GW49-2

ANNUAL MONITORING REPORT

08/28/2009

GW 49-2

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August 28, 2009

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

RE: 2009 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 ***2009 Annual Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas***. The enclosed report details results of the annual groundwater sampling event, conducted on May 28, 2009 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,

on behalf of

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

Enclosures: as stated

Prepared for:

EL PASO NATURAL GAS COMPANY

1001 Louisiana Street
Houston, Texas 77002

2009 ANNUAL GROUNDWATER REPORT FOR THE BLANCO PLANT SOUTH FLARE PIT AND D PLANT AREAS

San Juan County, New Mexico

August 2009

Prepared by:

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

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LIST OF ACRONYMS

CHC	Chlorinated Hydrocarbons
DCA	Dichloroethane
DCB	Dichlorobenzene
DCE	Dichloroethene
EPNG	El Paso Natural Gas Company
MCL	Maximum Contaminant Level
MWH	MWH Americas, Inc.
NMOCD	New Mexico Oil Conservation Division
NMWQCC	New Mexico Water Quality Control Commission
PCE	Perchloroethene
TCE	Trichloroethene
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

This *2009 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 May 28, 2009 annual groundwater sampling event at the Blanco Plant site. The Blanco Plant is located northeast of Bloomfield, New Mexico. This work has been performed according to the proposed actions outlined in the *2008 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas* (MWH, 2008). The 2008 Groundwater Report was submitted to the New Mexico Oil Conservation Division (NMOCD) on August 21, 2008.

The current sampling program was initiated pursuant to a NMOCD letter dated May 3, 2002, regarding remediation activities at EPNG's Blanco Plant. At the time, the primary regulatory driver for groundwater monitoring at this site was the New Mexico Water Quality Control Commission (NMWQCC) nitrate+nitrite standard of 10 milligrams per liter (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 in a NMOCD letter dated February 21, 2003. The ensuing groundwater nitrate report (MWH, 2003) concluded that two localized "hot spots" were present at the Blanco Plant, and annual monitoring was recommended.

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, *Blanco Plant Site Layout*, presents the Blanco Plant site layout and the locations of the D Plant and the former South Flare Pit.

Section 2.0 of this report summarizes historic information related to groundwater nitrate concentrations at the site, including a description of previous investigations and information regarding the geology/hydrogeology of the site. Section 3.0 presents the results of the groundwater sampling event in 2009, and Section 4.0 presents conclusions drawn from the results of the sampling event. Section 5.0 includes recommendations for ongoing site activities.

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 1988 (Bechtel, 1989). Six monitoring wells were installed and sampled during this investigation. Elevated nitrate concentrations were identified in wells MW-2 (290 parts per million [ppm]) and MW-6 (51 ppm) at that time. This report concluded 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. Monitoring well MW-19 was installed upgradient of MW-2. Sampling results from this investigation indicated elevated 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 nitrate source.

In 2003, MWH conducted a study of area background nitrate data and potential onsite sources of nitrate. The report found that evaporites present at the site were capable of causing elevated nitrate concentrations in leachate. In addition, a number of products used in plant operations contained nitrates or nitrites, but no significant releases were identified. The report recommended that annual monitoring be conducted.

Historic and recent groundwater nitrate+nitrite data at the site 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). According to 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, 1988). 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 1988 (Bechtel, 1989). Based on the information collected during this study, it was concluded that the direction of groundwater flow is to the south, toward the San Juan River, which is located approximately 1.5 miles south of 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), among wells situated within a buried relict channel, to nine feet (at MW-10) below ground surface, typical of wells completed in the Nacimiento Formation itself. These results were generally consistent with the subsequent findings of K.W. Brown (1990).

3.0 2009 ANNUAL GROUNDWATER SAMPLING EVENT

Monitoring wells at the Blanco Plant were sampled on May 28, 2009 and analyzed for nitrate+nitrite concentrations and/or chlorinated hydrocarbons (CHCs), as described below. 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.

Figure 2 depicts the groundwater potentiometric surface contours, based on water level measurements collected during the May 28, 2009 annual groundwater sampling event. The groundwater generally flows toward the south, toward the San Juan River. The groundwater flow direction in the South Flare Pit area appears to be influenced as well by recharge from Citizens Ditch. These results are consistent with previous years' data.

3.1 GROUNDWATER NITRATE+NITRITE DATA

Groundwater samples were collected on May 28, 2009 from monitoring wells MW-5, MW-6, MW-8, MW-12, MW-13, MW-14, MW-15, MW-28, MW-29 and MW-30. Sampling was attempted at monitoring wells MW-2 and MW-7; however, these wells were dry. Purging and sampling activities were conducted in accordance with the NMOCD guidance document entitled *Guidelines for Remediation of Leaks, Spills and Releases* (NMOCD, 1993). The groundwater samples were submitted to Accutest Laboratories, Houston, Texas for analysis of nitrate+nitrite concentrations. Field data and additional sampling details are presented on the field forms in Appendix A.

