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July 31, 2007

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87504

RE: 2007 Annual Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas

Dear Mr. von Gonten

El Paso Natural Gas Company (EPNG) hereby submits the ***2007 Annual Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas***. The enclosed report details results from the annual groundwater sampling event, conducted in June 2007 at the South Flare Pit and D Plant areas.

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

Sincerely,

(MWH) for

Ian Yanagisawa P.E., P.G.
Principal Environmental Engineer

Enclosures: as stated

cc: Denny Foust, New Mexico Oil Conservation Division
Jed Smith, MWH
El Paso File Copy

Prepared for:

EL PASO NATURAL GAS COMPANY

elpaso

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Houston, Texas 77002

2007 ANNUAL GROUNDWATER REPORT FOR THE BLANCO PLANT SOUTH FLARE PIT AND D PLANT AREAS

San Juan County, New Mexico

July 2007

Prepared by:

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LIST OF ACRONYMS

CHC	Chlorinated Hydrocarbons
DCA	Dichloroethane
DCB	Dichlorobenzene
DCE	Dichloroethene
EPNG	El Paso Natural Gas Company
MWH	MWH Americas, Inc.
NMOCD	New Mexico Oil Conservation Division
NMWQCC	New Mexico Water Quality Control Commission
PCE	Perchloroethene
TCE	Trichloroethene

1.0 INTRODUCTION

This *2007 Annual Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas* (Report) has been prepared on behalf of El Paso Natural Gas Company (EPNG) to report the results of the 2007 annual groundwater sampling event at the Blanco Plant site, located near Bloomfield, New Mexico. This work has been performed according to the proposed actions outlined in the *2006 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas* (MWH, 2006), which was submitted to New Mexico Oil Conservation Division (NMOCD) in September 2006. Those proposed actions were as follows:

- All groundwater monitoring wells in the Blanco Plant South Flare Pit and D Plant areas will be sampled annually and analyzed for nitrate+nitrite concentrations.
- Groundwater samples from monitoring wells in the D Plant Area (MW-12, MW-13, MW-14 and MW-15) will be analyzed for chlorinated hydrocarbon compounds (CHCs).
- Pending NMOCD approval, EPNG is requesting to abandon monitoring well MW-2.
- The results of the nitrate+nitrite and CHC groundwater sampling will be reported to NMOCD in annual groundwater monitoring reports.

This work was initiated, pursuant to a NMOCD letter dated May 3, 2002, regarding remediation activities at EPNG's Blanco Plant. The regulatory driver for groundwater remediation at this site is the New Mexico Water Quality Control Commission's (NMWQCC) nitrate+nitrite standard of 10 mg/L. The *Groundwater Nitrate Work Plan for Blanco South Flare Pit and D Plant Areas* (the Work Plan) (MWH, 2002) was submitted to NMOCD in July 2002, and was conditionally approved by NMOCD in a letter dated February 21, 2003.

The Blanco Plant is located in San Juan County, New Mexico, approximately 1.5 miles northeast of the town of Bloomfield, New Mexico on San Juan County Road 4900. Figure 1.1, *Blanco Plant Site Layout*, presents the Blanco Plant site layout and location of the D Plant and South Flare Pit. The map also shows the location of the North Flare Pit area.

Section 2.0 of this report summarizes historic information related to groundwater nitrate concentrations at the site, including a description of previous investigations and a description of the geology/hydrogeology of the area. Section 3.0 presents the results of the groundwater sampling event in 2007, Section 4.0 summarizes the results of the sampling event, and Section 5.0 discusses recommendations for continued activities at the site.

2.0 SITE BACKGROUND

2.1 PREVIOUS INVESTIGATIONS OF GROUNDWATER NITRATE

An initial assessment of site hydrogeology of the Blanco Plant area was conducted by Bechtel Environmental in 1989 (Bechtel, 1989). Six monitoring wells were installed and sampled during this investigation. High nitrate concentrations were identified in wells MW-2 (290 ppm) and MW-6 (51 ppm) at that time. It was concluded in this study that "the high concentration of nitrate in the upgradient well (MW-2) could not have been due to plant operations".

As part of a groundwater study by K.W. Brown & Associates, Inc (K.W. Brown, 1990) to investigate the extent of contamination resulting from a leaking underground storage tank in the D Plant Area, the source of elevated nitrate in groundwater was further investigated; therefore, monitoring well, MW-19, was installed upgradient of MW-2. Sampling results from this investigation indicated high nitrate concentrations in MW-2 (200 ppm), MW-19 (90 ppm), MW-14 (210 ppm) and MW-15 (89 ppm). Inspection of the plant area at that time did not find a potential source for nitrate contamination.

Historic and recent groundwater nitrate+nitrite data at the site (including North Flare Pit wells) are presented in Table 2.1.

2.2 SITE GEOLOGY/HYDROGEOLOGY

The geologic framework of the site has been summarized by Bechtel Environmental (Bechtel, 1989) and K.W. Brown and Associates (K.W. Brown, 1990). 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 three feet to more than 75 feet (Bechtel, 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 (Bechtel, 1989). Orientation of the channel-fill sandstone deposits may locally control groundwater flow due to higher hydraulic conductivities through these features.

An assessment of site hydrogeology of the Blanco Plant area was conducted by Bechtel Environmental in 1989 (Bechtel, 1989). Based on the information collected during this study, it was concluded that the direction of groundwater flow through the plant area is to the south-southeast through the site. The average hydraulic conductivity was estimated to be 2.1×10^{-4} centimeters per second. Depth to groundwater ranged from 50 feet (at MW-2) to nine feet (at MW-10) below ground surface (5564 to 5552 feet above sea level) (EPNG, 1989). These results were generally consistent with the findings of K.W. Brown (1990).

A potentiometric surface contour map for the site has been prepared based on water level measurements collected in June 2007, and is presented in Figure 2.1. Groundwater is generally flowing to the southeast, with a hydraulic gradient of 0.025 ft/ft in the Blanco D Plant site area. The groundwater flow direction in the South Flare Pit area appears to be influenced as well by apparent mounding caused by recharge from Citizens Ditch. These results are consistent with previous years' data.

3.0 2007 ANNUAL GROUNDWATER SAMPLING EVENT

Monitoring wells at the Blanco Plant were sampled on June 20 and 21, 2007, and analyzed for nitrate+nitrite concentrations and/or CHCs, as described below. Monitoring well MW-20 was damaged in 2000 and abandoned in 2002. In accordance with the approval letter from NMOCD, EPNG plugged and abandoned monitoring wells MW-10, MW-16, MW-17 and MW-18 in December 2003. Groundwater monitoring wells in the North Flare Pit area (MW-19, MW-23, MW-24, MW-26, and MW-27) were removed from the annual nitrate+nitrite sampling event as discussed in the *2006 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas* (MWH, 2006).

3.1 GROUNDWATER NITRATE+NITRITE DATA

Groundwater samples were collected on June 20 and 21, 2007 from wells MW-5, MW-6, MW-8, MW-12, MW-13, MW-14, MW-15, MW-28, MW-29, and MW-30 using standard sampling techniques and analyzed for nitrate+nitrite concentrations. Groundwater sampling was attempted at wells MW-2 and MW-7; however, these wells were dry. Field data and sampling information are presented on field sampling forms, included in Appendix A.

Analytical data are listed in Table 2.1, and laboratory analytical reports are included in Appendix B. Nitrate+nitrite concentrations were consistent with historic data for these wells. These data indicate that nitrate+nitrite concentrations have consistently exceeded NMWQCC standards in monitoring wells MW-6, MW-14, MW-15, MW-28, MW-29, and MW-30. Monitoring well MW-5 had not been sampled since November of 2000 due to dry conditions; however, during the June 2007 sampling event the well yielded nitrate+nitrite concentrations exceeding NMWQCC standards at a concentration of 15 milligram per liter (mg/L). Monitoring well MW-2 has not been sampled since 1994 because the well has been dry. Historical groundwater data collected from well MW-2 indicated elevated nitrate+nitrite concentrations above NMWQCC standards. Additionally, monitoring well MW-7 has not been sampled since 2002 because the well has been dry. Historical groundwater data collected from well MW-7 indicated nitrate+nitrite concentrations below NMWQCC standards.

Groundwater nitrate+nitrite concentrations from the June 2007 sampling event are presented on Figure 3.1. A comparison of nitrate+nitrite concentrations versus groundwater elevations over time was performed for monitoring wells MW-8, MW-12, MW-13, MW-14, MW-15, MW-28, MW-29, and MW-30 and are presented in Appendix C. Due to insufficient data, hydrographs were not generated for wells MW-2, MW-5, MW-6, and MW-7. The inferred 10 mg/L isoconcentration contour is also presented on this figure to depict the approximate areas in exceedance of the NMWQCC standard. Between 1994 through 2005, nitrate+nitrite concentrations in all of the wells in the North Flare Pit area have consistently been below the NMWQCC standard; therefore, these wells have not been sampled for nitrate+nitrite since 2005.

3.2 GROUNDWATER CHLORINATED HYDROCARBON DATA

Groundwater samples from the four wells in the D Plant area were also analyzed for a suite of selected CHCs, in accordance with the site monitoring requirements The CHCs

include perchloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethane (DCA), 1,2-dichlorobenzene (DCB), 1,1-dichloroethene (DCE), trans-1,2-DCE and cis-1,2-DCE. These compounds were targeted because they had been detected during previous site characterization work. Annual sampling data from 2002 through 2007 are presented in Table 3.1.

Exceedance of applicable U.S. Environmental Protection Agency (USEPA) maximum contaminant levels (MCLs) and NMWQCC standards were only observed in monitoring wells MW-13 and MW-14. Well MW-13 had a TCE concentration of 29.6 ug/L (MCL is 5.0 ug/L) and a 1,1-DCA concentration of 58.8 ug/L (NMWQCC standard is 25 ug/L). Well MW-14 had a TCE concentration of 11.0 ug/L and a 1,1-DCA concentration of 24.2 ug/L, slightly below the NMWQCC standard. Groundwater chlorinated hydrocarbon concentrations from the June 2007 sampling event are presented on Figure 3.2. Comparisons of selected CHCs concentrations versus groundwater elevations over time was performed for monitoring wells MW-12, MW-13, MW-14, and MW-15 and are presented in Appendix D.

4.0 CONCLUSIONS

The following conclusions have been derived based on current and historic sampling and analyses at the site:

Nitrate+Nitrite Concentrations

- Nitrate+nitrite concentrations in the Blanco Plant area have generally been stable over the previous 5-7 years, displaying no clear increasing or decreasing trends.

- Monitoring well MW-5 had not been sampled since November of 2000 due to dry conditions; however, during the June 2007 sampling event the well yielded nitrate+nitrite concentrations exceeding NMWQCC standard of 10 mg/L at a concentration of 15 mg/L.

Chlorinated Hydrocarbons

- Monitoring wells MW-12 and MW-15 have been below USEPA or NMWQCC standards for CHCs since the June 8, 2006 sampling event.

- Groundwater samples collected from MW-13 exceeded the 1,1-DCA NMWQCC standard of 25 ug/L at a concentration of 58.8 ug/L. Currently, the USEPA does not have a standard for 1,1-DCA. Additionally, the groundwater sample from MW-13 exceeded the TCE USEPA standard of 5.0 ug/L at a concentration of 29.6 ug/L; however, it did not exceed the NMWQCC standard of 100 ug/L. This is generally consistent with historic results. The stable concentrations in MW-13 of cis-1,2-DCE, trans-1,2-DCE, and 1,1-DCE may indicate that reductive dechlorination is occurring within the dissolved phase plume.

- Groundwater samples collected from well MW-14 exceeded the TCE USEPA standard of 5.0 ug/L at a concentration of 11.0 ug/L; however, it did not exceed the NMWQCC standard of 100 ug/L. Additionally, there was an increase in 1,1-DCA, 1,2-DCB, and cis-1,2-DCE in well MW-14; however, these concentrations remain below USEPA and NMWQCC standards for CHCs.

5.0 RECOMMENDATIONS

As shown in Table 4.1, *Groundwater Sampling Schedule*, the following actions will be performed by EPNG to monitor groundwater nitrate+nitrite and CHC concentrations at the site:

- All groundwater monitoring wells in the South Flare Pit and D Plant areas of the Blanco Plant will be sampled annually and analyzed for nitrate+nitrite concentrations.

- Groundwater samples from monitoring wells in the D Plant Area (MW-12, MW-13, MW-14 and MW-15) will continue to be analyzed annually for CHC concentrations, as listed in Table 4.1.

- Well MW-2 has been dry since 2002. All current evidence suggests it is unlikely this well will produce sufficient water for sampling in the future. Therefore, pending approval by NMOCD, EPNG will abandon the well in accordance with NMOCD guidelines.

- The results of the nitrate+nitrite and CHC groundwater sampling will be reported to NMOCD in annual groundwater monitoring reports (typically submitted in August of each year).

- As stated in the *2006 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas (September 2006),* beginning in 2008, groundwater monitoring wells in the North Flare Pit area (MW-19, MW-23, MW-24, MW-26, and MW-27) will no longer be sampled or reported since these wells are not associated with the South Flare Pit investigation.

EPNG will notify NMOCD at least 48 hours in advance of all scheduled sampling activities, such that NMOCD has the opportunity to witness the events and split samples, if desired.

6.0 REFERENCES

Bechtel Environmental, 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.

MWH, 2002. *Groundwater Nitrate Work Plan for Blanco South Flare Pit and D Plant Areas.* July 2002.

MWH, 2003. *Groundwater Nitrate Report for the Blanco Plant South Flare Pit and D Plant Areas.* April, 2003

MWH, 2003. *2003 Groundwater Report for the Blanco Plant south Flare Pit and D Plant Areas.* August 2003.

MWH, 2004. *2004 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas.* August 2004.

MWH, 2005. *2005 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas.* August 2005.

MWH, 2006. *2006 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas.* September 2006.

TABLES

TABLE 2.1
GROUNDWATER NITRATE+NITRITE ANALYTICAL DATA (1991 - 2007)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-2	6/18/91	180
	2/23/93	256
	6/8/93	228
	9/29/93	233
	2/10/94	249
	5/29/02	dry
	6/3/03	dry
	5/17/04	dry
	5/30/05	dry
	6/8/06	dry
	6/20/07	dry
MW-5	6/18/91	0.08
	2/19/93	<1.0
	6/7/93	<1.0
	1/27/94	<1.0
	8/8/00	4.6
	8/8/00	4.6
	11/10/00	4
	9/24/02	dry
	6/3/03	dry
	5/17/04	dry
	5/30/05	dry
	6/8/06	dry
	6/20/07	15
MW-6	6/19/91	110
	2/19/93	63.5
	6/7/93	76.4
	9/28/93	85.9
	10/7/93	94.5
	1/26/94	95.8
	8/20/94	1.7
	12/20/94	94
	2/16/95	90.6
	11/10/00	59
	9/24/02	95.1
	6/3/03	74
	5/17/04	dry
	5/30/05	not sampled
	6/8/06	not sampled
	6/20/07	92
MW-7	6/18/91	0.28
	6/7/93	3
	9/27/93	<2.8
	5/29/02	dry
	9/24/02	dry
	6/3/03	dry
	5/17/04	dry
	5/30/05	dry
	6/8/06	dry
	6/20/07	dry
MW-8	6/18/91	<0.06
	2/19/93	2.0
	6/7/93	<1.0
	9/27/93	<1.0
	1/27/94	<1.0
	11/10/00	<0.1
	11/10/00	<0.1
	3/23/01	0.21
	3/23/01	0.21
	8/28/01	0.33
	5/28/02	0.26
	6/3/03	0.13
	5/17/04	0.43
	5/31/05	0.30
	6/8/06	0.30
	6/20/07	0.50
MW-10	6/18/91	0.74
	2/19/93	1.2
	6/7/93	2.2
	9/27/93	2.1
	1/27/94	2.0
	5/28/02	dry
	9/24/02	dry
	6/3/03	NS
	12/1/03	abandoned

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-12	6/19/91	7.8
	2/25/93	7.8
	6/7/93	8.5
	9/28/93	9.1
	1/27/94	7.3
	8/8/00	<10
	11/9/00	5.7
	3/22/01	8.4
	8/28/01	8.0
	5/28/02	2.0
	6/3/03	6.7
	5/17/04	7.6
	5/31/05	8.6
	6/8/06	6.5
	6/20/07	7.6
MW-13	6/19/91	6.3
	2/24/93	10.9
	6/8/93	8.1
	9/28/93	4.1
	1/27/94	5.4
	8/8/00	<12.5
	11/9/00	9.8
	3/22/01	13
	8/28/01	7.9
	5/28/02	6.0
	6/3/03	5.8
	5/17/04	9.8
	5/31/05	8.2
	6/8/06	8.2
	6/20/07	6.1
MW-14	2/25/93	19.2
	6/8/93	17.5
	9/28/93	11.8
	1/27/94	15.4
	8/8/00	19
	11/13/00	0.24
	3/22/01	13
	8/28/01	20
	5/28/02	15
	6/3/03	15
	5/17/04	16
	5/31/05	24
	6/8/06	14
	6/20/07	15
MW-15	6/19/91	50
	2/24/93	5
	6/8/93	48.1
	9/28/93	43
	1/27/94	43.7
	8/8/00	35
	11/9/00	38
	3/22/01	25
	8/28/01	30
	5/28/02	24
	6/3/03	21
	5/17/04	20
	5/31/05	35
	6/8/06	17
	6/20/07	18
MW-16	6/19/91	0.07
	2/25/93	3.7
	6/8/93	<1.0
	6/3/03	NS
	12/1/03	abandoned

< Indicates analyte not detected at the method detection limit (MDL). Value shown is the MDL.
Shaded values indicate exceedances of the NMWQCC Nitrate+Nitrite (as N) standard of 10 mg/L.

TABLE 2.1
GROUNDWATER NITRATE+NITRITE ANALYTICAL DATA (1991 - 2007)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-17	2/25/93	15.3
	9/24/02	dry
	6/3/03	NS
	12/1/03	abandoned
MW-18	2/25/93	8.19
	6/8/93	<1.0
	9/28/93	<1.0
	9/24/02	3.1
	6/3/03	NS
	12/1/03	abandoned
MW-19	6/19/91	70
	2/25/93	10.6
	6/10/93	NA
	11/13/00	<0.1
	3/26/01	0.19
	5/30/02	0.13
	6/3/03	<0.10
	5/17/04	0.19
	5/31/05	3.5
	6/8/06	not sampled
	6/20/07	not sampled
MW-20	9/26/92	NA
	2/24/93	<1.0
	6/10/93	<1.0
	9/29/93	<1.0
	1/27/94	<1.0
	5/13/94	NA
	8/22/94	NA
	11/13/00	damaged
	6/3/03	abandoned
MW-23	9/26/92	0.62
	2/1/93	NA
	2/25/93	0.56
	6/8/93	<1.0
	9/29/93	<1.0
	2/10/94	<1.0
	5/13/94	NA
	8/22/94	NA
	11/13/00	0.12
	3/26/01	0.18
	5/30/02	0.23
	6/3/03	<0.10
	5/17/04	0.29
	5/31/05	0.40
	6/8/06	not sampled
	6/20/07	not sampled
MW-24	9/26/92	1.42
	2/23/93	<1.0
	6/10/93	<1.0
	9/29/93	<1.0
	2/10/94	<1.0
	5/13/94	NA
	8/22/94	NA
	11/13/00	0.1
	3/26/01	0.18
	5/30/02	0.15
	6/3/03	dry
	5/17/04	dry
	5/30/05	not sampled
	5/17/04	dry
	5/30/05	not sampled
	6/20/07	not sampled

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-26	2/25/93	23
	6/10/93	8.2
	3/26/01	0.24
	5/30/02	0.26
	6/3/03	NS
	5/17/04	0.53
	5/30/05	not sampled
	6/8/06	not sampled
	6/20/07	not sampled
MW-27	2/26/93	<1.0
	6/10/93	<1.0
	9/30/93	<1.0
	2/2/94	<1.0
	5/14/94	NA
	11/13/00	0.28
	3/26/01	0.61
	5/30/02	0.21
	6/3/03	<0.10
	5/17/04	0.56
	5/31/05	0.60
	6/8/06	not sampled
	6/20/07	not sampled
MW-28	10/7/93	2.1
	2/2/94	2.8
	8/20/94	2.7
	12/20/94	0.33
	2/16/95	1.6
	8/10/00	25
	11/10/00	53
	3/23/01	34
	8/28/01	63
	5/28/02	83
	6/3/03	87
	5/17/04	82
	5/31/05	85
	6/8/06	68
	6/20/07	42
MW-29	10/7/93	8.3
	2/2/94	19.6
	8/20/94	28.8
	12/20/94	41
	2/16/95	28.1
	8/10/00	50
	11/10/00	66
	3/26/01	70
	8/28/01	58
	5/28/02	70
	6/3/03	79
	5/17/04	88
	5/31/05	97
	6/8/06	71
	6/20/07	79
MW-30	10/7/93	28.1
	2/2/94	57.1
	8/20/94	67.6
	2/16/95	91.3
	8/10/00	84
	11/10/00	70
	3/26/01	72
	8/28/01	76
	5/28/02	66
	6/3/03	58
	5/17/04	52
	5/31/05	58
	6/20/07	57

< Indicates analyte not detected at the method detection limit (MDL). Value shown is the MDL.
Shaded values indicate exceedances of the NMWQCC Nitrate+Nitrite (as N) standard of 10 mg/L.

TABLE 3.1
GROUNDWATER CHLORINATED HYDROCARBON ANALYTICAL DATA (2002 - 2007)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Groundwater Elevation (ft. absl.)	Depth to Water (ft btoc)	Chlorinated Hydrocarbons by EPA Method 8260B (ug/L)						
				1,1-DCA	1,2-DCB	1,1-DCE	trans-1,2-DCE	cis-1,2-DCE	TCE	PCE
		NMWQCC Water Quality Standard:		25	NA	5.0	NA	NA	100	20
		US EPA MCL:		NA	NA	7.0	100	70	5.0	5.0
MW-12	5/28/2002	5580.73	20.95	21.0	5.2	<1.0	1.7	20.0	**8.0**	3.0
	6/3/2003	5584.69	16.99	8.2	3.4	<2.0	<2.0	8.2	4.5	3.2
	5/17/2004	5585.09	16.59	4.6	3.4	<2.0	<2.0	5.1	4.0	2.3
	5/31/2005	5586.03	15.65	22.3	<2.0	<2.0	<2.0	18.8	**20.7**	<2.0
	6/8/2006	5583.06	18.62	8.7	4.5	<2.0	0.87	10.7	4.7	2.5
	6/20/2007	5585.13	16.55	3.6	3.0	<2.0	<2.0	4.4	3.0	1.9
MW-13	5/28/2002	5580.79	16.76	**61.0**	79.0	1.3	8.2	45.0	**39.0**	1.6
	6/3/2003	5583.11	14.44	**53.8**	50.5	1.4	8.2	33.0	**35.1**	1.4
	5/17/2004	5583.43	14.12	**41.2**	29.2	<2.0	4.0	21.2	**22.5**	<2.0
	5/31/2005	5584.12	13.43	**50.7**	<2.0	<2.0	5.7	26.6	**21.3**	<2.0
	6/8/2006	5581.95	15.60	**48.8**	53.1	5.2	5.2	35.8	**26.9**	<2.0
	6/20/2007	5583.22	14.33	**58.8**	63.9	1.2	7.8	43.6	**29.6**	1.1
MW-14	5/28/2002	5576.62	21.57	8.7	<1.0	<1.0	<1.0	2.9	1.9	<1.0
	6/3/2003	5578.34	19.85	9.5	<2.0	<2.0	<2.0	3.3	2.4	<2.0
	5/17/2004	5578.41	19.78	5.7	<2.0	<2.0	<2.0	2.1	1.6	<2.0
	5/31/2005	5579.38	18.81	4.7	<2.0	<2.0	<2.0	<2.0	<2.0	1.2
	6/8/2006	5578.16	20.03	8.9	<2.0	<2.0	<2.0	3.4	1.8	<2.0
	6/20/2007	5579.76	18.43	24.2	23.8	<2.0	2.7	14.2	**11.0**	<2.0
MW-15	5/28/2002	5576.25	20.33	5.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/3/2003	5577.73	18.85	6.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	5/17/2004	5578.11	18.475	6.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	5/31/2005	5578.78	17.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	6/8/2006	5576.90	19.68	4.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	6/20/2007	5577.75	18.83	4.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

DCA: Dichloroethane
DCB: Dichlorobenzene
DCE: Dichloroethene
NA: Not applicable
PCE: Perchloroethene
TCE: Trichloroethene

TABLE 4.1
GROUNDWATER SAMPLING SCHEDULE
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

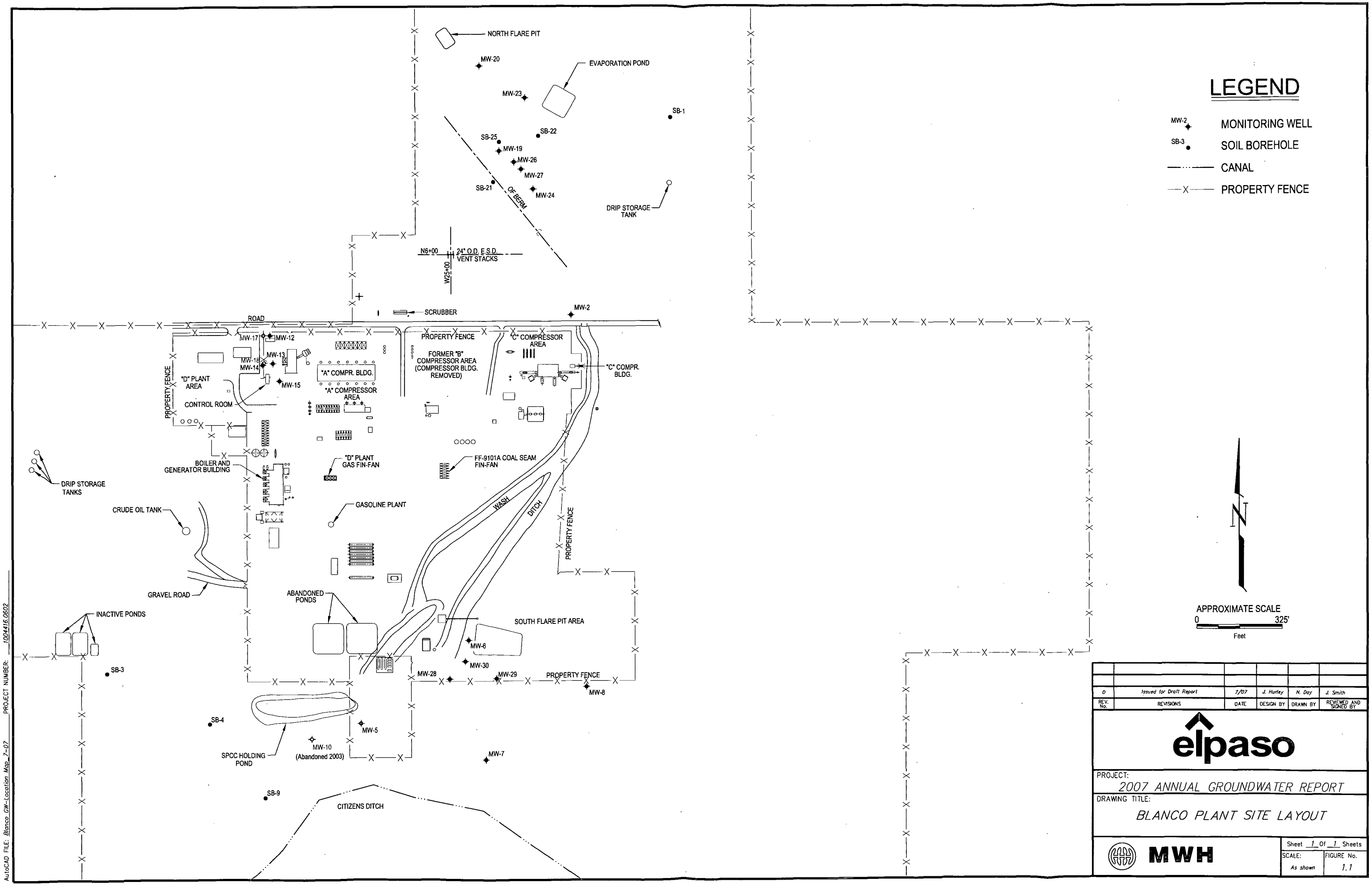
Monitoring Well	Analyses	Sampling Frequency
Blanco Plant Area		
MW-2	Nitrate+Nitrite	Annual
MW-5	Nitrate+Nitrite	Annual
MW-6	Nitrate+Nitrite	Annual
MW-7	Nitrate+Nitrite	Annual
MW-8	Nitrate+Nitrite	Annual
MW-28	Nitrate+Nitrite	Annual
MW-29	Nitrate+Nitrite	Annual
MW-30	Nitrate+Nitrite	Annual
D Plant Area		
MW-12	Nitrate+Nitrite, CHCs	Annual
MW-13	Nitrate+Nitrite, CHCs	Annual
MW-14	Nitrate+Nitrite, CHCs	Annual
MW-15	Nitrate+Nitrite, CHCs	Annual

CHCs: Chlorinated Hydrocarbons by EPA Method 8260B: 1,1-DCA, 1,1-DCE, 1,2-DCB, cis-1,2-DCE, trans-1,2-DCE, TCE, and PCE.

Nitrate+Nitrite as N by EPA Method 353.2, 354.1, or 4500.

