detected at low levels (i.e., near the detection limit) in these two wells. The maximum observed benzene concentrations were 3.0 µg/L (MW-26 in February 2010) and 5.3 µg/L (MW-27 in February 2010). In both cases, these results are similar to the recent winter season data from these wells.

Monitor well MW-32 was sampled once, in February 2010. The well was first bailed in order to remove free-product; however, after the apparent product thickness was unchanged, the groundwater sample was simply collected from the bottom of a bailer. The BTEX results indicated benzene present at 11,300 µg/L; toluene at 16,200 µg/L; ethylbenzene at 397 µg/L; and total xylenes at 4,960 µg/L. These elevated BTEX concentrations were generally similar to those from the first groundwater sample collected from this well, in August 2009.

Results from the downgradient monitor well, MW-33, indicated that this well is not significantly impacted by BTEX. During the reporting period, benzene was detected at estimated concentrations of 0.98 µg/L (February 2010) and 0.4 µg/L (August 2010). Similarly, total xylenes were detected at 0.99 µg/L, slightly below the reporting limit of 1.0 µg/L. Neither toluene nor ethylbenzene were detected. These results are similar to previous monitoring data from this well.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the monitoring data from the reporting period, the following conclusions can be drawn:

1. Air sparging activities have been effective at reducing dissolved phase BTEX concentrations in the vicinity of the pilot test well, SW-1. A BTEX rebound has not yet been observed in the nearby monitor wells MW-26 and MW-27.

2. The pneumatic pump installed at monitor well MW-32 in 2006 successfully removed the bulk of the free-product from the well. The current use of absorbent socks also appears to be effective, with steady (but low) recovery rates being observed.

3. Long-term groundwater elevation trends indicate that the groundwater has receded significantly since the initial environmental assessments in 1988. The current monitor well network has been completed to depths corresponding with the gypsum-cemented bedrock. Though several of the monitor wells (e.g., MW-2, MW-24, and MW-31) appear to be dry, the current well network still provides adequate delineation of the BTEX impacts. Monitor wells completed within an apparent relict channel, where the sandstone bedrock is deeper, show a hydraulic gradient toward the south; and the groundwater samples from the downgradient monitor well, MW-33, comply with the NMWQCC standards for BTEX.

Therefore, EPTPC has the following recommendations for future Site activities.

1. Groundwater monitoring will continue on a semiannual basis. The groundwater BTEX data do not appear to vary significantly between seasons. **Table 6** shows the proposed sampling schedule. Monitor well MW-32 will not be sampled again until free-product is mitigated.

2. Water and product levels will be gauged on a quarterly basis to provide data to support the current remedial efforts.

3. The AS system will remain shut down as the potential for BTEX rebound is evaluated from the semiannual monitoring results. Currently, it does not appear that additional remedial benefits will be gained by operating this system.

4. Free-product recovery via oil-absorbing socks will continue in monitor well MW-32.

5. Damaged monitor well MW-19 should be plugged and abandoned in accordance with the applicable NMOCD and Office of the State Engineer requirements. This activity will be completed unless otherwise directed by the NMOCD within 60 days. Based on the proximity of MW-26 to MW-19 and the historical similarity in observed groundwater BTEX concentrations, MW-26 is sufficient for monitoring groundwater quality in this area of the site.

7.0 REFERENCES

El Paso Natural Gas Company, 1989. *Groundwater Investigation Report, El Paso Natural Gas Company's Blanco Plant, San Juan County, New Mexico.* January 1989.

K.W. Brown and Associates, Inc, 1990. *Site Investigation of the Blanco Plant, San Juan County, New Mexico.* Prepared for El Paso Natural Gas Company. February 1990.

Burlington Environmental, 1992. *Monitoring Well Installation and Testing at the North Flare Pit Area of Blanco Plant.* Prepared for El Paso Natural Gas Company. December 1992.

MWH, 2002. *Work Plan for the Blanco North Flare Pit.* Prepared for El Paso Field Services. July 2002.

MWH, 2003a. *Blanco North Flare Pit Work Plan Update Technical Memorandum.* Prepared for El Paso Field Services. June 2003.

MWH, 2003b. *2003 Blanco North Flare Pit Pilot Air Sparging System Report.* Prepared for El Paso Field Services. October 2003.

MWH, 2004. *2004 Blanco North Flare Pit Annual Report.* Prepared for El Paso Field Services. October 2004.

MWH, 2005. *2005 Blanco North Flare Pit Annual Report.* Prepared for El Paso Tennessee Pipeline Company. October 2005.

MWH, 2006. *2006 Blanco North Flare Pit Annual Report.* Prepared for El Paso Tennessee Pipeline Company. October 2006.

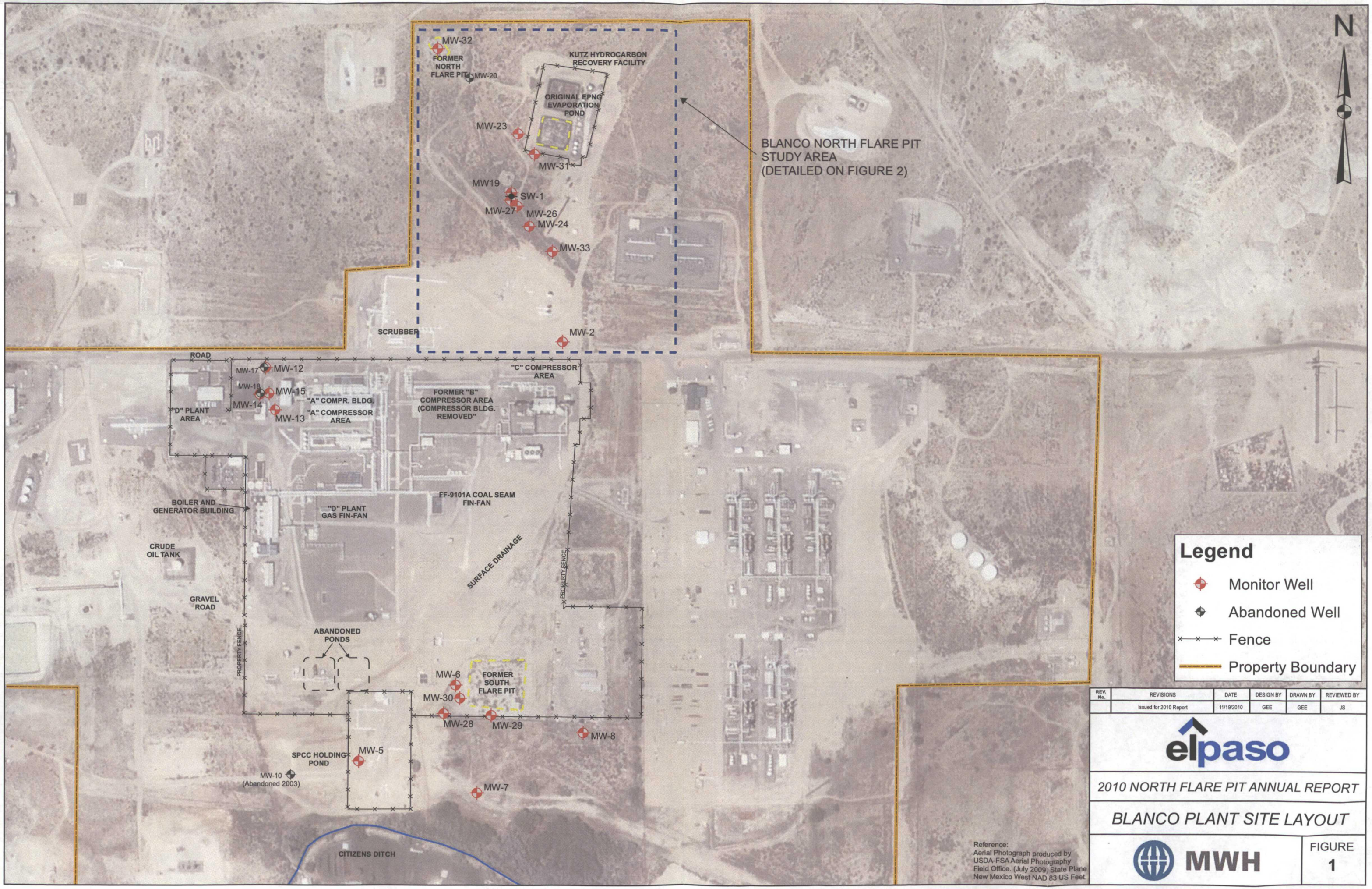
MWH, 2007. *2007 Blanco North Flare Pit Annual Report.* Prepared for El Paso Tennessee Pipeline Company. October 2007.

MWH, 2008. *2008 Blanco North Flare Pit Annual Report.* Prepared for El Paso Tennessee Pipeline Company. November 2008.

MWH, 2009. *2009 Blanco North Flare Pit Annual Report.* Prepared for El Paso Tennessee Pipeline Company. October 2009.

FIGURES

MWH



REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	Issued for 2010 Report	11/19/2010	GEE	GEE	JS

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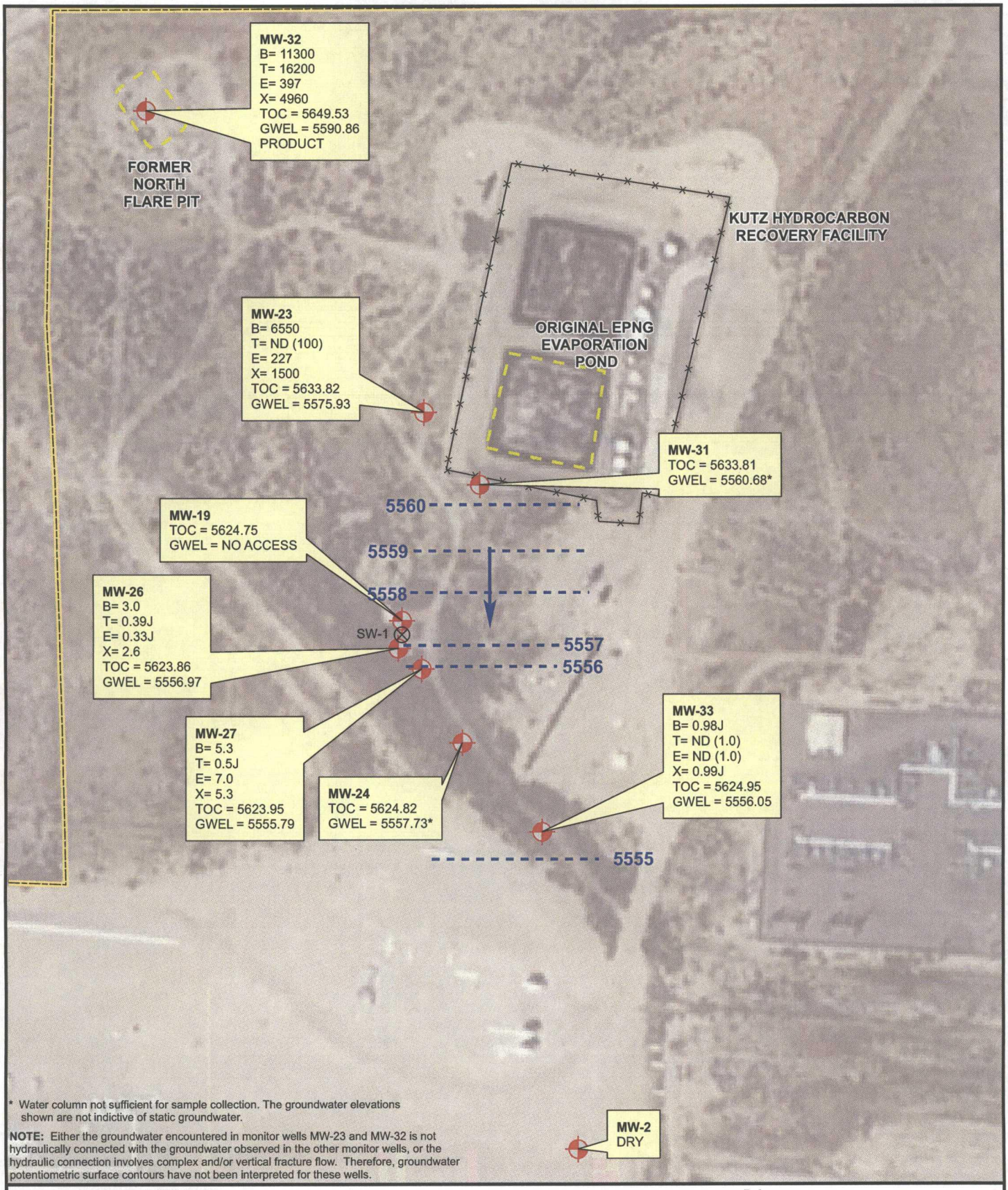
2010 NORTH FLARE PIT ANNUAL REPORT