The nitrate+nitrite analytical results are presented in Table 2.1, along with the historical nirate-nitrite data for each well. The 2009 nitrate+nitrite analytical results are also presented on Figure 3. The laboratory analytical reports are included in Appendix B; and data validation records are included in Appendix C. Nitrate+nitrite concentrations were generally consistent with those observed in recent years. Nitrate+nitrite concentrations currently exceed the NMWQCC groundwater standard of 10 mg/L in South Flare Pit area monitoring wells MW-6 (71.2 mg/L), MW-28 (22.7 mg/L), MW-29 (46.2 mg/L), and MW-30 (16.9 ug/L) and in D Plant area monitoring well MW-15 (12.0 mg/L).

Trend graphs depicting nitrate+nitrite concentrations versus groundwater elevations over time are presented in Appendix D for monitoring wells MW-5, MW-6, MW-8, MW-12, MW-13, MW-14, MW-15, MW-28, MW-29, and MW-30. Due to insufficient data, trend graphs were not generated for dry monitoring wells MW-2 and MW-7. In most wells, the nitrate+nitrite concentrations currently exhibit a decreasing trend. The primary exceptions appear to be MW-5 and MW-6. Nitrate+nitrite concentrations in MW-5 have increased slightly over time and have recently hovered near the NMWQCC groundwater standard of 10 mg/L. In monitoring well MW-6, nitrate+nitrite concentrations have been relatively stable, ranging from 59 to 110 mg/L since the initial sampling in 1988.

Monitoring well MW-2 has not been sampled since 1994 because the well has been dry. Historical groundwater data collected from this well indicated elevated nitrate+nitrite concentrations (e.g., 249 mg/L in 1994). A nearby upgradient monitoring well, MW-19, was installed in 1992 and sampled for nitrate until May 2005 (MWH, 2007). Between 1992 and 2005, the nitrate concentrations in MW-19 decreased from 70 mg/L to 3.5 mg/L;

therefore, if shallow groundwater is even present in the MW-2 area, the nitrate concentrations have likely attenuated significantly since 1994.

Monitoring well MW-7 has not been sampled since 1993 because this well has also been dry. The historical groundwater data collected from MW-7 indicated nitrate+nitrite concentrations well below the NMWQCC standard.

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 chlorinated hydrocarbon compounds (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 2009 are presented in Table 3.1. The 2009 annual sampling data are also presented on Figure 4.

Exceedances of applicable NMWQCC groundwater standards were observed only in monitoring well MW-13. The 1,1-DCA concentration in MW-13 (49.0 ug/L) exceeded the NMWQCC groundwater standard of 25 ug/L. It is also noted that although the TCE concentration in MW-13 (18.8 ug/L) did not exceed its NMWQCC groundwater standard of 100 ug/L, it did exceed the corresponding U.S. Environmental Protection Agency (USEPA) Primary Drinking Water Standard – Maximum Contaminant Level of 5 ug/L.

Trend graphs of CHC concentrations versus groundwater elevations over time are presented in Appendix E for monitoring wells MW-12, MW-13, MW-14 and MW-15. Key observations from these graphs include the following:

- Since 2002, the 1,1-DCA concentrations in monitoring well MW-13 have decreased from 61.0 ug/L to 49.0 ug/L.

- The TCE concentrations in monitoring well MW-13 are also attenuating over time, possibly including degradation via reductive dechlorination, which is suggested by the stable concentrations of daughter products such as 1,1-DCE; cis-1,2-DCE; and trans-1,2,-DCE.

- The concentrations of PCE, TCE, cis-1,2-DCE, and 1,1-DCA in monitoring well MW-12 (which appears to be located hydraulically upgradient from the other wells in the D Plant area) have all clearly attenuated since 2002.

4.0 CONCLUSIONS

The following conclusions are based on current and historic sampling and analyses at the site:

Nitrate+Nitrite Concentrations

- Nitrate+nitrite concentrations in the Blanco Plant area are generally decreasing; however, concentrations in monitoring well MW-6 appear to be stable.

- Previous investigations have determined that nitrate-containing evaporites are present within the regional hydrogeology, and these compounds are likely contributors to the observed nitrate concentrations in groundwater (Bechtel, 1988; Brown, 1990; MWH, 2003). The same three investigations also reported historical usage of various nitrate-containing products at the site; however, there have not been any documented releases.

Chlorinated Hydrocarbons

- The groundwater sample collected from MW-13 exceeded the 1,1-DCA NMWQCC standard (25 ug/L) with a concentration of 49.0 ug/L. In addition, the groundwater sample from MW-13 exceeded the TCE USEPA MCL (5.0 ug/L), but not the NMWQCC groundwater standard (100 ug/L), with a concentration of 18.8 ug/L. The stable concentrations of cis-1,2-DCE, trans-1,2-DCE, and 1,1-DCE in MW-13 indicate that reductive dechlorination is potentially occurring. The 1,1-DCA and TCE concentrations in this well are clearly decreasing over time.

- Monitoring wells MW-12, MW-14 and MW-15 remain below the NMWQCC groundwater standards and/or USEPA MCLs for the chlorinated hydrocarbons of potential concern at the Blanco Plant.