DCA: Dichloroethane
DCB: Dichlorobenzene
DCE: Dichloroethene
PCE: Perchloroethene
TCE: Trichloroethene

FIGURES



LEGEND

- MW-2 ✦ MONITORING WELL
- SB-3 ● SOIL BOREHOLE
- CANAL
- PROPERTY FENCE

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued for Draft Report	7/07	J. Hurley	N. Day	J. Smith

elpaso

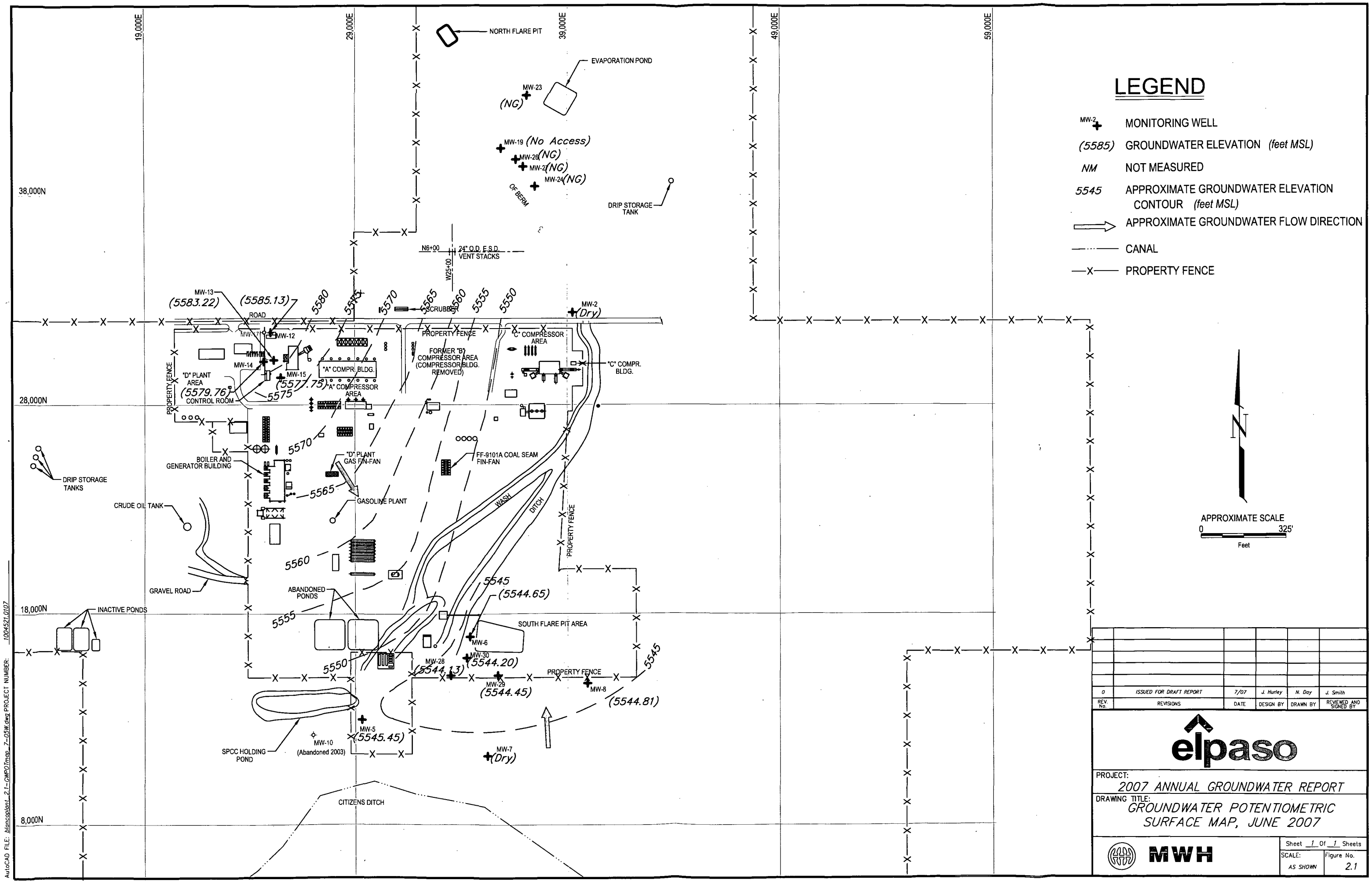
PROJECT:
2007 ANNUAL GROUNDWATER REPORT

DRAWING TITLE:
BLANCO PLANT SITE LAYOUT

MWH

Sheet 1 Of 1 Sheets
SCALE: As shown
FIGURE No. 1.1

AutoCAD FILE: Blanco_GW-Location Map_7-07 PROJECT NUMBER: 1004416.0602



LEGEND

- MW-2 ✚ MONITORING WELL
- (5585) GROUNDWATER ELEVATION *(feet MSL)*
- NM NOT MEASURED
- 5545 APPROXIMATE GROUNDWATER ELEVATION CONTOUR *(feet MSL)*
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- CANAL
- PROPERTY FENCE

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	ISSUED FOR DRAFT REPORT	7/07	J. Hurley	N. Day	J. Smith

elpaso

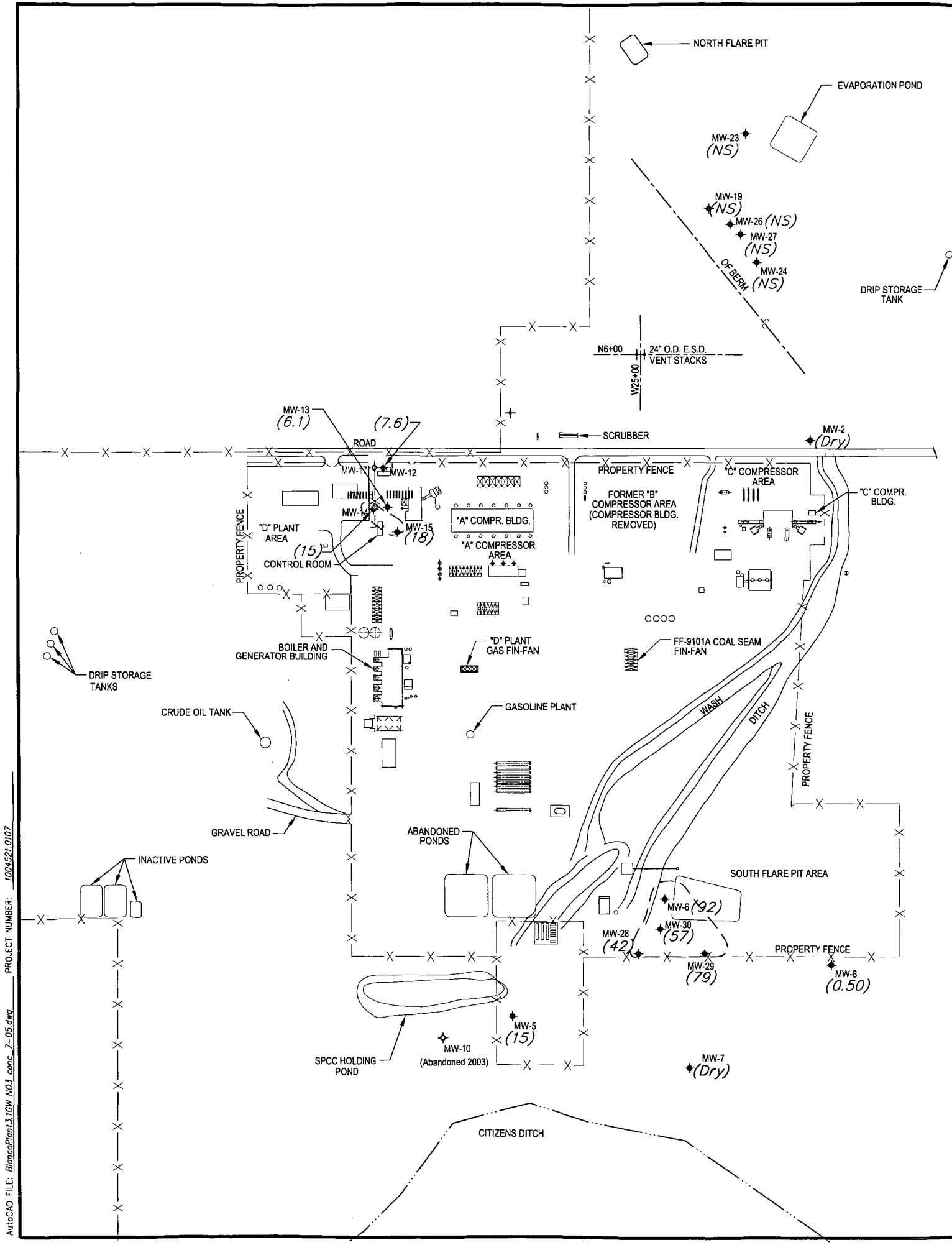
PROJECT:
2007 ANNUAL GROUNDWATER REPORT

DRAWING TITLE:
GROUNDWATER POTENTIOMETRIC SURFACE MAP, JUNE 2007

MWH

Sheet 1 Of 1 Sheets
SCALE: AS SHOWN
Figure No. 2.1

AutoCAD FILE: blancoplant_2.1_GWPOTmap_7-05W.dwg PROJECT NUMBER: 1004521.0107



LEGEND

- ✦ MW-2 — MONITORING WELL
- *(74)* — GROUNDWATER NITRATE CONCENTRATION (NO_3 + NO_2 as N in mg/L)
- 10 — — — GROUNDWATER NITRATE ISOCONCENTRATION CONTOUR, JUNE 2006 *(NO_3 + NO_2 as N in mg/L)*
- —···— CANAL
- —X— PROPERTY FENCE
- NS — NOT SAMPLED

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	ISSUED FOR DRAFT REPORT	7/07	D. Wade	N. Day	J. Smith

elpaso

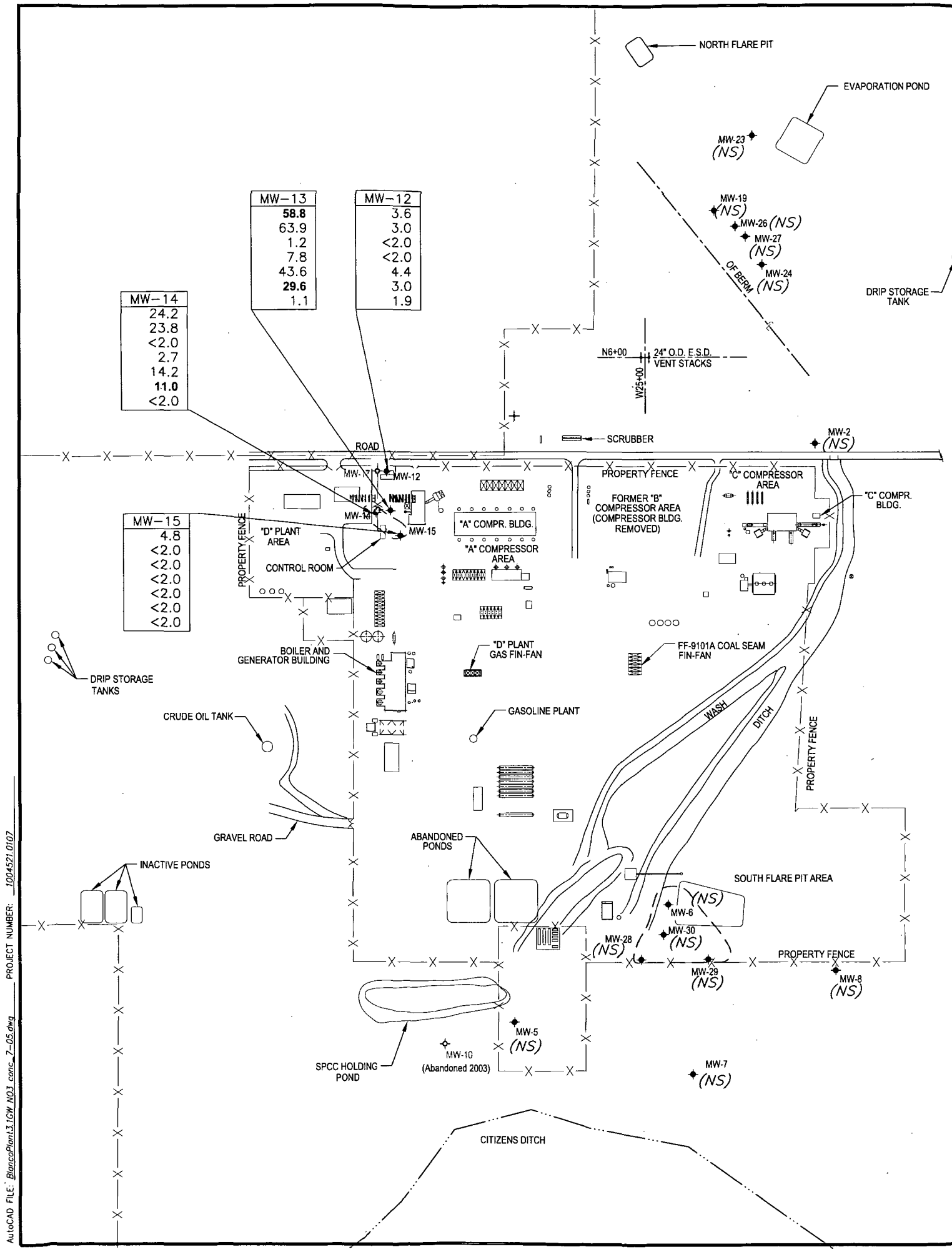
PROJECT:
2007 ANNUAL GROUNDWATER REPORT

DRAWING TITLE:
GROUNDWATER NITRATE CONCENTRATIONS, JUNE 2007

MWH

Sheet 1 Of 1 Sheets
SCALE: noted
FIGURE No. 3.1

AutoCAD FILE: BlancoPlant3.10W NO3 conc 7-05.dwg PROJECT NUMBER: 1004521.0107



LEGEND

✦ MW-2	MONITORING WELL
(74)	GROUNDWATER NITRATE CONCENTRATION ($NO_3 + NO_2$ as N in mg/L)
10	GROUNDWATER NITRATE ISOCONCENTRATION CONTOUR, JUNE 2006 *(NO + NO as N in mg/L)*
	CANAL
	PROPERTY FENCE
NS	NOT SAMPLED

WELL ID
1,1–DCA (µg/L)
1,2–DCB (µg/L)
1,1–DCE (µg/L)
trans–1,2–DCE (µg/L)
cis–1,2–DCE (µg/L)
TCE (µg/L)
PCE (µg/L)

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	ISSUED FOR DRAFT REPORT	7/07	D. Wade	N. Day	J. Smith

elpaso

PROJECT: 2007 ANNUAL GROUNDWATER REPORT

DRAWING TITLE: GROUNDWATER CHLORINATED HYDROCARBON CONCENTRATIONS, JUNE 2007

MWH

Sheet 1 Of 1 Sheets

SCALE: noted

FIGURE No. 3.2

AutoCAD FILE: BlancoPlant3.1GW_NO3_conc_7-05.dwg PROJECT NUMBER: 1004521.0107

APPENDIX A

✦ Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

WATER LEVEL DATA

Project Name_ San Juan Basin Ground Water **Project No.** 30001.0
Project Manager MJN
Client Company MWH **Date** 6-20-2007
Site Name Blanco D Plant and SFP

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Comments
MW-2	0648	-	-	well is dry TD 58.76
MW-5	-	-	20.40	
MW-6		-	29.64	
MW-7		-	-	Well is dry TD is 21.23
MW-8		-	33.60	
MW-28		-	28.58	
MW-29		-	30.86	
MW-30		-	31.01	
MW-12		-	16.55	
MW-13		-	14.33	
MW-14		-	18.43	
MW-15		-	18.83	
MW-30N		-		

Comments

Signature: Martin Nee Date: June 20, 2007

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-5 Development **Sampling**
Project Manager MJN Date 06/21/07 Start Time 0628 Weather sunny 70s
Depth to Water 20.40 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 0.73 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**ml** /oz to be removed
	milliliters (ml)	Ounces	
0.73 x .65	1776 x 3		5329

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (mls)	Comments/ Flow rate
0639	**7.05**	**2190**	**16.9**				**200**	**clear**
	7.10	**2070**	**15.8**				**400**	**clear**
	7.10	**2090**	**15.6**				**700**	**clear**
	7.09	**2070**	**15.6**				**1000**	**clear, well is bailing down**
	7.08	**2050**	**15.6**				**1500**	**clear**
0658	**7.06**	**2110**	**15.6**				**1800**	**clear, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0658	**7.06**	**2110**	**15.6**				**1800**	**clear, well has bailed down**

COMMENTS: Well has sunk down inside the protective casing and is offset. Had to use one 1.6" bailer. This well should probably be resurveyed before using for potentiometric surface maps.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco SFP MW-5 Sample Time 0700

BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD _____ BD _____ BD Name/Time _____ TB_180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco SFP Client: MWH/EL Paso

Location: Blanco SFP Well No: MW-6 Development **Sampling**

Project Manager MJN Date 06/20/07 Start Time 1058 Weather sunny 90s

Depth to Water 39.64 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 1.56 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

	Water Volume in Well		
Gal/ft x ft of water	milliliters (ml)	Ounces	**ml /oz**to be removed
1.56 x .65	3818 x 3		11435

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (mls)	Comments/ Flow rate
1124	**6.83**	**10260**	**21.1**				**600**	**clear**
	6.82	**7540**	**19.3**				**1150**	**clear, well is bailing down**
	6.85	**5540**	**19.3**				**1450**	**clear**
1138	**6.85**	**5560**	**19.2**				**1800**	**clear, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1138	**6.85**	**5560**	**19.2**				**1800**	**clear, well has bailed down**

COMMENTS: May be some bailer in bottom of well spent 20 minutes fishing. Could only get one 1.6 " bailer to bottom.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco SFP MW-6 Sample Time 1140

BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-8 Development **Sampling**
Project Manager MJN Date 06/20/07 Start Time 1235 Weather sunny 90s
Depth to Water 33.60 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 3.00 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
3.00 x .65	1.95 x 3	x 3	5.85

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1235	**7.44**	**8160**	**19.2**				**.5**	**Clear**
	7.56	**6730**	**17.7**				**.75**	**Clear**
	7.43	**6640**	**17.8**				**1**	**Clear, well is bailing down**
1258	**7.41**	**6680**	**17.8**				**1.75**	**Clear, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1258	**7.41**	**6680**	**17.8**				**1.75**	**Clear, well has bailed down**

COMMENTS: Well bailed dry.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco SFP MW-8 Sample Time 1300
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate** **Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco D Plant Client: MWH/EL Paso
Location: Blanco D Plant Area Well No: MW-12 Development **Sampling**
Project Manager MJN Date 06/20/07 time 0707 Weather sunny 80s
Depth to Water 16.55 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 9.64 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
7.93 x .16	1.54 x 3		4.63

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0707	**7.77**	**7690**	**16.5**				**.25**	**clear**
	7.74	**7760**	**15.5**				**1**	**clear**
	7.42	**8010**	**15.3**				**2**	**clear**
	7.44	**8140**	**15.2**				**3**	**clear**
	7.52	**8130**	**15.4**				**4**	**clear**
0734	**7.47**	**8140**	**15.4**				**4.75**	**clear**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0734	**7.47**	**8140**	**15.4**				**4.75**	**clear**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco D plant MW-12 Sample Time 0735
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus **CHCs**
MS/MSD_____ BD_____ BD Name/Time_____ TB 180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco D Plant Client: MWH/EL Paso
Location: Blanco D Plant Area Well No: MW-13 Development **Sampling**
Project Manager MJN Date 06/20/07 Start Time 0746 Weather sunny 80s
Depth to Water 14.33 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 8.72 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
8.72 x .16	1.40 x 3	x 3	4.19

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0750	**7.07**	**7970**	**16.7**				**.25**	**clear**
	7.00	**8240**	**16.6**				**1**	**clear**
	7.00	**10840**	**16.4**				**2**	**clear**
	6.97	**11520**	**16.6**				**3**	**clear**
	6.99	**11520**	**16.6**				**4**	**clear**
0812	**6.98**	**11890**	**16.6**				**4.25**	**clear**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0812	**6.98**	**11890**	**16.6**				**4.25**	**clear**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco D plant MW-13 Sample Time 0814
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus **CHCs**
MS/MSD _____ BD _____ BD Name/Time _____ TB_160607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco D Plant Client: MWH/EL Paso
Location: Blanco D Plant Area Well No: MW-14 Development **Sampling**
Project Manager MJN Date 06/20/07 Start Time 1150 Weather sunny 90s
Depth to Water 18.43 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 9.0 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

	Water Volume in Well		
Gal/ft x ft of water	Gallons	Ounces	**Gal**/oz to be removed
9.0 x .16	1.44	x 3	4.32

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1150	**7.12**	**6930**	**21.6**				**.25**	**clear**
	6.94	**9640**	**19.3**				**1**	**clear, well is bailing down**
	7.01	**11330**	**19.5**				**1.5**	**clear**
1209	**7.02**	**11460**	**19.8**				**1.764**	**clear, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1209	**7.02**	**11460**	**19.8**				**1.764**	**clear, well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco D plant MW-14 Sample Time 1210
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus **CHCs**
MS/MSD_____ BD_____ BD Name/Time_____ TB_180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco D plant Client: MWH/EL Paso

Location: Blanco D Plant Area Well No: MW-15 Development **Sampling**

Project Manager MJN Date 06/20/07 Start Time 0824 Weather clear 80s

Depth to Water 18.83 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 7.94 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
7.94 x .16	1.27 x 3	x 3	3.8

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0824	**4.34**	**17200**	**18**				**.25**	**clear, yellow**
	4.57	**15510**	**18**				**1**	**clear, yellow**
	4.31	**15930**	**18**				**2**	**clear, yellow**
	4.26	**16330**	**17.9**				**3**	**clear, yellow, well is bailing down**
0855	**4.38**	**16980**	**17.9**				**3.1625**	**clear, yellow, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0855	**4.38**	**16980**	**17.9**				**3.1625**	**clear, yellow, well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco D plant MW-15 Sample Time 0900

BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus **CHCs**

MS/MSD_____ BD_____ BD Name/Time_____ TB_180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-28 Development **Sampling**
Project Manager MJN Date 06/20/07 Start Time 0911 Weather sunny 80s
Depth to Water 28.58 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 5.14 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
5.14 x .65	3.34 x 3		10.02

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0911	**6.68**	**4780**	**18.3**				**.75**	**clear**
	6.76	**5310**	**18.1**				**1.25**	**clear**
	6.75	**5530**	**17.8**				**1.75**	**clear**
	6.76	**5200**	**17.5**				**2.25**	**clear**
	6.75	**5210**	**17.4**				**3.25**	**clear**
	6.78	**5110**	**17.6**				**5.25**	**clear**
	6.73	**5170**	**17.7**				**7.25**	**clear**
	6.74	**5180**	**17.7**				**9.25**	**clear**
1000	**6.75**	**5120**	**17.7**				**10.25**	**clear**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1000	**6.75**	**5120**	**17.7**				**10.25**	**clear**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco SFP MW-28 Sample Time 1002
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD _____ BD _____ BD Name/Time _____ TB_180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco SFP Client: MWH/EL Paso

Location: Blanco SFP Well No: MW-29 Development **Sampling**

Project Manager MJN Date 06/20/07 Start Time 1010 Weather sunny 90s

Depth to Water 30.86 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 6.26 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
6.26 x .65	4.06 x 3		12.21

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1010	**6.85**	**5860**	**17.7**				**.75**	**clear**
	6.87	**5780**	**17.4**				**3**	**clear**
	6.93	**6070**	**17.4**				**5**	**clear, well is bailing down**
	6.94	**5840**	**17.4**				**5.25**	**clear**
1023	**6.98**	**5780**	**17.4**				**5.375**	**clear, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1023	**6.98**	**5780**	**17.4**				**5.375**	**clear, well has bailed down**

COMMENTS: Well bailed dry

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco SFP MW-29 Sample Time 1025

BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_180607tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-30 Development **Sampling**
Project Manager MJN Date 06/20/07 Start Time 1031 Weather sunny 90s
Depth to Water 31.01 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 5.90 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	**Gal**/oz to be removed
5.90 x .65	3.8 x 3		11.5

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1031	**6.82**	**5580**	**18.7**				**1**	**clear**
	6.78	**5530**	**18.1**				**3**	**clear**
	6.89	**5700**	**17.8**				**4.75**	**clear, well is bailing down**
	6.88	**5300**	**17.8**				**5.25**	**clear**
1048	**6.90**	**5650**	**17.7**				**5.5**	**clear, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1048	**6.90**	**5650**	**17.7**				**5.5**	**clear, well has bailed down**

COMMENTS: Well bailed dry

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco SFP MW-30 Sample Time 1050
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_180607tb01

APPENDIX B

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes:	EPA 353.2 NO2/NO3	**Sample Collection Date(s):**	06/20/07
Laboratory:	Accutest	**EL Paso Site:**	Blanco South Flare Pit
Batch Identification:	T17882	**Matrix:**	Water

Validation Complete: Craig Moore -07/16/07
(Date/Signature)

Foot Notes	Sample ID	Laboratory ID	Hits (Y/N)	Quals.	Comments
None	MW-12	T17882-1	Y	None	
None	MW-13	T17882-2	Y	None	
None	MW-14	T17882-3	Y	None	
None	MW-15	T17882-4	Y	None	
None	MW-5	T17882-5	Y	None	
None	MW-6	T17882-6	Y	None	
None	MW-8	T17882-7	Y	None	
None	MW-28	T17882-8	Y	None	
None	MW-29	T17882-9	Y	None	
None	MW-30	T17882-10	Y	None	

DATA VERIFICATION WORKSHEET

Analytical Method:	**EPA 353.2 NO2/NO3**	**EL Paso Site:**	**Blanco South Flare Pit**
Laboratory:	Accutest	**Batch Identification:**	**T17882**

Validation Criteria										
Sample ID	MW-12	MW-13	MW-14	MW-15	MW-5	MW-6	MW-8	MW-28	MW-29	MW-30
Lab ID	T17882-1	T17882-2	T17882-3	T17882-4	T17882-5	T17882-6	T17882-7	T17882-8	T17882-9	T17882-10
Method Blank (all methods)	A	A	A	A	A	A	A	A	A	A
Holding Time	A	A	A	A	A	A	A	A	A	A
Analyte List	A	A	A	A	A	A	A	A	A	A
Reporting Limits	A	A	A	A	A	A	A	A	A	A
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A	A	N/A	N/A	N/A	N/A
Matrix Duplicate	N/A	N/A	N/A	N/A	N/A	A	N/A	N/A	N/A	N/A
Laboratory Control Sample (LCS)	A	A	A	A	A	A	A	A	A	A
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A	A	A	A	A

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method
N/R indicates data not available for review

NOTES:

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: SW-846 8260B (VOCs) Sample Collection Date(s): 06/20/07

Laboratory: Accutest EL Paso Site: Blanco South Flare Pit

Batch Identification: T17882 Matrix: Water

Verification Complete: Craig Moore -07/16/07

(Date/Signature)

Foot Notes	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	MW-12	T17882-1	Y	None	
None	MW-13	T17882-2	Y	None	
None	MW-14	T17882-3	Y	None	
None	MW-15	T17882-4	Y	None	

DATA VERIFICATION WORKSHEET

Analytical Method: SW-846 8260B (VOCs) **EL Paso Site:** Blanco South Flare Pit

Laboratory: Accutest **Batch Identification:** T17882

Verification Criteria								
Sample ID	MW-12	MW-13	MW-14	MW-15				
Lab ID	T17882-1	T17882-2	T17882-3	T17882-4				
Holding Time	A	A	A	A				
Analyte List	A	A	A	A				
Reporting Limits	A	A	A	A				
Surrogate Spike Recovery	A	A	A	A				
Method Blank	A	A	A	A				
Laboratory Control Sample (LCS)	A	A	A	A				
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A				
Hardcopy vs. Chain-of-Custody	A	A	A	A				

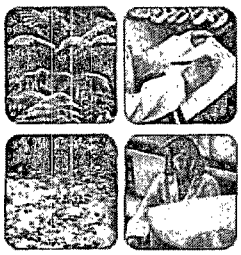
(a) List QC batch identification if different than Batch ID
A indicates verification criteria were met
A/L indicates verification criteria met based upon Laboratory's QC Summary Form
X indicates verification criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

06/29/07



Technical Report for

Montgomery Watson

Blanco South Flare Pit

D-ALAB-BLANCOPLTN-004

Accutest Job Number: T17882

Sampling Date: 06/20/07

Report to:

MWH Americas, Inc.

jed.Smith@us.mwhglobal.com

ATTN: Mr. Jed Smith

Total number of pages in report: **31**

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.

Ron Martino
Laboratory Manager

Client Service contact: Agnes Vicknair 713-271-4700

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Sample Summary

Montgomery Watson

Job No: T17882

Blanco South Flare Pit
Project No: D-ALAB-BLANCOPLTN-004

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T17882-1	06/20/07	07:35	MN	06/22/07	AQ	Ground Water	MW-12
T17882-2	06/20/07	08:14	MN	06/22/07	AQ	Ground Water	MW-13
T17882-3	06/20/07	12:10	MN	06/22/07	AQ	Ground Water	MW-14
T17882-4	06/20/07	09:00	MN	06/22/07	AQ	Ground Water	MW-15
T17882-5	06/20/07	07:00	MN	06/22/07	AQ	Ground Water	MW-5
T17882-6	06/20/07	11:40	MN	06/22/07	AQ	Ground Water	MW-6
T17882-7	06/20/07	13:00	MN	06/22/07	AQ	Ground Water	MW-8
T17882-8	06/20/07	10:02	MN	06/22/07	AQ	Ground Water	MW-28
T17882-9	06/20/07	10:25	MN	06/22/07	AQ	Ground Water	MW-29
T17882-10	06/20/07	10:50	MN	06/22/07	AQ	Ground Water	MW-30

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T17882

Site: Blanco South Flare Pit **Report Date** 6/29/2007 4:40:31 PM

10 Samples were collected on 06/20/2007 and were received at Accutest on 06/22/2007 properly preserved, at 2.2 Deg. C and intact. These Samples received an Accutest job number of T17882. 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 GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VY1299

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T17948-3MS, T17948-3MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 1,1-Dichloroethylene are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for 1,1-Dichloroethylene, trans-1,2-Dichloroethylene are outside control limits. Outside control limits due to matrix interference.
- RPD(s) for MSD for trans-1,2-Dichloroethylene are outside control limits for sample T17948-3MSD. Probable cause due to sample homogeneity.

Wet Chemistry By Method EPA 353.2

Matrix AQ **Batch ID:** GN11993

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T17882-6DUP, T17882-6MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

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

Report of Analysis

Client Sample ID:	MW-12		
Lab Sample ID:	T17882-1	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0013685.D	1	06/28/07	ZLH	n/a	n/a	VY1299
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Volatile special list.

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	3.6	2.0	0.52	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.68	ug/l	
156-59-2	cis-1,2-Dichloroethylene	4.4	2.0	0.83	ug/l	
95-50-1	o-Dichlorobenzene	3.0	2.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.75	ug/l	
127-18-4	Tetrachloroethylene	1.9	2.0	0.74	ug/l	J
79-01-6	Trichloroethylene	3.0	2.0	0.63	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		73-139%
17060-07-0	1,2-Dichloroethane-D4	86%		66-139%
2037-26-5	Toluene-D8	100%		77-148%
460-00-4	4-Bromofluorobenzene	115%		84-150%

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

3.1

Client Sample ID:	MW-12		
Lab Sample ID:	T17882-1	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	7.6	1.0	mg/l	20	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-13		
Lab Sample ID:	T17882-2	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0013686.D	1	06/28/07	ZLH	n/a	n/a	VY1299
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Volatile special list.

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	58.8	2.0	0.52	ug/l	
75-35-4	1,1-Dichloroethylene	1.2	2.0	0.68	ug/l	J
156-59-2	cis-1,2-Dichloroethylene	43.6	2.0	0.83	ug/l	
95-50-1	o-Dichlorobenzene	63.9	2.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	7.8	2.0	0.75	ug/l	
127-18-4	Tetrachloroethylene	1.1	2.0	0.74	ug/l	J
79-01-6	Trichloroethylene	29.6	2.0	0.63	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		73-139%
17060-07-0	1,2-Dichloroethane-D4	95%		66-139%
2037-26-5	Toluene-D8	110%		77-148%
460-00-4	4-Bromofluorobenzene	130%		84-150%

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

3.2

Client Sample ID:	MW-13		
Lab Sample ID:	T17882-2	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	6.1	1.0	mg/l	20	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.3

Client Sample ID:	MW-14		
Lab Sample ID:	T17882-3	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0013687.D	1	06/28/07	ZLH	n/a	n/a	VY1299
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Volatile special list.

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	24.2	2.0	0.52	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.68	ug/l	
156-59-2	cis-1,2-Dichloroethylene	14.2	2.0	0.83	ug/l	
95-50-1	o-Dichlorobenzene	23.8	2.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.7	2.0	0.75	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.74	ug/l	
79-01-6	Trichloroethylene	11.0	2.0	0.63	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		73-139%
17060-07-0	1,2-Dichloroethane-D4	77%		66-139%
2037-26-5	Toluene-D8	112%		77-148%
460-00-4	4-Bromofluorobenzene	128%		84-150%

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:	MW-14		
Lab Sample ID:	T17882-3	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	15.0	1.3	mg/l	25	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.4

Client Sample ID:	MW-15		
Lab Sample ID:	T17882-4	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0013688.D	1	06/28/07	ZLH	n/a	n/a	VY1299
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Volatile special list.

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	4.8	2.0	0.52	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.68	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.83	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.75	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.74	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.63	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		73-139%
17060-07-0	1,2-Dichloroethane-D4	87%		66-139%
2037-26-5	Toluene-D8	101%		77-148%
460-00-4	4-Bromofluorobenzene	117%		84-150%

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:	MW-15		
Lab Sample ID:	T17882-4	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	18.0	2.0	mg/l	40	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.5

Client Sample ID:	MW-5		
Lab Sample ID:	T17882-5	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	15.0	1.3	mg/l	25	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.6

Client Sample ID:	MW-6		
Lab Sample ID:	T17882-6	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	92.0	10	mg/l	200	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.7

Client Sample ID:	MW-8		
Lab Sample ID:	T17882-7	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	0.50	0.10	mg/l	2	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.8

Client Sample ID:	MW-28		
Lab Sample ID:	T17882-8	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	42.0	5.0	mg/l	100	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.9

Client Sample ID:	MW-29		
Lab Sample ID:	T17882-9	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	79.0	5.0	mg/l	100	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

3.10

Client Sample ID:	MW-30		
Lab Sample ID:	T17882-10	**Date Sampled:**	06/20/07
Matrix:	AQ - Ground Water	**Date Received:**	06/22/07
		Percent Solids:	n/a
Project:	Blanco South Flare Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	57.0	5.0	mg/l	100	06/26/07 13:12	LN	EPA 353.2

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

10165 Harwin Drive, Houston, TX 77036
713-271-4700 FAX: 713-271-4770

FED-EX Tracking # 858809112228 | Bottle Order Control # | Accutest Quote # | EL Paso Pricing | Accutest Job # T17882

Client / Reporting Information

Company Name: MWH Americas, Inc.
Address: 1801 California St. Suite 2900
City: Denver | State: CO | Zip: 80202
Project Contact: Jennifer Hurley
Phone #: 303-291-2231
Samplers's Name: Martin Nee

Project Information

Project Name: Blanco SFP
Street:
City: Colorado Springs | State: Co
Project #:
Fax #:
Client Purchase Order #: TWO D-ALAB-BlancoPitN-004

Requested Analysis

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	VOC (8260SL)	Nitrate + Nitrite (353.2)	LAB USE ONLY
1	MW-12	62007	0735	MN	WG	4	3			1					✓	✓	
2	MW-13	62007	0814	MN	WG	4	3			1					✓	✓	
3	MW-14	62007	1210	MN	WG	4	3			1					✓	✓	
4	MW-15	62007	0900	MN	WG	4	3			1					✓	✓	
5	MW-5	62007	0700	MN	WG	1				1						✓	
6	MW-6	62007	1140	MN	WG	1				1						✓	
7	MW-8	62007	1300	MN	WG	1				1						✓	
8	MW-28	62007	1002	MN	WG	1				1						✓	
9	MW-29	62007	1025	MN	WG	1				1						✓	
10	MW-30	62007	1050	MN	WG	1				1						✓	

Turnaround Time (Business days)

- [xx] Std. 15 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By/ Date:

Data Deliverable Information

- [ ] Level 1
- [x] Level 2
- [ ] Level 3
- [ ] Level 4
- [ ] Other
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] *EDD Format*

Commercial "A" = Results Only

Comments / Remarks

Emergency T/A data available VIA Lablink

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		62107 1630	1	2		2
3			3	4		4
5		6/8/07 9:45				

Custody Seal # | Preserved where applicable ☐ | On Ice ☐ | Cooler Temp 2.2

Page 1

T17882: Chain of Custody
Page 1 of 3

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T17882 DATE/TIME RECEIVED: 6/22/07/9:45

CLIENT: MWH Americas INITIALS: AR

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1 [✓ Y] N Sample received in undamaged condition.
2 [✓ Y] N Samples received within temp. range.
3 [✓ Y] N Sample received with proper pH.
4 [✓ Y] N Sample received in proper containers.
5 [✓ Y] N Sample volume sufficient for analysis.
6 [✓ Y] N Sample received with chain of custody.
7. [✓ Y] N Chain of Custody matches **sample IDs and analysis** on containers.
8. [✓ Y] N Samples Headspace acceptable
9 [✓ Y] N NA Custody seal received intact and tamper not evident on cooler.
10. Y N [✓ NA] Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-4	1-3	6/20	AQ	40ml.	VREF	1,[✓ 2],3,4,5,6	U, <2, >12, NA
|	4	|	|	P250	1B	1,2,3,[✓ 4],5,6	U, [✓ <2], >12, NA
5-10	1	|	|	|	|	1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

AR 6-22-07

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: FE

COOLER TEMP: 2.2 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/06, QAO

T17882: Chain of Custody

Page 2 of 3

T17882

Date 6/20/07	FedEx Tracking Number 856809112228
Sender's Name Morton Nez	Phone 505 334 3791 3209675
Company Lodestar	
Address 26 CR 3500	
City Flora Vista	State NM ZIP 87415
Your Internal Billing Reference	

DATE / TIME SEA

ACCUTEST LAB
CUSTODY SEAL

ORATORIES
CUSTODY SEAL

ACCUTEST LABORATORIES
CUSTODY SEAL

CUSTODY SEAL

LED: 62107 1630hrs INITIALS: MN

T17882: Chain of Custody
Page 3 of 3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T17882
Account: MWHSLCUT Montgomery Watson
Project: Blanco South Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY1299-MB	Y0013679.D	1	06/28/07	ZLH	n/a	n/a	VY1299

5.1

The QC reported here applies to the following samples: Method: SW846 8260B

T17882-1, T17882-2, T17882-3, T17882-4

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	2.0	0.52	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.68	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.83	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.75	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.74	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.63	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	73-139%
17060-07-0	1,2-Dichloroethane-D4	97%	66-139%
2037-26-5	Toluene-D8	113%	77-148%
460-00-4	4-Bromofluorobenzene	132%	84-150%

Blank Spike Summary

Job Number: T17882
Account: MWHSLCUT Montgomery Watson
Project: Blanco South Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY1299-BS	Y0013677.D	1	06/28/07	ZLH	n/a	n/a	VY1299

5.2

The QC reported here applies to the following samples: **Method:** SW846 8260B

T17882-1, T17882-2, T17882-3, T17882-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	25	23.3	93	63-125
75-35-4	1,1-Dichloroethylene	25	22.5	90	52-143
156-59-2	cis-1,2-Dichloroethylene	25	21.8	87	65-116
95-50-1	o-Dichlorobenzene	25	21.5	86	72-118
156-60-5	trans-1,2-Dichloroethylene	25	21.2	85	66-128
127-18-4	Tetrachloroethylene	25	22.4	90	72-128
79-01-6	Trichloroethylene	25	22.6	90	69-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	73-139%
17060-07-0	1,2-Dichloroethane-D4	96%	66-139%
2037-26-5	Toluene-D8	110%	77-148%
460-00-4	4-Bromofluorobenzene	126%	84-150%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T17882
Account: MWHSLCUT Montgomery Watson
Project: Blanco South Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T17948-3MS	Y0013689.D	1	06/28/07	ZLH	n/a	n/a	VY1299
T17948-3MSD	Y0013690.D	1	06/28/07	ZLH	n/a	n/a	VY1299
T17948-3	Y0013684.D	1	06/28/07	ZLH	n/a	n/a	VY1299

The QC reported here applies to the following samples: **Method:** SW846 8260B

T17882-1, T17882-2, T17882-3, T17882-4

CAS No.	Compound	T17948-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	ND		25	24.7	99	24.6	98	0	65-126/21
75-35-4	1,1-Dichloroethylene	ND		25	42.8	171* [a]	45.4	182* [a]	6	55-140/25
156-59-2	cis-1,2-Dichloroethylene	ND		25	21.9	88	21.4	86	2	62-120/24
95-50-1	o-Dichlorobenzene	ND		25	22.0	88	21.3	85	3	68-120/20
156-60-5	trans-1,2-Dichloroethylene	ND		25	24.2	97	40.6	162* [a]	51* [a]	64-130/22
127-18-4	Tetrachloroethylene	ND		25	23.2	93	23.1	92	0	69-132/21
79-01-6	Trichloroethylene	ND		25	23.4	94	23.4	94	0	70-120/19

CAS No.	Surrogate Recoveries	MS	MSD	T17948-3	Limits
1868-53-7	Dibromofluoromethane	99%	96%	101%	73-139%
17060-07-0	1,2-Dichloroethane-D4	96%	91%	96%	66-139%
2037-26-5	Toluene-D8	107%	103%	115%	77-148%
460-00-4	4-Bromofluorobenzene	120%	113%	135%	84-150%

(a) Outside control limits due to matrix interference.