BLANCO PLANT SITE LAYOUT

MWH

FIGURE 1

Reference:
Aerial Photograph produced by USDA-FSA Aerial Photography Field Office. (July 2009) State Plane New Mexico West NAD 83 US Feet.



* Water column not sufficient for sample collection. The groundwater elevations shown are not indictive of static groundwater.

NOTE: Either the groundwater encountered in monitor wells MW-23 and MW-32 is not hydraulically connected with the groundwater observed in the other monitor wells, or the hydraulic connection involves complex and/or vertical fracture flow. Therefore, groundwater potentiometric surface contours have not been interpreted for these wells.

LEGEND

- ⊗ Air Sparge Well
- MW-4 ⊕ Existing Monitor/ Observation Well
- Property Line
- Groundwater Flow Direction
- —5555— Potentiometric Surface Contour (Inferred Where Dashed)

B	Benzene (ug/L)
T	Toluene (ug/L)
E	Ethylbenzene (ug/L)
X	Total Xylenes (ug/L)
TOC	Top of Casing (ft. AMSL)
GWEL	Groundwater Elevation (ft. AMSL)
ND	Not Detected; Reporting Limit Shown in Parentheses
J	Result Flagged as Estimated

Reference:
Aerial Photograph produced by USDA-FSA Aerial Photography Field Office. (July 2009) State Plane New Mexico West NAD 83 US Feet.

N

0 75 150
Feet

MWH

elpaso

PROJECT: BLANCO NORTH FLARE PIT

TITLE: Groundwater Potentiometric Surface Contour Map and BTEX Concentrations - February 18, 2010

FIGURE: 2

* Water column not sufficient for sample collection. The MW-31 water level is just within the screen interval and appears to be static groundwater.

** Water level below bottom of screen, but sampling was possible. Elevation not representative of static groundwater.

NOTE: Either the groundwater encountered in monitor wells MW-23 and MW-32 is not hydraulically connected with the groundwater observed in the other monitor wells, or the hydraulic connection involves complex and/or vertical fracture flow. Therefore, groundwater potentiometric surface contours have not been interpreted for these wells.

LEGEND

- ⊗ Air Sparge Well
- MW-4 ⊕ Existing Monitor/ Observation Well
- Property Line
- Groundwater Flow Direction
- 5555 Potentiometric Surface Contour (Inferred Where Dashed)

B	Benzene (ug/L)
T	Toluene (ug/L)
E	Ethylbenzene (ug/L)
X	Total Xylenes (ug/L)
TOC	Top of Casing (ft. AMSL)
GWEL	Groundwater Elevation (ft. AMSL)
ND	Not Detected; Reporting Limit Shown in Parentheses
J	Result Flagged as Estimated

Reference:
Aerial Photograph produced by USDA-FSA Aerial Photography Field Office. (July 2009) State Plane New Mexico West NAD 83 US Feet.

N

0 75 150
Feet

MWH

elpaso

PROJECT: BLANCO NORTH FLARE PIT

TITLE: Groundwater Potentiometric Surface Contour Map and BTEX Concentrations - August 25, 2010

FIGURE: 3

FIGURE 4
Historic Groundwater Elevations (1988 - 2010)
2010 Blanco North Flare Pit Annual Report

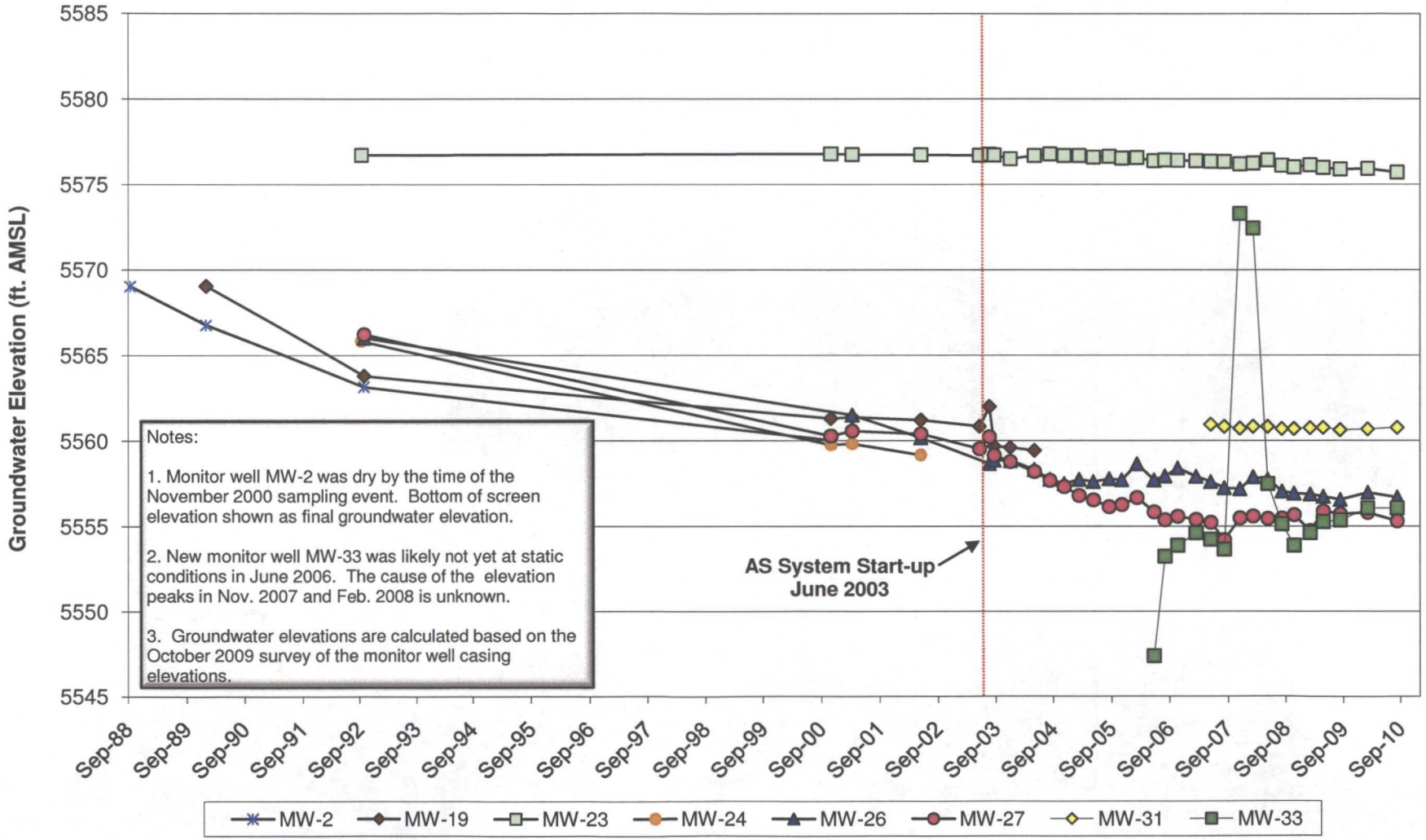
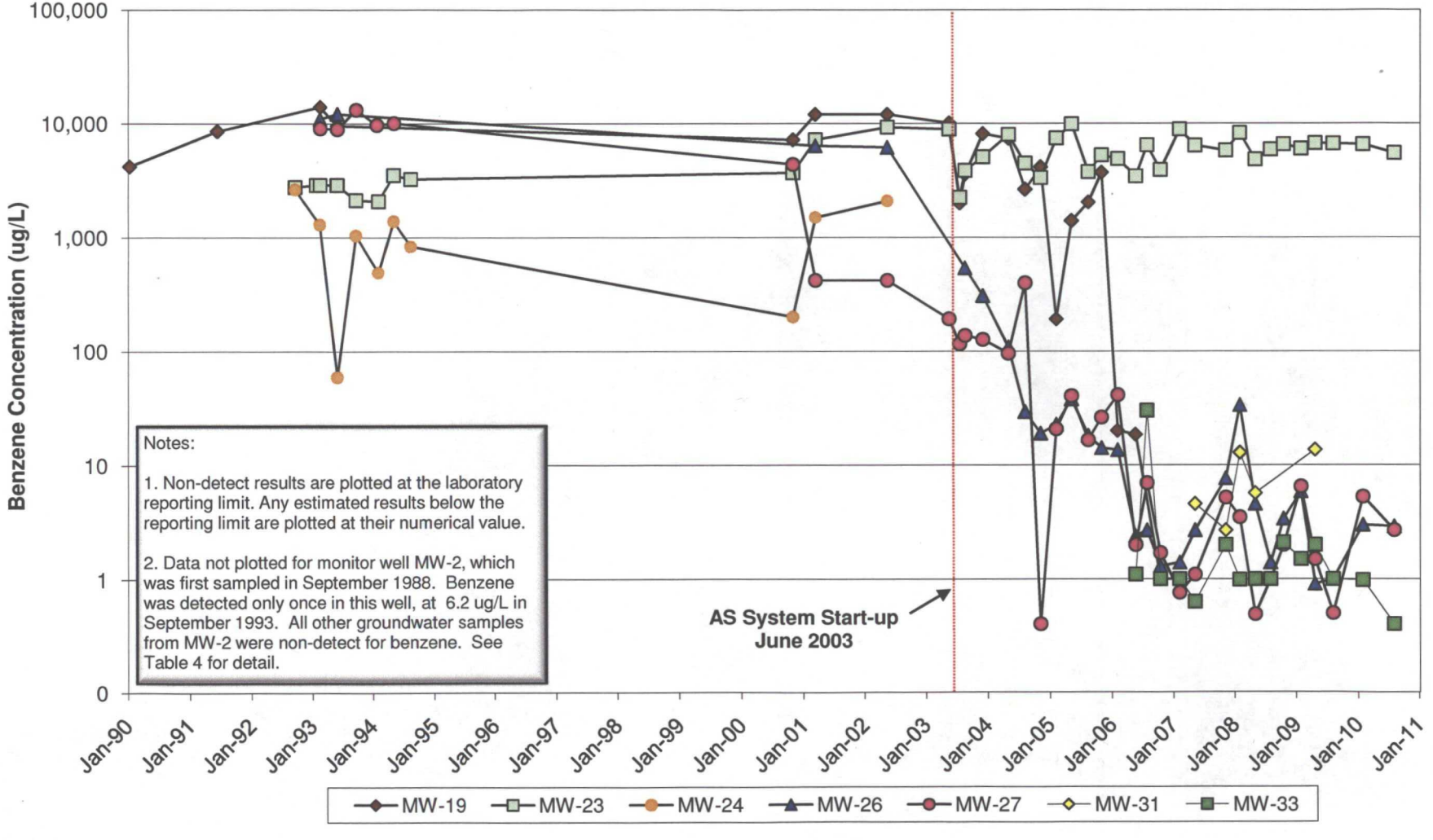