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 at least 2002. All current evidence suggests it is unlikely that this well will produce sufficient water for sampling going forward. Therefore, pending approval by NMOCD, this well should be plugged and abandoned.

- Well MW-7 has been dry since at least 2002. Groundwater samples obtained from MW-7 in 1991 and 1993 were below the NMWQCC groundwater standard of 10 mg/L for nitrate+nitrite. Well construction data from 1988 indicates that the bottom of the screen in MW-7 is almost four feet above the current static water table in nearby wells MW-8 and MW-29. Given this information it seems unlikely that MW-7 will produce sufficient water for sampling in the future. Therefore, pending approval by NMOCD, this well should be plugged and abandoned.

- 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).

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, 1988. *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.

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MWH, 2008. *2008 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas.* August 2008.

NMOCD, 1993. *Guidelines for Remediation of Leaks, Spills and Releases.* August 1993.

Tables

TABLE 2.1
GROUNDWATER NITRATE+NITRITE ANALYTICAL DATA (1988 - 2009)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-2	9/21/1988	**290**
	6/18/1991	**180**
	2/23/1993	**256**
	6/8/1993	**228**
	9/29/1993	**233**
	2/10/1994	**249**
	5/29/2002	dry
	6/3/2003	dry
	5/17/2004	dry
	5/30/2005	dry
	6/8/2006	dry
	6/20/2007	dry
	5/22/2008	dry
	5/28/2009	dry
MW-5	9/23/1988	**0.02**
	6/18/1991	**0.08**
	2/19/1993	<1.0
	6/7/1993	<1.0
	8/27/2001	**NS**
	1/27/1994	<1.0
	8/8/2000	**4.6**
	8/8/2000	**4.6**
	11/10/2000	**4.0**
	9/24/2002	dry
	6/3/2003	dry
	5/17/2004	dry
	5/30/2005	dry
	6/8/2006	dry
	6/20/2007	**15**
	5/22/2008	**9.2**
	5/28/2009	**10.0**
MW-6	9/21/1988	**51.0**
	6/19/1991	**110**
	2/19/1993	**63.5**
	6/7/1993	**76.4**
	9/28/1993	**85.9**
	10/7/1993	**94.5**
	1/26/1994	**95.8**

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-6 (cont'd)	8/20/1994	**1.7**
	8/27/2001	**NS**
	12/20/1994	**94**
	2/16/1995	**90.6**
	11/10/2000	**59**
	9/24/2002	**95.1**
	6/3/2003	**74**
	5/17/2004	dry
	5/30/2005	not sampled
	6/8/2006	not sampled
	6/20/2007	**92**
	5/22/2008	**100**
	5/28/2009	**71.2**
MW-7	9/22/1988	**0.3**
	6/18/1991	**0.28**
	6/7/1993	**3**
	9/27/1993	<2.8
	5/29/2002	dry
	9/24/2002	dry
	6/3/2003	dry
	5/17/2004	dry
	5/30/2005	dry
	6/8/2006	dry
	6/20/2007	dry
	5/22/2008	dry
	5/28/2009	dry
MW-8	9/23/1988	<0.1
	6/18/1991	<0.06
	2/19/1993	**2.0**
	6/7/1993	<1.0
	9/27/1993	<1.0
	1/27/1994	<1.0
	11/10/2000	<0.1
	3/23/2001	**0.21**
	8/28/2001	**0.33**
	5/28/2002	**0.26**
	6/3/2003	**0.13**
	3/23/2001	**0.21**

TABLE 2.1
GROUNDWATER NITRATE+NITRITE ANALYTICAL DATA (1988 - 2009)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-8 (cont'd)	8/28/2001	**0.33**
	5/28/2002	**0.26**
	6/3/2003	**0.13**
	5/17/2004	**0.43**
	5/31/2005	**0.30**
	6/8/2006	**0.30**
	6/20/2007	**0.50**
	5/22/2008	**0.16**
	5/28/2009	<2.0
MW-10	9/24/1988	**1.0**
	6/18/1991	**0.74**
	2/19/1993	**1.2**
	6/7/1993	**2.2**
	9/27/1993	**2.1**
	1/27/1994	**2.0**
	5/28/2002	dry
	9/24/2002	dry
	6/3/2003	NS
	12/1/2003	abandoned
MW-12	1/15/1990	**9.6**
	6/19/1991	**7.8**
	2/25/1993	**7.8**
	6/7/1993	**8.5**
	9/28/1993	**9.1**
	1/27/1994	**7.3**
	8/8/2000	<10
	11/9/2000	**5.7**
	3/22/2001	**8.4**
	8/28/2001	**8.0**
	5/28/2002	**2.0**
	6/3/2003	**6.7**
	5/17/2004	**7.6**
	5/31/2005	**8.6**
	6/8/2006	**6.5**
	6/20/2007	**7.6**
	5/22/2008	**6.7**
	5/28/2009	**4.3**
MW-13	1/15/1990	**16.4**
	6/19/1991	**6.3**
	2/24/1993	**10.9**
	6/8/1993	**8.1**