General Chemistry

6

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T17882
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South Flare Pit

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GN11993			mg/l	0.500	0.51	102.0	89-112%
Nitrogen, Nitrate + Nitrite	GN11993	0.050	<0.050	mg/l	0.500	0.51	102.0	89-112%

Associated Samples:
Batch GN11993: T17882-1, T17882-10, T17882-2, T17882-3, T17882-4, T17882-5, T17882-6, T17882-7, T17882-8, T17882-9
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T17882
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South Flare Pit

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GN11993	T17882-6	mg/l	92.0	89.0	3.3	0-10%

Associated Samples:
Batch GN11993: T17882-1, T17882-10, T17882-2, T17882-3, T17882-4, T17882-5, T17882-6, T17882-7, T17882-8, T17882-9
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T17882
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South Flare Pit

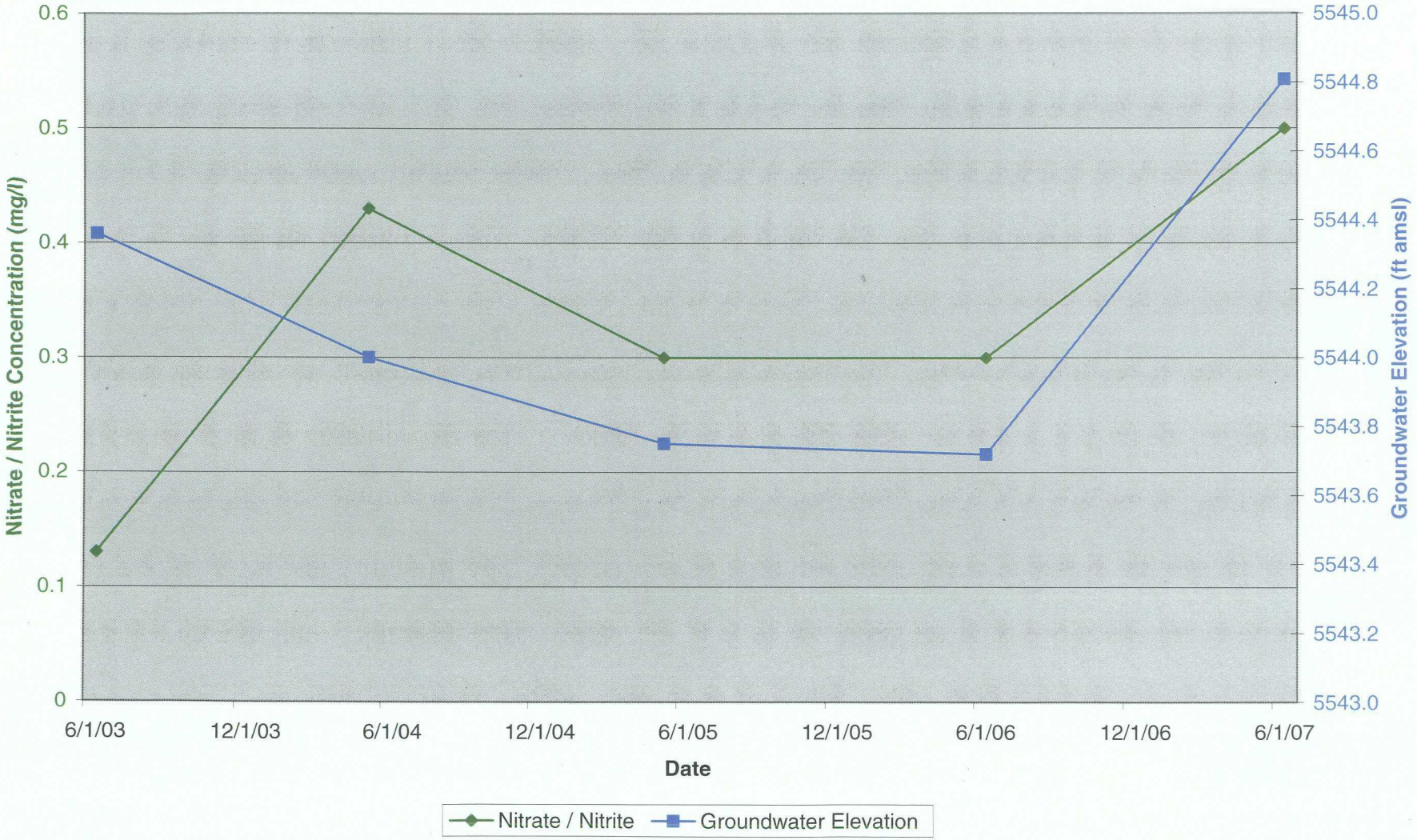
Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GN11993	T17882-6	mg/l	92.0	20.0	109	85.0	80-119%

Associated Samples:
Batch GN11993: T17882-1, T17882-10, T17882-2, T17882-3, T17882-4, T17882-5, T17882-6, T17882-7, T17882-8, T17882-9
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

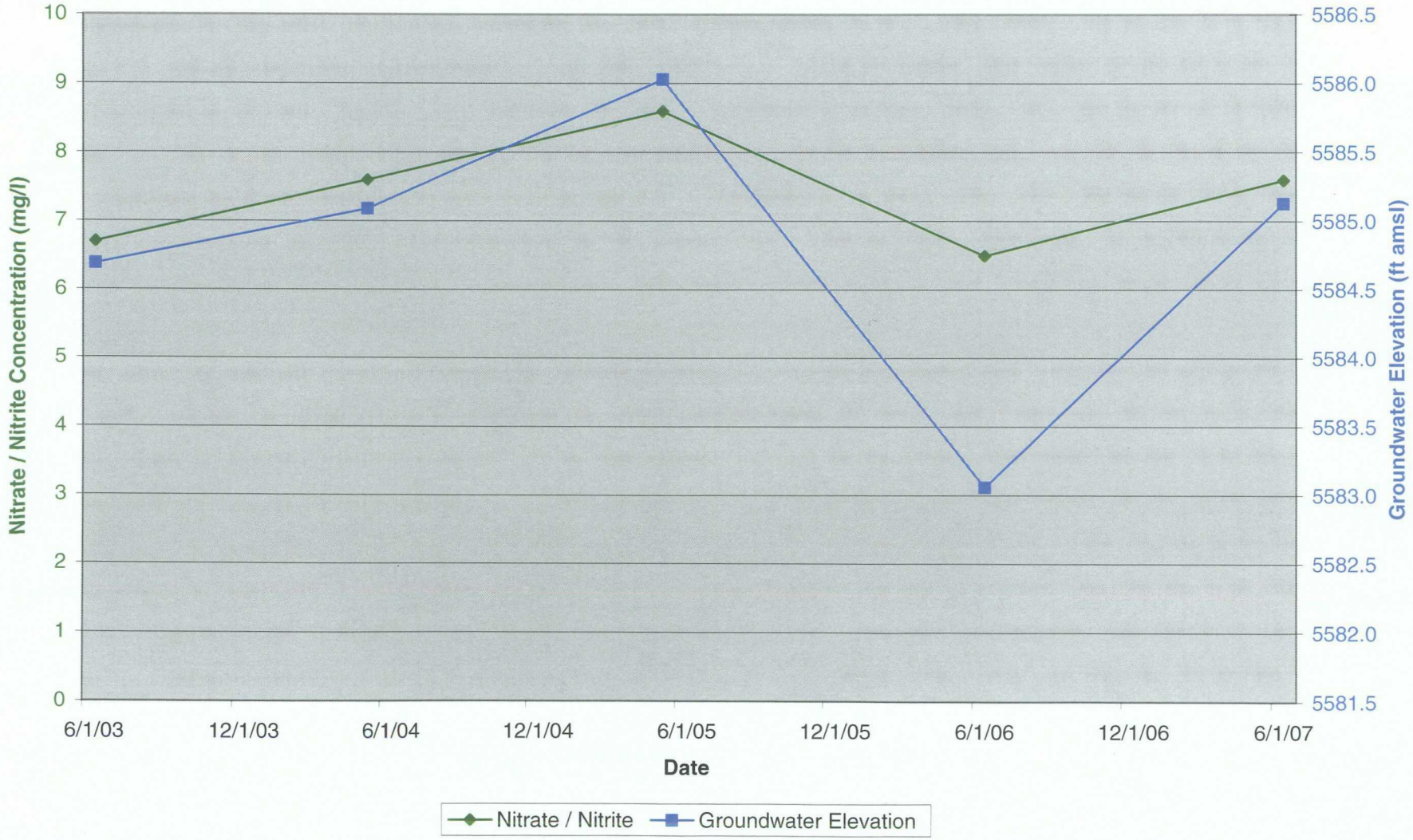
6.3
6

APPENDIX C

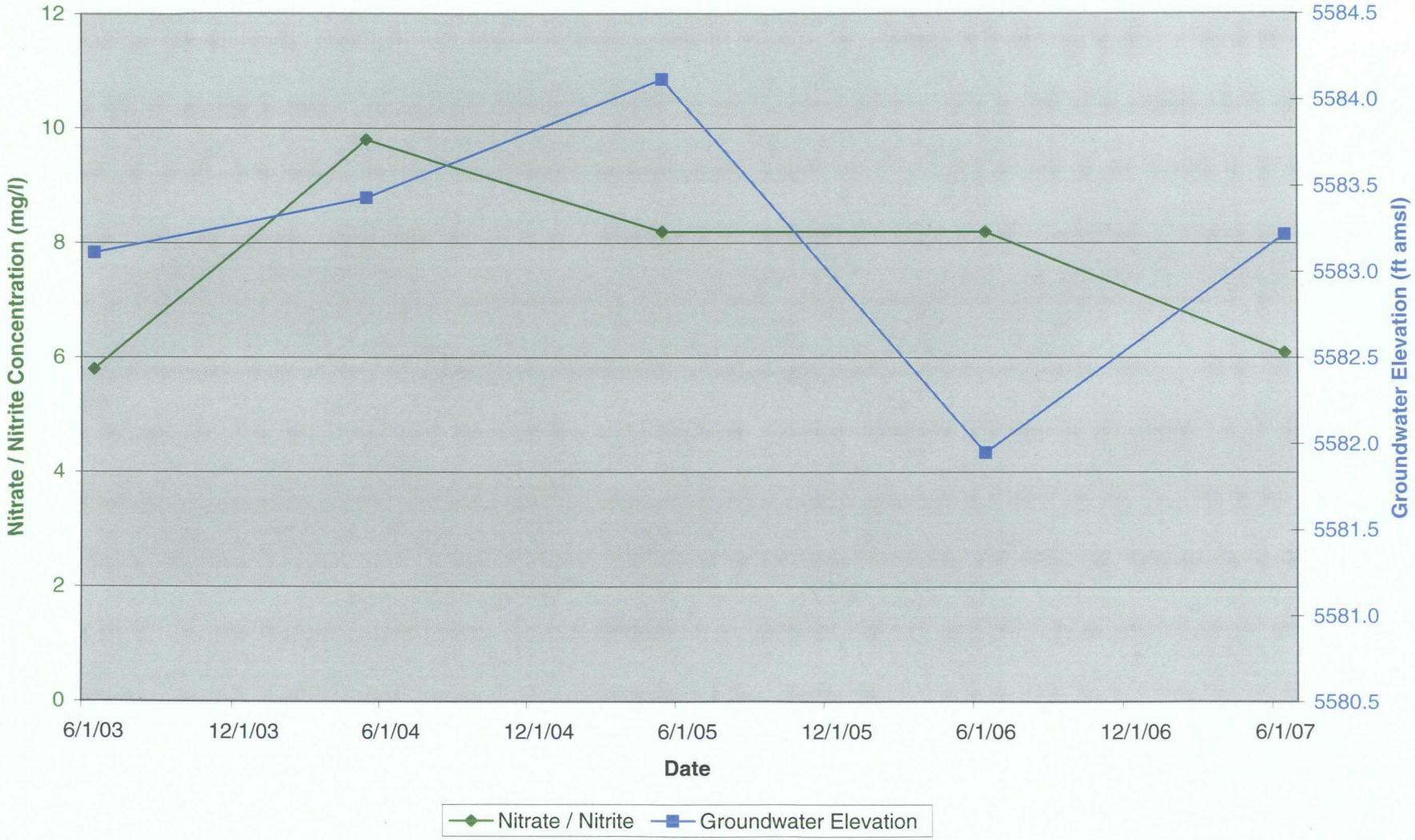
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-8



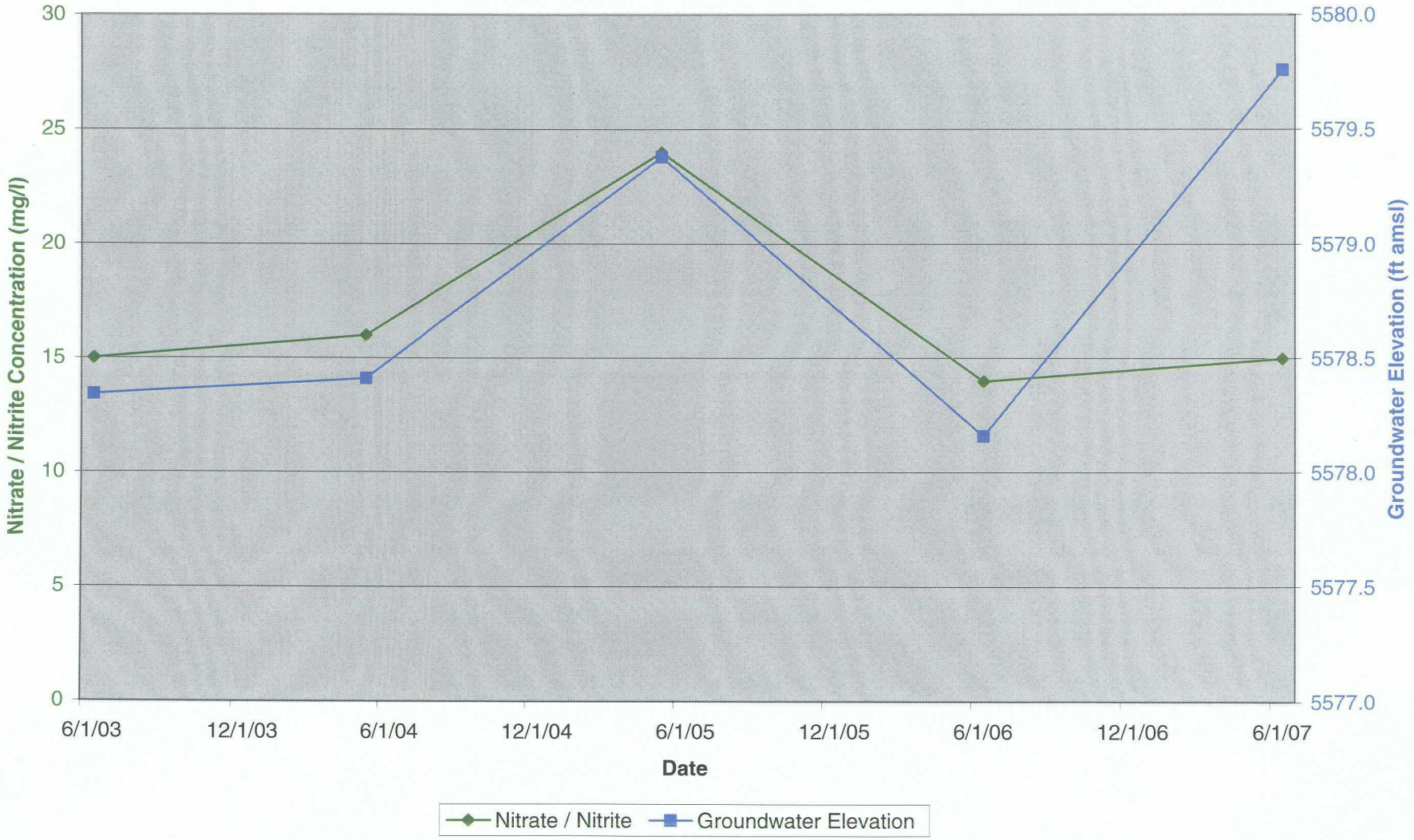
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-12



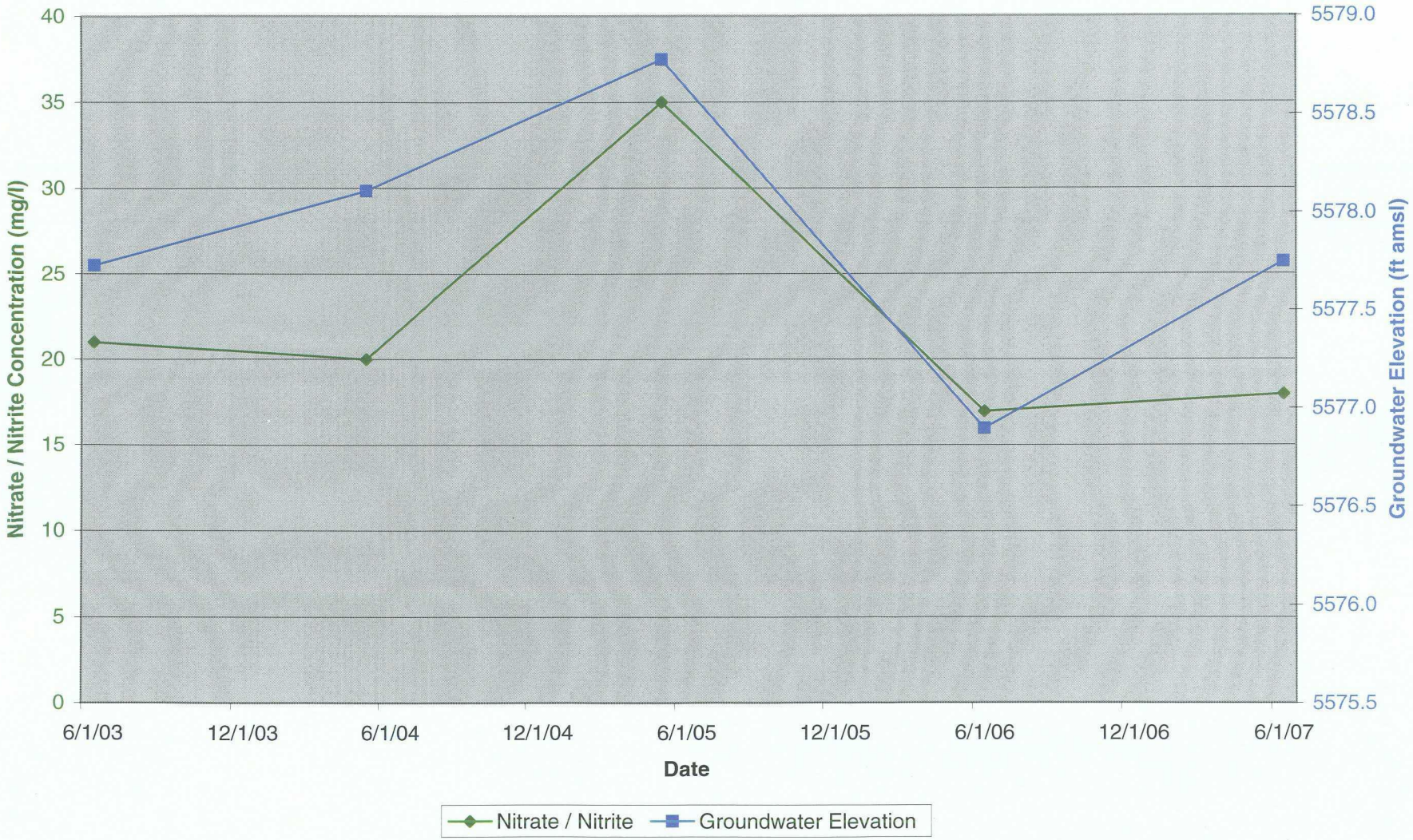
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-13



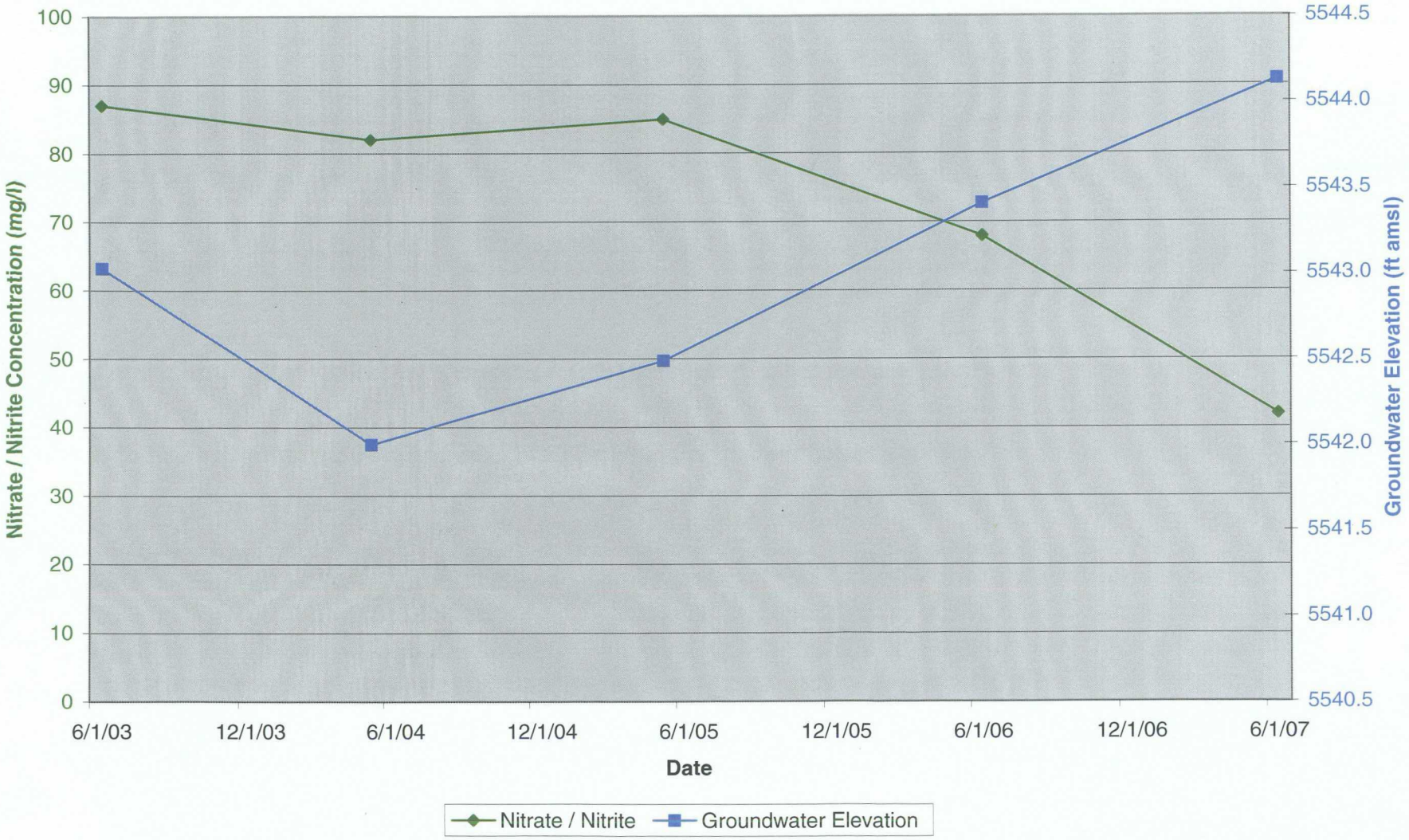
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-14



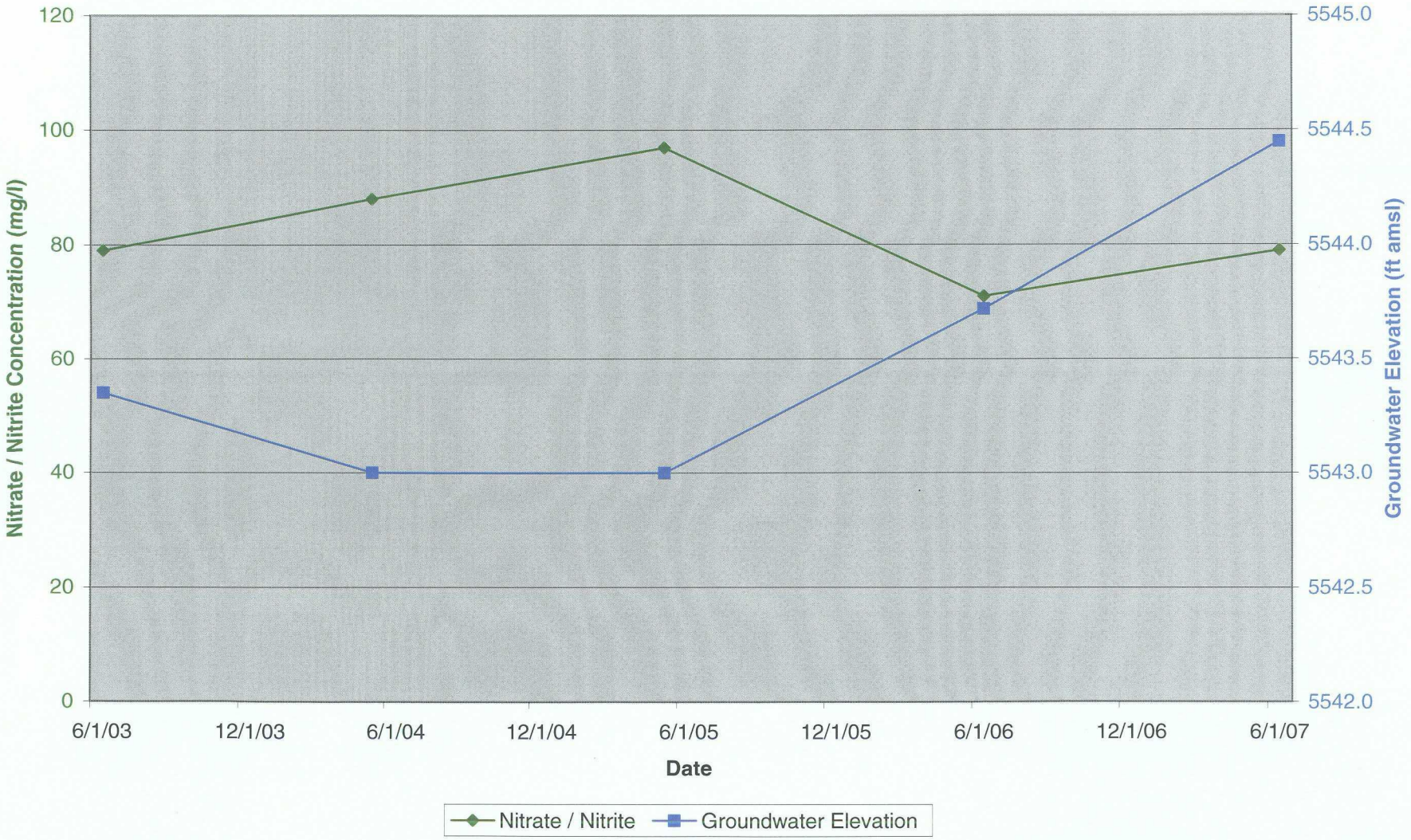
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-15



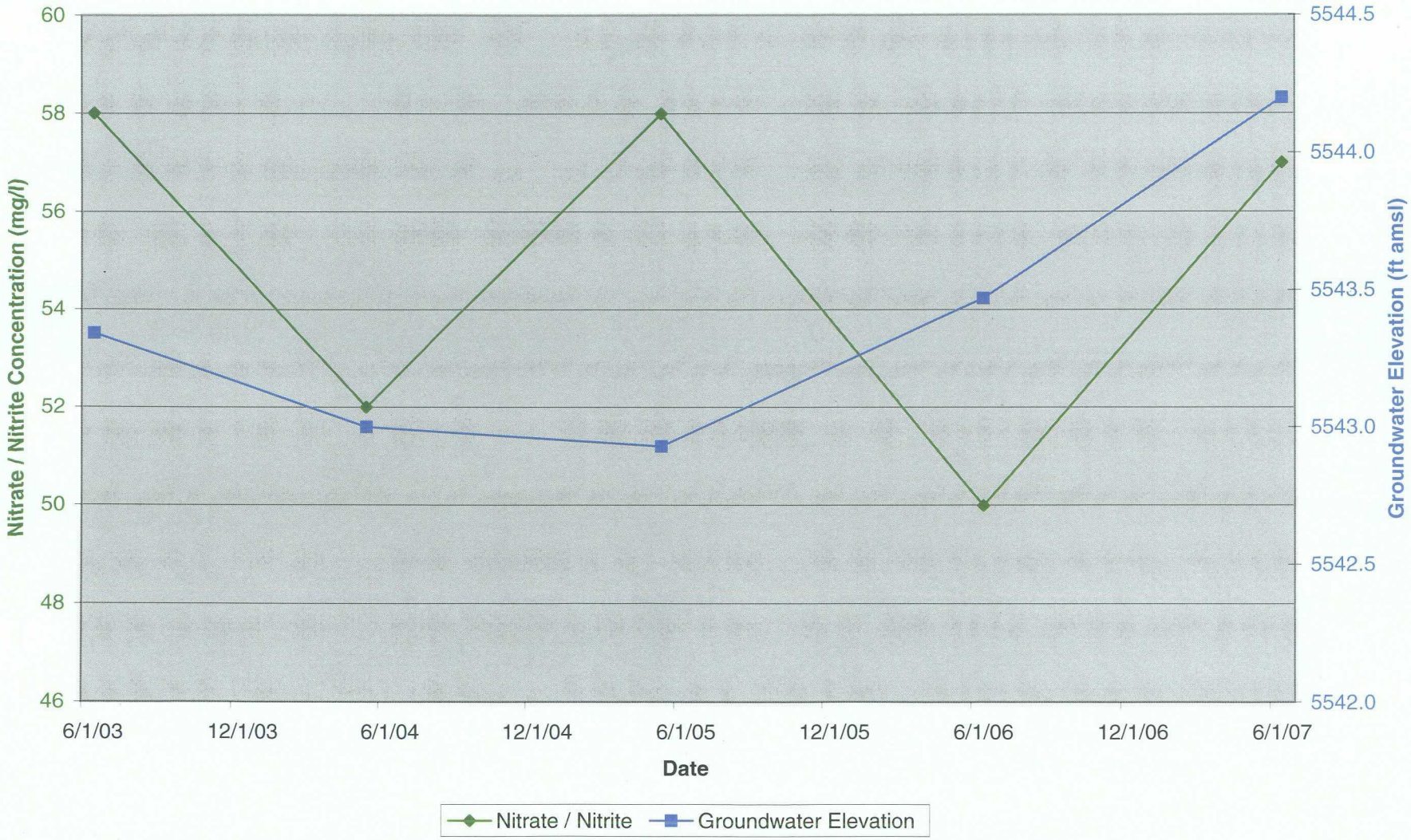
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-28



Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-29

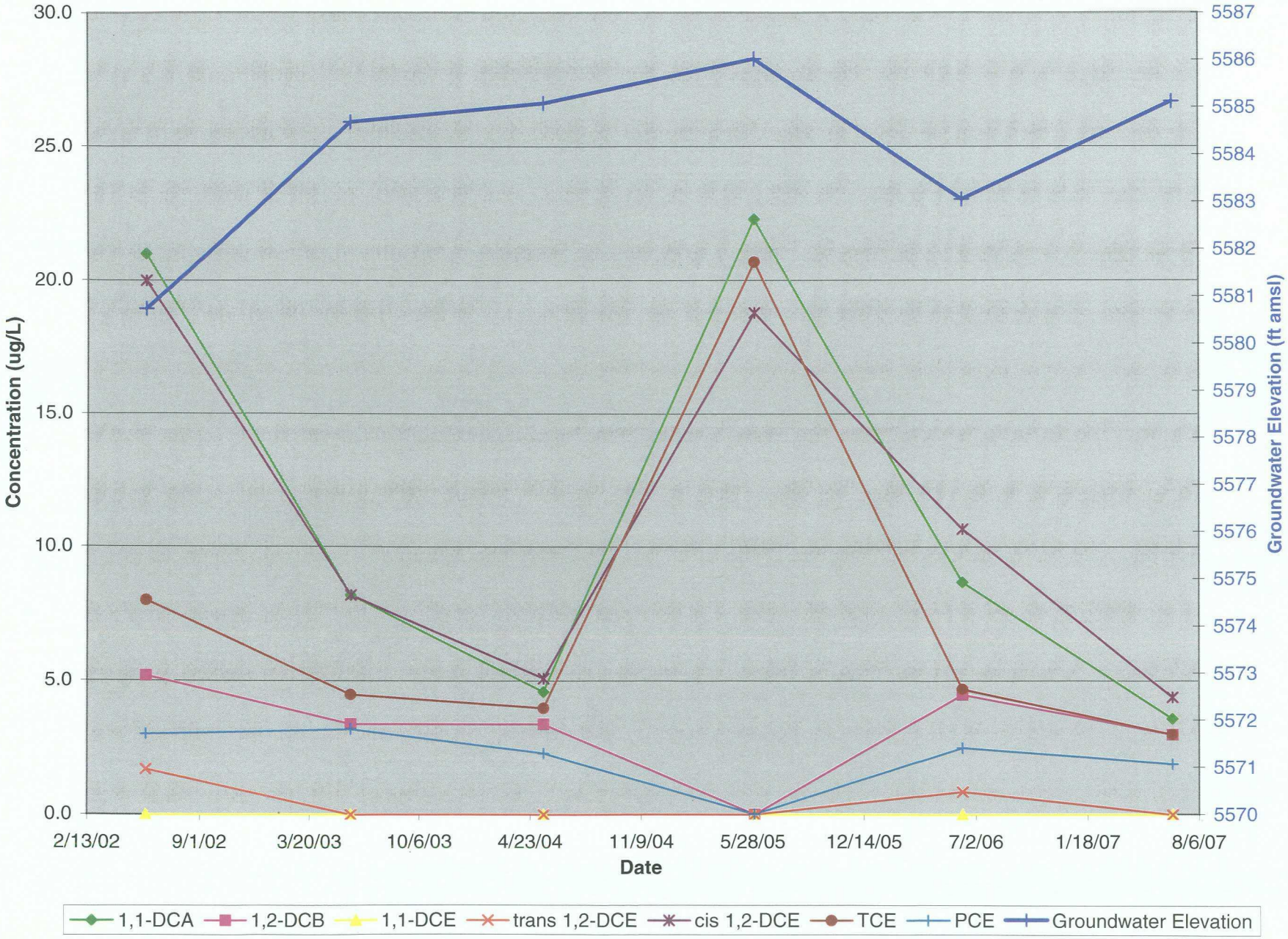


Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-30

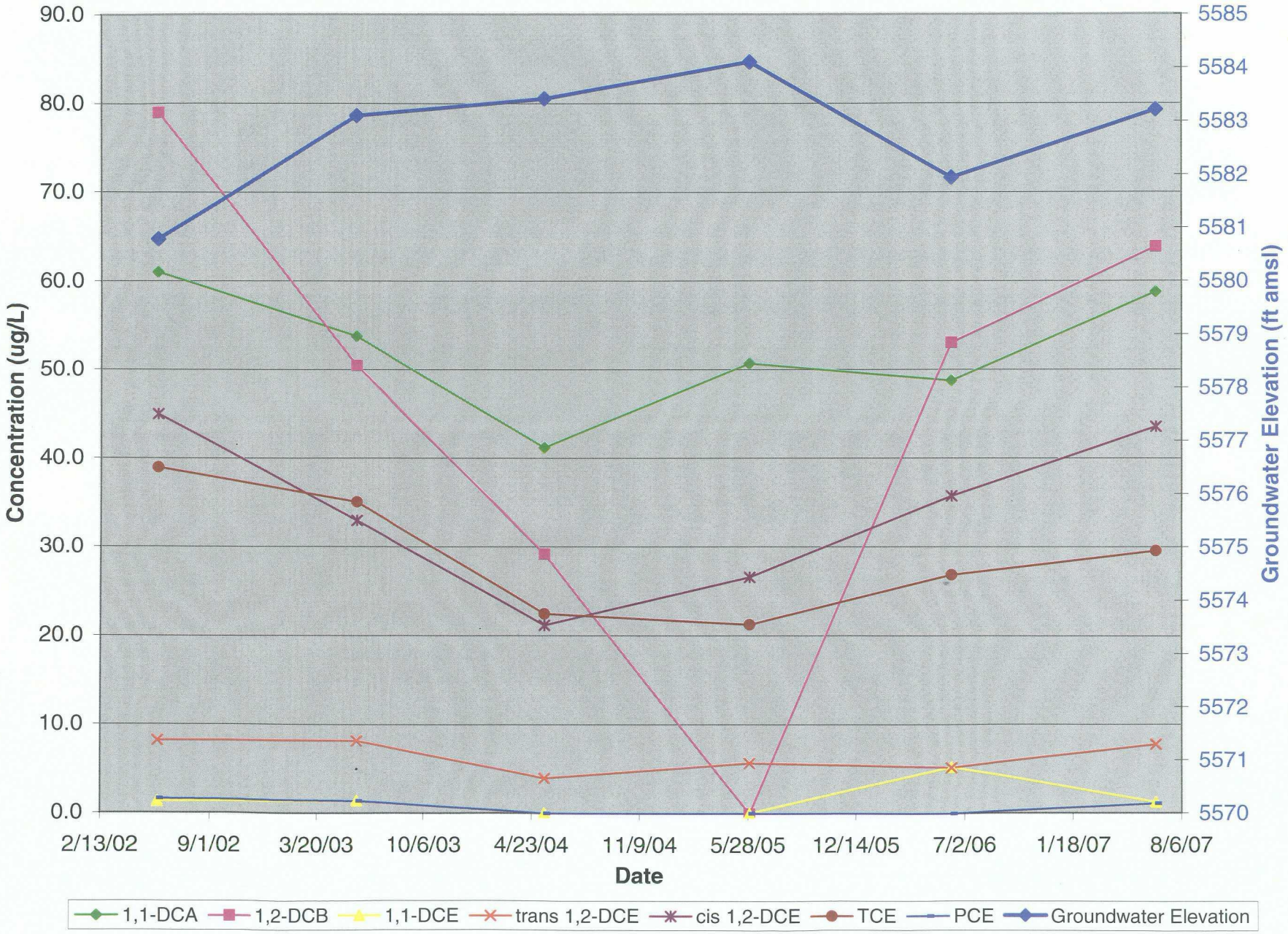


APPENDIX D

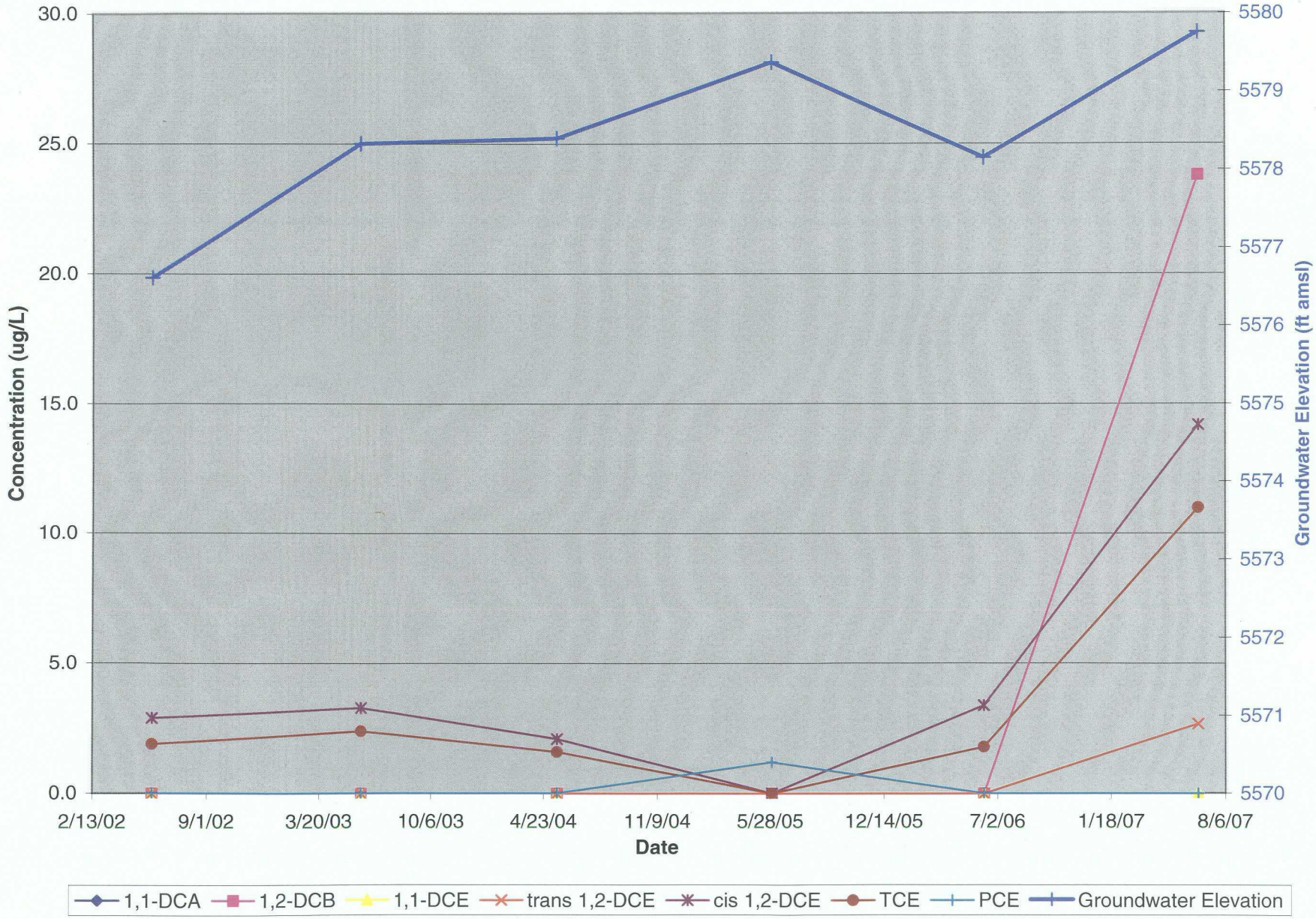
Historic Chlorinated Hydrocarbon Concentrations and Groundwater Elevations
Monitoring Well MW-12

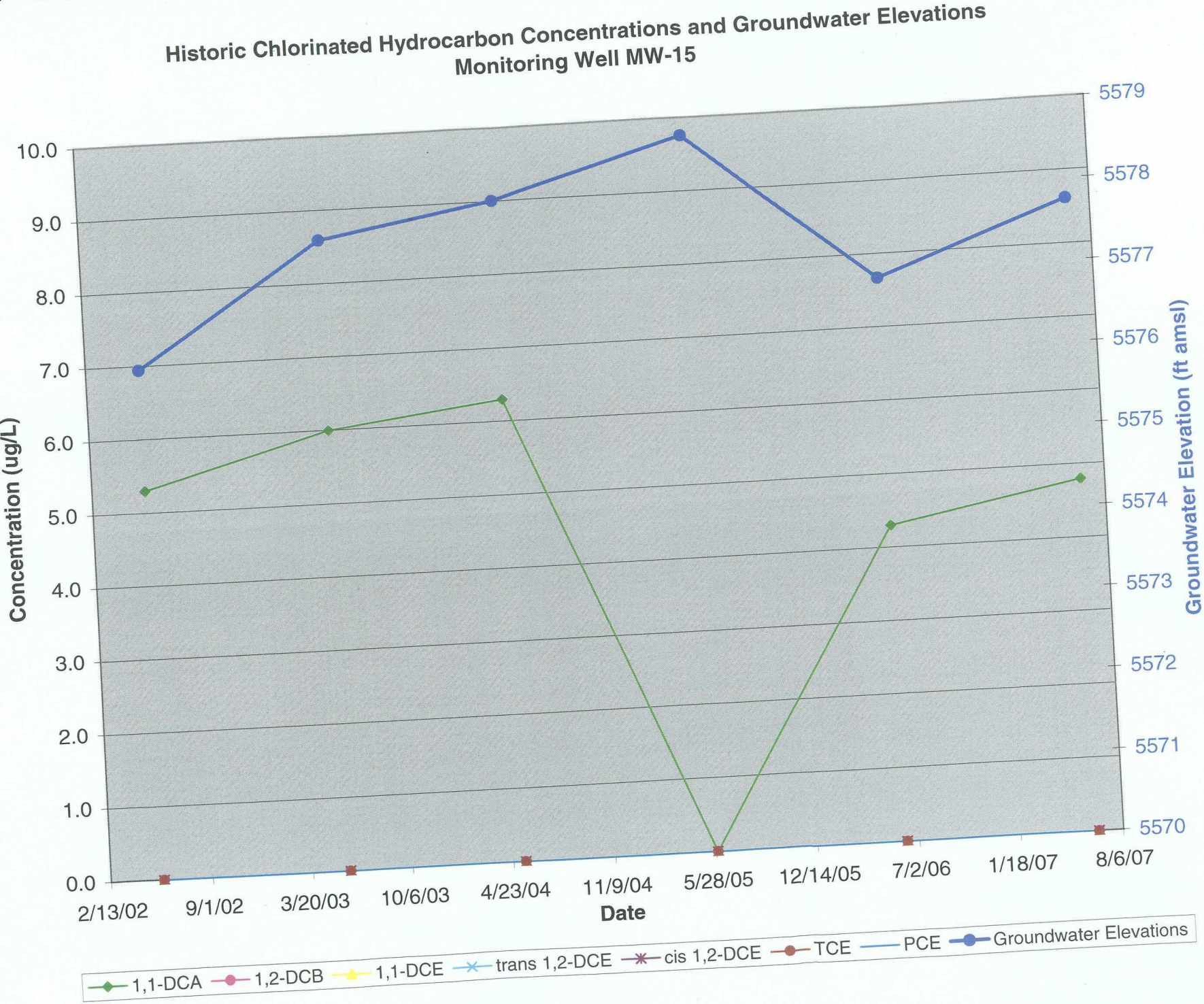


Historic Chlorinated Hydrocarbon Concentrations and Groundwater Elevations
Monitoring Well MW-13



Historic Chlorinated Hydrocarbon Concentrations and Groundwater Elevations
Monitoring Well MW-14




Historic Chlorinated Hydrocarbon Concentrations and Groundwater Elevations
Monitoring Well MW-15
Concentration (ug/L)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Groundwater Elevation (ft amsl)
5579
5578
5577
5576
5575
5574
5573
5572
5571
5570
2/13/02
9/1/02
3/20/03
10/6/03
4/23/04
11/9/04
5/28/05
12/14/05
7/2/06
1/18/07
8/6/07
Date
1,1-DCA
1,2-DCB
1,1-DCE
trans 1,2-DCE
cis 1,2-DCE
TCE
PCE
Groundwater Elevations

RECEIVED

OCT 17 2007

Oil Conservation Division
Environmental Bureau
Via Federal Express

October 12, 2007

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

RE: Annual Groundwater Report for the Blanco North Flare Pit Near Bloomfield, NM

Dear Mr. von Gonten;

El Paso Tennessee Pipeline Company hereby submits the enclosed "2007 Blanco North Flare Pit Annual Report." The enclosed report details groundwater sampling and sparge system operation activities between October 2006 and September 2007. This report also includes recommended additional site activities for 2007/2008 period.

If you have any questions concerning the enclosed report or require additional information, please contact me at (719) 520-4433.

Sincerely,

Nancy Prince

Nancy Prince
Project Manager
Environmental Remediation
El Paso Corporation

Encl.

cc: Blanco North Flare Pit General File w/ enclosure
Jed Smith – MWH w/ enclosure

Prepared for:

elpaso

El Paso Tennessee Pipeline Company
2 North Nevada
Colorado Springs, Colorado 80903

2007 BLANCO NORTH FLARE PIT ANNUAL REPORT

SAN JUAN COUNTY, NEW MEXICO

October 2007

Prepared by:

MWH
1801 California Street, Suite 2900
Denver, Colorado 80202
(303) 291-2222

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS

AS	air sparging
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and total xylenes
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

This *2007 Blanco North Flare Pit Annual Report* has been prepared for El Paso Tennessee Pipeline Company (EPTPC) to document the performance of the air sparging (AS) system and to report groundwater monitoring data at the Blanco Plant North Flare Pit site (Site). This report includes field data reports and groundwater analytical data reports for the period from October 2006 through September 2007 (i.e., the reporting period). An evaluation of the AS system and recommendations for future activities are also presented.

The purpose of the Site activities is to monitor and remediate hydrocarbon impacts associated with the former Blanco North Flare Pit. Constituents of potential concern at the site include free-phase hydrocarbons (i.e., free-product), benzene, ethylbenzene, toluene and total xylenes (BTEX). Regulatory drivers for groundwater remediation at this Site include the New Mexico Oil Conservation Division's (NMOCD) guidelines and the New Mexico Water Quality Control Commission's (NMWQCC) groundwater quality standards.

Section 4 includes a listing of previous reports that provide recent historical project information and data.

2.0 REMEDIAL ACTIVITIES

2.1 AIR SPARGING SYSTEM OPERATION

EPTPC operates an AS system in the central area of the Site to remediate dissolved-phase hydrocarbon contamination and reduce BTEX concentrations to below NMWQCC standards. This section discusses system operation and monitoring activities.

The AS system operates on a 12-hour on/off cycle, in order to periodically break up the developed airflow channels in the formation. While running, the AS system injects approximately 5 to 9 scfm of air at a pressure of 4 to 16 psig. During the October 2006 to September 2007 monitoring period the system consistently ran between 11 and 12 hours per day. Based on the meter readings, the AS system ran for approximately 3,829 hours during the monitoring period.

System operation and maintenance (O&M) was conducted generally every two weeks. During each O&M event, air pressure measurements were collected at each wellhead using a magnehelic gauge, and groundwater field parameters, including water levels, pH, temperature, specific conductance and dissolved oxygen, were measured. Following each visit, a field report was prepared to summarize all operation and monitoring data and report any problems. Field operation and monitoring reports for the period between October 2006 to September 2007 are included in **Appendix A**, and selected data are summarized in **Tables 1, 2, and 3.** Monitoring data indicates that there has been good communication between the AS well (SW-1) and wells MW-19, MW-26, and MW-27. Minimal-to-no effects were observable in monitoring wells MW-23 (upgradient of system), MW-24 (virtually dry).

2.2 FREE-PRODUCT REMOVAL

In May 2006, three new monitoring wells were installed (MW-31, MW-32, and MW-33), in an effort to more accurately characterize the Site. 11.25 ft of free-product was measured in MW-32 in August 2006, and 8.73 ft of product was measured in the well in September 2006. A pneumatic skimmer was installed in MW-32 and free-product recovery was initiated in September 2006. As of the August 17, 2007 O&M event, the free product had been fully removed from MW-32. Therefore the decision was made to pull the recovery pump and place absorbent socks in the well. Between October 2006 and August 2007 monitoring period, approximately 14.6 gallons of free-product was removed from monitoring well MW-32, as measured from quantities in the storage drums.

2.3 GROUNDWATER SAMPLING

Quarterly groundwater monitoring has been conducted at six monitoring wells in the North Flare Pit area (MW-19, MW-23, MW-26, MW-27, MW-31, and MW-33). Sampling events were performed in November 2006, February 2007, May 2007, and August 2007. Forty-eight hours prior to each sampling event, the AS system was shut–down to ensure natural groundwater conditions were being evaluated. During each sampling event, groundwater levels and field parameters (pH, temperature, specific conductance and dissolved oxygen) were measured, and samples were analyzed for BTEX

concentrations. Groundwater sample collection field forms are attached in **Appendix B**. Samples were not collected from MW-2 or MW-24 during any of the sampling rounds because the wells were either dry or bailed dry. Water levels could not be measured in MW-19 because the water level probe could not pass an obstruction in the casing; however, grab samples were collected from this well using a small-diameter bailer during the November 2006 and February 2007 sampling events. This well is currently not accessible due to apparent casing damage.

Analytical results from these four sampling events are presented along with the historic data (June 1991 to present) in **Table 4**. Laboratory analytical reports are included in **Appendix C**. Benzene concentrations in groundwater for each of the recent sampling events are presented on Site maps in **Figures 2** through **5**. These maps also present the inferred groundwater gradient direction based on measured static water levels. **Figure 6**, presents trends in historic benzene concentrations in wells MW-19, MW-23, MW-26, MW-27, MW-31, and MW-33.

As shown in **Table 4** and **Figure 6**, groundwater BTEX concentrations have generally decreased subsequent to air sparging activities. The largest decreases have occurred in MW-19, where the benzene concentration was reduced from 10,100 micrograms per liter (µg/L) in June 2003 to the laboratory reporting limit in November 2006; and in MW-26, where free-product was present in June 2003 and the benzene concentration has since been reduced below the laboratory reporting limit, as of the August 2007 sampling event. These wells were also the locations where the physical effects of the AS system (induced wellhead air pressure and increased dissolved oxygen concentrations) have been most pronounced. The data indicate that the focused remedial efforts at the Site have been effective.

Also as shown in Table 4 and Figure 6, groundwater concentrations have not varied significantly between sampling events except the decreases noted above.

3.0 CONCLUSIONS AND RECOMMENDATIONS

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

1. Product recovery and air sparging activities have been effective at removing free-product and reducing dissolved phase BTEX concentrations.

2. The groundwater quality in the area of monitoring well MW-23 does not appear to be improving. Remedial efforts have not been implemented in this area. EPTPC had planned to expand the AS system into this area, but the June 2006 discovery of free-product in monitoring well MW-32 led to postponement of the expansion plans until additional source material delineation and subsequent Site evaluation could be completed.

3. The pneumatic pump installed at monitoring well MW-32 was successful in the removal of free-product from the well. The addition of absorbent socks appears to be effective as well, with the removal of one saturated sock to date.

Therefore, EPTPC has the following recommendations with respect to future Site activities:

1. Groundwater monitoring frequency should be modified from quarterly to a semiannual basis. Sampling will return to a quarterly basis at such time when site BTEX concentrations approach the applicable closure criteria. **Table 3** shows the proposed sampling schedule.

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 continue to be operated approximately 12 hours per day.

4. Free-product recovery utilizing absorbent socks will continue in monitoring well MW-32.

5. A proposal for additional delineation of the area near the former North Flare Pit will be prepared for submission to NMOCD, with the intent of supporting decisions regarding potential future remedial approaches.

6. Site data will be reported to the NMOCD on an annual basis, typically in October.

7. Damaged monitoring well MW-19 will be plugged and abandoned.

4.0 REFERENCES

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

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

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

TABLES

TABLE 1
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2007)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

	Depth to Water (ft bgs)					
Date	**MW-2**	**MW-19**	**MW-23**	**MW-24**	**MW-26**	**MW-27**
2/3/03	dry	63.64	nm	nm	64.55/63.02	64.05
6/2/03	dry	63.90	57.12	66.38	pump in well	64.41
6/5/03	dry	62.42	57.03	66.96	pump in well	64.48
6/6/03	dry	62.34	57.14	66.97	pump in well	64.44
6/9/03	dry	62.31	57.03	66.81	pump in well	64.41
6/16/03	dry	62.47	57.09	66.74	pump in well	64.46
6/23/03	dry	62.31	56.99	66.71	pump in well	64.45
7/2/03	dry	62.75	57.06	66.68	pump in well	64.50
7/10/03	dry	62.45	57.08	66.68	65.38	64.50
7/15/03	dry	62.75	57.08	66.81	64.35	64.74
7/29/03	dry	62.71	57.06	66.83	64.46	64.68
8/7/03	dry	65.00	57.13	67.09	65.26	64.75
8/21/03	dry	64.84	57.12	67.09	64.59	64.78
9/10/03	dry	64.79	57.04	67.08	64.55	64.81
9/25/03	dry	63.95	57.12	67.07	64.55	64.89
10/6/03	dry	64.58	57.07	67.11	64.62	64.82
10/22/03	dry	64.16	57.16	67.15	64.65	64.95
11/3/03	dry	64.75	56.99	67.17	64.69	64.9
11/17/03	nm	64.07	56.98	67.18	64.63	64.95
12/1/03	nm	64.29	57.18	67.17	64.77	65.03
12/16/03	dry	65.14	57.31	61.165	65.02	65.16
1/2/04	nm	64.22	57.04	67.20	65.1	65.10
1/15/04	dry	64.23	55.98	67.15	64.76	65.11
1/30/04	dry	64.14	57.08	67.11	64.76	65.09
2/13/04	nm	64.13	57.09	67.12	64.79	65.22
2/27/04	nm	64.07	56.99	67.12	64.76	65.24
3/12/04	nm	65.01	56.96	67.11	65.06	65.3
3/26/04	nm	64.06	56.98	67.23	64.69	65.24
4/13/04	dry	64.2	57.075	67.11	65.09	65.47
4/26/04	nm	64.51	57.25	67.11	65.28	65.41
5/10/04	nm	65.50	57.03	67.11	65.17	65.64
5/17/04	dry	65.31	57.14	dry	65.54	65.74
6/1/04	dry	63.42	57.15	67.14	65.23	65.77
6/15/04	dry	64.78	57.07	67.1	65.58	65.85
7/14/04	dry	63.81	57.14	67.11	65.57	66.01
7/28/04	dry	63.75	57.08	67.11	65.59	66.06
8/17/04	dry	nm	57.17	67.05	65.78	66.22
9/8/04	dry	nm	57.18	67.11	65.65	66.3
9/23/04	dry	nm	57.23	67.12	65.77	66.32
10/11/04	dry	nm	57.13	67.12	65.92	66.38
10/26/04	dry	nm	57.13	67.11	66.79	66.44
11/17/04	dry	nm	57.19	67.19	65.67	66.55
12/7/04	dry	nm	57.27	67.14	35.67	66.64
12/22/04	dry	nm	57.09	67.12	65.85	66.68
1/10/05	dry	nm	57.15	67.11	65.35	66.71
1/23/05	dry	nm	57.16	67.12	65.32	66.76
2/8/05	dry	nm	57.12	67.11	65.2	66.82
2/21/05	dry	nm	57.12	67.11	65.41	66.89
2/23/05	dry	nm	57.13	67.11	66.12	67.15
3/7/05	dry	nm	57.08	67.11	65.51	66.96

TABLE 1
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2007)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

	Depth to Water (ft bgs)					
Date	**MW-2**	**MW-19**	**MW-23**	**MW-24**	**MW-26**	**MW-27**
3/23/05	dry	nm	57.64	67.12	67.68	67.1
4/6/05	dry	nm	57.37	67.11	67.30	67.20
5/23/05	dry	nm	57.22	nm	66.25	67.41
5/30/05	dry	nm	57.22	67.13	67.16	67.58
8/30/05	dry	nm	57.22	67.11	66.08	67.80
11/17/05	dry	nm	57.29	67.12	66.14	67.68
1/31/06	dry	nm	57.13	67.12	65.14	67.64
2/15/06	dry	63.85	57.08	67.11	64.96	67.79
3/1/06	dry	nm	57.30	67.11	65.54	67.77
4/3/06	dry	nm	57.40	67.11	64.67	67.85
4/18/06	dry	nm	57.39	67.10	64.80	67.89
4/28/06	dry	nm	57.24	67.11	64.92	64.90
6/15/06	dry	nm	57.27	67.11	65.59	68.07
7/17/06	dry	nm	57.53	67.11	64.92	67.72
7/31/06	dry	nm	57.29	67.13	65.36	68.20
8/15/06	dry	nm	57.42	67.10	65.39	68.25
9/18/06	dry	nm	57.46	67.13	65.43	68.27
10/10/06	dry	nm	57.40	67.12	64.97	66.23
10/25/06	dry	nm	57.31	67.13	65.20	68.19
11/10/06	dry	nm	57.49	67.13	66.60	68.42
11/30/06	dry	nm	57.59	67.14	65.61	68.43
12/22/06	dry	nm	57.43	68.14	65.29	68.42
1/9/07	dry	nm	57.49	68.14	65.31	68.45
1/26/07	dry	nm	57.46	68.13	65.35	68.47
2/13/07	dry	nm	57.36	68.14	65.10	68.46
2/28/07	dry	nm	57.32	68.14	67.00	68.81
3/16/07	dry	nm	57.58	68.14	65.79	68.53
3/30/07	dry	nm	57.52	68.13	65.20	68.56
4/18/07	dry	nm	57.42	68.12	65.41	68.59
4/27/07	dry	nm	57.53	67.13	65.58	68.68
5/16/07	dry	nm	57.56	67.13	65.42	68.68
5/31/07	dry	nm	57.58	67.13	67.06	68.92
6/15/07	dry	nm	57.50	67.13	65.57	68.71
6/29/07	dry	nm	57.53	67.13	66.39	68.79
7/18/07	dry	nm	57.52	67.12	66.32	68.91
7/30/07	dry	nm	57.52	67.12	66.49	68.94
8/17/07	dry	nm	57.54	67.12	66.40	69.02
8/31/07	dry	nm	57.61	67.12	66.93	69.08
9/14/07	dry	nm	57.55	67.14	66.90	68.71

TABLE 2
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2007)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Date	Dissolved Oxygen (mg/L)					
	MW-2	MW-19	MW-23	MW-24	MW-26	MW-27
2/3/03	dry	nm	nm	nm	nm	nm
6/2/03	dry	nm	nm	nm	pump in well	nm
6/5/03	dry	nm	nm	nm	pump in well	nm
6/6/03	dry	nm	nm	nm	pump in well	nm
6/9/03	dry	1.60	1.85	1.51	pump in well	0.88
6/16/03	dry	1.54	1.89	1.34	pump in well	0.80
6/23/03	dry	2.72	0.94	1.54	pump in well	1.44
7/2/03	dry	nm	nm	nm	pump in well	nm
7/10/03	dry	2.98	0.94	1.50	4.44	1.17
7/15/03	dry	1.29	0.75	2.09	6.89	0.96
7/29/03	dry	1.41	0.64	1.55	6.16	0.94
8/7/03	dry	0.60	1.42	nm	0.49	1.00
8/21/03	dry	0.91	1.11	nm	2.23	0.59
9/10/03	dry	1.10	0.64	nm	2.02	0.86
9/25/03	dry	1.10	1.12	1.71	0.50	1.01
10/6/03	nm	1.12	1.75	1.02	1.69	0.79
10/22/03	nm	1.07	1.83	nm	1.40	1.57
11/3/03	nm	1.15	1.76	nm	1.32	1.20
11/17/03	nm	1.16	0.91	nm	1.07	1.07
12/1/03	nm	0.88	1.27	nm	1.08	1.19
1/2/04	nm	1.12	1.14	nm	1.65	1.07
1/15/04	nm	1.04	1.26	nm	0.44	1.16
1/30/04	nm	1.10	1.07	nm	0.98	1.23
2/13/04	nm	1.31	1.57	nm	2.50	0.93
2/27/04	nm	1.11	0.98	nm	2.98	0.79
3/12/04	nm	1.10	1.07	nm	0.62	0.98
3/26/04	nm	1.39	0.90	nm	2.17	0.84
4/13/04	nm	1.20	1.08	nm	0.43	1.07
4/26/04	nm	1.03	1.15	nm	0.36	0.86
5/10/04	nm	0.68	0.92	nm	0.80	1.18
6/1/04	nm	1.05	0.81	nm	2.22	0.90
6/15/04	nm	1.02	0.80	nm	0.65	1.06
7/14/04	nm	0.91	0.66	nm	0.88	0.89
7/28/04	nm	nm	0.80	nm	3.38	0.56
8/17/04	nm	nm	0.85	nm	1.77	0.78
9/8/04	nm	1.53	0.87	nm	0.71	1.23
9/23/04	nm	1.86	0.98	nm	3.35	1.22
10/11/04	nm	1.07	0.88	nm	0.81	0.98
10/26/04	nm	0.95	0.68	nm	0.50	0.61
11/17/04	nm	1.65	0.91	nm	1.78	0.89
12/7/04	nm	1.98	0.92	nm	2.75	0.98
12/22/04	nm	1.67	1.41	nm	1.34	1.16
1/10/05	nm	1.79	1.08	nm	1.86	0.73
1/23/05	nm	2.02	1.00	nm	3.49	0.88
2/8/05	nm	1.93	0.82	nm	1.98	0.94
2/21/05	nm	1.53	0.86	nm	3.43	0.89
3/7/05	nm	2.02	0.53	nm	3.29	0.56
3/23/05	nm	nm	0.51	nm	3.55	0.78