FIGURE 5
Historic Benzene Concentrations in Groundwater (1990 - 2010)
2010 Blanco North Flare Pit Annual Report



TABLES

MWH

TABLE 1
SUMMARY OF MW-32 PRODUCT RECOVERY (2006 - 2010)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Date	Static Product Thickness Measurement (ft)	Product Volume Removed (gal)	Cumulative LNAPL Volume Removed from MW-32 (gal)
5/31/06	5.62	0.00	0
8/15/06	11.25	0.00	0.0
9/8/06	12.20	0.00	0.0
9/11/06		11.58	11.6
9/18/06		0.98	12.6
10/10/06	11.16	3.93	16.5
10/25/06		1.77	18.3
11/3/06	9.60	0.00	18.3
11/10/06		1.37	19.6
11/30/06		1.77	21.4
12/22/06	3.35	0.98	22.4
1/9/07	3.54	0.00	22.4
1/26/07		0.20	22.6
2/13/07	3.60	0.00	22.6
3/16/07	3.60	0.00	22.6
3/30/07		3.14	25.7
4/16/07		0.79	26.5
5/16/07		0.20	26.7
5/21/07	0.38	0.00	26.7
5/31/07		0.20	26.9
6/15/07		0.10	27.0
6/29/07		0.10	27.1
8/17/07		0.19	27.3
8/31/07	0.16	0.00	27.3
9/14/07		0.22	27.5
9/28/07		0.22	27.7
10/31/07		0.22	28.0
11/13/07	0.11	0.00	28.0
11/30/07		0.22	28.2
12/14/07		0.03	28.2
1/14/08		0.16	28.4
1/31/08		0.16	28.5
2/14/08		0.22	28.7
2/28/08		0.16	28.9
3/14/08		0.16	29.1
3/28/08		0.17	29.2
4/15/08		0.27	29.5
5/15/08	2.12	0.00	29.5
5/30/08		0.09	29.6
6/13/08		0.06	29.7

TABLE 1
SUMMARY OF MW-32 PRODUCT RECOVERY (2006 - 2010)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Date	Static Product Thickness Measurement (ft)	Product Volume Removed (gal)	Cumulative LNAPL Volume Removed from MW-32 (gal)
6/27/08		0.05	29.7
7/14/08		0.06	29.8
7/31/08		0.12	29.9
8/13/08		0.09	30.0
8/29/08		0.06	30.0
9/15/08		0.06	30.1
9/29/08		0.05	30.1
10/15/08		0.08	30.2
10/30/08		0.08	30.3
11/13/08		0.09	30.4
11/26/08		0.06	30.4
12/15/08		0.08	30.5
12/30/08		0.08	30.6
1/16/09		0.06	30.7
1/30/09		0.05	30.7
2/13/09		0.06	30.8
2/27/09		0.04	30.8
3/12/09		0.06	30.9
3/31/09		0.05	30.9
4/15/09		0.05	31.0
4/30/09		0.03	31.0
5/14/09		0.11	31.1
5/28/09		0.08	31.2
6/16/09		0.09	31.3
8/25/09		0.34	31.6
9/16/09		0.28	31.9
10/19/09		0.30	32.2
2/18/10	0.32	0.03	32.2
3/17/10		0.23	32.5
4/14/10		0.12	32.6
5/25/10		0.14	32.7
6/24/10		0.14	32.9
7/21/10		0.09	33.0
8/25/10		0.14	33.1

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Monitor Well	Sample Date	Water Depth (ft BTOC)	Analytical Parameters (µg/l) Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard (µg/l)[1,2]:			10	750	750	620
	9/28/88	49.60	<0.2	<0.2	<0.2	<0.6
MW-2	1/15/90	51.87	<0.5	<0.5	<0.5	<0.5
	6/18/91	NA	<0.5	<0.5	**0.7**	**0.9**
	10/13/92	55.48	No Sample Collected			
	2/23/93	NA	<0.5	<0.5	<0.5	<0.5
	6/8/93	NA	<2.0	<2.0	<2.0	<2.0
	9/29/93	NA	**6.2**	<2.0	<2.0	<2.0
	2/10/94	NA	<2.0	<2.0	<2.0	<2.0
	5/13/94	NA	<2.0	<2.0	<2.0	<2.0
	8/22/94	NA	<2.0	<2.0	<2.0	<2.0
	11/9/00	Dry	Well Dry - No Sample Collected			
	3/25/01	Dry	Well Dry - No Sample Collected			
	6/2/03	Dry	Well Dry - No Sample Collected			
	8/4/03	Dry	Well Dry - No Sample Collected			
	9/3/03	Dry	Well Dry - No Sample Collected			
	12/16/03	Dry	Well Dry - No Sample Collected			
	5/17/04	Dry	Well Dry - No Sample Collected			
	8/23/04	Dry	Well Dry - No Sample Collected			
	11/22/04	Dry	Well Dry - No Sample Collected			
	2/23/05	Dry	Well Dry - No Sample Collected			
	5/23/05	Dry	Well Dry - No Sample Collected			
	8/30/05	Dry	Well Dry - No Sample Collected			
	11/17/05	Dry	Well Dry - No Sample Collected			
	2/21/06	Dry	Well Dry - No Sample Collected			
	6/8/06	Dry	Well Dry - No Sample Collected			
	8/15/06	Dry	Well Dry - No Sample Collected			
	11/3/06	Dry	Well Dry - No Sample Collected			
	2/26/07	Dry	Well Dry - No Sample Collected			
	5/29/07	Dry	Well Dry - No Sample Collected			
	8/22/07	Dry	Well Dry - No Sample Collected			
	11/28/07	Dry	Well Dry - No Sample Collected			
	2/20/08	Dry	Well Dry - No Sample Collected			
	5/22/08	Dry	Well Dry - No Sample Collected			
	8/21/08	Dry	Well Dry - No Sample Collected			
	1/15/90	55.70	**4,200**	<50	**340**	**3,740**
MW-19	6/19/91	NA	**8,600**	**210**	<25.0	**4,200**
	10/13/92	60.95	Product - No Sample Collected			

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

			Analytical Parameters (µg/l)			
Monitor Well	**Sample Date**	**Water Depth (ft BTOC)**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
NMWQCC Standard (µg/l)[1,2]:			**10**	**750**	**750**	**620**
	2/25/93	NA	**14,000**	**450**	**3,900**	**5,100**
MW-19	6/10/93	NA	**9,580**	**159**	**928**	**1,087**
	11/13/00	63.45	**7,200**	<25	**3,500**	**88**
	3/26/01	63.37	**12,000**	<50	**4,500**	**110**
	5/30/02	63.54	**12,000**	<50	**4,300**	**140**
	6/2/03	63.90	**10,100**	<10	**3,900**	<30
	8/4/03	62.75	**2,000**	<10	**304**	<30
	9/3/03	65.06	**3,580**	<1.0	**1,020**	<3.0
	12/16/03	65.14	**8,130**	<50	<50	<100
	5/17/04	65.31	**7,410**	<13	**1,160**	**45**
	8/23/04	NM	**2,650**	<25	**303**	<50
	11/22/04	NM	**4,150**	**7**	<1	<2
	2/23/05	NM	**191**	<10	<10	<20
	5/23/05	NM	**8,520**	<20	**176**	**176**
	8/30/05	NM	**2,040**	<20	**117**	<40
	11/17/05	NM	**3,730**	<20	**340**	<40
	2/21/06	NM	**20.1**	<5	**9**	**4.4**
	6/8/06	NM	**18.6**	<1	<1	**2.9**
	8/15/06	NM	Well Damaged - No Sample Collected			
	11/3/06	NM	<1.0[3]	<1.0	<1.0	<2.0
	2/26/07	NM	<1.0[3]	<1.0	<1.0	<2.0
	5/29/07	NM	Well Damaged - No Sample Collected			
	8/22/07	NM	Well Damaged - No Sample Collected			
	11/28/07	NM	Well Damaged - No Sample Collected			
	2/20/08	NM	Well Damaged - No Sample Collected			
	5/22/08	NM	Well Damaged - No Sample Collected			
	8/21/08	NM	Well Damaged - No Sample Collected			
	11/6/08	NM	Well Damaged - No Sample Collected			
	2/17/09	NM	Well Damaged - No Sample Collected			
	5/11/09	NM	Well Damaged - No Sample Collected			
	8/26/09	NM	Well Damaged - No Sample Collected			
	9/25/92	48.83	<1	<1	<1	<1
MW-20	2/24/93	NA	<0.5	<0.5	<0.5	<0.5
	6/10/93	NA	<2.0	<2.0	<2.0	<2.0
	9/29/93	NA	<2.0	<2.0	<2.0	<2.0
	1/27/94	NA	<2.0	<2.0	<2.0	<2.0
	5/13/94	NA	<2.0	<2.0	<2.0	<2.0