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD Standard: 10 mg/L	
MW-13 (cont'd)	9/28/1993	**4.1**
	1/27/1994	**5.4**
	8/8/2000	<12.5
	11/9/2000	**9.8**
	3/22/2001	**13**
	8/28/2001	**7.9**
	5/28/2002	**6.0**
	6/3/2003	**5.8**
	5/17/2004	**9.8**
	5/31/2005	**8.2**
	6/8/2006	**8.2**
	6/20/2007	**6.1**
	5/22/2008	**3.9**
	5/28/2009	**4.8**
MW-14	1/15/1990	**210**
	2/25/1993	**19.2**
	6/8/1993	**17.5**
	9/28/1993	**11.8**
	1/27/1994	**15.4**
	8/8/2000	**19**
	11/13/2000	**0.24**
	3/22/2001	**13**
	8/28/2001	**20**
	5/28/2002	**15**
	6/3/2003	**15**
	5/17/2004	**16**
	5/31/2005	**24**
	6/8/2006	**14**
	6/20/2007	**15**
	5/22/2008	**13.3**
	5/28/2009	**7.8**
MW-15	1/15/1990	**89**
	6/19/1991	**50**
	2/24/1993	**5**
	6/8/1993	**48.1**
	9/28/1993	**43**
	1/27/1994	**43.7**
	8/8/2000	**35**
	11/9/2000	**38**
	3/22/2001	**25**
	8/28/2001	**30**

TABLE 2.1
GROUNDWATER NITRATE+NITRITE ANALYTICAL DATA (1988 - 2009)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring	Sample Date	Nitrate+Nitrite
	NMOCD Standard: 10 mg/L	
MW-15 (cont'd)	5/28/2002	24
	6/3/2003	21
	5/17/2004	20
	5/31/2005	35
	6/8/2006	17
	6/20/2007	18
	5/22/2008	21.6
	5/28/2009	12.0
MW-16	6/19/1991	0.07
	2/25/1993	3.7
	6/8/1993	<1.0
	6/3/2003	NS
	12/1/2003	abandoned
MW-17	2/25/1993	15.3
	9/24/2002	dry
	6/3/2003	NS
	12/1/2003	abandoned
MW-18	2/25/1993	8.19
	6/8/1993	<1.0
	9/28/1993	<1.0
	9/24/2002	3.1
	6/3/2003	NS
	12/1/2003	abandoned
MW-28	10/7/1993	2.1
	2/2/1994	2.8
	8/20/1994	2.7
	12/20/1994	0.33
	2/16/1995	1.6
	8/10/2000	25
	11/10/2000	53
	3/23/2001	34
	8/28/2001	63
	5/28/2002	83
	6/3/2003	87
	5/17/2004	82
	5/31/2005	85
	6/8/2006	68
	6/20/2007	42
	5/22/2008	38.5
	5/28/2009	22.7

Monitoring	Sample Date	Nitrate+Nitrite
	NMOCD Standard: 10 mg/L	
MW-29	10/7/1993	8.3
	2/2/1994	19.6
	8/20/1994	28.8
	12/20/1994	41
	2/16/1995	28.1
	8/10/2000	50
	11/10/2000	66
	3/26/2001	70
	8/28/2001	58
	5/28/2002	70
	6/3/2003	79
	5/17/2004	88
	5/31/2005	97
	6/8/2006	71
	6/20/2007	79
	5/22/2008	72.5
	5/28/2009	46.2
MW-30	10/7/1993	28.1
	2/2/1994	57.1
	8/20/1994	67.6
	2/16/1995	91.3
	8/10/2000	84
	11/10/2000	70
	3/26/2001	72
	8/28/2001	76
	5/28/2002	66
	6/3/2003	58
	5/17/2004	52
	5/31/2005	58
	6/20/07	57
	5/22/08	43.2
	5/28/09	16.9

Notes:

"<" = 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 - 2009)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Groundwater Elevation (ft. amsl)	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 Groundwater 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
	5/22/2008	5585.64	16.04	6.1	5.3	<2.0	0.69	8.2	3.1	2.4
	5/28/2009	5584.48	17.20	4.2	4.1	<2.0	<2.0	5.0	2.6	2.0
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
	5/22/2008	5583.64	13.91	**44.9**	69.9	0.9	5.0	32.3	**24.5**	1.0
	5/28/2009	5583.00	14.55	**49.0**	57.2	0.88	5.9	34.3	**18.8**	1.2
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
	5/22/2008	5581.99	16.20	9.3	4.7	<2.0	<2.0	3.4	3.0	<2.0
	5/28/2009	5581.89	16.30	6.4	2.1	<2.0	<2.0	1.4	1.5	<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
	5/22/2008	5578.46	18.12	3.6	<2.0	<2.0	<2.0	0.6	<2.0	<2.0
	5/28/2009	5577.75	18.83	3.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

DCA: Dichloroethane DCE: Dichloroethene PCE: Perchloroethene
DCB: Dichlorobenzene NA: Not applicable TCE: Trichloroethene
Values appearing in bold type exceed either the relevant MCL or New Mexico Water Quality Control Commission Groundwater Standard

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 or Standard Methods (SM) Method 4500.