TABLE 2
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2007)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Date	Dissolved Oxygen (mg/L)					
	MW-2	MW-19	MW-23	MW-24	MW-26	MW-27
4/6/05	nm	nm	0.77	nm	0.41	0.84
5/23/05	nm	0.96	1.32	nm	0.84	1.60
5/30/05	nm	nm	nm	nm	nm	nm
8/30/05	nm	nm	nm	nm	nm	nm
1/31/06	nm	2.47	0.98	nm	3.72	1.02
2/15/06	nm	1.85	0.72	nm	4.18	0.75
3/1/06	nm	2.80	0.88	nm	5.41	1.17
4/3/06	nm	2.04	1.03	nm	4.76	0.89
4/18/06	nm	2.70	0.75	nm	5.66	0.79
4/28/06	nm	2.99	0.92	nm	5.20	0.83
6/15/06	nm	2.10	1.02	nm	4.25	1.07
7/17/06	nm	nm	0.79	nm	5.42	0.68
7/31/06	nm	2.59	0.59	nm	5.33	1.40
8/15/06	nm	2.88	0.67	nm	4.92	1.19
9/18/06	nm	3.90	0.49	nm	5.02	1.80
10/10/06	nm	3.20	0.54	nm	4.00	0.98
10/25/06	nm	nm	nm	nm	nm	nm
11/10/06	nm	nm	0.78	nm	3.23	0.13
11/30/06	nm	nm	0.71	nm	4.54	3.41
12/22/06	nm	nm	0.69	nm	4.48	0.96
1/9/07	nm	nm	0.43	nm	3.82	3.51
1/26/07	nm	nm	0.58	nm	3.61	0.92
2/13/07	nm	nm	0.82	nm	3.94	2.00
2/28/07	nm	nm	1.07	nm	2.35	3.11
3/16/07	nm	nm	1.07	nm	2.35	3.11
3/30/07	nm	nm	0.84	nm	4.25	2.08
4/18/07	nm	nm	0.64	nm	4.23	1.70
4/27/07	nm	nm	0.49	nm	4.55	1.76
5/16/07	nm	nm	0.75	nm	4.33	2.18
5/31/07	nm	nm	0.85	nm	2.88	3.84
6/15/07	nm	nm	0.70	nm	1.53	2.32
6/29/07	nm	nm	0.71	nm	1.85	2.68
7/18/07	nm	nm	0.82	nm	2.11	2.52
7/30/07	nm	nm	0.78	nm	1.59	2.68
8/17/07	nm	nm	0.40	nm	1.32	2.93
8/31/07	nm	nm	0.22	nm	2.52	3.87
9/14/07	nm	nm	0.78	nm	2.40	3.63

dry - well was dry
nm - not measured
bgs - below ground surface

TABLE 3
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2006)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Date	Induced Air Pressure at Well (inches H2O)					
	MW-2	MW-19	MW-23	MW-24	MW-26	MW-27
2/3/03	dry	3.80	nm	nm	5.50	0.02
6/2/03	dry	NA	nm	nm	pump in well	nm
6/5/03	dry	4.50	0.00	0.00	pump in well	0.00
6/6/03	dry	5.80	0.00	0.00	pump in well	0.00
6/9/03	dry	6.10	0.00	0.09	pump in well	0.07
6/16/03	dry	6.00	0.00	0.10	pump in well	0.07
6/23/03	dry	6.15	0.00	0.09	pump in well	0.05
7/2/03	dry	7.40	0.00	0.10	pump in well	0.10
7/10/03	dry	5.20	0.00	0.02	>10	0.04
7/15/03	dry	6.10	0.00	0.04	>10	0.07
7/29/03	dry	6.60	0.00	0.09	>10	0.05
8/7/03	dry	0.00	0.00	0.00	0.00	0.00
8/21/03	dry	3.60	0.00	0.07	6.80	0.06
9/10/03	dry	6.40	0.00	0.03	<10	0.90
9/25/03	dry	3.10	0.00	0.06	3.90	0.04
10/6/03	nm	0.11	0.00	0.10	0.09	0.02
10/22/03	nm	2.60	0.00	0.00	3.25	0.25
11/3/03	nm	0.03	0.00	0.03	0.07	0.00
11/17/03	nm	3.00	0.00	0.06	3.60	0.11
12/1/03	nm	2.10	0.00	0.10	2.10	0.08
1/2/04	nm	3.00	0.00	0.06	2.10	0.12
1/15/04	nm	2.10	0.00	0.04	3.20	0.06
1/30/04	nm	2.00	0.00	0.07	3.10	0.03
2/13/04	nm	3.10	0.00	0.09	3.50	0.16
2/27/04	nm	3.00	0.00	0.13	3.20	0.24
3/12/04	nm	0.17	0.00	0.12	0.09	0.08
3/26/04	nm	3.00	0.00	0.14	3.20	0.18
4/13/04	nm	2.20	0.00	-0.02	4.10	0.13
4/26/04	nm	2.20	0.00	-0.03	1.90	0.08
5/10/04	nm	2.40	0.00	0.11	2.00	0.18
6/1/04	nm	5.60	0.00	0.06	8.30	0.11
6/15/04	nm	4.20	0.00	-0.04	6.60	0.00
7/14/04	nm	4.70	0.00	0.01	7.00	0.12
7/28/04	nm	4.80	0.00	-0.01	6.00	0.15
8/17/04	nm	3.20	0.00	0.02	6.00	0.07
9/8/04	nm	4.20	0.00	-0.01	5.30	0.03
9/23/04	nm	2.20	0.00	0.02	4.70	0.00
10/11/04	nm	0.01	0.00	0.02	0.02	0.01
10/26/04	nm	nm	nm	nm	nm	nm
11/17/04	nm	nm	nm	nm	nm	nm
12/7/04	nm	nm	nm	nm	nm	nm
12/22/04	nm	2.50	0.00	-0.03	7.30	0.05
1/10/05	nm	3.60	0.00	0.03	7.70	0.06
1/23/05	nm	5.40	0.00	0.03	8.80	0.03
2/8/05	nm	4.00	0.00	-0.02	>10	0.08
2/21/05	nm	5.30	0.00	0.00	9.40	0.02
3/7/05	nm	5.00	0.00	0.02	9.40	0.32
3/23/05	nm	0.00	0.00	-0.03	0.00	-0.01

TABLE 3
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2006)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Date	Induced Air Pressure at Well (inches H2O)					
	MW-2	MW-19	MW-23	MW-24	MW-26	MW-27
4/6/05	nm	nm	nm	nm	nm	nm
5/23/05	nm	nm	nm	nm	nm	nm
5/30/05	nm	nm	nm	nm	nm	nm
8/30/05	nm	nm	nm	nm	nm	nm
1/31/06	nm	5.60	0.00	0.06	<10	0.16
2/15/06	nm	5.50	0.00	0.15	<10	0.40
3/1/06	nm	7.00	0.00	0.10	<10	0.21
4/3/06	nm	4.00	0.00	0.05	<10	0.73
4/18/06	nm	1.00	0.00	0.08	0.40	0.04
4/28/06	nm	6.00	0.00	0.55	9.50	0.04
6/15/06	nm	2.90	0.00	0.05	9.90	0.15
7/17/06	nm	0.15	0.00	0.10	>10	0.23
7/31/06	nm	5.30	0.00	0.05	>10	0.40
8/15/06	nm	4.40	0.00	0.05	6.50	0.06
9/18/06	nm	4.80	0.00	0.03	8.80	0.06
10/10/06	nm	0.02	0.00	0.01	0.04	0.01
10/25/06	nm	0.10	0.00	0.05	0.05	0.05
11/10/06	nm	4.10	0.00	0.00	3.23	0.13
11/30/06	nm	0.05	0.00	0.05	0.05	0.06
12/22/06	nm	3.60	0.00	0.01	9.00	0.03
1/9/07	nm	0.15	0.00	0.13	0.11	0.15
1/26/07	nm	4.60	0.00	0.03	8.20	0.06
2/13/07	nm	5.00	0.00	0.03	8.60	0.40
2/28/07	nm	0.35	0.00	0.00	7.20	0.14
3/16/07	nm	0.45	0.00	0.06	4.60	0.65
3/30/07	nm	0.39	0.00	0.09	4.70	0.34
4/18/07	nm	0.38	0.00	0.03	4.50	0.40
4/27/07	nm	0.31	0.00	0.03	4.90	0.25
5/16/07	nm	0.40	0.00	0.06	6.00	0.12
5/31/07	nm	0.34	0.00	0.04	8.00	0.30
6/15/07	nm	0.38	0.00	0.03	8.11	0.35
6/29/07	nm	0.37	0.00	0.00	8.00	0.24
7/18/07	nm	0.38	0.00	0.20	3.80	1.80
7/30/07	nm	0.33	0.00	0.02	8.30	0.32
8/17/07	nm	0.40	0.00	0.02	6.80	0.05
8/31/07	nm	0.31	0.00	0.02	6.50	0.38
9/14/07	nm	0.08	0.00	0.02	0.17	0.08

dry - well was dry
nm - not measured
bgs - below ground surface

TABLE 4
GROUNDWATER MONITORING ANALYTICAL DATA (JUNE 1991 - AUGUST 2007)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

			Analytical Parameters			
Monitoring Well	Sample Date	Static Water Level (ft BTOC)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
		NMWQCC Standard:	10	750	750	620
MW-2	6/18/91		<0.5	<0.5	**0.7**	**0.9**
	2/23/93		<0.5	<0.5	<0.5	<0.5
	6/8/93		<2.0	<2.0	<2.0	<2.0
	9/29/93		**6.2**	<2.0	<2.0	<2.0
	2/10/94		<2.0	<2.0	<2.0	<2.0
	5/13/94		<2.0	<2.0	<2.0	<2.0
	8/22/94		<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			
	5/29/06	dry	Well Dry - No Sample Collected			
	8/22/06	dry	Well Dry - No Sample Collected			
MW-19	6/19/91		**8,600**	**210**	<25.0	**4,200**
	9/26/92	nm	<1.0	<1.0	<1.0	<1.0
	2/25/93		**14,000**	**450.00**	**3,900**	**5100.00**
	6/10/93		**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
	12/18/03	65.02	**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	<1.0	<1.0	<2.0
	2/26/07	nm	<1.0	<1.0	<1.0	<2.0
	5/29/07	nm	Well Damaged - No Sample Collected.			
	8/22/07	nm	Well Damaged - No Sample Collected.			
MW-20	2/24/93		<0.5	<0.5	<0.5	<0.5
	6/10/93		<2.0	<2.0	<2.0	<2.0
	9/29/93		<2.0	<2.0	<2.0	<2.0
	1/27/94		<2.0	<2.0	<2.0	<2.0
	5/13/94		<2.0	<2.0	<2.0	<2.0
	8/22/94		<2.0	<2.0	<2.0	<2.0
	11/13/00	41.00	Well Damaged - No Sample Collected.			
	6/2/03	NA	Well Damaged and abandoned in 2002.			

TABLE 4
GROUNDWATER MONITORING ANALYTICAL DATA (JUNE 1991 - AUGUST 2007)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

			Analytical Parameters			
Monitoring Well	Sample Date	Static Water Level (ft BTOC)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
		NMWQCC Standard:	10	750	750	620
MW-23	9/26/92		2,770	221	7,690	6,090
	2/1/93		2,900	3,500	190	4,100
	2/25/93		2,900	190	3,500	4,100
	6/8/93		1,680	30	1,850	2,906
	9/29/93		2,133	216	1,807	3,823
	2/10/94		2,090	151	1,150	2,660
	5/13/94		3,530	255	852	2,150
	8/22/94		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
	12/18/03	65.14	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	53.17	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
MW-24	9/26/92		2,650	95	<50	1,340
	2/23/93		1,300	71	<12.5	600
	6/10/93		59	15	7	95
	9/29/93		1,040	63	8	918
	2/10/94		490	44	<2.0	395
	5/13/94		1,390	69	<2.0	898
	8/22/94		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	57.31	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	nm	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	Well Bailed Dry - No Sample Collected			
	2/26/07	67.16	Well Bailed Dry - No Sample Collected			
	5/29/07	67.13	Well Bailed Dry - No Sample Collected			
	8/22/07	67.14	Well Bailed Dry - No Sample Collected			

TABLE 4
GROUNDWATER MONITORING ANALYTICAL DATA (JUNE 1991 - AUGUST 2007)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

			Analytical Parameters			
Monitoring Well	Sample Date	Static Water Level (ft BTOC)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
		NMWQCC Standard:	10	750	750	620
MW-26	2/25/93		**11,000**	**860**	**9,900**	**10,000**
	6/10/93		**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	Free-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**
	12/18/03	65.16	**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
MW-27	2/26/93		**9,100**	**470**	**5,700**	**4,900**
	6/10/93		**8,970**	**376**	**137**	**5,406**
	9/30/93		**13,200**	**402**	**420**	**3,100**
	2/2/94		**9,740**	**212**	**209**	**1,750**
	5/14/94		**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**
	12/18/03	61.17	**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
MW-31	5/29/07	72.85	**4.6**	<1.0	<1.0	<2.0
	8/22/07	72.97	**4.8**	<1.0	<1.0	<2.0
MW-33	6/8/06		**1.1**	**4.2**	<1	**4.5**
	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

Notes:

BTOC = Below Top of Casing
NA = Not Applicable
"<" = Analyte not detected at or above the reporting limit (RL). Value shown is the RL.
1. Shaded data indicate exceedance of New Mexico Water Quality Control Commission's (NMWQCC) standards.
2. All detected concentrations are shown in bold type.

TABLE 5
GROUNDWATER MONITORING SCHEDULE
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Monitoring Schedule	Analyses
North Flare Pit Area		
MW-2	Semiannually	Field Parameters, BTEX
MW-23	Semiannually	Field Parameters, BTEX
MW-24	Semiannually	Field Parameters, BTEX
MW-26	Semiannually	Field Parameters, BTEX
MW-27	Semiannually	Field Parameters, BTEX
MW-31	Semiannually	Field Parameters, BTEX
MW-32	Semiannually	Field Parameters, BTEX
MW-33	Semiannually	Field Parameters, BTEX

Notes:
1. Field Parameters include temperature, pH, dissolved oxygen and specific conductance.

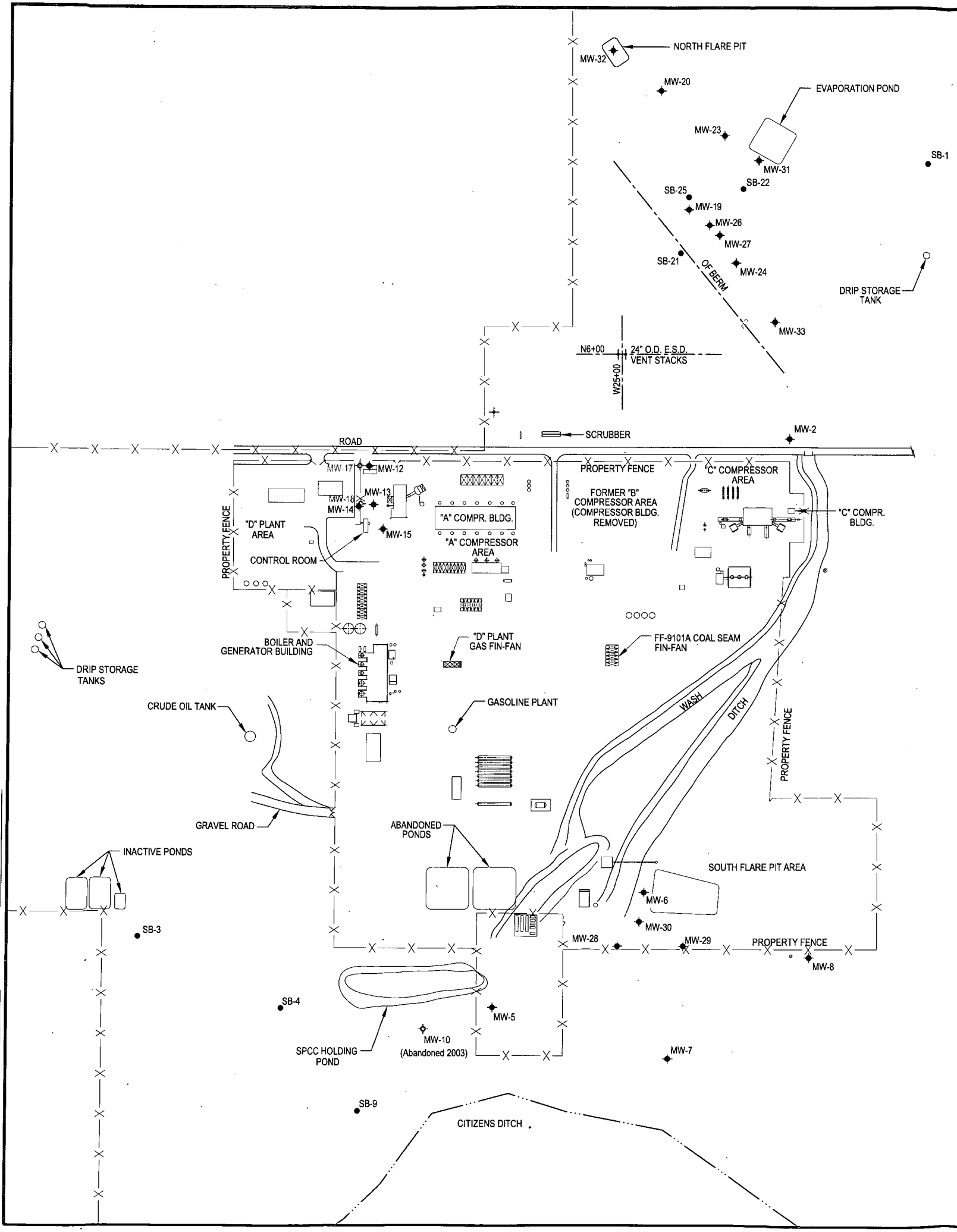
2. The next sampling event is tenatively scheduled for November 2007.

3. Monitoring well MW-24 typically only has a small quantity of water in the cap below the well screen. This well will only be sampled if the static water level is within the screened interval.

4. Monitoring well MW-32 will be sampled semiannually once LNAPL recovery in this well is completed, as indicated by a repeatedly observed lack of LNAPL accumulation.

BTEX: Benzene, Toluene, Ethylbenzene and Total Xylenes.

FIGURES



LEGEND

- MW-2 ✦ MONITORING WELL
- SB-3 ● SOIL BOREHOLE
- —·····— CANAL
- —X— PROPERTY FENCE

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued for October, 2007 Report	10/07	D. Wade	N. Day	J. Smith

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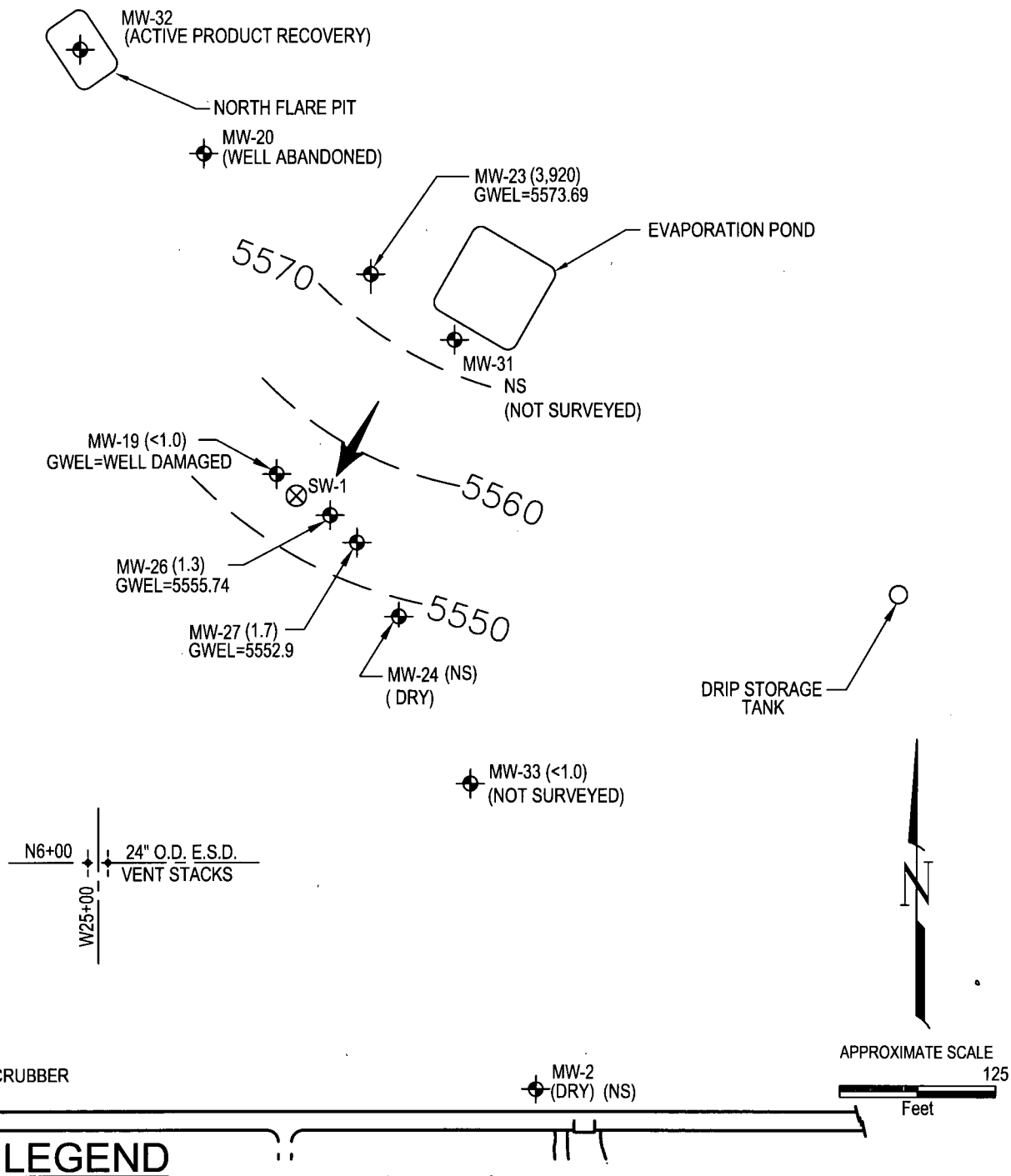
PROJECT: EL PASO NATURAL GAS
2007 NORTH FLARE PIT REPORT

BLANCO PLANT SITE LAYOUT

MWH

Sheet 1 Of 1 Sheets
SCALE: As shown
FIGURE No. 1

AutoCAD FILE: Blanco GW-Location Map_7-07 PROJECT NUMBER: 1004416.0602



LEGEND

MW-23 (4,480)	GROUNDWATER MONITORING WELL (BENZENE CONCENTRATION IN ug/L)	<	NOT DETECTED VALUE SHOWN IS REPORTING LIMIT
	APPROXIMATE GROUNDWATER FLOW DIRECTION	GWEL	GROUNDWATER ELEVATION, (FT ABOVE MEAN SEA LEVEL)
PRODUCT	FREE PRODUCT PRESENT IN WELL	SW-1	AIR SPARGING WELL LOCATION
		5555	APPROXIMATE GROUNDWATER CONTOURS (FT. AMSL) - DASHED WHERE INFERRED
		(NS)	NOT SAMPLED

REV. No.	REVISIONS	REV. DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued For October, 2007 Report	10/07	D. Wade	N. Day	J.Smith

MWH

PROJECT No.: 1004918.CC06
AutoCAD FILE: BenzConcGWFeb-07.dwg
SCALE: As Shown
FIGURE No: 2

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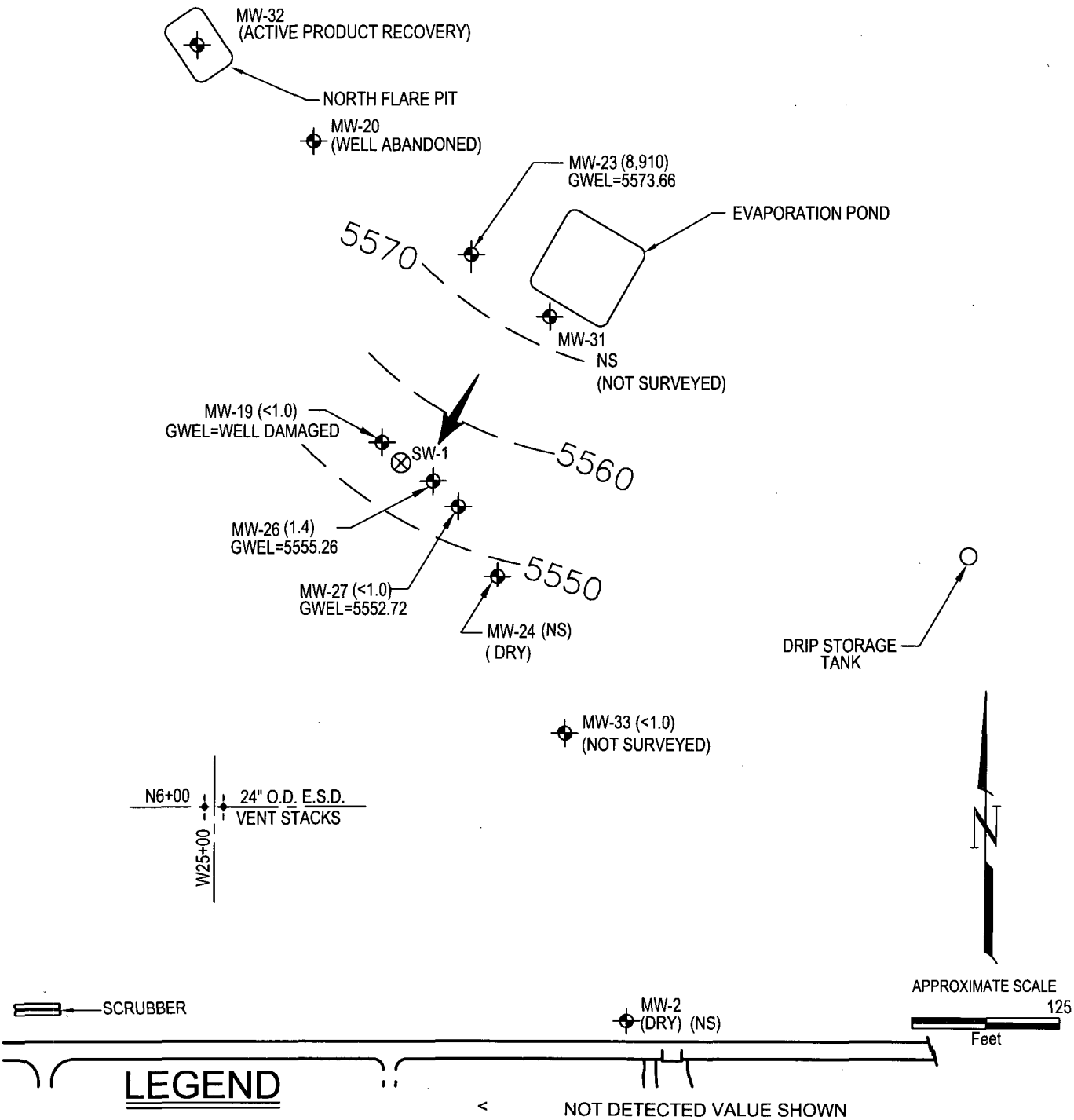
EL PASO NATURAL GAS
2007 NORTH FLARE PIT REPORT

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS AND BTEX CONCENTRATIONS – NOVEMBER 2006



LEGEND

MW-23 (4,480)	GROUNDWATER MONITORING WELL (BENZENE CONCENTRATION IN ug/L)
→	APPROXIMATE GROUNDWATER FLOW DIRECTION
PRODUCT	FREE PRODUCT PRESENT IN WELL
<	NOT DETECTED VALUE SHOWN IS REPORTING LIMIT
GWEL	GROUNDWATER ELEVATION (FT ABOVE MEAN SEA LEVEL)
⊗ SW-1	AIR SPARGING WELL LOCATION
5555 ——	APPROXIMATE GROUNDWATER CONTOURS (FT. AMSL) - DASHED WHERE INFERRED
(NS)	NOT SAMPLED

REV. No.	REVISIONS	REV. DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued For October, 2007 Report	10/07	D. Wade	N. Day	J.Smith

MWH

PROJECT No.: 1004918.CC06
AutoCAD FILE: BenzConcGWFeb-07.dwg
SCALE: As Shown
FIGURE No: 3

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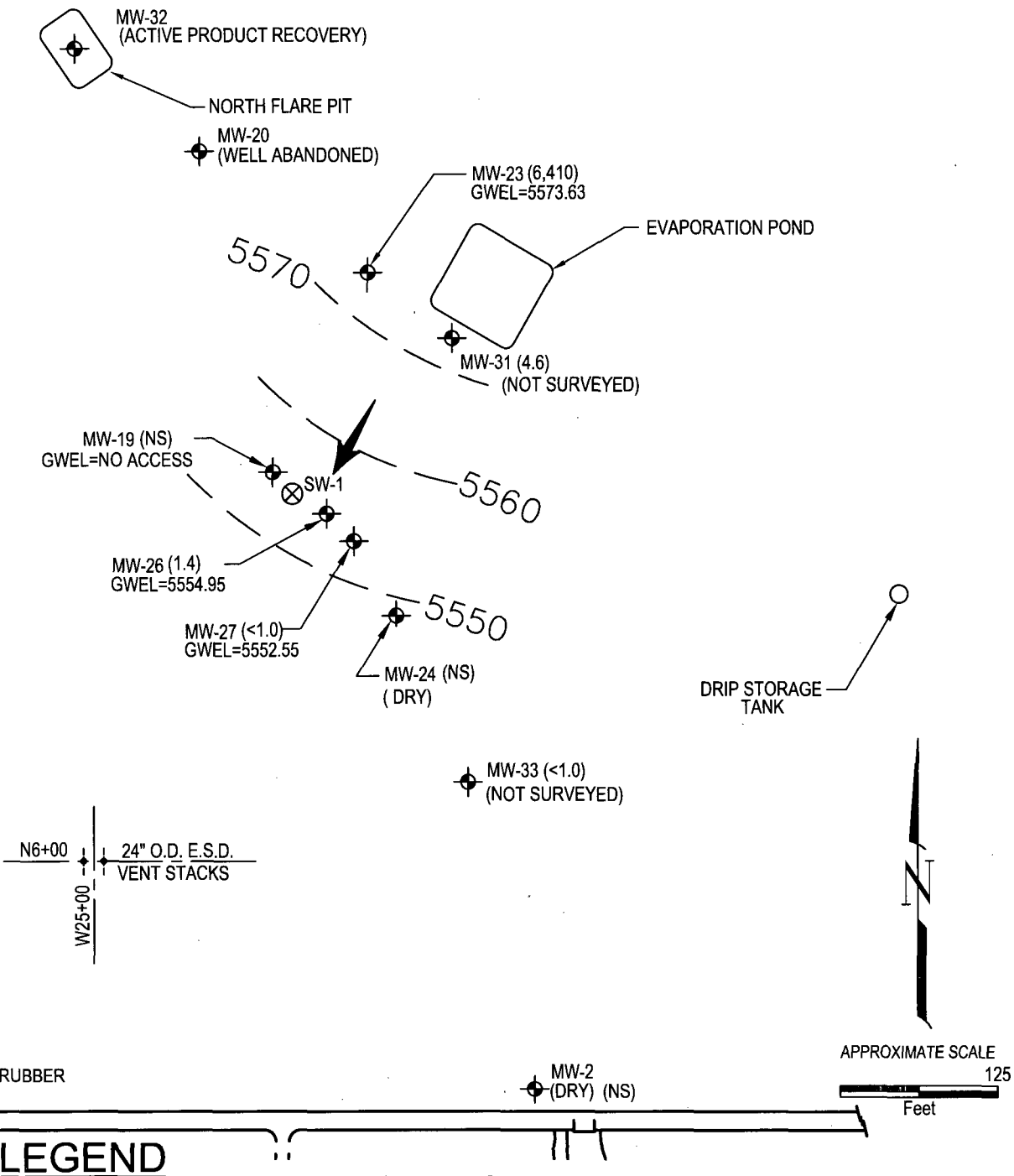
EL PASO NATURAL GAS
2007 NORTH FLARE PIT REPORT

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS AND BTEX CONCENTRATIONS – FEBRUARY 2007



LEGEND

MW-23 (4,480)	GROUNDWATER MONITORING WELL (BENZENE CONCENTRATION IN ug/L)	<	NOT DETECTED VALUE SHOWN IS REPORTING LIMIT
	APPROXIMATE GROUNDWATER FLOW DIRECTION	GWEL	GROUNDWATER ELEVATION, (FT ABOVE MEAN SEA LEVEL)
PRODUCT	FREE PRODUCT PRESENT IN WELL	SW-1	AIR SPARGING WELL LOCATION
		5555	APPROXIMATE GROUNDWATER CONTOURS (FT. AMSL) - DASHED WHERE INFERRED
		(NS)	NOT SAMPLED

REV. No.	REVISIONS	REV. DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued For October, 2007 Report	10/07	D. Wade	N. Day	J.Smith

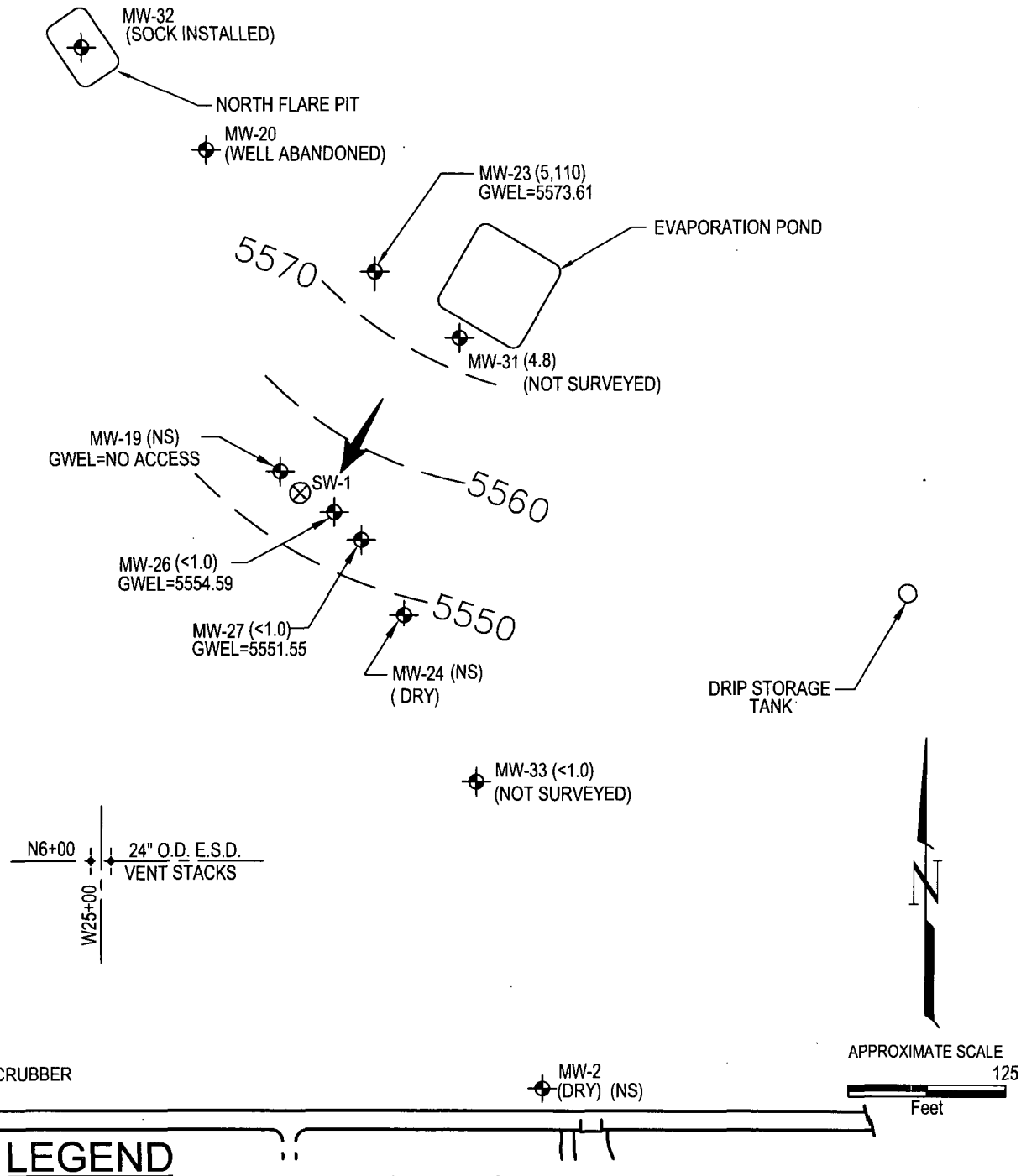
MWH

PROJECT No.: 1004918.CC06
AutoCAD FILE: BenzConcGWFeb-07.dwg
SCALE: As Shown
FIGURE No: 4

elpaso

EL PASO NATURAL GAS
2007 NORTH FLARE PIT REPORT

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS AND BTEX CONCENTRATIONS – MAY 2007