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

			Analytical Parameters (µg/l)			
Monitor Well	**Sample Date**	**Water Depth (ft BTOC)**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
NMWQCC Standard (µg/l)[1,2]:			**10**	**750**	**750**	**620**
	8/22/94	NA	<2.0	<2.0	<2.0	<2.0
MW-20	11/13/00	NA	Well Damaged - No Sample Collected			
	6/2/03	NA	Well Abandoned in 2002			
	9/25/92	57.11	2,770	221	7,690	6,090
MW-23	2/1/93	NA	2,900	3,500	190	4,100
	2/25/93	NA	2,900	190	3,500	4,100
	6/8/93	NA	1,680	30	1,850	2,906
	9/29/93	NA	2,133	216	1,807	3,823
	2/10/94	NA	2,090	151	1,150	2,660
	5/13/94	NA	3,530	255	852	2,150
	8/22/94	NA	3,270	212	353	1,176
	11/13/00	57.02	3,700	<25	840	1,400
	3/26/01	57.07	7,200	<25	520	1,300
	5/30/02	57.08	9,300	<50	360	1,500
	6/2/03	57.12	8,920	<10	337	1,450
	8/4/03	57.06	2,250	<10	100	337
	9/3/03	57.11	3,860	8	208	768
	12/16/03	57.31	5,080	<50	<50	219
	5/17/04	57.14	8,020	<13	208	1,490
	8/23/04	57.04	4,480	<25	160	966
	11/22/04	57.13	3,360	<1	<1	<2
	2/23/05	57.13	7,450	<1	321	1,380
	5/23/05	57.22	9,900	37	270	1,650
	8/30/05	57.18	3,760	<5	53	199
	11/17/05	57.29	5,280	2.6	203	863
	2/21/06	57.25	4,900	4.9	57	710
	6/8/06	57.44	3,470	<1	<1	373
	8/15/06	57.40	6,490	26.6	165	1,270
	11/3/06	57.41	3,920	26.3	103	735
	2/26/07	57.44	8,910	30.7	276	1,600
	5/29/07	57.47	6,410	<11	276	1,240
	8/22/07	57.49	5,110	14.5	172	855
	11/28/07	57.62	5,820	<50	147	1,080
	2/20/08	57.57	8290 B	9.3	271	1870 B
	5/22/08	57.40	4,860	<100	140	891
	8/21/08	57.70	5,920	<100	146	1,250
	11/6/08	57.81	6590	4.2	186	1400

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Monitor Well	Sample Date	Water Depth (ft BTOC)	Analytical Parameters (µg/l) Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard (µg/l)[1,2]:			10	750	750	620
	2/17/09	57.69	6010	<50	219	1520
MW-23	5/11/09	57.83	6740	5.4	162	1530
	8/26/09	57.93	6710	35.8J	278	1720
	2/18/10	57.89	6550	<100	227	1500
	8/25/10	58.11	5500	<25	152	1220
	9/25/92	58.99	2,650	95	<50	1,340
MW-24	2/23/93	NA	1,300	71	<12.5	600
	6/10/93	NA	59	15	7	95
	9/29/93	NA	1,040	63	8	918
	2/10/94	NA	490	44	<2.0	395
	5/13/94	NA	1,390	69	<2.0	898
	8/22/94	NA	836	60	<2.5	154
	11/13/00	65.06	200	<1	5	22
	3/26/01	65.00	1,500	<5.0	18	35
	5/30/02	65.65	2,100	13	29	<25
	6/2/03	66.38	Well Bailed Dry - No Sample Collected			
	8/4/03	66.91	Well Bailed Dry - No Sample Collected			
	9/3/03	Dry	Well Dry - No Sample Collected			
	12/16/03	67.17	Well Bailed Dry - No Sample Collected			
	5/17/04	Dry	Well Dry - No Sample Collected			
	8/23/04	67.11	Well Bailed Dry - No Sample Collected			
	11/22/04	66.37	Well Bailed Dry - No Sample Collected			
	2/23/05	67.11	Well Bailed Dry - No Sample Collected			
	8/30/05	67.11	Not Enough Water to Sample - TD 67.19			
	11/17/05	67.12	Not Enough Water to Sample - TD 67.19			
	2/21/06	67.11	Not Enough Water to Sample - TD 67.19			
	6/8/06	Dry	Not Enough Water to Sample - TD 67.19			
	8/15/06	67.12	Not Enough Water to Sample - TD 67.19			
	11/3/06	67.13	Not Enough Water to Sample - TD 67.19			
	2/26/07	67.16	Not Enough Water to Sample - TD 67.19			
	5/29/07	67.13	Not Enough Water to Sample - TD 67.19			
	8/22/07	67.14	Not Enough Water to Sample - TD 67.19			
	11/28/07	67.13	Not Enough Water to Sample - TD 67.19			
	2/20/08	67.13	Not Enough Water to Sample - TD 67.19			
	5/22/08	67.14	Not Enough Water to Sample - TD 67.19			
	8/21/08	67.12	Not Enough Water to Sample - TD 67.19			
	11/6/08	67.12	Not Enough Water to Sample - TD 67.19			

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

			Analytical Parameters (µg/l)			
Monitor Well	**Sample Date**	**Water Depth (ft BTOC)**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
NMWQCC Standard (µg/l)[1,2]:			**10**	**750**	**750**	**620**
	2/17/09	67.12	Not Enough Water to Sample - TD 67.19			
MW-24	5/11/09	67.12	Not Enough Water to Sample - TD 67.19			
	8/26/09	67.12	Not Enough Water to Sample - TD 67.19			
	2/18/10	67.09	Not Enough Water to Sample - TD 67.19			
	8/25/10	67.08	Not Enough Water to Sample - TD 67.19			
	10/13/92	57.84	Product - No Sample Collected. DTW shown is corrected.			
MW-26	2/25/93	NA	**11,000**	**860**	**9,900**	**10,000**
	6/10/93	NA	**12,180**	**470**	**7,504**	**4,959**
	3/26/01	62.36	**6,400**	**100**	**280**	**1,900**
	5/30/02	63.68	**6,200**	**50**	**270**	**1,300**
	6/2/03	NA	Product Recovery Pump in Well - No Sample Collected			
	8/4/03	65.19	Well Bailed Dry - No Sample Collected			
	9/4/03	65.00	**538**	**9.6**	**139**	**466**
	12/17/03	65.02	**307**	<0.5	**158**	**685**
	5/17/04	65.54	**109**	**14.3**	**87.1**	**280**
	8/23/04	66.11	**29.5**	<5	**40**	**93.6**
	11/22/04	66.37	**19.0**	<1	**3.5**	**56.8**
	2/23/05	66.12	**22.7**	<10	<10	**11**
	5/23/05	66.25	**38.0**	**6.3**	**62.3**	**173**
	8/30/05	66.08	**18.2**	<5	**3.2**	**30.4**
	11/17/05	66.14	**14.2**	<5	**17**	**34.8**
	2/21/06	65.21	**13.6**	<2	<2	**2.9**
	6/8/06	66.15	**2.4**	<1	**1.8**	**3.6**
	8/15/06	65.92	**2.7**	**21**	**11.1**	**41**
	11/3/06	65.46	**1.3**	<1.0	<1.0	<2.0
	2/26/07	65.94	**1.4**	<1.0	<1.0	<2.0
	5/29/07	66.25	**2.7**	<1.0	<1.0	<2.0
	8/22/07	66.61	<1.0	<1.0	<1.0	<2.0
	11/28/07	66.67	**7.7**	**1.8 J**	**0.89 J**	**4.9 J**
	2/20/08	65.97	**33.7 B**	**0.30 J**	**2.60**	**16.2**
	5/22/08	66.10	**4.6**	**0.45 J**	**0.58 J**	**0.62 J**
	8/21/08	66.81	**1.4**	<1.0	<1.0	<3.0
	11/6/08	66.93	**3.4**	<2.0	<2.0	**2.8J**
	2/17/09	66.98	**5.9**	**0.44J**	**0.86J**	**7.0**
	5/11/09	67.12	**0.91J**	**0.78J**	<2.0	**2.9J**

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

			Analytical Parameters (µg/l)			
Monitor Well	**Sample Date**	**Water Depth (ft BTOC)**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
NMWQCC Standard (µg/l)[1,2]:			**10**	**750**	**750**	**620**
	8/26/09	67.30	**1.0**	<1.0	<1.0	**1.1J**
MW-26	2/18/10	66.89	**3.0**	**0.39J**	**0.33J**	**2.6**
	8/25/10	67.17	**2.9**	<1.0	<1.0	<2.0
	10/13/92	57.72	Product - No Sample Collected. DTW shown is corrected.			
MW-27	2/26/93	NA	**9,100**	**470**	**5,700**	**4,900**
	6/10/93	NA	**8,970**	**376**	**137**	**5,406**
	9/30/93	NA	**13,200**	**402**	**420**	**3,100**
	2/2/94	NA	**9,740**	**212**	**209**	**1,750**
	5/14/94	NA	**10,100**	**358**	**180**	**4,500**
	11/13/00	63.67	**4,400**	**4,700**	**12,000**	**60,000**
	3/26/01	63.38	**420**	**27**	**260**	**1,600**
	5/30/02	63.54	**420**	**13**	**170**	**1,100**
	6/2/03	64.41	**192**	<25	**328**	**1,480**
	8/4/03	63.72	**116**	<10	**145**	**697**
	9/3/03	64.80	**137**	**17**	**274**	**1,240**
	12/16/03	65.16	**127**	**17**	**250**	**1,060**
	5/17/04	65.74	**95.9**	**28**	**317**	**1,600**
	8/23/04	66.27	**398**	<25	<25	**4,830**
	11/22/04	66.63	<1	<1	**330**	**1,520**
	2/23/05	67.15	**20.7**	**28**	**419**	**2,210**
	5/23/05	67.41	<1	<1	<1	<2
	8/30/05	67.80	**16.6**	**14**	**383**	**1,860**
	11/17/05	67.68	**26.3**	**4**	**175**	**1,070**
	2/21/06	67.28	**41.3**	<5	<5	**264**
	6/8/06	68.12	**2.0**	<1	**3.2**	**156**
	8/15/06	68.57	**7.0**	<5	<5	<2
	11/3/06	68.38	**1.7**	**2.5**	**2.8**	**13**
	2/26/07	68.56	<1.0	<1.0	<1.0	<2.0
	5/29/07	68.73	**1.1**	<1.0	<1.0	<2.0
	8/22/07	69.73	<1.0	<1.0	<1.0	<2.0
	11/28/07	68.47	**5.20**	**12.3 B**	**0.61 J**	**9.6**
	2/20/08	68.36	3.50 UB	**0.45**	**0.70 J**	**4.70 B**
	5/22/08	68.50	**0.49 J**	<1	<1.0	<2.0
	8/21/08	68.48	<1.0	<1.0	<1.0	<2.0
	11/6/08	68.28	<2.0	<2.0	<2.0	<6
	2/17/09	69.21	**6.5**	**0.66J**	**1.3**	**8.7**
	5/11/09	68.06	**1.5J**	**0.75J**	<2.0	**1.6J**