DCA: Dichloroethane

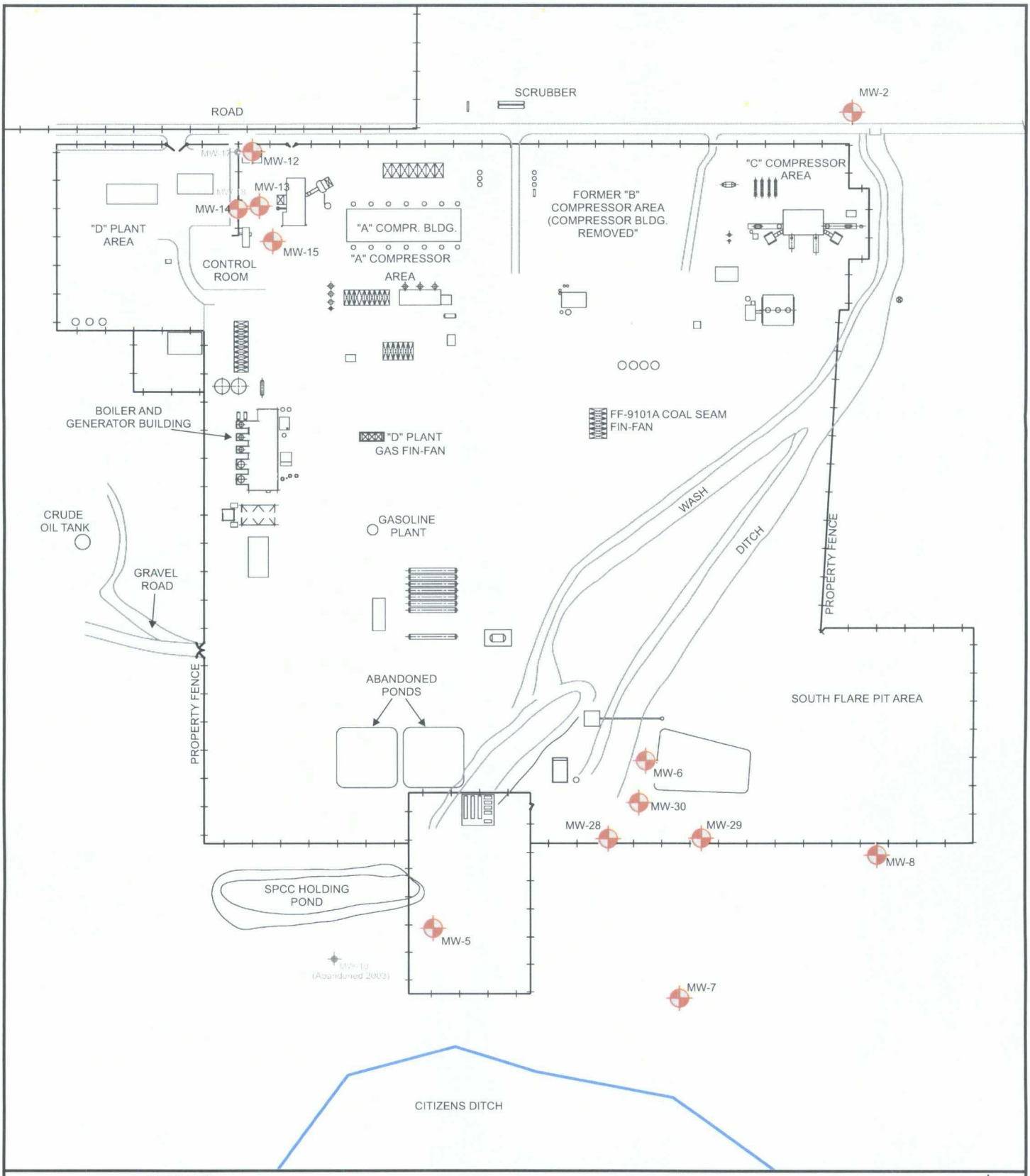
DCB: Dichlorobenzene

DCE: Dichloroethene

PCE: Perchloroethene

TCE: Trichloroethene

Figures



LEGEND

MW-4 Existing Monitoring / Observation Well

Public Irrigation Ditch

Property Boundary And Fence Line

APPROXIMATE SCALE

0 250 500

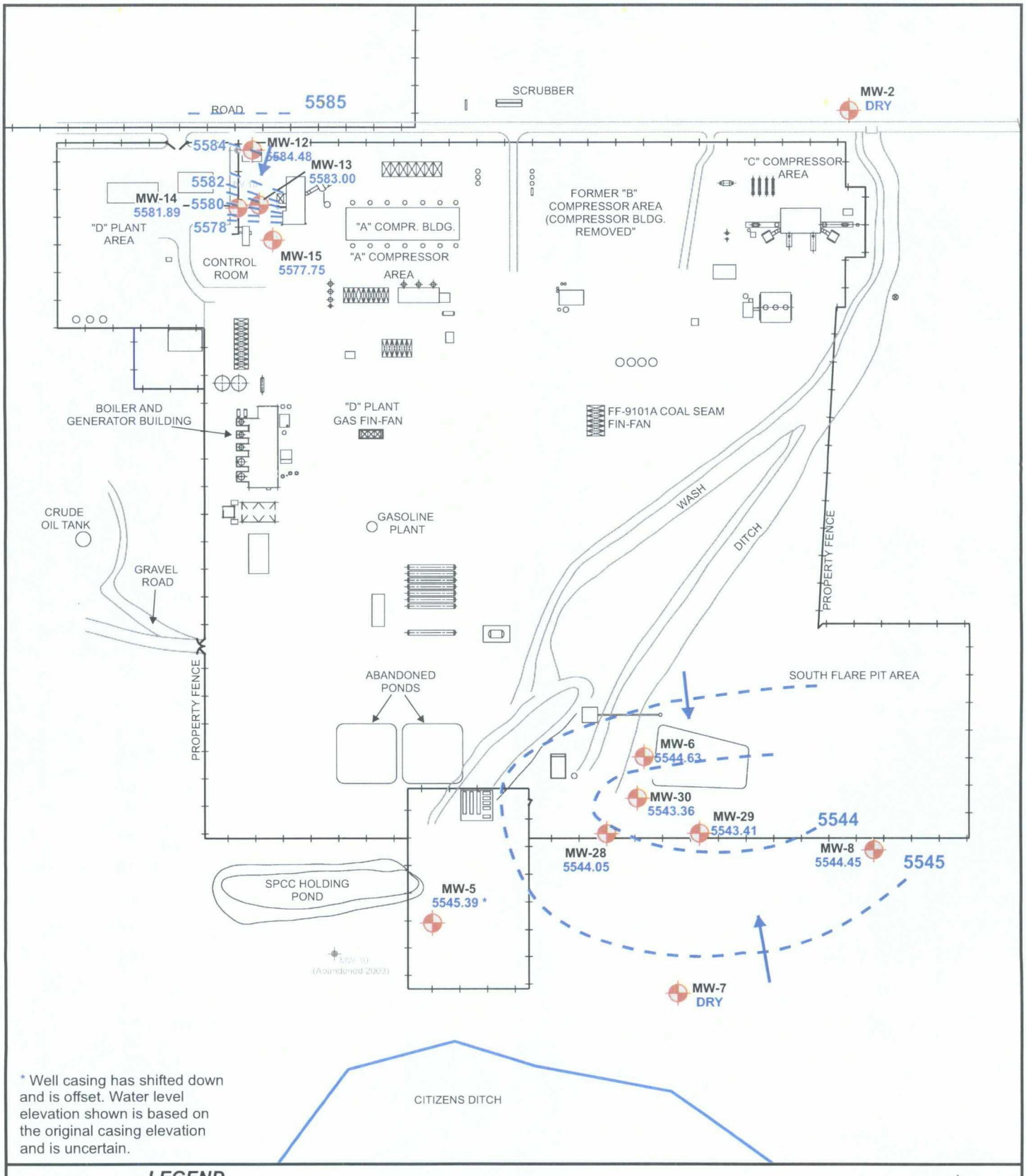
Feet

MWH elpaso

PROJECT: BLANCO SOUTH FLARE PIT

TITLE: Blanco Plant Site Layout

FIGURE: 1



* Well casing has shifted down and is offset. Water level elevation shown is based on the original casing elevation and is uncertain.

LEGEND

- MW-4 — Existing Monitoring / Observation Well
- Public Irrigation Ditch
- Property Boundary And Fence Line
- Groundwater Flow Direction
- Potentiometric Surface Contour (Dashed Where Inferred)
- (NG) — Well Not Gauged