LEGEND

MW-23 (4,480)	GROUNDWATER MONITORING WELL (BENZENE CONCENTRATION IN ug/L)	<	NOT DETECTED VALUE SHOWN IS REPORTING LIMIT
	APPROXIMATE GROUNDWATER FLOW DIRECTION	GWEL	GROUNDWATER ELEVATION, (FT ABOVE MEAN SEA LEVEL)
PRODUCT	FREE PRODUCT PRESENT IN WELL	SW-1	AIR SPARGING WELL LOCATION
		5555	APPROXIMATE GROUNDWATER CONTOURS (FT. AMSL) - DASHED WHERE INFERRED
		(NS)	NOT SAMPLED

REV. No.	REVISIONS	REV. DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued For October, 2007 Report	10/07	D. Wade	N. Day	J.Smith

MWH

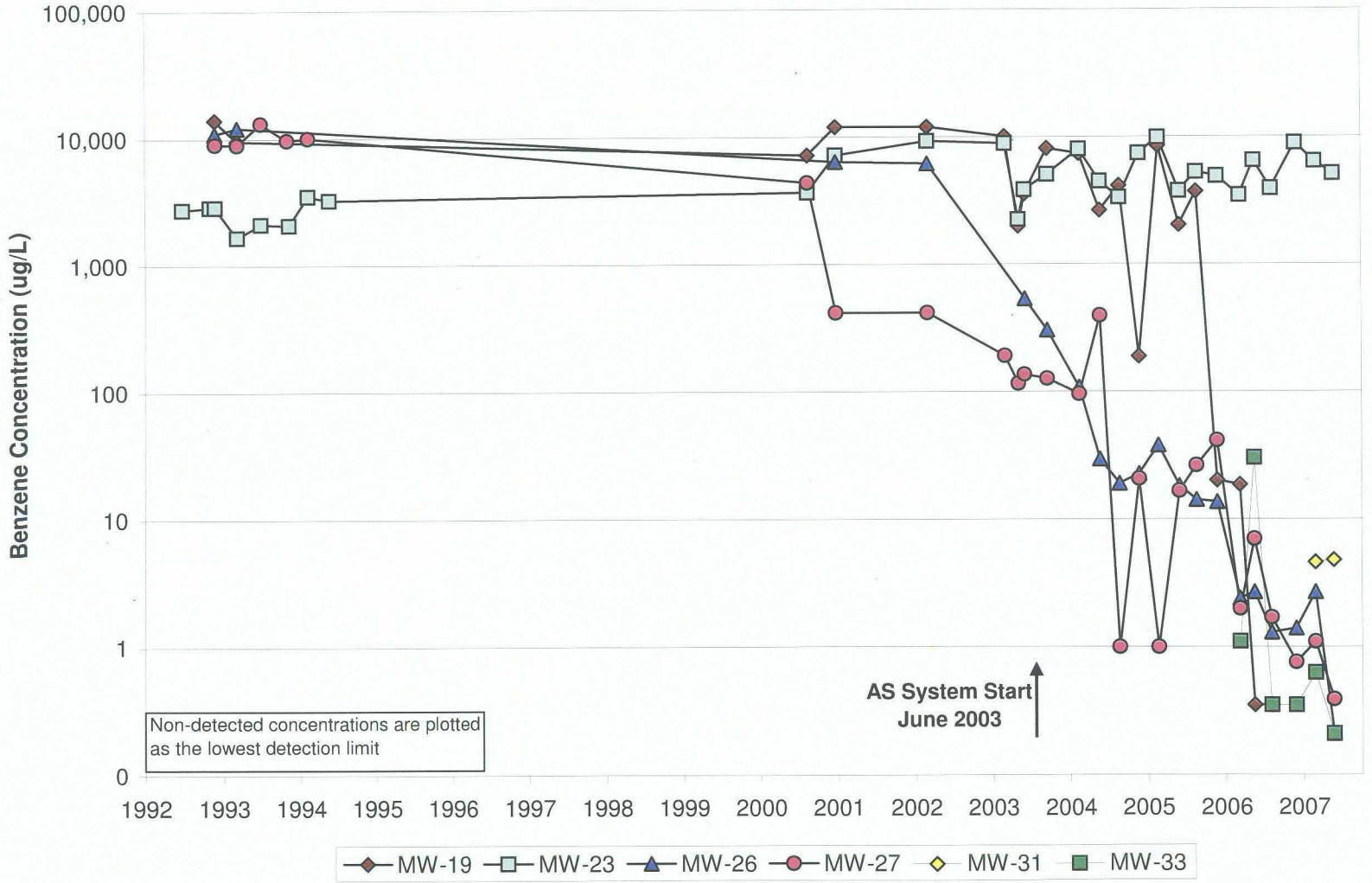
PROJECT No.: 1004918.CC06
AutoCAD FILE: BenzConcGWFeb-07.dwg
SCALE: As Shown
FIGURE No: 5

elpaso

EL PASO NATURAL GAS
2007 NORTH FLARE PIT REPORT

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS AND BTEX CONCENTRATIONS – AUGUST 2007

FIGURE 6
Historic Benzene Concentrations in Groundwater, 1991 - 2007
2007 Blanco North Flare Pit Annual Report



APPENDIX A
AS System Operation and Monitoring Reports

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: October 10, 2006

Re: Blanco North

10/10/06 1157 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.40	6.25	17.4	>20000	0.54	0
MW-19	NA	6.55	17.8	17420	3.2	.02
MW-26	64.97	6.67	17.5	5570	4.0	.04
MW-27	66.23	6.41	17.6	10740	0.98	0.01
MW-24	67.12	NA	NA	NA	na	0.01

System was off.

The system operated 198 hrs since 9/18/06, approximately 8.65 hrs per day. The electricity must have been off for about one week.

MW-32: depth to product 53.28 feet BTOC, depth to water 64.44 feet BTOC. Recovered approximately 0.2 feet of product in drum, approximately 3.93 gallons. Tank pressure 1500 psi., pump pressure 60 phi. Accumulated pump time is 8 hrs 56 minutes, 4 hrs 19 minutes since 9/18/06.

The site had flooded during recent rains and there was approximately 1 foot of standing water around MW-26, 27, and 24. Water got into the compressor building but was not high enough to damage the compressor.

There was 0.08 feet of water in MW-24. No physical characteristics were measured.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: October 25, 2006

Re: Blanco North

10/25/06 1358 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.31	6.51	17.1	>20000	na	0
MW-19	na	na	na	na	na	.1
MW-26	65.20	7.56	18.5	8040	na	.05
MW-27	68.19	6.6	20.2	6640	na	0.05
MW-24	67.13	NA	NA	NA	na	0.05

System was off.

The system operated 176 hrs since 10/10/06, approximately 11.74 hrs per day.

Recovered approximately 0.01 feet of product in drum, approximately 1.77 gallons since last visit. Tank pressure 1100 psi. pump pressure 60 psi. Accumulated pump time is 8 hrs 56 minutes, 2 hrs 43 minutes since 10/10/06.

The site had flooded during recent rains and is drying out. Could not drive to lower wells.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: November 10, 2006

Re: Blanco North

11/10/06 0829 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.49	6.76	14.0	>20000	0.78	0
MW-19	na	na	na	na	na	4.1
MW-26	66.6	6.75	14.6	10800	3.23	3.23
MW-27	68.42	6.42	16.1	8620	0.13	0.13
MW-24	67.13	na	na	na	na	0.0

Sparge system is on. Water levels may not have fully recovered after last weeks sampling.

The system operated 182 hrs since 10/25/06, approximately 11.42 hrs per day.

Recovered approximately 0.07 feet of product in drum, approximately 1.37 gallons since last visit. Tank pressure 800 psi. pump pressure 60 psi. Accumulated pump time is 14 hrs 13 minutes, 2 hrs 34 minutes since 10/25/06.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: November 30, 2006

Re: Blanco North

11/30/06 1443 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.59	6.34	16.2	>20000	0.71	0
MW-19	na	na	na	na	na	0.05
MW-26	65.61	6.67	15.1	6520	4.54	0.05
MW-27	68.43	6.39	14.9	7530	3.41	0.06
MW-24	67.14	na	na	na	na	0.05

Sparge system is off. DO reading at MW-27 looks suspiciously high

The system operated 238.6 hrs since 11/10/06, approximately 11.93 hrs per day.

Recovered approximately 0.09 feet of product in drum, approximately 1.77 gallons since last visit. Tank pressure 400 psi. pump pressure 60 psi. Accumulated pump time is 17 hrs 48 minutes, 3 hrs 35 minutes since 11/10/06.

There was 0.05 feet of water in MW-24. No physical characteristics were measured.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: December 22, 2006

Re: Blanco North

12/22/06 0910 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.43	6.62	15.2	>20000	0.69	0
MW-19	na	na	na	na	na	3.6
MW-26	65.29	6.65	14.6	7380	4.48	9.0
MW-27	68.42	6.39	14.2	7590	0.96	0.025
MW-24	68.14	na	na	na	na	0.01

The system operated 255 hrs since 11/30/06, approximately 11.59 hrs per day.

Recovered approximately 0.05feet of product in drum, approximately 0.98 gallons since last visit. Tank pressure 0 psi. pump pressure 0 psi. Accumulated pump time is 20 hrs 15 minutes, 2 hrs 27 minutes since 11/30/06.

There was 0.05 feet of water in MW-24. No physical characteristics were measured..

The nitrogen bottle is empty and will be changed on 12/26.

MW-32 DTP 58.14, DTW 61.49, PT is 3.35

The pump was left out of the well for static product level on 12/26

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: January 9, 2007

Re: Blanco North

010907 1245 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.49	6.68	21.4	>20000	0.43	0
MW-19	na	na	na	na	na	0.15
MW-26	65.31	6.48	16.3	5830	3.82	0.11
MW-27	68.45	6.49	14.3	8190	3.51	0.15
MW-24	68.14	na	na	na	na	0.13

The system operated 164 hrs since 12/22/06, approximately 11.89 hrs per day.

No product was recovered because the system off until the nitrogen bottle was replaced today. The over-pac drum was open and there was a poly line left hanging out of the bung on the drum. Apparently, someone was interested in what was in the drum and siphoned 0.33 gallons. Installed the new nitrogen bottle, Tank pressure 2400 psi. pump pressure 60 psi. Accumulated pump time is 20 hrs 15 minutes, no pumping time since last visit on 12/22/06.

There was 0.05 feet of water in MW-24. No physical characteristics were measured..

2.5 hrs tech time to change out nitrogen bottle

MW-32; DTP 57.83, DTW 61.39, PT is 3.54 Pump has been out since 12/22/06

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: January 26, 2007

Re: Blanco North

012607 1030 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.46	6.65	19.3	>20000	0.58	0
MW-19	na	na	na	na	na	4.6
MW-26	65.35	6.62	15.8	5920	3.61	8.2
MW-27	68.47	6.71	14.7	7670	0.92	.06
MW-24	68.13	na	na	na	na	.03

The sparge system operated 198 hrs since 1/9/07, approximately 11.66 hrs per day.

Depth to product in drum was 1.46 ft., recovered approximately .2 gallons

Tank pressure at MW-32 was 1800 psi.; pump pressure 60 psi. Accumulated pump time is 23 hrs 12 minutes.

There was 0.05 feet of water in MW-24. No physical characteristics were measured..

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: February 13, 2007

Re: Blanco North

021307 0909 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.36	6.84	15	>20000	0.82	0
MW-19	na	na	na	na	na	5.0
MW-26	65.10	7.30	15.5	6250	3.94	8.6
MW-27	68.46	7.35	14.5	11690	2.00	0.4
MW-24	68.14	na	na	na	na	0.03

The system operated 210 hrs since 01/26/07, approximately 11.68 hrs per day.

No additional product accumulated in drum. Tank pressure 1150 psi. pump pressure 60 psi. Accumulated pump time is 26 hrs 24 minutes, pump ran 3 hrs 12 minutes since 1/26/07, approximately 10.66 min/day.

There was 0.05 feet of water in MW-24. No physical characteristics were measured..

MW-32; DTP 57.86, DTW 61.46, PT is 3.6. There may be a problem with the pump as no product appeared to accumulate in the drum and the product thickness in the well increased slightly. We may want to try manual product removal with a sock due to the slow accumulation. We could bail all of the existing product off the well then install a sock.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: February 28, 2007

Re: Blanco North

0228507 0845 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.32	6.82	14.6	>20000	1.07	0
MW-19	na	na	na	na	na	0.35
MW-26	67.00	7.13	13.2	6350	2.35	7.2
MW-27	68.81	7.40	11.9	12350	3.11	0.14
MW-24	68.14	na	na	na	na	0.0

System was off following sampling on 2/26/07, restarted air sparge system 0900 hrs. The system operated 118 hrs since 2/13/07 an average of 7.88 hrs per day.

There was 0.05 feet of water in MW-24. No physical characteristics were measured..

MW-32: Pump time unchanged, no product recovered. Worked with Xitech trouble shooting pump. Will send back pump head for repairs. Three hrs tech time to for trouble shooting pump problems and shipping pump. $19.09 to ship pump to manufacturer.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: March 16, 2007

Re: Blanco North

031607 1117 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.58	6.82	14.6	>20000	1.07	0
MW-19	na	na	na	na	na	0.45
MW-26	65.79	7.13	13.2	6350	2.35	4.6
MW-27	68.53	7.40	11.9	12350	3.11	0.65
MW-24	68.14	na	na	na	na	0.06

Air Sparge System: Air flow 9 scfm, pressure 4 psi. The system operated 189 hrs since 2/28/07 an average of 11.82 hrs per day.

There was 0.05 feet of water in MW-24. No physical characteristics were measured..

Product Recovery MW-32: Pump time unchanged, no product recovered since last visit. Installed new pump head. Reset pump. Center of 3' screen is 58' BTOC. DTP 57.83, DTW 61.43. Cycled pump, works great. Tank pressure 800 psi, pump pressure 65 psi. Tech time 2 hrs.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: March 30, 2007

Re: Blanco North

033007 0931 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.52	6.76	15.9	>20000	0.84	0
MW-19	na	na	na	na	na	0.39
MW-26	65.20	7.13	15.8	5910	4.25	4.7
MW-27	68.56	7.16	16.3	18460	2.08	0.34
MW-24	68.13	na	na	na	na	0.09

Air Sparge System: Air flow 11 scfm, pressure 4 psi. The system operated 163 hrs since 3/16/07 an average of 11.63 hrs per day.

There was 0.05 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pump time 2 hr 53 minutes, system pumped 2 hr 23 minutes since 3/16/07, approximately 10 min per day. Tank pressure 500 psi, pump pressure 70 psi. Depth to product in drum 1.3 ft, a change in 0.16 feet or approximately 3.14 gallons recovered.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: April 18, 2007

Re: Blanco North

041607 0758 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.42	6.62	14.8	>20000	0.64	0
MW-19	na	na	na	na	na	0.38
MW-26	65.41	7.35	14.4	6270	4.23	4.5
MW-27	68.59	6.98	15.1	14590	1.70	0.4
MW-24	68.12	na	na	na	na	0.025
MW-32	59.54 (depth to product is 59.36)					

Air Sparge System: Air flow 9.5 scfm, pressure 5 psi. The system operated 198 hrs since 3/30/07 an average of 11.67 hrs per day.

There was 0.05 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pump time 3 hr 32 minutes, system pumped 0 hr 39 minutes since 3/30/07, approximately 10 min per day for four days since the last visit . Tank pressure 400 psi, pump pressure 70 psi. Depth to product in drum 1.26 ft, a change in 0.04 feet or approximately 0.79 gallons recovered. The high level shut off in the drum has the system off. We need to empty the drum or add a new drum. -

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: April 27, 2007

Re: Blanco North

042707 0724 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.53	6.72	15.4	>20000	0.49	0
MW-19	na	na	na	na	na	0.31
MW-26	65.58	7.21	15.2	6240	4.55	4.9
MW-27	68.68	7.17	16.1	14590	1.76	0.25
MW-24	67.13	na	na	na	na	0.025

Air Sparge System: Air flow 9.5 scfm, pressure 4 psi. The system operated 129 hrs since 4/16/07 an average of 11.7 hrs per day.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: System had not pumped since last visit because the drum was full. A new drum was set in the over-pack container. Pump time 3 hr 32 minutes, system pumped 0 hr 0 minutes since 4/16/07, approximately 0 min per day since the last visit . Tank pressure 375 psi, pump pressure 70 psi. Depth to product in new drum 2.89 ft.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: May 16, 2007

Re: Blanco North

051607 0724 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.56	6.72	17.7	>20000	0.75	0
MW-19	na	na	na	na	na	0.4
MW-26	65.42	7.31	17.8	7760	4.33	6.0
MW-27	68.68	7.24	18.2	>20000	2.18	0.12
MW-24	67.13	na	na	na	na	0.06
	DTW	DTP	Product Thickness			
MW-32	59.5	59.25	0.25			

Air Sparge System: Air flow 11 scfm, pressure 2 psi. The system operated 225 hrs since 4/27/07 an average of 11.86 hrs per day.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: The nitrogen bottle is empty. Pump time 5 hr 44 minutes, system pumped 2 hr 12 minutes since 4/27/07, approximately 7 min per day since the last visit . Tank pressure 0 psi, pump pressure 0 psi. Depth to product in drum 2.88 ft. Recovered approximately .2 gallons of product. Pulled pump for product thickness measurement. Left pump out to gage recovery next site visit to replace nitrogen bottle.

Will change nitrogen bottle next week when system is turned off for sampling.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Site Visit Report

To: Jennifer Hurley, MWH

From: Martin Nee

CC: File

Date: May 21, 2007

Re: Blanco North

052107 1400 Site Visit.

Traveled to North Flare Pit and removed empty nitrogen bottle. Drove to Farmington and exchanged empty bottle for full bottle and installed at NFP.

Dept to product at MW-32: 59.00 feet beneath top of casing

Depth to water at MW-32: 59.38 feet beneath top of casing

Replaced pump in well and started.. Pressure in bottle: 2600 psi, pressure on pump: 60 psi, time on clock: 5 hr 44 min. System is pumping product.

Fueled truck and returned to office.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

Memo

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: May 31, 2007

Re: Blanco North

053107 0820 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.58	6.87	16.8	>20000	0.85	0
MW-19	na	na	na	na	na	0.34
MW-26	67.06	7.34	18.0	11350	2.88	8.0
MW-27	68.92	7.56	18.3	>20000	3.84	0.30
MW-24	67.13	na	na	na	na	0.04

Air Sparge System: Air flow 11 scfm, pressure 3psi. The system operated 82 hrs since 5/16/07 an average of 5.46 hrs per day.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: The nitrogen bottle is empty. Pump time 5 hr 44 minutes, system pumped 2 hr 18 minutes since 5/16/07, approximately 9 min per day since the last visit . Tank pressure 2300 psi, pump pressure 60 psi. Depth to product in drum 2.87 ft. Recovered approximately .2 gallons of product.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

NFP O&M Site Visit Report

To: Jennifer Hurley

From: Martin Nee

CC: File

Date: June 15, 2007

Re: Blanco North

061507 0929 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.50	6.90	17.8	>20000	0.70	0
MW-19	na	na	na	na	na	0.38
MW-26	65.57	7.38	18.9	6170	1.53	8.11
MW-27	68.71	7.43	19.8	13670	2.32	0.35
MW-24	67.13	na	na	na	na	0.03
	DTW	DTP				
MW-32	59.34	59.26				

Air Sparge System: Air flow 9.5 scfm, pressure 2psi. The system operated 177 hrs since 5/31/07 an average of 11.79 hrs per day.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pump time 9 hr 57 minutes, system pumped 2 hr 31 minutes since 5/31/07, approximately 10 min per day since the last visit . Tank pressure 2000 psi, pump pressure 60 psi. Depth to product in drum 2.88 ft. No apparent recovery based on depth to product in drum.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

NFP O&M Site Visit Report

To: Jed Smith

From: Martin Nee

CC: File

Date: June 29, 2007

Re: Blanco North

062907 0721 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.53	6.79	18.2	>20000	0.71	0
MW-19	na	na	na	na	na	0.37
MW-26	66.39	7.37	18.2	5980	1.85	8.00
MW-27	68.79	7.39	18.5	13190	2.68	0.24
MW-24	67.13	na	na	na	na	0.00

Air Sparge System: Air flow 9.5 scfm, pressure 2psi. The system operated 162 hrs since 6/15/07 an average of 11.59 hrs per day.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pump time 12 hr 19 minutes, system pumped 2 hr 22 minutes since 6/15/07, approximately 10 min per day since the last visit . Tank pressure 1650 psi, pump pressure 60 psi. Depth to product in drum 2.875 ft. Recovered approximately .1 gallons of product.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

NFP O&M Site Visit Report

To: Jed Smith

From: Martin Nee

CC: File

Date: July 18, 2007

Re: Blanco North

071807 1047 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.52	6.78	20.6	>20000	0.82	0
MW-19	na	na	na	na	na	0.38
MW-26	66.32	7.32	19.9	5580	2.11	3.8
MW-27	68.91	7.43	22.7	14110	2.52	1.8
MW-24	67.12	na	na	na	na	0.2
	DTW	**DTP**				
MW-32	59.28	59.27				

Air Sparge System: Air flow 10 scfm, pressure 2psi. The system operated 166 hrs since 6/29/07 an average of 9.2 hrs per day.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pump time 15 hr 42 minutes, system pumped 3 hr 23 minutes since 6/29/07, approximately 10.6 min per day since the last visit . Tank pressure 1300 psi., pump pressure 60 psi. Depth to product in drum 2.875 ft. No measurable product recovered. There may be losses from the drum due to temperature changes as the drum is not airtight.

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

NFP O&M Site Visit Report

To: Jed Smith

From: Martin Nee

CC: File

Date: July 30, 2007

Re: Blanco North

073007 0726 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.52	6.81	18	>20000	0.78	0
MW-19	na	na	na	na	na	0.33
MW-26	66.49	7.27	18.1	5500	1.59	8.3
MW-27	68.94	7.62	18.7	12290	2.68	.32
MW-24	67.12	na	na	na	na	0.02

	DTW	DTP	Product Thickness
MW-32	59.25	59.19	.06' (5 oz)

Air Sparge System: Air flow 10 scfm, pressure 2 psi. The system operated 137 hrs since 7/18/07 an average of 11.41 hrs per day.

There was 0.06 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pump time 17 hr 34 minutes, system pumped 1 hr 51 minutes since 7/18/07, approximately 9.25 min per day since the last visit . Tank pressure 1000 psi., pump pressure 60 psi. Depth to product in drum 2.88 ft. No measurable product recovered. There may be losses from the drum due to temperature changes as the drum is not airtight.

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NFP O&M Site Visit Report

To: Jed Smith

From: Martin Nee

CC: File

Date: August 17, 2007

Re: Blanco North

081707 0720 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.54	6.79	18.2	>20000	0.40	0
MW-19	na	na	na	na	na	0.40
MW-26	66.40	7.23	19.5	5760	1.32	6.8
MW-27	69.02	7.54	20.2	12740	2.93	.05
MW-24	67.12	na	na	na	na	0.02

Air Sparge System: Air flow 10 scfm, pressure 2 psi. The system operated 212 hrs since 7/18/07 an average of 11.75 hrs per day.

There was 0.08 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pump time 20 hr 31 minutes, system pumped 2 hr 57 minutes since 7/30/07, approximately 10 min per day since the last visit . Tank pressure 600 psi., pump pressure 60 psi. Depth to product in drum 2.87 ft. Approximately 0.19 gal. recovered. Volumes are estimated from product levels in a 55 gallon drum that is subject to some evaporative loss and temperature fluctuations.

Lodestar Services, Incorporated
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NFP O&M Site Visit Report

To: Jed Smith

From: Martin Nee

CC: File

Date: August 31, 2007

Re: Blanco North

083107 0710 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.61	7.62	17.3	>20000	0.22	0
MW-19	na	na	na	na	na	0.31
MW-26	66.93	7.40	18.1	5310	2.25	6.5
MW-27	69.08	7.64	20.1	11620	3.87	.38
MW-24	67.12	na	na	na	na	0.02

Air Sparge System: Air flow 10 scfm, pressure 2 psi. The system operated 139 hrs since 7/18/07 an average of 9.91 hrs per day.

There was 0.08 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: The pump was left out of mw-32 following 8/17/07 site visit as no product was measured in the well. 0.16 feet of product was measured during this visit so a absorbent sock as installed

Lodestar Services, Incorporated
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NFP O&M Site Visit Report

To: Jed Smith

From: Martin Nee

CC: File

Date: September 14, 2007

Re: Blanco North

091407 1207 O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.55	6.80	20.5	>20000	0.78	0
MW-19	na	na	na	na	na	0.08
MW-26	66.90	7.63	19.9	7940	2.40	0.17
MW-27	68.71	7.42	22.3	14160	3.63	.08
MW-24	67.14	na	na	na	na	0.02

Air Sparge System: System is off. The system operated 110 hrs since 8/31/07 an average of 7.9 hrs per day.

There was 0.08 feet of water in MW-24. No physical characteristics were measured.

Product Recovery MW-32: Pulled saturated sock. Installed new sock. DTP:58.98 DTW:58.99

APPENDIX B
Groundwater Sampling Field Forms

Groundwater Sampling Field Forms – November 2006

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-19 Development **Sampling**
Project Manager MJN Date 110506 Start Time 1044 Weather sunny 70s
Depth to Water na Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height na Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
na x .16	na x 3	na x 3	na oz

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate

COMMENTS: collected grab sample without purging due to well structural problems. Could not measure water levels. Only enough water in well to collect 7/8 of one VOA Not enough water to measure parameters.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-19 Sample Time 1145

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-23 Development **Sampling**
Project Manager MJN Date 11/03/06 StartTime 0843 Weather sunny, 50s
Depth to Water 57.41 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 66.85 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

	Water Volume in Well		
Gal/ft x ft of water	Gallons	Ounces	**Gal**/oz to be removed
9.44 x .65	6.13 x 3		18.4 gal

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0845	**6.75**	**>20,000**	**64.1**				**1**	**Grey, strong odor, sheen, sudsy**
	6.96	**>20,000**	**62.7**				**2**	**grey, sheen, sudsy**
	6.44	**>20,000**	**59.9**				**3**	**grey, sheen, sudsy**
	6.30	**>20,000**	**58.2**				**5**	**grey, sheen, sudsy, well is bailing down**
	6.63	**>20,000**	**57.9**				**7.25**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0906	**6.99**	**>20,000**	**56.6**				**7.50**	**grey, sheen, sudsy, well has bailed dry**

COMMENTS: unpreserved due to rxn of hcl w/ gw.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-23 Sample Time 0912

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD _____ BD _____ BD Name/Time _____ TB 031106TB01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-26 Development **Sampling**
Project Manager MJN Date 11/03/06 StartTime 1010 Weather sunny, 50s
Depth to Water 65.46 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 2.13 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
2.13 x .65	1.4 x 3		531.6

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
1013	**4.87**	**8340**	**61.7**				**48**	**Gray, silty**
	6.68	**8610**	**62.1**				**88**	
	6.76	**8430**	**62.3**				**104**	
	6.75	**8260**	**62.0**				**120**	
	6.78	**8340**	**61.5**				**132**	**Bailing down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1025	**6.73**	**8240**	**60.7**				**140**	**Well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____
Water Disposal Rio Vista Sample ID Blanco NFP MW-26 Sample Time 1029
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB 031106TB01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name:_Blanco NFP Client:_MWH/EL Paso
Location:_Blanco NFP Well No:__MW-27 Development **Sampling**
Project Manager ___MJN Date__11/03/06 StartTime__0951_ Weather__sunny, 50s
Depth to Water __68.38_ Depth to Product __na__ Product Thickness__na__ Measuring Point __TOC__
Water Column Height __0.14 Well Dia. ____4"___

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other__or bail dry_

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
0.14 x .65	0.9 x 3		55.3

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
0955	**5.96**	**7840**	**56.2**				**8**	**Black, sheen, strong odor**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0955	**5.96**	**7840**	**56.2**				**8 oz**	**Well has bailed down**

COMMENTS: Only enough water to fill 2 voas.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal__Rio Vista_ Sample ID_Blanco NFP MW-27 Sample Time__1006

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB__031106TB01___

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-33 Development **Sampling**
Project Manager MJN Date 11/03/06 StartTime 0920 Weather sunny, 50s
Depth to Water 71.07 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 11.18 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
11.18 x .16	1.79 x 3		5.37 gal

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0925	**7.72**	**14320**	**55.5**				**.25**	**Clear**
	6.55	**13970**	**65.7**				**.5**	
	6.63	**14010**	**57.5**				**.75**	
	6.51	**13970**	**58.5**				**1**	
	6.65	**13710**	**56.0**				**2**	
	6.75	**13340**	**55.7**				**2.75**	**Well is bailing down**
	6.82	**13850**	**57.1**				**3**	**Clear, bailing down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0940	**6.83**	**13730**	**57.2**				**3.15**	**Well has bailed down, clear water**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-33 Sample Time 0944

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB 031106TB01

Groundwater Sampling Field Forms – February 2007

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-19 Development **Sampling**
Project Manager MJN Date 02/26/07 StartTime 0900 Weather sunny, 40s
Depth to Water NA Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height NA Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

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

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate

COMMENTS: Not enough water in well to measure water parameters. Just enough water to collect grab sample. Only enough water to fill one voa, and unable to remove all air bubbles.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____
Water Disposal Rio Vista Sample ID Blanco NFP MW-19 Sample Time 1103
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-23 Development **Sampling**
Project Manager MJN Date 02/26/07 StartTime 1146 Weather sunny, 40s
Depth to Water 57.44 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 9.4 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
9.4 x .65	6.02 x 3		18.05

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
1150	**6.53**	**8210**	**15.4**				**1**	**Gray, HC odor, sudsy**
	6.37	**8350**	**15.4**				**2**	
	6.29	**8050**	**14.9**				**3**	
	6.35	**5760**	**14.9**				**4**	
	6.32	**8390**	**14.7**				**5**	
	6.35	**8120**	**14.5**				**6**	
	6.34	**8270**	**14.6**				**7**	**Bailing down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1220	**6.34**	**8220**	**14.5**				**7.25 g**	**Well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** Temperature Meter **x**
DO Monitor Other
Conductivity Meter **X**
Water Disposal Rio Vista Sample ID Blanco NFP MW-23 Sample Time 1225
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD BD BD Name/Time TB

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-26 Development **Sampling**
Project Manager MJN Date 02/26/07 StartTime 0926 Weather sunny, 40s
Depth to Water 65.94 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 1.65 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
1.65 x .65	1.06 x 3	135.7 x 3	407.04

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
0935	**6.65**	**5950**	**14.0**				**32**	**Dark gray, silty, sheen, HC odor**
	6.62	**6220**	**14.5**				**56**	
	6.61	**6430**	**14.9**				**76**	**Bailing down**
	6.60	**6770**	**15.1**				**92**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0950	**6.60**	**6870**	**15.3**				**98 oz**	**Well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-26 Sample Time 0953

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-27 Development **Sampling**
Project Manager MJN Date 02/26/07 StartTime 0958 Weather sunny, 40s
Depth to Water 68.56 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 0.73 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
0.743 x .16		14.95 x 3	44.9

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
1002	**6.93**	**11,110**	**13.0**				**20**	**Gray, HC odor, sheen**
	6.96	**10,870**	**13.6**				**36**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1012	**6.95**	**10,660**	**13.5**				**44 oz**	**Well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-27 Sample Time 1014

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD _____ BD _____ BD Name/Time _____ TB _____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-33 Development **Sampling**
Project Manager MJN Date 02/26/07 StartTime 1105 Weather sunny, 40s
Depth to Water 70.33 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 12.29 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
12.29 x .16	1.97 x 3		5.9

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
1108	**6.92**	**17,350**	**13.7**				**0.5**	**Clear**
	6.54	**16,880**	**15.0**				**1**	
	6.59	**17,220**	**15.3**				**2**	
	6.55	**16,250**	**17.2**				**3**	**Bailing down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1135	**6.56**	**16,110**	**17.1**				**3.25 g**	**Well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-33 Sample Time 1128
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

Groundwater Sampling Field Forms – May 2007

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name:_Blanco NFP Client:_MWH/EL Paso

Location:_Blanco NFP Well No:__MW-23 Development **Sampling**

Project Manager __MJN Date__05/29/07 StartTime__0906 Weather__sunny, 70s

Depth to Water __57.47 Depth to Product __na Product Thickness__na Measuring Point __TOC

Water Column Height __9.37 Well Dia. ____4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other__or bail dry_

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
9.37 x .65	6.02 x 3		18.27

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
0915	**6.84**	**>20,000**	**16.5**				**1**	**clear, HC odor, sudsy**
	6.87	**>20,000**	**17.1**				**4**	**grey, HC odor, sudsy, well is bailing down**
0927	**7.02**	**>20,000**	**17.3**				**7.25**	**grey, HC odor, sudsy, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0927	**7.02**	**>20,000**	**17.3**				**7.25**	**grey, HC odor, sudsy, well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal__Rio Vista Sample ID_Blanco NFP MW-23 Sample Time__0930

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-26 Development **Sampling**
Project Manager MJN Date 05/29/07 StartTime 1119 Weather sunny, 80s
Depth to Water 66.25 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 1.34 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
1.34 x .65	0.87 x 3	111 x 3	333

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
1128	**7.34**	**6590**	**19.6**				**33**	**Dark gray, silty, sheen, HC odor**
	7.45	**6700**	**19.2**				**56**	**Dark gray, silty, sheen, HC odor, well is bailing down,**
	7.49	**6730**	**19.2**				**74**	**Dark gray, silty, sheen, HC odor**
1141	**7.47**	**6540**	**19.2**				**95**	**Dark gray, silty, sheen, HC odor, well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1141	**7.47**	**6540**	**19.2**				**95**	**Dark gray, silty, sheen, HC odor, well has bailed dry**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-26 Sample Time 1145