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Monitor Well	Sample Date	Water Depth (ft BTOC)	Analytical Parameters (µg/l) Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard (µg/l)[1,2]:			10	750	750	620
	8/26/09	68.23	0.50J	<1.0	<1.0	1.5J
MW-27	2/18/10	68.16	5.3	0.5J	7.0	5.3
	8/25/10	68.65	2.7	0.3J	0.46J	1.4J
	5/29/07	72.85	4.6	<1.0	<1.0	<2.0
MW-31	8/22/07	72.97	4.8	<1.0	<1.0	<2.0
	11/28/07	73.07	2.7	0.68 UB	0.61 J	3.5 J
	2/20/08	72.97	12.9 B	0.29 J	1.7	11.6 B
	5/22/08	72.97	5.7	<1.0	0.70 J	5.20
	8/21/08	73.09	Not Enough Water to Sample - TD 73.38			
	11/6/08	73.09	Not Enough Water to Sample - TD 73.38			
	2/17/09	73.05	Not Enough Water to Sample - TD 73.38			
	5/11/09	73.03	13.7	5.1	3.6	22.5
	8/26/09	73.17	Not Enough Water to Sample - TD 73.38			
	2/18/10	73.13	Not Enough Water to Sample - TD 73.27			
	8/25/10	73.03	Not Enough Water to Sample - TD 73.27			
MW-32	8/26/09	59.09	9050	16300	480	6390
	2/18/10	58.93	11300	16200	397	4960
	6/8/06	77.58	1.1	4.2	<1	4.5
MW-33	8/15/06	71.71	30.1	37.7	<50	24.6
	11/3/06	71.07	<1.0	1.3	<1.0	<2.0
	2/26/07	70.33	<1.0	<1.0	<1.0	<2.0
	5/29/07	70.71	<1.0	<1.0	<1.0	<2.0
	8/22/07	71.29	<1.0	<1.0	<1.0	<2.0
	11/28/07	51.66	<2.0	<2.0	<2.0	<6.0
	2/20/08	52.51	0.99 UB	1.0 UB	<1.0	1.0 UB
	5/22/08	67.47	<1.0	<1.0	<1.0	<2.0
	8/21/08	69.81	<1.0	<1.0	<1.0	<3.0
	11/6/08	71.07	2.1	<2.0	<2.0	2J
	2/17/09	70.33	1.5	0.30J	<1.0	2.2
	5/11/09	69.70	<2.0	<2.0	<2.0	<6.0
	8/26/09	69.60	<1.0	<1.0	<1.0	<2.0
	2/18/10	68.90	0.98J	<1.0	<1.0	0.99J
	8/25/10	68.90	0.4J	<1.0	<1.0	<2.0

B = Analyte detected in an associated QA/QC blank; sample result unaffected.
BTOC = Below Top of Casing.
Dry = Well was dry.

TABLE 2
HISTORICAL SITE GROUNDWATER ANALYTICAL DATA
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Monitor Well	Sample Date	Water Depth (ft BTOC)	Analytical Parameters (µg/l) Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard (µg/l)[1,2]:			10	750	750	620

J = Estimated result beneath the laboratory reporting limit (RL).

NA = Not Applicable or Not Available

NM = Water level was not measured.

UB = Analyte detected in an associated QA/QC blank; sample result considered non-detect.

"<" = Analyte not detected at or above the RL. Value shown is the RL.

Notes:

1. Shaded data exceed their New Mexico Water Quality Control Commission's (NMWQCC) standards.
2. All detected concentrations are shown in bold type.
3. Monitor well MW-19 formed a restriction in the casing in 2004 which worsened over time. For the final 2 quarters of sampling, a small diameter pipe was still insertable, which allowed for sample collection.

TABLE 3
GROUNDWATER MONITORING SCHEDULE
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Monitoring Schedule	Analyses
MW-23	Semiannual	Field Parameters, BTEX
MW-24	Semiannual	Field Parameters, BTEX
MW-26	Semiannual	Field Parameters, BTEX
MW-27	Semiannual	Field Parameters, BTEX
MW-31	Semiannual	Field Parameters, BTEX
MW-32	Semiannual	Field Parameters, BTEX
MW-33	Semiannual	Field Parameters, BTEX

Notes:

1. Field Parameters include temperature, pH, and specific conductance. BTEX: Benzene, Toluene, Ethylbenzene and Total Xylenes.
2. The next sampling event is tentatively scheduled for February 2011.
3. Monitor wells MW-24 and MW-31 will be sampled if possible. The water levels in these wells has recently been near or below the bottom of the screen.
4. MW-32 will be sampled again once free-product subsides.

APPENDIX A

MWH

Lodestar Services, Incorporated
PO Box 4465, Durango, CO 81302 Office 970-946-1093

Site Visit Memo

To: Jed Smith

From: Ashley Ager

CC: File

Date: September 18, 2009

Re: Blanco NFP Site Visit

09/16/09: PR at MW-32
DTW: 60.48
Replace sock, recovered 36 oz of product.

Lodestar Services, Incorporated
PO Box 4465, Durango, CO 81302 Office 970-946-1093

Site Visit Memo

To: Jed Smith

From: Ashley Ager

CC: File

Date: October 20, 2009

Re: Blanco NFP Site Visit

09/19/09:

09:48: arrive at NFP
10:01: meet Doug Phelps w/Enterprise to issue work permit

Pull sock from MW-32. 38 oz product recovered.

Load Nitrogen Cylinder.

Other Data:

Well	Depth to Water from TOC	Temp	DO	DO
	Feet	C	mg/L	%
MW-26	67.30	20.5	5.28	56.6
MW-27	68.04	20.4	3.81	42.3
Sparge well MW-1	72.61			
MW-32	59.22			

13:29: leave NFP.
14:12: return Nitrogen cylinder to Noel's.

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Ave, Ste 3
Durango, Colorado 81301
T 970.385.1096

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater **Date:** 2/18/2010
Project Manager: Ashley Ager
Client: MWH
Site Name: Blanco North Flare Pit

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-19	8:31 AM	-	-	-	-	dry at 27.13
MW-23		-	57.89	-	-	sample BTEX
MW-24		-	67.09	-	-	too little water volume to sample
MW-26		-	66.89	-	-	sample BTEX
MW-27		-	68.16	-	-	Sample BTEX
MW-31		-	73.13	-	-	too little water volume to sample
MW-32		58.61	58.93	0.32	4 oz	sample BTEX from bottom of bailer
MW-33		-	68.9	-	-	sample BTEX

Comments

Signature: *Ashley L. Ager* Date: 2/19/2010

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-23
Client: MWH | Date: 2/18/2010 | Time: 8:39
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 57.89 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 66.84 ft | Product Thickness: ft
Water Column Height: 8.95 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
8.97 x .65	5.83 x 3		17.49 gal

Time (military)	pH (su)	SC (us)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
8:42	6.73	1721	59.4				1	clear, HC odor
	6.72	1762	59.9				2	clear, HC odor
	6.79	1779	59.7				3	clear, HC odor
	6.75	1833	59.7				5	light gray, sheen, bailing down
9:15	7.17	1884	57.9				6.9	well bailed dry, silty, gray
Final: 9:28	7.2	1880	57.9				7	well bailed dry, silty, gray

COMMENTS:

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-23 | Sample Time: 9:25

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 02182010TB01 | Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-26
Client: MWH | Date: 2/18/2010 | Time: 10:10
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 66.89 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 67.49 ft | Product Thickness: ft
Water Column Height: 0.6 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
0.6 x .65	0.39 x 3		1.17 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:15	6.84	1.69	56.3				0.3	brown, silty
Final:								

COMMENTS: Barely enough water to fill two voas.

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-26 Sample Time: 10:27

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 02182010TB01 Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-27
Client: MWH | Date: 2/18/2010 | Time: 10:39
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 68.16 ft | Depth to Product: ft
Well Diameter: 2" | Total Depth: 69.21 ft | Product Thickness: ft
Water Column Height: 1.05 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
1.05 x .16	0.168 x 3		0.5 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:45	7.00	10.51	59.4				0.13	clear
Final:								

COMMENTS: Barely enough water to fill two voas. Sample is unpreserved due to reaction of water with HCl preservative

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-27 | Sample Time: 10:52

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 02182010TB01 | Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-32
Client: MWH | Date: 2/18/2010 | Time: 12:05
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 58.93 ft | Depth to Product: 58.61 ft
Well Diameter: 2" | Total Depth: 83.12 ft | Product Thickness: 0.32 ft
Water Column Height: 24.19 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
			gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
Final:								

COMMENTS: removed 2 gallons of product, but did not decrease thickness. Collect grab sample of water from bottom of bailer. Sample is unpreserved due to reaction of water with HCl preservative.

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-32 | Sample Time: 12:22

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 02182010TB01 | Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-33
Client: MWH | Date: 2/18/2010 | Time: 11:17
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 68.9 ft | Depth to Product: ft
Well Diameter: 2" | Total Depth: 82.62 ft | Product Thickness: ft
Water Column Height: 13.72 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
13.72 x .16	2.29 x 3		6.87 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
11:23	7.89	10.20	59.9				0.25	clear
	7.93	10.19	59.7				0.5	clear
	8.07	10.16	59.7				0.75	light gray
	7.98	10.10	59.5				1	light gray
	7.98	9.97	59.4				2	light gray
	8.00	10.17	59.4				2.75	light gray
Final: 11:49	8.00	10.00	59.30				3	light gray

COMMENTS: well is obstructed; unable to remove more water.

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-33 | Sample Time: 11:50

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 02182010TB01 | Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Ave, Ste 3
Durango, Colorado 81301
T 970.385.1096

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater **Date:** 3/17/2010
Project Manager: Ashley Ager
Client: MWH
Site Name: Blanco North Flare Pit

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-19						
MW-23						
MW-24						
MW-26						
MW-27						
MW-31						
MW-32	15:29	-	59.24	-	30 oz	replace 4" PR sock.
MW-33						

Comments

Signature: *Ashley L. Ager* Date: 3/19/2010

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Ave, Ste 3
Durango, Colorado 81301
T 970.385.1096

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater **Date:** 4/14/2010
Project Manager: Ashley Ager
Client: MWH
Site Name: Blanco North Flare Pit

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-19						
MW-23						
MW-24						
MW-26						
MW-27						
MW-31						
MW-32	9:36	-	58.97	-	15 oz	replace 4" PR sock.
MW-33						

Comments

Signature: *Ashley L. Ager* Date: 4/14/2010

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Ave, Ste 3
Durango, Colorado 81301
T 970.385.1096

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater
Project Manager: Ashley Ager
Client: MWH
Site Name: Blanco North Flare Pit

Date: 5/25/2010

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-19						
MW-23						
MW-24						
MW-26						
MW-27						
MW-31						
MW-32	14:20	-	59	-	18 oz	replace 4" PR sock.
MW-33						

Comments

Signature: *Ashley L. Ager*

Date: 5/31/2010

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Ave, Ste 3
Durango, Colorado 81301
T 970.385.1096

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater **Date:** 6/24/2010
Project Manager: Ashley Ager
Client: MWH
Site Name: Blanco North Flare Pit

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-19						
MW-23						
MW-24						
MW-26						
MW-27						
MW-31						
MW-32	14:00	-	59.03	-	18 oz	replace 4" PR sock.
MW-33						

Comments

Signature: *Ashley L. Ager* Date: 6/25/2010

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Ave, Ste 3
Durango, Colorado 81301
T 970.385.1096

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater
Project Manager: Ashley Ager
Client: MWH
Site Name: Blanco North Flare Pit
Date: 7/21/2010