N

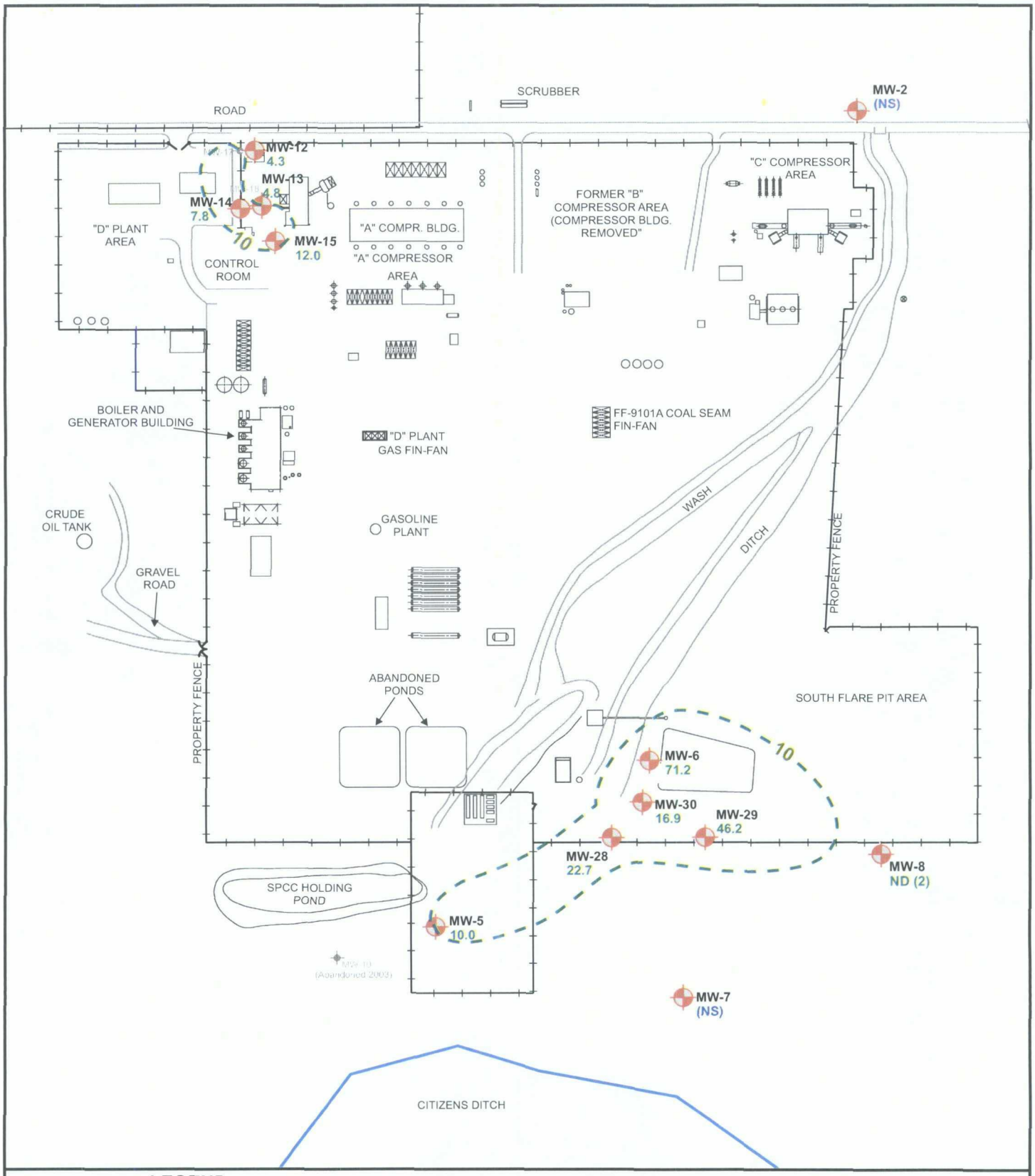
APPROXIMATE SCALE

0 250 500

Feet

MWH elpaso

PROJECT:	BLANCO SOUTH FLARE PIT
TITLE:	Groundwater Elevation Contour Map, May 2009
FIGURE:	2