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD _____ BD _____ BD Name/Time _____ TB _____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-27 Development **Sampling**
Project Manager MJN Date 05/29/07 StartTime 1100 Weather sunny, 80s
Depth to Water 68.73 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 0.56 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
0.56 x .16		11 x 3	33

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
1108	**7.44**	**14150**	**19.2**				**10**	**clear, HC odor, sheen, well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1108	**7.44**	**14150**	**19.2**				**10**	**clear, HC odor, sheen, well has bailed dry**

COMMENTS: pulled sample before physical parameter readings

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-27 Sample Time 1110

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-31 Development **Sampling**
Project Manager MJN Date 05/29/07 StartTime 1105 Weather sunny, 70s
Depth to Water 72.85 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 0.62 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
0.62 x .16	0.4 x 3		1.2

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
0938	**6.72**	**1458**	**18.9**				**.25**	**clear**
1000	**6.90**	**1633**	**18.6**				**.4**	**clear, well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1000	**6.90**	**1633**	**18.6**				**.4**	**clear, well has bailed dry**

COMMENTS: This is the first time water has been observed in this well.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-31 Sample Time 1002

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-33 Development **Sampling**
Project Manager MJN Date 05/29/07 StartTime 1012 Weather sunny, 80s
Depth to Water 70.71 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 11.91 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
11.91 x .16	1.9 x 3		5.71

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
1014	**7.81**	**16980**	**17.9**				**1**	**cloudy**
	7.89	**17440**	**17.3**				**2**	**cloudy**
1038	**7.19**	**16400**	**17.4**				**2.25**	**cloudy, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1038	**7.19**	**16400**	**17.4**				**2.25**	**cloudy, well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-33 Sample Time 1040

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

Groundwater Sampling Field Forms – August 2007

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-23 Development **Sampling**
Project Manager MJN Date 08/22/07 StartTime 0749 Weather sunny, 80s
Depth to Water 57.49 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 9.36 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
9.36 x .65	6.08 x 3		18.25

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
0750	**6.87**	**<20000**	**17.2**				**1**	**Gray, HC odor, sudsy**
	6.86	**19260**	**17.1**				**2**	**Gray, HC odor, sudsy**
	6.86	**<20000**	**17.0**				**3**	**Gray, HC odor, sudsy**
	6.89	**<20000**	**17.0**				**5**	**Gray, HC odor, sudsy**
	7.0	**<20000**	**17.0**				**8.25**	**Gray, HC odor, sudsy, well is bailing down**
0808	**7.17**	**<20000**	**17.0**				**8.5**	**Gray, HC odor, sudsy, well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0808	**7.17**	**<20000**	**17.0**				**8.5**	**Gray, HC odor, sudsy, well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-23 Sample Time 0809
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_220807tb01_

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-26 Development **Sampling**
Project Manager MJN Date 08/22/07 StartTime 1008 Weather sunny, 80s
Depth to Water 66.61 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 0.98 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
0.98 x .65	0.63 x 3	111 x 3	1.91

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ml)	Comments/ Flow rate
1009	**7.3**	**5310**	**20.2**				**620**	**grey, hydrocarbon odor, cloudy**
	7.3	**5100**	**19.1**				**1040**	**well is bailing down**
	7.36	**5800**	**18.6**				**1260**	**grey, hydrocarbon odor, cloudy**
1023	**7.40**	**5040**	**19.0**				**1490**	**well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1023	**7.40**	**5040**	**19.0**				**1490**	**well has bailed down**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____
Water Disposal Rio Vista Sample ID Blanco NFP MW-26 Sample Time 1025
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_220807tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-27 Development **Sampling**
Project Manager MJN Date 08/22/07 StartTime 0952 Weather sunny, 80
Depth to Water 69.73 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 0.20 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

	Water Volume in Well		
Gal/ft x ft of water	Gallons	Ounces	Gal/**oz** to be removed
0.20 x .16		26 x 3	77

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate

COMMENTS: well would only product 40 ml water, no physical parameter readings

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____
Water Disposal Rio Vista Sample ID Blanco NFP MW-27 Sample Time 1002
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB 220807tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-31 Development **Sampling**
Project Manager MJN Date 08/22/07 StartTime 0822 Weather sunny, 80s
Depth to Water 72.97 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 0.61 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer **x** Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
0.61 x .16	0.39 x 3		1.18

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
0824	**6.75**	**1109**	**21.3**				**.25**	**cloudy**

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0824	**6.75**	**1109**	**21.3**				**.25**	**cloudy**

COMMENTS: unpreserved do to RXN of water and HCL, PVC particles from well installation causing bailer to leak, poor recovery

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-31 Sample Time 0845

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB_220807tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-33 Development **Sampling**
Project Manager MJN Date 08/22/07 StartTime 0859 Weather sunny, 80s
Depth to Water 71.29 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 11.33 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
11.33 x .16	1.81 x 3		5.4

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (g)	Comments/ Flow rate
0900	7.75	12100	18.6				.25	cloudy, cement chips
	7.70	12790	17.7				.5	cloudy, cement chips
	7.71	12820	17.2				.75	cloudy, cement chips
	7.71	11930	17.2				1	cloudy, cement chips
	7.69	11720	17.2				2	cloudy, cement chips
	7.76	11930	17.2				2.4	well is bailing down
0934	7.85	13380	17.2				2.5	well has bailed down

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
0934	7.85	13380	17.2				2.5	well has bailed down

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal Rio Vista Sample ID Blanco NFP MW-33 Sample Time 0935

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD _____ BD _____ BD Name/Time _____ TB_220807tb01_

APPENDIX C
Groundwater Analytical Laboratory Reports

Groundwater Analytical Report – November 2006

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

11/10/06

Technical Report for

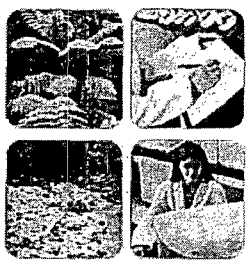
Montgomery Watson

Blanco North Flare Pit

D-ALAB-BLANCOPLTN-004

Accutest Job Number: T15282

Sampling Date: 11/03/06



Report to:

MWH Americas, Inc.
1801 California St. Suite 2900
Denver, CO 80202
jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

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

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.

Ron Martino
Laboratory Manager

Table of Contents

Sample Summary

Montgomery Watson

Job No: T15282

Blanco North Flare Pit
Project No: D-ALAB-BLANCOPLTN-004

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T15282-1	11/03/06	13:45	MN	11/04/06	AQ	Ground Water	MW-19
T15282-2	11/03/06	09:12	MN	11/04/06	AQ	Ground Water	MW-23
T15282-3	11/03/06	10:29	MN	11/04/06	AQ	Ground Water	MW-26
T15282-4	11/03/06	10:06	MN	11/04/06	AQ	Ground Water	MW-27
T15282-5	11/03/06	09:44	MN	11/04/06	AQ	Ground Water	MW-33
T15282-6	11/03/06	07:00	MN	11/04/06	AQ	Trip Blank Water	031106TB01

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T15282

Site: Blanco North Flare Pit **Report Date** 11/10/2006 1:34:40 PM

5 Samples and 1 Trip Blank were collected on 11/03/2006 and were received at Accutest on 11/04/2006 properly preserved, at 4 Deg. C and intact. These Samples received an Accutest job number of T15282. 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:** GKK934

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T15282-2MS, T15282-2MSD were used as the QC samples indicated.
- RPD(s) for MSD for Ethylbenzene are outside control limits for sample T15282-2MSD. Probable cause due to sample homogeneity.
- T15282-2: Sample pH did not meet field preservation criteria.

Matrix AQ **Batch ID:** GKK935

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

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:	MW-19		
Lab Sample ID:	T15282-1	**Date Sampled:**	11/03/06
Matrix:	AQ - Ground Water	**Date Received:**	11/04/06
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK16076.D	1	11/08/06	ZLH	n/a	n/a	GKK935
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	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.61	1.0	0.33	ug/l	J
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		56-136%
98-08-8	aaa-Trifluorotoluene	110%		50-144%

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:	MW-23		
Lab Sample ID:	T15282-2	Date Sampled:	11/03/06
Matrix:	AQ - Ground Water	Date Received:	11/04/06
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	KK16053.D	20	11/07/06	ZLH	n/a	n/a	GKK934
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	3920	20	7.0	ug/l	
108-88-3	Toluene	26.3	20	4.0	ug/l	
100-41-4	Ethylbenzene	103	20	6.6	ug/l	
1330-20-7	Xylenes (total)	735	40	7.2	ug/l	
95-47-6	o-Xylene	17.5	20	2.8	ug/l	J
	m,p-Xylene	717	20	7.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		56-136%
98-08-8	aaa-Trifluorotoluene	114%		50-144%

(a) Sample pH did not meet field preservation criteria.

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:	MW-26		
Lab Sample ID:	T15282-3	Date Sampled:	11/03/06
Matrix:	AQ - Ground Water	Date Received:	11/04/06
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK16057.D	1	11/07/06	ZLH	n/a	n/a	GKK934
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	1.3	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.99	1.0	0.33	ug/l	J
1330-20-7	Xylenes (total)	1.3	2.0	0.36	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	1.3	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110%		56-136%
98-08-8	aaa-Trifluorotoluene	112%		50-144%

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:	MW-27		
Lab Sample ID:	T15282-4	Date Sampled:	11/03/06
Matrix:	AQ - Ground Water	Date Received:	11/04/06
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK16077.D	1	11/08/06	ZLH	n/a	n/a	GKK935
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	1.7	1.0	0.35	ug/l	
108-88-3	Toluene	2.5	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	2.8	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	13.2	2.0	0.36	ug/l	
95-47-6	o-Xylene	6.6	1.0	0.14	ug/l	
	m,p-Xylene	6.6	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	90%		56-136%
98-08-8	aaa-Trifluorotoluene	136%		50-144%

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:	MW-33		
Lab Sample ID:	T15282-5	Date Sampled:	11/03/06
Matrix:	AQ - Ground Water	Date Received:	11/04/06
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK16078.D	1	11/08/06	ZLH	n/a	n/a	GKK935
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	0.35	ug/l	
108-88-3	Toluene	1.3	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110%		56-136%
98-08-8	aaa-Trifluorotoluene	123%		50-144%

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:	031106TB01		
Lab Sample ID:	T15282-6	**Date Sampled:**	11/03/06
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/04/06
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK16051.D	1	11/07/06	ZLH	n/a	n/a	GKK934
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	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		56-136%
98-08-8	aaa-Trifluorotoluene	111%		50-144%

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

031106 MW#1

ACCUTEST Laboratories

10165 Harwin Drive, Houston, TX 77036
713-271-4700 FAX: 713-271-4770

FED-EX Tracking # 858204305237 | Bottle Order Control #

Accutest Quote # | EL Paso Pricing | Accutest Job # T15282

Client / Reporting Information

Company Name: MWH Americas, Inc.
Address: 1801 California St. Suite 2900
City: Denver | State: CO | Zip: 80202
Project Contact: Chandler Cole
Phone #: 303-291-2161
Samplers's Name: Martin Nieva

Project Information

Project Name: Blanco North Flare Pit
Street:
City: Colorado Springs | State: Co
Project #:
Fax #:
Client Purchase Order #: TWO D-ALAB-BlancoPIIN-004

Requested Analysis

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	HNO3	H2SO4	NONE	NaHSO4	NaOH	ENCORE	BTEX (8021)	LAB USE ONLY
1	MW-19					3	X							X	
2	MW-23					3	X			X				X	
	~~MW-24~~ m					~~3~~	~~X~~	m						~~X~~	
3	MW-26					3	X							X	
4	MW-27					2m	X							X	
5	MW-33					3	X							X	
6	031106TBW1					2	X							X	

Turnaround Time (Business days)

- [xx] Std. 15 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Level 1
- [x] Level 2
- [ ] Level 3
- [ ] Level 4
- [ ] Other
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

MW-19 1 bottle w/ air
MW-27 2 bottles
MW-23 is not preserved
MW-24 No Sample

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		11/3/06 1430	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time: 11/4/06 14:09	Received By:	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 4.0

Page 1

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T15282: Chain of Custody
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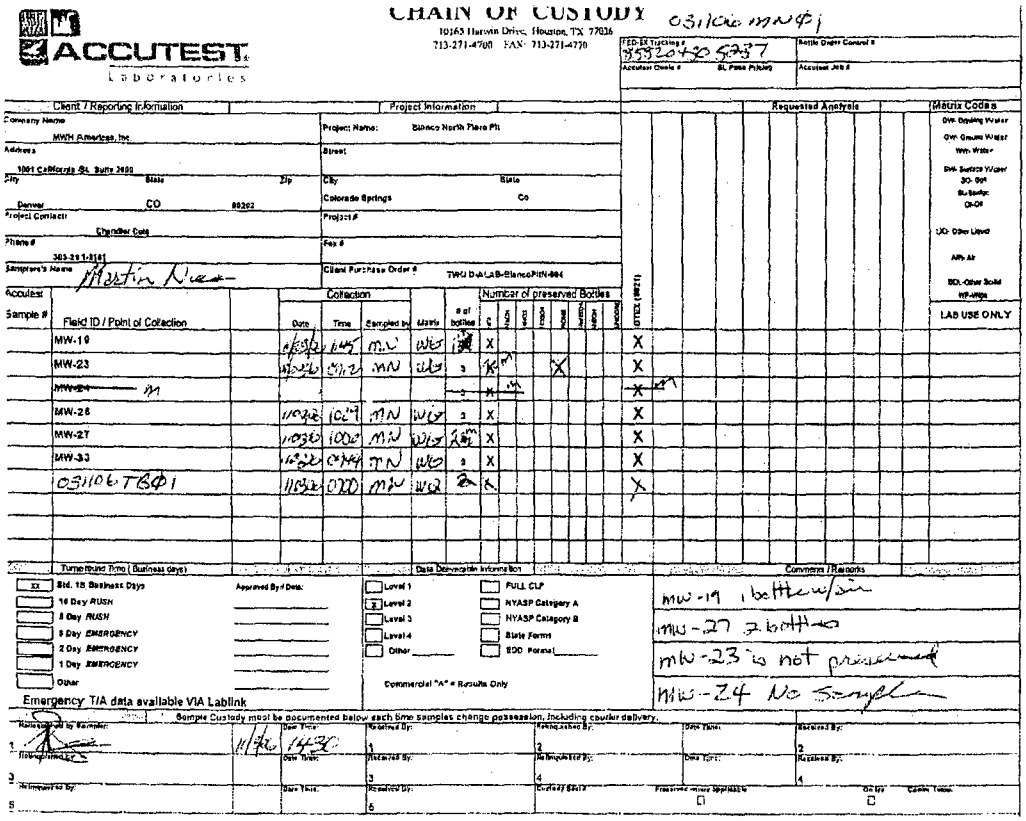
ACCUTEST Laboratories T15282



ACCUTEST Laboratories

CHAIN OF CUSTODY 031106 MN #1

10165 Harwin Drive, Houston, TX 77036
713-271-4700 FAX: 713-271-4770

FED-EX Tracking # 955204305237 | Bottle Order Control #
Accutest Quote # | P.O. Number | Accutest Job #

Client / Reporting Information

Company Name: MWH Americas, Inc
Address: 1001 California St, Suite 3600
City: Denver | State: CO | Zip: 80202
Project Contact: Chandler Cole
Phone #: 303-291-2161
Sampler's Name: Martin Nee

Project Information

Project Name: Blanco North Pace Pit
Street:
City: Colorado Springs | State: Co
Project #:
Fax #:
Client Purchase Order #: TWU DoA LAB-BlancoPit-004

Requested Analysis

Matrix Codes: DW- Drinking Water; GW- Ground Water; WW- Water; SW- Surface Water; SO- Soil; SL- Sludge; OI- Oil; LIQ- Other Liquid; AIR- Air; SOL- Other Solid; WP- Wipe

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: C	HNO3	H2SO4	HCl	NaOH	NaHSO4	MeOH	DI Water	8260B (MS1)	LAB USE ONLY
	MW-19	11/03/06	1145	MN	WG	3	X								X	
	MW-23	11/02/06	0912	MN	WG	3	X			X					X	
	~~MW-24~~					~~3~~	~~X~~								~~X~~	
	MW-26	11/03/06	1029	MN	WG	3	X								X	
	MW-27	11/03/06	1000	MN	WG	3	X								X	
	MW-33	11/02/06	0944	TN	WG	3	X								X	
	031106-TB#1	11/03/06	0700	MN	WG	2	X								X	

Turnaround Time (Business days)

- XX Std. 15 Business Days
- 10 Day RUSH
- 5 Day RUSH
- 4 Day EMERGENCY
- 2 Day EMERGENCY
- 1 Day EMERGENCY
- Other

Approved By/Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- Level 1
- X Level 2
- Level 3
- Level 4
- Other
- FULL CLP
- NYASP Category A
- NYASP Category B
- State Forms
- EDD Format

Commercial "A" = Results Only

Comments / Remarks

MW-19 1 bottle w/ice
MW-27 3 bottles
MW-23 is not preserved
MW-24 No Sample

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		11/4/06 1430	1	2		2
	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3			3	4		4
	Relinquished By:	Date Time:	Received By:	Custody Seals	Preserved where applicable	On Ice / Cooler Temp.
5			6			

T15282 - Rev

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T15282 DATE/TIME RECEIVED: 11/4/06 1400

CLIENT: MWH Americas INITIALS: AR

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. (Y) N Sample received in undamaged condition.
2. (Y) N Samples received within temp. range.
3. Y (NA) Sample received with proper pH.
4. (Y) N Sample received in proper containers.
5. Y (N) Sample volume sufficient for analysis.
6. (Y) N Sample received with chain of custody.
7. (Y) N Chain of Custody matches **sample IDs and analysis** on containers.
8. (Y) N Samples Headspace acceptable
9. (Y) N NA Custody seal received intact and tamper not evident on cooler.
10. Y N (NA) Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1	11/3	AQ	40ml	VREF	1(2)3,4,5,6	U, <2, >12, NA
2	1-3					(1)2,3,4,5,6	U, <2, >12, NA
3 5	1-3					1(2)3,4,5,6	U, <2, >12, NA
4	1-2					1(2)3,4,5,6	U, <2, >12, NA
6	1-2					1(2)3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
		AR 11-6-06				1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-in VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: FE

COOLER TEMP: 4.0 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/06, QAO

T15282: Chain of Custody
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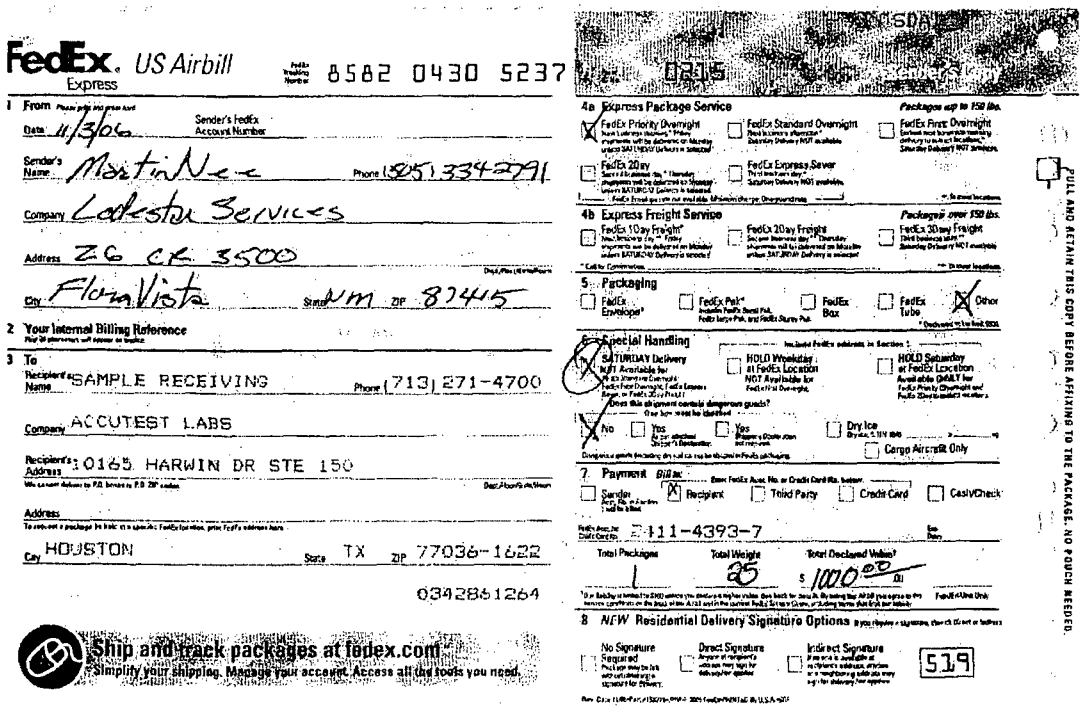
ACCUTEST. LABORATORIES

T15282



FedEx Express US Airbill 8582 0430 5237

1 From
Date 11/3/06 Sender's FedEx Account Number
Sender's Name Martin Nee Phone (505) 334-2991
Company Lodestar Services
Address 26 CR 3500
City Flora Vista State NM ZIP 87415

2 Your Internal Billing Reference

3 To
Recipient's Name SAMPLE RECEIVING Phone (713) 271-4700
Company ACCUTEST LABS
Recipient's Address 0165 HARWIN DR STE 150
Address
City HOUSTON State TX ZIP 77036-1622

0342861264

Ship and track packages at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service — Packages up to 150 lbs.
[X] FedEx Priority Overnight [ ] FedEx Standard Overnight [ ] FedEx First Overnight
[ ] FedEx 2Day [ ] FedEx Express Saver

4b Express Freight Service — Packages over 150 lbs.
[ ] FedEx 1Day Freight [ ] FedEx 2Day Freight [ ] FedEx 3Day Freight

5 Packaging
[ ] FedEx Envelope [ ] FedEx Pak [ ] FedEx Box [ ] FedEx Tube [X] Other

6 Special Handling
[X] SATURDAY Delivery [ ] HOLD Weekday at FedEx Location [ ] HOLD Saturday at FedEx Location
Does this shipment contain dangerous goods?
[X] No [ ] Yes [ ] Dry Ice [ ] Cargo Aircraft Only

7 Payment Bill to:
[ ] Sender [X] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check
FedEx Acct. No. or Credit Card No. 2411-4393-7

Total Packages 1 Total Weight 25 Total Declared Value? $ 1000.00

8 NEW Residential Delivery Signature Options
[ ] No Signature Required [ ] Direct Signature [ ] Indirect Signature

519

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE. NO POUCH NEEDED.

T15282

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T15282: Chain of Custody
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GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T15282
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK934-MB	KK16047.D	1	11/07/06	ZLH	n/a	n/a	GKK934

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

T15282-2, T15282-3, T15282-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.35	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	109%	56-136%
98-08-8	aaa-Trifluorotoluene	105%	50-144%

Method Blank Summary

Job Number: T15282
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK935-MB	KK16074.D	1	11/08/06	ZLH	n/a	n/a	GKK935

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

T15282-1, T15282-4, T15282-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.35	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	106%	56-136%
98-08-8	aaa-Trifluorotoluene	112%	50-144%

Blank Spike Summary

Job Number: T15282
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK934-BS	KK16048.D	1	11/07/06	ZLH	n/a	n/a	GKK934

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

T15282-2, T15282-3, T15282-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.9	95	72-125
100-41-4	Ethylbenzene	20	20.5	103	76-125
108-88-3	Toluene	20	20.3	102	74-125
1330-20-7	Xylenes (total)	60	62.8	105	78-124
95-47-6	o-Xylene	20	20.9	105	78-124
	m,p-Xylene	40	41.9	105	78-125

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	109%	56-136%
98-08-8	aaa-Trifluorotoluene	111%	50-144%

Blank Spike/Blank Spike Duplicate Summary

Job Number: T15282
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK935-BS	KK16075.D	1	11/08/06	ZLH	n/a	n/a	GKK935
GKK935-BSD	KK16080.D	1	11/08/06	ZLH	n/a	n/a	GKK935

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

T15282-1, T15282-4, T15282-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.4	97	18.4	92	5	72-125/30
100-41-4	Ethylbenzene	20	20.8	104	20.9	105	0	76-125/30
108-88-3	Toluene	20	20.9	105	20.7	104	1	74-125/30
1330-20-7	Xylenes (total)	60	64.6	108	63.6	106	2	78-124/30
95-47-6	o-Xylene	20	22.1	111	21.5	108	3	78-124/30
	m,p-Xylene	40	42.5	106	42.1	105	1	78-125/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	112%	104%	56-136%
98-08-8	aaa-Trifluorotoluene	110%	113%	50-144%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T15282
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T15282-2MS [a]	KK16054.D	20	11/07/06	ZLH	n/a	n/a	GKK934
T15282-2MSD [a]	KK16055.D	20	11/07/06	ZLH	n/a	n/a	GKK934
T15282-2 [a]	KK16053.D	20	11/07/06	ZLH	n/a	n/a	GKK934

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

T15282-2, T15282-3, T15282-6

CAS No.	Compound	T15282-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	3920		400	4220	75	4120	50	2	45-137/21
100-41-4	Ethylbenzene	103		400	587	121	483	95	19*	68-126/15
108-88-3	Toluene	26.3		400	435	102	431	101	1	63-130/22
1330-20-7	Xylenes (total)	735		1200	1990	105	1950	101	2	72-125/19
95-47-6	o-Xylene	17.5	J	400	429	103	415	99	3	70-128/20
	m,p-Xylene	717		800	1560	105	1540	103	1	63-136/19

CAS No.	Surrogate Recoveries	MS	MSD	T15282-2	Limits
460-00-4	4-Bromofluorobenzene	108%	107%	107%	56-136%
98-08-8	aaa-Trifluorotoluene	106%	102%	114%	50-144%

(a) Sample pH did not meet field preservation criteria.

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 11/03/06

Laboratory: Accutest **MWH Job Number:** SJRB

Batch Identification: T15282 **Matrix:** Water

MS/MSD Parent(s)[a]: _____ **Field Replicate Parent(s):** None

Verification Complete: Craig Moore -09/28/07
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	SJRB	MW-19	T15282-1	Y	None	
1,2	SJRB	MW-23	T15282-2	Y	J	Ethylbenzene @ 103 µg/l
None	SJRB	MW-26	T15282-3	Y	None	
None	SJRB	MW-27	T15282-4	Y	None	
None	SJRB	MW-33	T15282-5	Y	None	
None	SJRB	031106TB01	T15282-6	N	None	

DATA VERIFICATION WORKSHEET
(Page 2 of 2)

Analytical Method:	SW-846 8021B (BTEX)	**MWH Job Number:**	SJRB
Laboratory:	Accutest	**Batch Identification:**	T15282

Verification Criteria								
Sample ID	MW-19	MW-23	MW-26	MW-27	MW-33	TB		
Lab ID	T15282-1	T15282-2	T15282-3	T15282-4	T15282-5	T15282-6		
Holding Time	A	A[1]	A	A	A	A		
Analyte List	A	A	A	A	A	A		
Reporting Limits	A	A	A	A	A	A		
Surrogate Spike Recovery	A	A	A	A	A	A		
Trip Blank	A	A	A	A	A	N/A		
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A	N/A		
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A	N/A		
Initial Calibration	N	N	N	N	N	N		
Initial Calibration Verification (ICV)	N	N	N	N	N	N		
Continuing Calibration Verification (CCV)	N	N	N	N	N	N		
Method Blank	A	A	A	A	A	A		
Laboratory Control Sample (LCS)	A	A	A	A	A	A		
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	A[2]	N/A	N/A	N/A	N/A		
Retention Time Window	N	N	N	N	N	N		
Injection Time(s)	N	N	N	N	N	N		
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A		
EDD vs. Hardcopy	N	N	N	N	N	N		
EDD vs. Chain of Custody	N	N	N	N	N	N		

(a) List QC batch identification if different than Batch ID
A indicates verification criteria were met
A/L indicates verification criteria met based upon Laboratory's QC Summary Form
X indicates verification criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

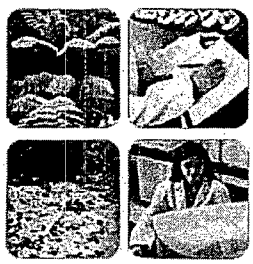
1) Sample pH at time of analysis was greater than two, thus reducing the holding time from 14 days to seven. Sample analyzed within seven days.
2) MS/MSD RPD outside acceptance criteria for ethylbenzene (19%[15]). Qualify parent sample result with "J" indicating that the data are estimated.

Groundwater Analytical Report – February 2007

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

03/07/07



Technical Report for

Montgomery Watson

Blanco North Flare Pit

D-ALAB-BLANCOPITN-004

Accutest Job Number: T16475

Sampling Date: 02/26/07

Report to:

MWH Americas, Inc.
1801 California St. Suite 2900
Denver, CO 80202
jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 22

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.

Ron Martino
Laboratory Manager

Sections:

Table of Contents

Sample Summary

Montgomery Watson

Job No: T16475

Blanco North Flare Pit
Project No: D-ALAB-BLANCOPITN-004

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
T16475-1	02/26/07	11:03 AA	02/28/07	AQ	Water	MW-19
T16475-2	02/26/07	12:25 AA	02/28/07	AQ	Water	MW-23
T16475-3	02/26/07	09:26 AA	02/28/07	AQ	Water	MW-26
T16475-4	02/26/07	10:14 AA	02/28/07	AQ	Water	MW-27
T16475-5	02/26/07	11:28 AA	02/28/07	AQ	Water	MW-33
T16475-6	02/26/07	07:00 AA	02/28/07	AQ	Trip Blank Water	260207TB01

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Montgomery Watson	**Job No**	T16475
Site:	Blanco North Flare Pit	**Report Date**	3/7/2007 2:58:03 PM

5 Samples and 1 Trip Blank were collected on 02/26/2007 and were received at Accutest on 02/28/2007 properly preserved, at 2 Deg. C and intact. These Samples received an Accutest job number of T16475. 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:** GKK1021

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T16491-2MS, T16491-2MSD were used as the QC samples indicated.
- T16475-4: Sample was not preserved to a pH < 2; reported results are considered minimum values.
- T16475-2: Sample was not preserved to a pH < 2; reported results are considered minimum values.
- T16475-1: Sample was not preserved to a pH < 2; reported results are considered minimum values.

Matrix AQ **Batch ID:** GKK1023

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T16527-2MS, T16527-2MSD were used as the QC samples indicated.
- T16475-2: Sample was not preserved to a pH < 2; reported results are considered minimum values.

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:	MW-19		
Lab Sample ID:	T16475-1	Date Sampled:	02/26/07
Matrix:	AQ - Water	Date Received:	02/28/07
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	KK018303.D	1	03/02/07	ZLH	n/a	n/a	GKK1021
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	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	105%		56-136%
98-08-8	aaa-Trifluorotoluene	100%		50-144%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.

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:	MW-23		
Lab Sample ID:	T16475-2	**Date Sampled:**	02/26/07
Matrix:	AQ - Water	**Date Received:**	02/28/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	KK018323.D	20	03/02/07	ZLH	n/a	n/a	GKK1021
Run #2 [a]	KK018379.D	200	03/06/07	JH	n/a	n/a	GKK1023

	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	8910 [b]	200	70	ug/l	
108-88-3	Toluene	30.7	20	4.0	ug/l	
100-41-4	Ethylbenzene	276	20	6.6	ug/l	
1330-20-7	Xylenes (total)	1600	40	7.2	ug/l	
95-47-6	o-Xylene	16.8	20	2.8	ug/l	J
	m,p-Xylene	1580	20	7.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	90%	100%	56-136%
98-08-8	aaa-Trifluorotoluene	99%	110%	50-144%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.
(b) 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

Client Sample ID:	MW-26		
Lab Sample ID:	T16475-3	**Date Sampled:**	02/26/07
Matrix:	AQ - Water	**Date Received:**	02/28/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK018378.D	1	03/06/07	JH	n/a	n/a	GKK1023
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	1.4	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	97%		56-136%
98-08-8	aaa-Trifluorotoluene	102%		50-144%

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:	MW-27		
Lab Sample ID:	T16475-4	Date Sampled:	02/26/07
Matrix:	AQ - Water	Date Received:	02/28/07
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	KK018325.D	1	03/02/07	ZLH	n/a	n/a	GKK1021
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	0.76	1.0	0.35	ug/l	J
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	85%		56-136%
98-08-8	aaa-Trifluorotoluene	91%		50-144%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.

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:	MW-33		
Lab Sample ID:	T16475-5	**Date Sampled:**	02/26/07
Matrix:	AQ - Water	**Date Received:**	02/28/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK018326.D	1	03/02/07	ZLH	n/a	n/a	GKK1021
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	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		56-136%
98-08-8	aaa-Trifluorotoluene	94%		50-144%

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:	260207TB01		
Lab Sample ID:	T16475-6	**Date Sampled:**	02/26/07
Matrix:	AQ - Trip Blank Water	**Date Received:**	02/28/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK018319.D	1	03/02/07	ZLH	n/a	n/a	GKK1021
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	0.35	ug/l	
108-88-3	Toluene	0.75	1.0	0.20	ug/l	J
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		56-136%
98-08-8	aaa-Trifluorotoluene	94%		50-144%

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 Drive, Houston, TX 77036
713-271-4700 FAX: 713-271-4770

FED-EX Tracking # 858677886480 | Bottle Order Control # | Accutest Quote # | EL Paso Pricing | Accutest Job # T16475

Client / Reporting Information

Company Name: MWH Americas, Inc.
Address: 1801 California St. Suite 2900
City: Denver | State: CO | Zip: 80202
Project Contact: Chandler Cole
Phone #: 303-291-2161
Samplers's Name: Ashley Ager

Project Information

Project Name: Blanco North Flare Pit
Street:
City: Colorado Springs | State: Co
Project #:
Fax #:
Client Purchase Order #: D-ALAB-BlancoPitN-004

Requested Analysis

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	H2SO4	NONE	NaHSO4	MEOH	ENCORE	BTEX (8021)	LAB USE ONLY
1	MW-19	2-26-07	1103	ALA	WG	17	X						X	
2	MW-23	2-26-07	1225	ALA	WG	3	X						X	
	MW-24				WG	3	X						X	
3	MW-26	2-26-07	0926	ALA	WG	29	X						X	
4	MW-27	2-26-07	1014	ALA	WG	3	X						X	
5	MW-33	2-26-07	1128	ALA	WG	3	X						X	
6	[illegible]	2-26-07	0700	ALA	WG	2	X						X	

Turnaround Time (Business days)

- [XX] Std. 15 Business Days
- [ ] 10 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Level 1
- [X] Level 2
- [ ] Level 3
- [ ] Level 4
- [ ] Other
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

1 voa for MW-19, contains air
2 voas for MW-26
No sample collected for MW-24
(not enough water in well to sample)

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	Ashley Lager	2-26-07 1500	1	2	22707 1600	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time: 2/28/07 1010	Received By: A. Reilly	Custody Seal #	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 2.0

Page 1

T16475: Chain of Custody
Page 1 of 3

ACCUTEST. SAMPLE RECEIPT LOG

JOB #: T16475 DATE/TIME RECEIVED: 2/28/07/ 10:10

CLIENT: MWH Americas INITIALS: AR

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. [✓ Y] N Sample received in undamaged condition.
2. [✓ Y] N Samples received within temp. range.
3. Y [✓ NA] Sample received with proper pH.
4. [✓ Y] N Sample received in proper containers.
5. [✓ Y] N Sample volume sufficient for analysis.
6. [✓ Y] N Sample received with chain of custody.
7. [✓ Y] N Chain of Custody matches **sample IDs and analysis** on containers.
8. [✓ Y] N Samples Headspace acceptable
9. [✓ Y] N NA Custody seal received intact and tamper not evident on cooler.
10. Y N [✓ NA] Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1	2/26	AQ	40ml.	VREF	1,[✓ 2],3,4,5,6	U, <2, >12, NA
2,4,5	1-3	|	|	|	|	1,2,3,4,5,6	U, <2, >12, NA
3	1-2	|	|	|	|	1,2,3,4,5,6	U, <2, >12, NA
6	1-2	|	|	|	|	1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

AR 2-28-07

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: FE

COOLER TEMP: 2.0 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/06, QAO

T16475: Chain of Custody

Page 2 of 3

T16475

m This portion can be removed for Recipient's records.