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-19						
MW-23						
MW-24						
MW-26						
MW-27						
MW-31						
MW-32	8:22	-	58.93	-	12 oz	replace 4" PR sock.
MW-33						

Comments

Signature: *Ashley L. Ager*
Date: 8/2/2010

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Ave, Ste 3
Durango, Colorado 81301
T 970.385.1096

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater
Project Manager: Ashley Ager
Client: MWH
Site Name: Blanco North Flare Pit

Date: 8/25/2010

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-19	7:43 AM		dry			dry at 27.16
MW-23			58.11			Sample BTEX
MW-24			67.08			not enough water volume to sample (0.05 ft of water)
MW-26			67.17			Sample BTEX
MW-27			68.65			Sample BTEX
MW-31			73.03			not enough water volume to sample (0.24 feet of water)
MW-32			58.91		18 oz	Replaced PR sock. Bad smell in well casing (decaying smell)
MW-33			68.9			Sample BTEX

Comments

Signature: *Ashley L. Ager*

Date: 8/26/2010

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-23
Client: MWH | Date: 8/25/2010 | Time: 7:52
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 58.11 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 66.83 ft | Product Thickness: ft
Water Column Height: 8.72 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
8.72 x .65	5.67 x 3		17 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
8:11	6.61	16.70	62.8				1	yellow, HC odor
	6.62	16.64	62.8				2	yellow tint, HC odor
	6.63	16.19	63.0				3	yellow tint, HC odor
	6.71	16.45	63.3				5	yellow, silty, HC odor
	6.69	16.55	63.7				6	yellow, silty, HC odor, bailing down
8:40	6.75	16.78	63.3				6.9	gray, silty, HC odor, dry
Final: 8:46	6.7	16.85	63				7.2	well bailed dry, silty, gray

COMMENTS: Sample is unpreserved due to reaction of groundwater with HCl preservative

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-23 Sample Time: 8:44

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 250810TB01 Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-26
Client: MWH | Date: 8/25/2010 | Time: 9:15
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 67.17 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 67.49 ft | Product Thickness: ft
Water Column Height: 0.32 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
0.32 x 0.65	0.21 x 3		0.62 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:18	6.71	2.10	63.7				0.2	gray, silty, dry
Final: 9:18	6.71	2.10	63.7				0.2	well bailed dry, silty, gray

COMMENTS: Only enough water to collect one set of water parameters

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-26 | Sample Time: 9:34

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 250810TB01 | Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-27
Client: MWH | Date: 8/25/2010 | Time: 9:45
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 68.65 ft | Depth to Product: ft
Well Diameter: 2" | Total Depth: 69.14 ft | Product Thickness: ft
Water Column Height: 0.49 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
0.49 x .16	0.078 x 3		0.23 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:47	7.01	9.93	67.6				0.08	light brown, silty, dry
Final: 9:47	7.01	9.93	67.6				0.08	light brown, silty, dry

COMMENTS: Only enough water to collect one set of water parameters. Sample is unpreserved due to reaction of groundwater with HCl preservative.

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-27 | Sample Time: 10:00

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: 250810TB01 | Duplicate Sample:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco | Well No: MW-33
Client: MWH | Date: 8/25/2010 | Time: 10:22
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 68.9 ft | Depth to Product: ____ ft
Well Diameter: 2" | Total Depth: 82.62 ft | Product Thickness: ____ ft
Water Column Height: 13.72 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ____
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☑ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
13.72 x .16	2.195 x 3		6.58 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:28	7.40	9.04	63.1				0.25	clear
	7.47	9.15	63.0				0.5	clear
	7.45	9.17	62.4				0.75	clear
	7.46	9.13	62.2				1	light gray, silty
	7.48	9.08	62.3				1.5	light gray, silty, obstruction in well
Final: 10:52	7.45	9.12	62.2				1.8	light gray, silty

COMMENTS: Appears to be obstruction in well that bailer cannot get past.

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other ____

Water Disposal: Rio Vista

Sample ID: MW-33 | Sample Time: 10:49

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other ____

Trip Blank: 250810TB01 | Duplicate Sample: ____

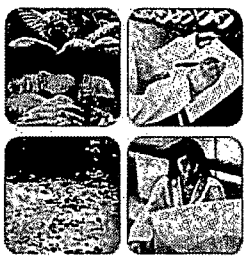
APPENDIX B

MWH

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

02/25/10



Technical Report for

Montgomery Watson

EPTPC San Juan Basin Blanco North Flare Pit

WO 94291

Accutest Job Number: T47892

Sampling Date: 02/18/10

Report to:

MWH Americas
1801 California St. Suite 2900
Denver, CO 80202
jed.smith@mwhglobal.com

ATTN: Jed Smith

Total number of pages in report: **22**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Client Service contact: Georgia Jones 713-271-4700

Certifications: TX (T104704220-06-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103) UT(7132714700)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5

Table of Contents

-1-

Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T47892

EPTPC San Juan Basin Blanco North Flare Pit
Project No: WO 94291

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
T47892-1	02/18/10	07:00 TU	02/19/10	AQ	Trip Blank Water	180210TB01
T47892-2	02/18/10	09:25 TU	02/19/10	AQ	Ground Water	BLANCO NFP MW-23
T47892-3	02/18/10	10:27 TU	02/19/10	AQ	Ground Water	BLANCO NFP MW-26
T47892-4	02/18/10	10:52 TU	02/19/10	AQ	Ground Water	BLANCO NFP MW-27
T47892-5	02/18/10	11:50 TU	02/19/10	AQ	Ground Water	BLANCO NFP MW-33
T47892-6	02/18/10	12:22 TU	02/19/10	AQ	Ground Water	BLANCO NFP MW-32

ACCUTEST Laboratories

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T47892

Site: EPTPC San Juan Basin Blanco North Flare Pit **Report Date** 2/24/2010 6:46:48 PM

5 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 02/18/2010 and were received at Accutest on 02/19/2010 properly preserved, at 1.8 Deg. C and intact. These Samples received an Accutest job number of T47892. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method SW846 8021B

Matrix AQ **Batch ID:** GKK1653

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T47887-2MS, T47887-2MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for o-Xylene are outside control limits. Probable cause due to matrix interference.
- T47892-4 for Ethylbenzene: More than 40% RPD for detected concentrations between two GC columns.

Matrix AQ **Batch ID:** GKK1655

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T47892-3MS, T47892-3MSD were used as the QC samples indicated.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	180210TB01		
Lab Sample ID:	T47892-1	**Date Sampled:**	02/18/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	02/19/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK034707.D	1	02/20/10	FI	n/a	n/a	GKK1653
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		58-125%
98-08-8	aaa-Trifluorotoluene	113%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO NFP MW-23		
Lab Sample ID:	T47892-2	**Date Sampled:**	02/18/10
Matrix:	AQ - Ground Water	**Date Received:**	02/19/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK034750.D	100	02/21/10	FI	n/a	n/a	GKK1655
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6550	100	36	ug/l	
108-88-3	Toluene	ND	100	28	ug/l	
100-41-4	Ethylbenzene	227	100	25	ug/l	
1330-20-7	Xylenes (total)	1500	200	93	ug/l	
95-47-6	o-Xylene	ND	100	36	ug/l	
	m,p-Xylene	1500	100	57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	92%		58-125%
98-08-8	aaa-Trifluorotoluene	107%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

3.3

Client Sample ID:	BLANCO NFP MW-26		
Lab Sample ID:	T47892-3	**Date Sampled:**	02/18/10
Matrix:	AQ - Ground Water	**Date Received:**	02/19/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK034749.D	1	02/21/10	FI	n/a	n/a	GKK1655
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3.0	1.0	0.36	ug/l	
108-88-3	Toluene	0.39	1.0	0.28	ug/l	J
100-41-4	Ethylbenzene	0.33	1.0	0.25	ug/l	J
1330-20-7	Xylenes (total)	2.6	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	2.6	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		58-125%
98-08-8	aaa-Trifluorotoluene	108%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BLANCO NFP MW-27		
Lab Sample ID:	T47892-4	**Date Sampled:**	02/18/10
Matrix:	AQ - Ground Water	**Date Received:**	02/19/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK034719.D	1	02/20/10	FI	n/a	n/a	GKK1653
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5.3	1.0	0.36	ug/l	
108-88-3	Toluene	0.50	1.0	0.28	ug/l	J
100-41-4	Ethylbenzene [a]	7.0	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	5.3	2.0	0.93	ug/l	
95-47-6	o-Xylene	1.3	1.0	0.36	ug/l	
	m,p-Xylene	4.1	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		58-125%
98-08-8	aaa-Trifluorotoluene	118%		73-139%

(a) More than 40% RPD for detected concentrations between two GC columns.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

3.5

Client Sample ID:	BLANCO NFP MW-33		
Lab Sample ID:	T47892-5	**Date Sampled:**	02/18/10
Matrix:	AQ - Ground Water	**Date Received:**	02/19/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK034720.D	1	02/20/10	FI	n/a	n/a	GKK1653
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.98	1.0	0.36	ug/l	J
108-88-3	Toluene	ND	1.0	0.28	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	0.99	2.0	0.93	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	0.99	1.0	0.57	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	92%		58-125%
98-08-8	aaa-Trifluorotoluene	117%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

3.6

Client Sample ID:	BLANCO NFP MW-32		
Lab Sample ID:	T47892-6	**Date Sampled:**	02/18/10
Matrix:	AQ - Ground Water	**Date Received:**	02/19/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK034751.D	100	02/21/10	FI	n/a	n/a	GKK1655
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11300	100	36	ug/l	
108-88-3	Toluene	16200	100	28	ug/l	
100-41-4	Ethylbenzene	397	100	25	ug/l	
1330-20-7	Xylenes (total)	4960	200	93	ug/l	
95-47-6	o-Xylene	946	100	36	ug/l	
	m,p-Xylene	4020	100	57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		58-125%
98-08-8	aaa-Trifluorotoluene	117%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

Page 1 of 1

FED-EX Tracking # 8709 8619 5181 | Bottle Order Control #

Accutest Quote # | Accutest Job # T47892

Client / Reporting Information

Company Name: MWH

Project Contact: Jed Smith | E-Mail: jed.smith@mwhglobal.com

Address: 1801 California Street, Suite 2900

City: Denver | State: CO | Zip: 80202

Phone No.: 303-291-2276 | Fax No.:

Samplers's Name: TROY URBAN

Project Information

Project Name / No.: EPTPC San Juan Basin Blanco North Flare Pit 2009-2010

Bill to: El Paso Corp | Invoice Attn.: Norma Ramos

Address: 1001 Louisiana Street, Rm S1904B

City: Hou | State: TX | Zip: 77002

Phone No.: | Fax No.:

Client Purchase Order #: WO 94291

Requested Analyses

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	MeOH	HNO3	H2SO4	EnCore	NaHSO4	MEOH	NONE	BTEX (8021B) Include m, p, & o-xylene	LAB USE ONLY
1	180210TB01	021810	0700	GW	2	X								X	
2	Blanco NFP MW-23	021810	0925	GW	3								X	X	
3	Blanco NFP MW-26	021810	1027	GW	3	X								X	
4	Blanco NFP MW-27	021810	1052	GW	3								X	X	
5	Blanco NFP MW-33	021810	1150	GW	3	X								X	
6	Blanco NFP MW-32	021810	1222	GW	3								X	X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Wastewater
SO - Soil
SL - Sludge
OI - Oil
LIQ - Liquid
SOL - Other Solid

Turnaround Time (Business days)

- [X] 10 Day STANDARD — Approved By/ Date:
- [ ] 7 Day
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] TRRP-13
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results & Standard QC

Comments / Remarks

If samples are received unpreserved, please notify MWH regarding holding time!!!

possible product in sample MW-32

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Troy Urban 2/18/10	1330	1	2	2/19/10 0915	2 Claud
3	Relinquished By:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 1.8

4.1 4

T47892: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T47892 Client: MWH Date/Time Received: 2/19/10 9:15

# of Coolers Received: 1 Thermometer #: IR1 Temperature Adjustment Factor: +0.4

Cooler Temps: #1: 1.8 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

Method of Delivery: (FEDEX) UPS Accutest Courier Greyhound Delivery Other

Airbill Numbers: 8709 8619 5181

COOLER INFORMATION

- [ ] Custody seal missing or not intact
- [ ] Temperature criteria not met
- [ ] Wet ice received in cooler

CHAIN OF CUSTODY

- [ ] Chain of Custody not received
- [ ] Sample D/T unclear or missing
- [ ] Analyses unclear or missing
- [ ] COC not properly executed

SAMPLE INFORMATION

- [ ] Sample containers received broken
- [ ] VOC vials have headspace
- [ ] Sample labels missing or illegible
- [x] ID on COC does not match label(s)
- [ ] D/T on COC does not match label(s)
- [ ] Sample/Bottles rcvd but no analysis on COC
- [ ] Sample listed on COC, but not received
- [ ] Bottles missing for requested analysis
- [ ] Insufficient volume for analysis
- [ ] Sample received improperly preserved

TRIP BLANK INFORMATION

- [ ] Trip Blank on COC but not received
- [ ] Trip Blank received but not on COC
- [ ] Trip Blank not intact
- [ ] Received Water Trip Blank
- [ ] Received Soil TB

Number of Encores? _____

Number of 5035 kits? _____

Number of lab-filtered metals? _____

Summary of Discrepancies: #1 Sample (Trip Blank) has Different ID

TECHNICIAN SIGNATURE/DATE: TClark 2/19/10

INFORMATION AND SAMPLE LABELING VERIFIED BY: EC 2-19-10

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

c:\mwalker\forms\samplemanagement

T47892: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T47892 DATE/TIME RECEIVED: 2/19/10 9:15

CLIENT: MWH INITIALS: TC

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH	
1	1	TRIP Blank	1-29-10	Water	40mL	1-2	VR	1 (2) 3 4 5 6 7 8	<2	>12
	2	Blanco NFP MW-23	021810 09:25		40mL	1-3	VR	(1) 2 3 4 5 6 7 8	<2	>12
	3	Blanco NFP MW-26	021810 10:27					1 (2) 3 4 5 6 7 8	<2	>12
	4	Blanco NFP MW-27	021810 10:52					(1) 2 3 4 5 6 7 8	<2	>12
	5	Blanco NFP MW-33	021810 11:50					1 (2) 3 4 5 6 7 8	<2	>12
↓	6	Blanco NFP MW-32	021810 12:22	↓	↓	↓	↓	(1) 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
			TC 2/19/10					1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12
								1 2 3 4 5 6 7 8	<2	>12

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: DI 7: MeOH 8: Other

LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

Rev 8/13/01 ewp

T47892: Chain of Custody
Page 3 of 3

GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T47892
Account: MWHCODE Montgomery Watson
Project: EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1653-MB	KK034704.D	1	02/20/10	FI	n/a	n/a	GKK1653

The QC reported here applies to the following samples: **Method:** SW846 8021B

T47892-1, T47892-4, T47892-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	95%	58-125%
98-08-8	aaa-Trifluorotoluene	115%	73-139%

Method Blank Summary

Job Number: T47892
Account: MWHCODE Montgomery Watson
Project: EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1655-MB	KK034748.D	1	02/21/10	FI	n/a	n/a	GKK1655

The QC reported here applies to the following samples: **Method:** SW846 8021B

T47892-2, T47892-3, T47892-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	89%	58-125%
98-08-8	aaa-Trifluorotoluene	110%	73-139%

Blank Spike Summary

Job Number: T47892
Account: MWHCODE Montgomery Watson
Project: EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1653-BS	KK034701.D	1	02/20/10	FI	n/a	n/a	GKK1653

The QC reported here applies to the following samples: **Method:** SW846 8021B

T47892-1, T47892-4, T47892-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.1	101	86-121
100-41-4	Ethylbenzene	20	19.8	99	81-116
108-88-3	Toluene	20	20.0	100	87-117
1330-20-7	Xylenes (total)	60	59.0	98	85-115
95-47-6	o-Xylene	20	19.7	99	87-116
	m,p-Xylene	40	39.2	98	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	98%	58-125%
98-08-8	aaa-Trifluorotoluene	115%	73-139%

Blank Spike Summary

Job Number: T47892
Account: MWHCODE Montgomery Watson
Project: EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1655-BS	KK034745.D	1	02/21/10	FI	n/a	n/a	GKK1655

The QC reported here applies to the following samples: **Method:** SW846 8021B

T47892-2, T47892-3, T47892-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.4	102	86-121
100-41-4	Ethylbenzene	20	19.8	99	81-116
108-88-3	Toluene	20	20.4	102	87-117
1330-20-7	Xylenes (total)	60	59.1	99	85-115
95-47-6	o-Xylene	20	19.9	100	87-116
	m,p-Xylene	40	39.2	98	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	92%	58-125%
98-08-8	aaa-Trifluorotoluene	110%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T47892
Account: MWHCODE Montgomery Watson
Project: EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T47887-2MS	KK034711.D	1	02/20/10	FI	n/a	n/a	GKK1653
T47887-2MSD	KK034712.D	1	02/20/10	FI	n/a	n/a	GKK1653
T47887-2	KK034709.D	1	02/20/10	FI	n/a	n/a	GKK1653

The QC reported here applies to the following samples: **Method:** SW846 8021B

T47892-1, T47892-4, T47892-5

CAS No.	Compound	T47887-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	23.7	119	23.3	117	2	86-121/19
100-41-4	Ethylbenzene	ND		20	21.9	110	21.5	108	2	81-116/14
108-88-3	Toluene	ND		20	23.2	116	22.8	114	2	87-117/16
1330-20-7	Xylenes (total)	ND		60	68.4	114	67.3	112	2	85-115/12
95-47-6	o-Xylene	ND		20	23.3	117*	23.0	115	1	87-116/16
	m,p-Xylene	ND		40	45.1	113	44.3	111	2	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T47887-2	Limits
460-00-4	4-Bromofluorobenzene	96%	96%	94%	58-125%
98-08-8	aaa-Trifluorotoluene	112%	111%	111%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T47892
Account: MWHCODE Montgomery Watson
Project: EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T47892-3MS	KK034753.D	1	02/21/10	FI	n/a	n/a	GKK1655
T47892-3MSD	KK034754.D	1	02/21/10	FI	n/a	n/a	GKK1655
T47892-3	KK034749.D	1	02/21/10	FI	n/a	n/a	GKK1655

The QC reported here applies to the following samples: **Method:** SW846 8021B

T47892-2, T47892-3, T47892-6

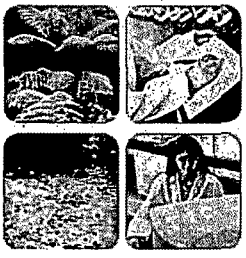
CAS No.	Compound	T47892-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	3.0		20	26.1	116	25.9	115	1	86-121/19
100-41-4	Ethylbenzene	0.33	J	20	23.0	113	22.6	111	2	81-116/14
108-88-3	Toluene	0.39	J	20	23.8	117	23.1	114	3	87-117/16
1330-20-7	Xylenes (total)	2.6		60	69.6	112	68.9	111	1	85-115/12
95-47-6	o-Xylene	ND		20	22.5	113	22.3	112	1	87-116/16
	m,p-Xylene	2.6		40	47.1	111	46.7	110	1	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T47892-3	Limits
460-00-4	4-Bromofluorobenzene	95%	92%	91%	58-125%
98-08-8	aaa-Trifluorotoluene	111%	112%	108%	73-139%

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

09/07/10



Technical Report for

EL PASO CORPORATION

MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit

WO94291

Accutest Job Number: T58759

Sampling Date: 08/25/10

Report to:

MWH
1801 California Street Suite 2900
Denver, CO 80202
jed.smith@mwhglobal.com

ATTN: Jed Smith

Total number of pages in report: **21**

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Georgia Jones 713-271-4700

Certifications: TX (T104704220-09C-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103) UT(7132714700)

Sections: 1 2 3 4 5

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Sample Summary

EL PASO CORPORATION

Job No: T58759

MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit
Project No: WO94291

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T58759-1	08/25/10	07:00		08/26/10	AQ	Trip Blank Water	250810TB01
T58759-2	08/25/10	08:44		08/26/10	AQ	Ground Water	BNFP MW-23
T58759-3	08/25/10	09:34		08/26/10	AQ	Ground Water	BNFP MW-26
T58759-4	08/25/10	10:00		08/26/10	AQ	Ground Water	BNFP MW-27
T58759-5	08/25/10	10:49		08/26/10	AQ	Ground Water	BNFP MW-33

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: MWH Americas, Inc. **Job No** T58759

Site: EPTPC San Juan Basin Blanco North Flare Pit **Report Date** 9/2/2010 8:48:43 AM

4 Sample(s), 1 Trip Blank(s) were collected on 08/25/2010 and were received at Accutest on 08/26/2010 properly preserved, at 2.3 Deg. C and intact. These Samples received an Accutest job number of T58759. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method SW846 8021B

Matrix: AQ **Batch ID:** GKK1709

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T58759-3MS, T58759-3MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** GKK1711

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T58818-6MS, T58818-6MSD were used as the QC samples indicated.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	250810TB01		
Lab Sample ID:	T58759-1	**Date Sampled:**	08/25/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/26/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK035620.D	1	08/27/10	LB	n/a	n/a	GKK1709
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	76%		58-125%
98-08-8	aaa-Trifluorotoluene	87%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BNFP MW-23		
Lab Sample ID:	T58759-2	**Date Sampled:**	08/25/10
Matrix:	AQ - Ground Water	**Date Received:**	08/26/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK035660.D	25	09/01/10	LB	n/a	n/a	GKK1711
Run #2	KK035659.D	100	09/01/10	LB	n/a	n/a	GKK1711