Is 22707 FedEx Tracking Number 858677886480

der's me Martin Nee Phone 505 334 2791

Company Lodestar Services

Address 26 CR 3500 Dept/Floor/Suite/Room

Elora Vista State NM ZIP 87415

ur Internal Billing Reference

ACCUTEST LABORATORIES
CUSTODY SEAL

ACCUTEST LABORATORIES
CUSTODY SEAL

ACCUTEST LABORATORIES
CUSTODY SEAL

DATE / TIME SEALED: 22707 16

4.1

T16475: Chain of Custody
Page 3 of 3

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T16475
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1021-MB	KK018299.D	1	03/02/07	ZLH	n/a	n/a	GKK1021

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

T16475-1, T16475-2, T16475-4, T16475-5, T16475-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.35	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	85%	56-136%
98-08-8	aaa-Trifluorotoluene	89%	50-144%

Method Blank Summary

Job Number: T16475
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1023-MB	KK018370.D	1	03/06/07	JH	n/a	n/a	GKK1023

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

T16475-2, T16475-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.35	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.36	ug/l	
95-47-6	o-Xylene	ND	1.0	0.14	ug/l	
	m,p-Xylene	ND	1.0	0.36	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	99%	56-136%
98-08-8	aaa-Trifluorotoluene	107%	50-144%

Blank Spike Summary

Job Number: T16475
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1021-BS	KK018300.D	1	03/02/07	ZLH	n/a	n/a	GKK1021

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

T16475-1, T16475-2, T16475-4, T16475-5, T16475-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.5	103	72-125
100-41-4	Ethylbenzene	20	19.7	99	76-125
108-88-3	Toluene	20	20.4	102	74-125
1330-20-7	Xylenes (total)	60	59.3	99	78-124
95-47-6	o-Xylene	20	19.1	96	78-124
	m,p-Xylene	40	40.2	101	78-125

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	88%	56-136%
98-08-8	aaa-Trifluorotoluene	90%	50-144%

Blank Spike Summary

Job Number: T16475
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1023-BS	KK018371.D	1	03/06/07	JH	n/a	n/a	GKK1023

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

T16475-2, T16475-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	22.3	112	72-125
100-41-4	Ethylbenzene	20	21.7	109	76-125
108-88-3	Toluene	20	22.5	113	74-125
1330-20-7	Xylenes (total)	60	65.6	109	78-124
95-47-6	o-Xylene	20	21.3	107	78-124
	m,p-Xylene	40	44.3	111	78-125

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	98%	56-136%
98-08-8	aaa-Trifluorotoluene	109%	50-144%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T16475
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T16491-2MS	KK018306.D	1	03/02/07	ZLH	n/a	n/a	GKK1021
T16491-2MSD	KK018307.D	1	03/02/07	ZLH	n/a	n/a	GKK1021
T16491-2	KK018305.D	1	03/02/07	ZLH	n/a	n/a	GKK1021

5.3 G

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

T16475-1, T16475-2, T16475-4, T16475-5, T16475-6

CAS No.	Compound	T16491-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2.8		20	23.4	103	23.2	102	1	45-137/21
100-41-4	Ethylbenzene	ND		20	19.3	97	19.2	96	1	68-126/15
108-88-3	Toluene	0.30	J	20	19.9	98	19.5	96	2	63-130/22
1330-20-7	Xylenes (total)	ND		60	56.7	95	56.5	94	0	72-125/19
95-47-6	o-Xylene	ND		20	18.2	91	18.2	91	0	70-128/20
	m,p-Xylene	ND		40	38.5	96	38.3	96	1	63-136/19

CAS No.	Surrogate Recoveries	MS	MSD	T16491-2	Limits
460-00-4	4-Bromofluorobenzene	92%	92%	91%	56-136%
98-08-8	aaa-Trifluorotoluene	101%	100%	97%	50-144%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T16475
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T16527-2MS	KK018390.D	1	03/06/07	JH	n/a	n/a	GKK1023
T16527-2MSD	KK018391.D	1	03/06/07	JH	n/a	n/a	GKK1023
T16527-2	KK018389.D	1	03/06/07	JH	n/a	n/a	GKK1023

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

T16475-2, T16475-3

CAS No.	Compound	T16527-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	25.3	127	24.7	124	2	45-137/21
100-41-4	Ethylbenzene	ND		20	24.4	122	24.4	122	0	68-126/15
108-88-3	Toluene	ND		20	25.1	126	25.8	129	3	63-130/22
1330-20-7	Xylenes (total)	ND		60	71.5	119	71.1	119	1	72-125/19
95-47-6	o-Xylene	ND		20	23.0	115	22.8	114	1	70-128/20
	m,p-Xylene	ND		40	48.5	121	48.2	121	1	63-136/19

CAS No.	Surrogate Recoveries	MS	MSD	T16527-2	Limits
460-00-4	4-Bromofluorobenzene	99%	101%	99%	56-136%
98-08-8	aaa-Trifluorotoluene	109%	111%	105%	50-144%

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 02/26/07

Laboratory: Accutest **MWH Job Number:** SJRB

Batch Identification: T16475 **Matrix:** Water

MS/MSD Parent(s)[a]: MW-26 **Field Replicate Parent(s):** None

Verification Complete: Craig Moore – 06/26/07
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
1	SJRB	MW-19	T16475-1	N	None	
1,2.3	SJRB	MW-23	T16475-2	Y	J B	Benzene @ 8910 µg/l Toluene @ 30.7 µg/l
2	SJRB	MW-26	T16475-3	Y	None	
1	SJRB	MW-27	T16475-4	Y	None	
2	SJRB	MW-33	T16475-5	N	None	
None	SJRB	260207TB01	T16475-6	Y	None	

DATA VERIFICATION WORKSHEET

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** SJRB

Laboratory: Accutest **Batch Identification:** T16475

Verification Criteria								
Sample ID	**MW-19**	**MW-23**	**MW-26**	**MW-27**	**MW-33**	**260207TB01**		
Lab ID	**T16475-1**	**T16475-2**	**T16475-3**	**T16475-4**	**T16475-5**	**T16475-6**		
Holding Time	A	A	A	A	A	A		
Analyte List	A[1]	A[1,3]	A	A[1]	A	A		
Reporting Limits	A	A	A	A	A	A		
Surrogate Spike Recovery	A	A	A	A	A	A		
Trip Blank	A[2]	A[2]	A[2]	A[2]	A[2]	N/A		
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A	N/A		
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A	N/A		
Initial Calibration	N	N	N	N	N	N		
Initial Calibration Verification (ICV)	N	N	N	N	N	N		
Continuing Calibration Verification (CCV)	N	N	N	N	N	N		
Method Blank	A	A	A	A	A	A		
Laboratory Control Sample (LCS)	A	A	A	A	A	A		
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	A	N/A	A	N/A	N/A	N/A		
Retention Time Window	N	N	N	N	N	N		
Injection Time(s)	N	N	N	N	N	N		
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A		
EDD vs. Hardcopy	N	N	N	N	N	N		
EDD vs. Chain of Custody	N	N	N	N	N	N		

(a) List QC batch identification if different than Batch ID
A indicates verification criteria were met
A/L indicates verification criteria met based upon Laboratory's QC Summary Form
X indicates verification criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

1) Sample pH at time of analysis was greater than two, thus reducing the holding time from 14 days to seven. Samples were analyzed within seven days; therefore now data are qualified.
2) Toluene detected in trip blank (TB), 260207TB01 at 0.75 J µg/l. Sample ND for toluene are not qualified. Sample with concentrations greater than five times the TB concentration are qualified with a "B" flag indicating that the analyte was detected in an associated blank. However, the TB concentration when compared to the sample concentrations has no affect on the data.
3) Sample pH at time of analysis was greater than two, thus reducing the holding time from 14 days to seven. Sample analyzed eight days after sample collection for benzene only or one day outside of holding time, introducing a possible low bias. Benzene result is qualified with a "J" flags, indicating the datum is estimated and possibly biased low.

Groundwater Sampling Field Forms – May 2007

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

06/04/07

Technical Report for

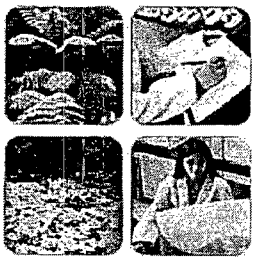
Montgomery Watson

Blanco North Flare Pit

D-ALAB-BLANCOPITN-004

Accutest Job Number: T17626

Sampling Date: 05/29/07



Report to:

MWH Americas, Inc.
1801 California St. Suite 2900
Denver, CO 80202
jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 17

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.

Ron Martino
Laboratory Manager

Client Service contact: Agnes Vicknair 713-271-4700

Sections:

Table of Contents

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Sample Summary

Montgomery Watson

Job No: T17626

Blanco North Flare Pit
Project No: D-ALAB-BLANCOPITN-004

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T17626-1	05/29/07	10:02	MN	05/30/07	AQ	Ground Water	MW-31
T17626-2	05/29/07	09:30	MN	05/30/07	AQ	Ground Water	MW-23
T17626-3	05/29/07	11:45	MN	05/30/07	AQ	Ground Water	MW-26
T17626-4	05/29/07	11:10	MN	05/30/07	AQ	Ground Water	MW-27
T17626-5	05/29/07	10:40	MN	05/30/07	AQ	Ground Water	MW-33

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T17626

Site: Blanco North Flare Pit **Report Date** 6/4/2007 3:22:17 PM

5 Samples were collected on 05/29/2007 and were received at Accutest on 05/30/2007 properly preserved, at 2.2 Deg. C and intact. These Samples received an Accutest job number of T17626. 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:** GKK1088

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T17634-1MS, T17634-1MSD 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:	MW-31		
Lab Sample ID:	T17626-1	Date Sampled:	05/29/07
Matrix:	AQ - Ground Water	Date Received:	05/30/07
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK019984.D	1	06/01/07	ZLH	n/a	n/a	GKK1088
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	4.6	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	1.1	2.0	0.55	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	1.1	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	88%		56-136%
98-08-8	aaa-Trifluorotoluene	105%		50-144%

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:	MW-23		
Lab Sample ID:	T17626-2	**Date Sampled:**	05/29/07
Matrix:	AQ - Ground Water	**Date Received:**	05/30/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK019985.D	50	06/01/07	ZLH	n/a	n/a	GKK1088
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	6410	50	10	ug/l	
108-88-3	Toluene	ND	50	11	ug/l	
100-41-4	Ethylbenzene	276	50	17	ug/l	
1330-20-7	Xylenes (total)	1240	100	28	ug/l	
95-47-6	o-Xylene	ND	50	28	ug/l	
	m,p-Xylene	1240	50	33	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		56-136%
98-08-8	aaa-Trifluorotoluene	95%		50-144%

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:	MW-26		
Lab Sample ID:	T17626-3	**Date Sampled:**	05/29/07
Matrix:	AQ - Ground Water	**Date Received:**	05/30/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK019986.D	1	06/01/07	ZLH	n/a	n/a	GKK1088
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	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	0.93	1.0	0.35	ug/l	J
1330-20-7	Xylenes (total)	1.1	2.0	0.55	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	1.1	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	90%		56-136%
98-08-8	aaa-Trifluorotoluene	99%		50-144%

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:	MW-27		
Lab Sample ID:	T17626-4	**Date Sampled:**	05/29/07
Matrix:	AQ - Ground Water	**Date Received:**	05/30/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK019987.D	1	06/01/07	ZLH	n/a	n/a	GKK1088
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	1.1	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	1.8	2.0	0.55	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	1.8	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		56-136%
98-08-8	aaa-Trifluorotoluene	99%		50-144%

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:	MW-33		
Lab Sample ID:	T17626-5	**Date Sampled:**	05/29/07
Matrix:	AQ - Ground Water	**Date Received:**	05/30/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK019988.D	1	06/01/07	ZLH	n/a	n/a	GKK1088
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	0.63	1.0	0.21	ug/l	J
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	0.64	2.0	0.55	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		56-136%
98-08-8	aaa-Trifluorotoluene	97%		50-144%

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 Drive, Houston, TX 77036
713-271-4700 FAX: 713-271-4770

FED-EX Tracking # 8586 7788 6491 | Bottle Order Control # | Accutest Quote # | EL Paso Pricing | Accutest Job # T17426

Client / Reporting Information

Company Name: MWH Americas, Inc.
Address: 1801 California St. Suite 2900
City: Denver | State: CO | Zip: 80202
Project Contact: Chandler Cole
Phone #: 303-291-2151
Samplers's Name: Martin Nunez

Project Information

Project Name: Blanco North Flare Pit
Street:
City: Colorado Springs | State: Co
Project #:
Fax #:
Client Purchase Order #: TWO D-ALAB-BlancoPitN-004

Requested Analysis

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL- Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: ID	HCl	HNO3	H2SO4	NONE	NaHSO4	MeOH	ENCORE	BTEX (8021)	LAB USE ONLY
1	MW-31	5/29/07	1002	MN	WG	3	X				X				X	
2	MW-23	5/29/07	0930	MN	WG	3	X								X	
~~3~~	~~MW-24~~					3	X								X	
3	MW-26	5/29/07	1145	MN	WG	3	X								X	
4	MW-27	5/29/07	1110	MN	WG	3	X								X	
5	MW-33	5/29/07	1040	MN	WG	3	X								X	

Turnaround Time (Business days)

- [xx] Std. 15 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By:/ Date:

Data Deliverable Information

- [ ] Level 1
- [x] Level 2
- [ ] Level 3
- [ ] Level 4
- [ ] Other
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

Emergency T/A data available VIA Lablink

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		5/29/07 1630	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time: 5/30/07 9:18	Received By: 5 Cassie Escotto	Custody Seal #	Preserved where applicable ☐	On Ice / Cooler Temp. 2.2

Page 1

T17626: Chain of Custody
Page 1 of 2

ACCUTEST. SAMPLE RECEIPT LOG

JOB #: T17626 DATE/TIME RECEIVED: 5/30/07 9:18

CLIENT: MWH Americas INITIALS: CNE

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. [✓ Y] N Sample received in undamaged condition.
2. [✓ Y] N Samples received within temp. range.
3. Y [✓ N] Sample received with proper pH.
4. [✓ Y] N Sample received in proper containers.
5. [✓ Y] N *Sample volume sufficient for analysis.*
6. [✓ Y] N *Sample received with chain of custody.*
7. [✓ Y] N Chain of Custody matches sample IDs and analysis on containers.
8. [✓ Y] N Samples Headspace acceptable
9. [✓ Y] N NA Custody seal received intact and tamper not evident on cooler.
10. Y N [✓ NA] Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-5	1-3	5/29/07	AQ	40ml	VREF	1,[✓ 2],3,4,5,6	U, [✓ <2], >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
			CNE 5/30/07			1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: FedEx

COOLER TEMP: 2.2 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/06, QAO

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T17626
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1088-MB	KK019962.D	1	06/01/07	ZLH	n/a	n/a	GKK1088

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

T17626-1, T17626-2, T17626-3, T17626-4, T17626-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	92%	56-136%
98-08-8	aaa-Trifluorotoluene	98%	50-144%

Blank Spike Summary

Job Number: T17626
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1088-BS	KK019963.D	1	06/01/07	ZLH	n/a	n/a	GKK1088

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

T17626-1, T17626-2, T17626-3, T17626-4, T17626-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.4	92	72-125
100-41-4	Ethylbenzene	20	19.9	100	76-125
108-88-3	Toluene	20	19.2	96	74-125
1330-20-7	Xylenes (total)	60	59.6	99	78-124
95-47-6	o-Xylene	20	20.1	101	78-124
	m,p-Xylene	40	39.6	99	78-125

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	91%	56-136%
98-08-8	aaa-Trifluorotoluene	98%	50-144%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T17626
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T17634-1MS	KK019966.D	1	06/01/07	ZLH	n/a	n/a	GKK1088
T17634-1MSD	KK019967.D	1	06/01/07	ZLH	n/a	n/a	GKK1088
T17634-1	KK019965.D	1	06/01/07	ZLH	n/a	n/a	GKK1088

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

T17626-1, T17626-2, T17626-3, T17626-4, T17626-5

CAS No.	Compound	T17634-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	18.5	93	18.4	92	1	45-137/21
100-41-4	Ethylbenzene	ND		20	19.3	97	18.9	95	2	68-126/15
108-88-3	Toluene	ND		20	18.5	93	18.7	94	1	63-130/22
1330-20-7	Xylenes (total)	ND		60	58.0	97	57.3	96	1	72-125/19
95-47-6	o-Xylene	ND		20	19.5	98	19.4	97	1	70-128/20
	m,p-Xylene	ND		40	38.5	96	37.9	95	2	63-136/19

CAS No.	Surrogate Recoveries	MS	MSD	T17634-1	Limits
460-00-4	4-Bromofluorobenzene	91%	94%	92%	56-136%
98-08-8	aaa-Trifluorotoluene	99%	102%	98%	50-144%

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes:	SW-846 8021B (BTEX)	**Sample Collection Date(s):**	5/29/07
Laboratory:	Accutest	**MWH Job Number:**	SJRB
Batch Identification:	T17626	**Matrix:**	Water
MS/MSD Parent(s)[a]:	None	**Field Replicate Parent(s):**	None

Verification Complete: Craig Moore – 06/27/07

(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	SJRB	MW-31	T17626-1	Y	None	
None	SJRB	MW-23	T17626-2	Y	None	
None	SJRB	MW-26	T17626-3	Y	None	
None	SJRB	MW-27	T17626-4	Y	None	
None	SJRB	MW-33	T17626-5	Y	None	

DATA VERIFICATION WORKSHEET

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** SJRB

Laboratory: Accutest **Batch Identification:** T17626

Verification Criteria								
Sample ID	MW-31	MW-23	MW-26	MW-27	MW-33			
Lab ID	T17626-1	T17626-2	T17626-3	T17626-4	T17626-5			
Holding Time	A	A	A	A	A			
Analyte List	A	A	A	A	A			
Reporting Limits	A	A	A	A	A			
Surrogate Spike Recovery	A	A	A	A	A			
Trip Blank	N/A	N/A	N/A	N/A	N/A			
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A			
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A			
Initial Calibration	N	N	N	N	N			
Initial Calibration Verification (ICV)	N	N	N	N	N			
Continuing Calibration Verification (CCV)	N	N	N	N	N			
Method Blank	A	A	A	A	A			
Laboratory Control Sample (LCS)	A	A	A	A	A			
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N			
Matrix Spike/Matrix Spike Dup. (MS/MSD)	A	N/A	N/A	N/A	N/A			
Retention Time Window	N	N	N	N	N			
Injection Time(s)	N	N	N	N	N			
Hardcopy vs. Chain-of-Custody	A	A	A	A	A			
EDD vs. Hardcopy	N	N	N	N	N			
EDD vs. Chain of Custody	N	N	N	N	N			

(a) List QC batch identification if different than Batch ID
A indicates verification criteria were met
A/L indicates verification criteria met based upon Laboratory's QC Summary Form
X indicates verification criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

Groundwater Analytical Report – August 2007

Gulf Coast ACCUTEST. Laboratories

IT'S ALL IN THE CHEMISTRY

09/04/07

Technical Report for

Montgomery Watson

Blanco North Flare Pit

D-ALAB-BLANCOPITN-004

Accutest Job Number: T18592

Sampling Date: 08/22/07

Report to:

MWH Americas, Inc.

jed.Smith@us.mwhglobal.com

ATTN: Mr. Jed Smith

Total number of pages in report: **19**

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.

Ron Martino
Laboratory Manager

Client Service contact: Agnes Vicknair 713-271-4700

Sections: 1 2 3 4 5

Table of Contents

Sample Summary

Montgomery Watson

Job No: T18592

Blanco North Flare Pit
Project No: D-ALAB-BLANCOPITN-004

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T18592-1	08/22/07	07:00	MN	08/23/07	AQ	Trip Blank Water	220807TB01
T18592-2	08/22/07	08:09	MN	08/23/07	AQ	Ground Water	MW-23
T18592-3	08/22/07	08:45	MN	08/23/07	AQ	Ground Water	MW-31
T18592-4	08/22/07	09:35	MN	08/23/07	AQ	Ground Water	MW-33
T18592-5	08/22/07	10:02	MN	08/23/07	AQ	Ground Water	MW-27
T18592-6	08/22/07	10:25	MN	08/23/07	AQ	Ground Water	MW-26

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T18592

Site: Blanco North Flare Pit **Report Date** 9/4/2007 2:45:43 PM

5 Samples and 1 Trip Blank were collected on 08/22/2007 and were received at Accutest on 08/23/2007 properly preserved, at 2.9 Deg. C and intact. These Samples received an Accutest job number of T18592. 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:** GKK1173

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T18592-4MS, T18592-4MSD were used as the QC samples indicated.
- T18592-2 for aaa-Trifluorotoluene: Outside control limits due to matrix interference. Confirmed by reanalysis.
- T18592-2 for 4-Bromofluorobenzene: Outside control limits due to matrix interference. Confirmed by reanalysis.

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

Report of Analysis

Client Sample ID:	220807TB01		
Lab Sample ID:	T18592-1	**Date Sampled:**	08/22/07
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/23/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK022347.D	1	09/02/07	LJ	n/a	n/a	GKK1173
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	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	80%		61-125%
98-08-8	aaa-Trifluorotoluene	90%		50-139%

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:	MW-23		
Lab Sample ID:	T18592-2	**Date Sampled:**	08/22/07
Matrix:	AQ - Ground Water	**Date Received:**	08/23/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK022354.D	5	09/02/07	LJ	n/a	n/a	GKK1173
Run #2	KK022360.D	50	09/02/07	LJ	n/a	n/a	GKK1173

	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	5110 [a]	50	10	ug/l	
108-88-3	Toluene	14.5	5.0	1.1	ug/l	
100-41-4	Ethylbenzene	172	5.0	1.7	ug/l	
1330-20-7	Xylenes (total)	855	10	2.8	ug/l	
95-47-6	o-Xylene	36.9	5.0	2.8	ug/l	
	m,p-Xylene	818	5.0	3.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	131% [b]	93%	61-125%
98-08-8	aaa-Trifluorotoluene	155% [b]	103%	50-139%

(a) Result is from Run# 2
(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

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:	MW-31		
Lab Sample ID:	T18592-3	**Date Sampled:**	08/22/07
Matrix:	AQ - Ground Water	**Date Received:**	08/23/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK022348.D	1	09/02/07	LJ	n/a	n/a	GKK1173
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	4.8	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		61-125%
98-08-8	aaa-Trifluorotoluene	102%		50-139%

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:	MW-33		
Lab Sample ID:	T18592-4	**Date Sampled:**	08/22/07
Matrix:	AQ - Ground Water	**Date Received:**	08/23/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK022349.D	1	09/02/07	LJ	n/a	n/a	GKK1173
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	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		61-125%
98-08-8	aaa-Trifluorotoluene	90%		50-139%

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:	MW-27		
Lab Sample ID:	T18592-5	**Date Sampled:**	08/22/07
Matrix:	AQ - Ground Water	**Date Received:**	08/23/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK022350.D	1	09/02/07	LJ	n/a	n/a	GKK1173
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	0.39	1.0	0.21	ug/l	J
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	88%		61-125%
98-08-8	aaa-Trifluorotoluene	100%		50-139%

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:	MW-26		
Lab Sample ID:	T18592-6	**Date Sampled:**	08/22/07
Matrix:	AQ - Ground Water	**Date Received:**	08/23/07
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Blanco North Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK022351.D	1	09/02/07	LJ	n/a	n/a	GKK1173
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	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		61-125%
98-08-8	aaa-Trifluorotoluene	100%		50-139%

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 Drive, Ste. 150, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 862372582733 | Bottle Order Control #
Accutest Quote # | Accutest Job # T18592

Client / Reporting Information

Company Name: MWH Americas, Inc
Address: 1801 California St Ste 2900
City: Denver State: CO Zip: 80202
Project Contact: Jed Smith E-mail:
Phone #: 303 291 2276
Sampler's Name: M Nee

Project Information

Project Name: Blanco North Flare Pit
Street:
City: State:
Project #:
Fax #:
Client Purchase Order #: TWO D-ALAB-BLANCO DITN-004

Requested Analysis

8021 BTEX

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
LAB USE ONLY

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	None	NaHSO4	MEOH	ENCORE	8021 BTEX	LAB USE ONLY
1	ZZ0807TB01		8/2/07	0700	MW	WG	2	✓								✓	
2	MW-23		8/2/07	0809	MW	WG						✓				✓	
3	MW-31		8/2/07	0845	MW	WG						✓				✓	
4	MW-33		8/2/07	0935	MW	WG		✓								✓	
5	MW-27		8/2/07	1002	MW	WG						✓				✓	
6	MW-26		8/2/07	1025	MW	WG						✓				✓	

Turnaround Time (Business Days)

- [x] 10 Day STANDARD — Approved By / Date:
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13
- [ ] EDD Format ____

Commercial "A" = Results Only

Comments / Remarks

Unpreserved Samples

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 [signature] 8/2/07	1630	1	2		2
3	Date Time	3	4	Date Time	4
5	8/3/07 1120	Received by: A. Rodriguez	Custody Seal #	Preserved where applicable ☐	On Ice ☑ Cooler Temp 2.9

4.1 4

T18592: Chain of Custody
Page 1 of 3

ACCUTEST.

VARIANCE MEMO
SAMPLE LOG-IN

SAMPLE(S) #5- MW-27 (3 ave)
PROJECT Blanco North Flare Pit
FILED BY AR

DATE 8/23/07
LAB NO. T18592

VARIANCE - Check applicable items(s):

- ____ Insufficient sample sent for proper analysis; received approx. ____
- ____ Sample bottle received broken and/or cap not intact.
- ____ Samples received without paperwork; paperwork received without samples.
- ____ Samples received without proper refrigeration, when it has been deemed necessary. Temperature at receipt: ____
- ____ Illegible sample number or label missing from bottle.
- ____ Numbers on sample not the same as numbers on paper work.
- ____ Incomplete instructions received with sample(s) ie.,no request for analysis, no chain of custody, incomplete billing instructions, no due date, etc. Temperature at reciept: ____
- ____ Samples received in improper container or lacking proper preservation.
- ____ Physical characteristics different than those on sampling sheets; Describe: ____
- ____ Rush samples on hold because of incomplete paperwork.
- ____ Other (specify) All samples except #1 & #5 were rec'd. w/ 3 containers, not 2. #5 was rec'd. w/ only one voa vial and may limited.

CORRECTIVE ACTION TAKEN

- ____ Person Contacted
- ____ Client informed verbally.
- ____ Client informed by memo/letter.
- ____ Samples processed as is.
- ____ Samples preserved by lab.
- ____ Client will resample and resubmit.
- ____ By phone.
- ____ Samples processed for information only and noted on report.
- ____ Samples processed with higher detection limits accepted.
- ____ Samples rejected.

Notes: ____

ROUTING

TITLE	DATE	INITIALS	CORRECTED?
Sample Manager:			
Login:			
Project Manager:	8/23/A	AF	

Comments:
Logged in Limited Sx Volume on Sx #5

Form: SM006

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T18592: Chain of Custody
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ACCUTEST. Laboratories
T18592

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T18592 DATE/TIME RECEIVED: 8/23/07/9:20

CLIENT: MWH Americas INITIALS: AR

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. [✓ Y] N Sample received in undamaged condition.
2. [✓ Y] N Samples received within temp. range.
3. Y [✓ N] Sample received with proper pH.
4. [✓ Y] N Sample received in proper containers.
5. Y [✓ N] Sample volume sufficient for analysis.
6. [✓ Y] N Sample received with chain of custody.
7. [✓ Y] N Chain of Custody matches **sample IDs and analysis** on containers.
8. [✓ Y] N Samples Headspace acceptable
9. [✓ Y] N NA Custody seal received intact and tamper not evident on cooler.
10. Y N [✓ NA] Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1-2	8/22	AQ	40ml.	VRBF	1,[✓ 2],3,4,5,6	U, <2, >12, NA
2-3	1-3					[✓ 1],2,3,4,5,6	U, <2, >12, NA
4	1-3					1,[✓ 2],3,4,5,6	U, <2, >12, NA
5	1					[✓ 1],2,3,4,5,6	U, <2, >12, NA
6	1-3					[✓ 1],2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
		AR 8-23-07				1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: FE

COOLER TEMP: 2.9 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/06, QAO

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T18592: Chain of Custody

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GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T18592
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1173-MB	KK022345.D	1	09/02/07	LJ	n/a	n/a	GKK1173

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

T18592-1, T18592-2, T18592-3, T18592-4, T18592-5, T18592-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	83%	61-125%
98-08-8	aaa-Trifluorotoluene	86%	50-139%

Blank Spike Summary

Job Number: T18592
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1173-BS	KK022346.D	1	09/02/07	LJ	n/a	n/a	GKK1173

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

T18592-1, T18592-2, T18592-3, T18592-4, T18592-5, T18592-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.1	101	79-122
100-41-4	Ethylbenzene	20	17.3	87	80-118
108-88-3	Toluene	20	18.5	93	78-120
1330-20-7	Xylenes (total)	60	54.2	90	80-120
95-47-6	o-Xylene	20	18.6	93	80-121
	m,p-Xylene	40	35.6	89	79-120

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	103%	61-125%
98-08-8	aaa-Trifluorotoluene	109%	50-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T18592
Account: MWHSLCUT Montgomery Watson
Project: Blanco North Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T18592-4MS	KK022356.D	1	09/02/07	LJ	n/a	n/a	GKK1173
T18592-4MSD	KK022357.D	1	09/02/07	LJ	n/a	n/a	GKK1173
T18592-4	KK022349.D	1	09/02/07	LJ	n/a	n/a	GKK1173

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

T18592-1, T18592-2, T18592-3, T18592-4, T18592-5, T18592-6

CAS No.	Compound	T18592-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	21.7	109	22.4	112	3	63-140/20
100-41-4	Ethylbenzene	ND		20	19.7	99	19.7	99	0	74-130/20
108-88-3	Toluene	ND		20	20.5	103	21.2	106	3	76-129/20
1330-20-7	Xylenes (total)	ND		60	61.5	103	61.2	102	0	75-130/20
95-47-6	o-Xylene	ND		20	20.6	103	20.7	104	0	78-128/20
	m,p-Xylene	ND		40	40.9	102	40.4	101	1	75-129/20

CAS No.	Surrogate Recoveries	MS	MSD	T18592-4	Limits
460-00-4	4-Bromofluorobenzene	119%	108%	82%	61-125%
98-08-8	aaa-Trifluorotoluene	114%	110%	90%	50-139%

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 08/22/07

Laboratory: Accutest **MWH Job Number:** SJRB

Batch Identification: T18592 **Matrix:** Water

MS/MSD Parent(s)[a]: _____ **Field Replicate Parent(s):** None

Verification Complete: Craig Moore -09/28/07
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	SJRB	220807TB01	T18592-1	N	None	
1	SJRB	MW-23	T18592-2	Y	J J J J J	Toluene @ 14.5 µg/l Ethylbenzene @ 172 µg/l Xylenes (total) @ 855 µg/l o-Xylene @ 36.9 µg/l m,p-Xylene @ 818 µg/l
None	SJRB	MW-31	T18592-3	Y	None	
None	SJRB	MW-33	T18592-4	N	None	
None	SJRB	MW-27	T18592-5	Y	None	
None	SJRB	MW-26	T18592-6	N	None	

DATA VERIFICATION WORKSHEET

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** SJRB

Laboratory: Accutest **Batch Identification:** T18592

Verification Criteria								
Sample ID	**TB**	**MW-23**	**MW-31**	**MW-33**	**MW-27**	**MW-26**		
Lab ID	**T18592-1**	**T18592-2**	**T18592-3**	**T18592-4**	**T18592-5**	**T18592-6**		
Holding Time	A	A	A	A	A	A		
Analyte List	A	A	A	A	A	A		
Reporting Limits	A	A	A	A	A	A		
Surrogate Spike Recovery	A	A[1]	A	A	A	A		
Trip Blank	N/A	A	A	A	A	A		
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A	N/A		
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A	N/A		
Initial Calibration	N	N	N	N	N	N		
Initial Calibration Verification (ICV)	N	N	N	N	N	N		
Continuing Calibration Verification (CCV)	N	N	N	N	N	N		
Method Blank	A	A	A	A	A	A		
Laboratory Control Sample (LCS)	A	A	A	A	A	A		
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	A	N/A	N/A		
Retention Time Window	N	N	N	N	N	N		
Injection Time(s)	N	N	N	N	N	N		
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A		
EDD vs. Hardcopy	N	N	N	N	N	N		
EDD vs. Chain of Custody	N	N	N	N	N	N		

(a) List QC batch identification if different than Batch ID
A indicates verification criteria were met
A/L indicates verification criteria met based upon Laboratory's QC Summary Form
X indicates verification criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

1) Surrogate recoveries high for 4-bromofluorobenzene (131%[61-125%]) and aaa-trifluorotoluene (155% [50-139]). Qualify associated detected analytes with "J" indicating that the data are estimated with a potential high bias.