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5500 [a]	100	36	ug/l	
108-88-3	Toluene	ND	25	7.1	ug/l	
100-41-4	Ethylbenzene	152	25	6.3	ug/l	
1330-20-7	Xylenes (total)	1220	75	23	ug/l	
95-47-6	o-Xylene	ND	25	8.9	ug/l	
	m,p-Xylene	1220	50	14	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%	88%	58-125%
98-08-8	aaa-Trifluorotoluene	85%	97%	73-139%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

3.3

Client Sample ID:	BNFP MW-26		
Lab Sample ID:	T58759-3	**Date Sampled:**	08/25/10
Matrix:	AQ - Ground Water	**Date Received:**	08/26/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK035621.D	1	08/27/10	LB	n/a	n/a	GKK1709
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.9	1.0	0.36	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	80%		58-125%
98-08-8	aaa-Trifluorotoluene	94%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

3.4

Client Sample ID:	BNFP MW-27		
Lab Sample ID:	T58759-4	**Date Sampled:**	08/25/10
Matrix:	AQ - Ground Water	**Date Received:**	08/26/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK035622.D	1	08/27/10	LB	n/a	n/a	GKK1709
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.7	1.0	0.36	ug/l	
108-88-3	Toluene	0.30	1.0	0.28	ug/l	J
100-41-4	Ethylbenzene	0.46	1.0	0.25	ug/l	J
1330-20-7	Xylenes (total)	1.4	2.0	0.93	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	1.4	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		58-125%
98-08-8	aaa-Trifluorotoluene	99%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

3.5

Client Sample ID:	BNFP MW-33		
Lab Sample ID:	T58759-5	**Date Sampled:**	08/25/10
Matrix:	AQ - Ground Water	**Date Received:**	08/26/10
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK035623.D	1	08/27/10	LB	n/a	n/a	GKK1709
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.40	1.0	0.36	ug/l	J
108-88-3	Toluene	ND	1.0	0.28	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		58-125%
98-08-8	aaa-Trifluorotoluene	94%		73-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

Page 1 of

FED-EX Tracking # 8731 70209249 | Bottle Order Control #

Accutest Quote # | Accutest Job # T58759

Client / Reporting Information

Company Name: MWH

Project Contact: Jed Smith | E-Mail: jed.smith@mwhglobal.com

Address: 1801 California Street, Suite 2900

City: Denver | State: CO | Zip: 80202

Phone No.: 303-291-2276 | Fax No.:

Samplers's Name: Troy Urban

Project Information

Project Name / No.: EPTPC San Juan Basin Blanco North Flare Pit 2009-2010

Bill to: El Paso Corp | Invoice Attn.: Norma Ramos

Address: 1001 Louisiana Street, Rm S1904B

City: Hou | State: TX | Zip: 77002

Phone No.: | Fax No.:

Client Purchase Order # WO 94291

Requested Analyses

BTEX (8021B) include m, p, & o-xylene

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Wastewater
SO - Soil
SL - Sludge
OI - Oil
LIQ - Liquid
SOL - Other Solid

Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	HNO3	DI H2O	NaOH	ENCORE	Na2S2O3	MEOH	NONE	BTEX (8021B) include m, p, & o-xylene	LAB USE ONLY
1	250810TB01	082510	0700	GW	2	X								X	
2	~~SJRF74~~ BNFP MW-23	082510	0844	GW	3								X	X	
3	BNFP MW-26	082510	0934	GW	3	X								X	
4	BNFP MW-27	082510	1000	GW	3								X	X	
6	BNFP MW-33	082510	1049	GW	3	X								X	

Turnaround Time (Business days)

- [X] 10 Day STANDARD — Approved By / Date:
- [ ] 7 Day
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] TRRP-13
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only

Commercial "B" = Results & Standard QC

Comments / Remarks

If samples are received unpreserved, please notify MWH regarding holding time!!!

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Troy Urban 8/25/10	1230	1	2 Fed Ex	8/26/10 0930	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 2.7

T58759: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T58759 Client: MWH Date/Time Received: 8/26/10

# of Coolers Received: 1 Thermometer #: IR04 Temperature Adjustment Factor: 0.0

Cooler Temperatures (initial/adjusted): #1: 2.3 #2: _____ #3: _____ #4: _____ #5: _____

#6: _____ #7: _____ #8: _____ #9: _____ #10 _____ #11 _____ #12 _____

Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other

COOLER INFORMATION

- [ ] Custody seal missing or not intact
- [ ] Temperature criteria not met
- [ ] Wet ice received in cooler

CHAIN OF CUSTODY

- [ ] Chain of Custody not received
- [ ] Sample D/T unclear or missing
- [ ] Analyses unclear or missing
- [ ] COC not properly executed

SAMPLE INFORMATION

- [ ] Sample containers received broken
- [ ] VOC vials have headspace
- [ ] Sample labels missing or illegible
- [ ] ID on COC does not match label(s)
- [ ] D/T on COC does not match label(s)
- [ ] Sample/Bottles rcvd but no analysis on COC
- [ ] Sample listed on COC, but not received
- [ ] Bottles missing for requested analysis
- [ ] Insufficient volume for analysis
- [ ] Sample received improperly preserved

TRIP BLANK INFORMATION

- [ ] Trip Blank on COC but not received
- [ ] Trip Blank received but not on COC
- [ ] Trip Blank not intact
- [ ] Received Water Trip Blank
- [ ] Received Soil TB

Number of Encores? _____
Number of 5035 kits? _____
Number of lab-filtered metals? _____

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: [signature] 8-26-10

INFORMATION AND SAMPLE LABELING VERIFIED BY: [signature]

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

I:\mwalker\forms\samplemanagement SM023 Revised 8/11/10

T58759: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T58759 DATE/TIME RECEIVED: 8/26/10 0930

CLIENT: MWH INITIALS: MG

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	Trip Blank	8/20/10 1515	WTB	40m	1-2	VR	1 (3) 4 5 6 7 8	<2 >12
	2	BNFP MW-23	8/25/10 0844	W		1-3		(1) 2 3 4 5 6 7 8	<2 >12
	3	BNFP MW-26	0934			1-3		1 (3) 3 4 5 6 7 8	<2 >12
	4	BNFP MW-27	1000			1-3		(1) 2 3 4 5 6 7 8	<2 >12
	5	BNFP MW-33	1044			1-3		1 (2) 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
			MG 8/26/10					1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: DI 7: MeOH 8: Other

LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

Rev 8/13/01 ewo

T58759: Chain of Custody
Page 3 of 3

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T58759
Account: ELPASOX EL PASO CORPORATION
Project: MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1709-MB	KK035618.D	1	08/27/10	LB	n/a	n/a	GKK1709

The QC reported here applies to the following samples: **Method:** SW846 8021B

T58759-1, T58759-3, T58759-4, T58759-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	81%	58-125%
98-08-8	aaa-Trifluorotoluene	94%	73-139%

Method Blank Summary

Job Number: T58759
Account: ELPASOX EL PASO CORPORATION
Project: MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1711-MB	KK035657.D	1	09/01/10	LB	n/a	n/a	GKK1711

The QC reported here applies to the following samples: **Method:** SW846 8021B

T58759-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	2.0	0.57	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	76%	58-125%
98-08-8	aaa-Trifluorotoluene	85%	73-139%

Blank Spike Summary

Job Number: T58759
Account: ELPASOX EL PASO CORPORATION
Project: MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1709-BS	KK035612.D	1	08/27/10	LB	n/a	n/a	GKK1709

The QC reported here applies to the following samples: **Method:** SW846 8021B

T58759-1, T58759-3, T58759-4, T58759-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	22.2	111	86-121
100-41-4	Ethylbenzene	20	22.1	111	81-116
108-88-3	Toluene	20	21.6	108	87-117
1330-20-7	Xylenes (total)	60	65.9	110	85-115
95-47-6	o-Xylene	20	21.9	110	87-116
	m,p-Xylene	40	44.0	110	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	92%	58-125%
98-08-8	aaa-Trifluorotoluene	102%	73-139%

Blank Spike Summary

Job Number: T58759
Account: ELPASOX EL PASO CORPORATION
Project: MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1711-BS	KK035654.D	1	09/01/10	LB	n/a	n/a	GKK1711

The QC reported here applies to the following samples: **Method:** SW846 8021B

T58759-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	21.0	105	86-121
100-41-4	Ethylbenzene	20	20.9	105	81-116
108-88-3	Toluene	20	20.5	103	87-117
1330-20-7	Xylenes (total)	60	62.5	104	85-115
95-47-6	o-Xylene	20	20.6	103	87-116
	m,p-Xylene	40	41.9	105	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	70%	58-125%
98-08-8	aaa-Trifluorotoluene	79%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T58759
Account: ELPASOX EL PASO CORPORATION
Project: MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T58759-3MS	KK035626.D	1	08/27/10	LB	n/a	n/a	GKK1709
T58759-3MSD	KK035627.D	1	08/27/10	LB	n/a	n/a	GKK1709
T58759-3	KK035621.D	1	08/27/10	LB	n/a	n/a	GKK1709

The QC reported here applies to the following samples: **Method:** SW846 8021B

T58759-1, T58759-3, T58759-4, T58759-5

CAS No.	Compound	T58759-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %,	RPD	Limits Rec/RPD
71-43-2	Benzene	2.9		20	23.7	104	24.1	106	2	86-121/19
100-41-4	Ethylbenzene	ND		20	20.8	104	20.8	104	0	81-116/14
108-88-3	Toluene	ND		20	20.3	102	20.2	101	0	87-117/16
1330-20-7	Xylenes (total)	ND		60	62.2	104	62.1	104	0	85-115/12
95-47-6	o-Xylene	ND		20	20.0	100	19.9	100	1	87-116/16
	m,p-Xylene	ND		40	42.3	106	42.2	106	0	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T58759-3	Limits
460-00-4	4-Bromofluorobenzene	85%	81%	80%	58-125%
98-08-8	aaa-Trifluorotoluene	97%	93%	94%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T58759
Account: ELPASOX EL PASO CORPORATION
Project: MWHCODE:EPTPC San Juan Basin Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T58818-6MS	KK035662.D	1	09/01/10	LB	n/a	n/a	GKK1711
T58818-6MSD	KK035663.D	1	09/01/10	LB	n/a	n/a	GKK1711
T58818-6	KK035658.D	1	09/01/10	LB	n/a	n/a	GKK1711

5.3.2

The QC reported here applies to the following samples: **Method:** SW846 8021B

T58759-2

CAS No.	Compound	T58818-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	21.3	107	21.1	106	1	86-121/19
100-41-4	Ethylbenzene	ND		20	22.1	111	21.7	109	2	81-116/14
108-88-3	Toluene	ND		20	21.7	109	20.6	103	5	87-117/16
1330-20-7	Xylenes (total)	ND		60	65.4	109	63.3	106	3	85-115/12
95-47-6	o-Xylene	ND		20	21.3	107	20.8	104	2	87-116/16
	m,p-Xylene	ND		40	44.1	110	42.5	106	4	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T58818-6	Limits
460-00-4	4-Bromofluorobenzene	76%	81%	83%	58-125%
98-08-8	aaa-Trifluorotoluene	86%	87%	88%	73-139%