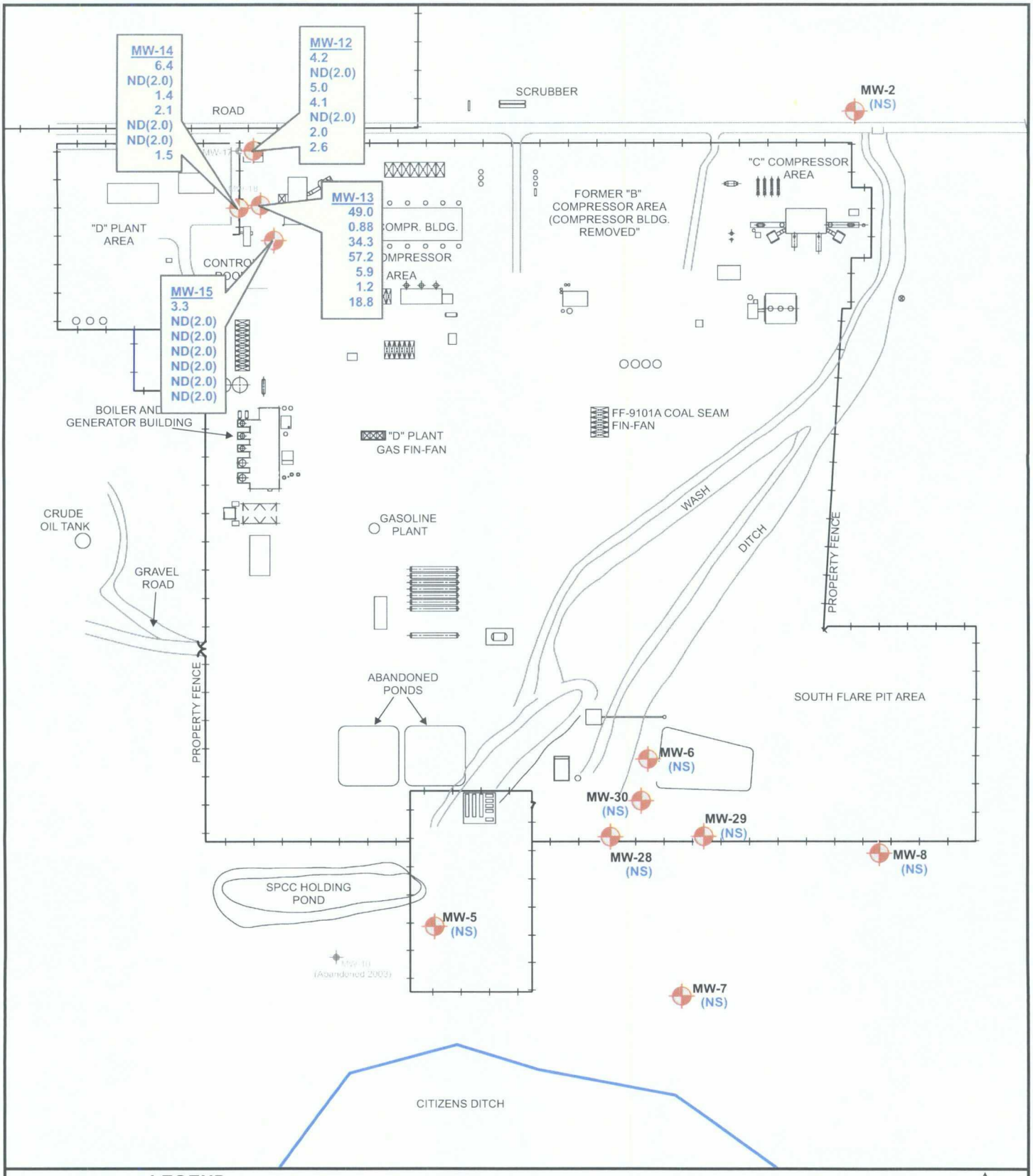
LEGEND

MW-4	Existing Monitoring / Observation Well	ND	Not detected (reporting limit shown in parentheses)
	Public Irrigation Ditch	(NS)	Well Not Sampled
	Property Boundary And Fence Line	100	Nitrate + Nitrite Concentration (mg/L)
		- - -	Nitrate + Nitrite Isoconcentration Contour (Dasshed Where Infered)

APPROXIMATE SCALE
0 250 500
Feet

MWH elpaso

PROJECT:	BLANCO SOUTH FLARE PIT
TITLE:	Groundwater Nitrate+Nitrite Concentrations, May 2009
FIGURE:	3



LEGEND

MW-4 — Existing Monitoring / Observation Well

Public Irrigation Ditch

Property Boundary And Fence Line

(NS) — Well Not Sampled

ND (2.0) — Not Detected; Detection limit In Parenthesis

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

APPROXIMATE SCALE 0 250 Feet

MWH

elpaso

PROJECT: BLANCO SOUTH FLARE PIT

TITLE: Groundwater Chlorinated Hydrocarbon Concentrations, May 2009

FIGURE: 4

APPENDIX A

Field Sampling Forms

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

WATER LEVEL DATA

Project Name: Blanco South Flare Pit **Date:** 5/28/2009
Project Manager: Ashley Ager
Client: MWH
Site Name: South Flare Pit

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Comments
Blanco Plant Area					
MW-2	8:12 AM	-	dry	-	dry at 58.72'
MW-5		-	20.46	-	sample for Nitrate/Nitrite
MW-6		-	29.66	-	sample for Nitrate/Nitrite
MW-7		-	dry	-	dry at 21.30'
MW-8		-	33.96	-	sample for Nitrate/Nitrite
MW-28		-	28.66	-	sample for Nitrate/Nitrite
MW-29		-	31.90	-	sample for Nitrate/Nitrite
MW-30		-	31.85	-	sample for Nitrate/Nitrite
D Plant Area					
MW-12		-	17.20	-	sample for Nitrate/Nitrate and CHCs
MW-13		-	14.55	-	sample for Nitrate/Nitrate and CHCs
MW-14		-	16.30	-	sample for Nitrate/Nitrate and CHCs
MW-15		-	18.83	-	sample for Nitrate/Nitrate and CHCs

Comments
MW-28 has obstruction in well. Able to get water level indicator past, but not bailer. Well produces enough water to purge appropriate amount of water without reaching total depth. All other wells are in good condition.

Signature: *Ashley L. Ager* Date: 5/29/2009

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-5
Client: MWH | Date: 5/28/2009 | Time: 10:52
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 20.46 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 20.74 ft | Product Thickness: ft
Water Column Height: 0.28 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
0.28 x .65	0.18 x 3		0.55 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:53	7.02	1.74	61.5				0.2	clear
	7.03	1.85	62.2				0.4	bailing down/dry
10:59	7.02	1.96	62.4				0.5	well is dry
Final: 11:08	7.04	1.99	62.9				0.55	clear

COMMENTS: Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-5 Sample Time: 11:06

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

Trip Blank: 28052009AA01 Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-6
Client: MWH | Date: 5/28/2009 | Time: 10:38
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 29.66 ft | Depth to Product: ____ ft
Well Diameter: 4" | Total Depth: 31.22 ft | Product Thickness: ____ ft
Water Column Height: 1.56 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
1.56 x .65	1.01 x 3		3.03 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:40	7.03	3.81	63.8				0.5	clear
10:42	6.99	3.76	63.9				0.7	bailing down/dry
Final: 10:50	7.02	3.85	63.5				1	clear

COMMENTS: Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-6 | Sample Time: 10:49

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

Trip Blank: 28052009AA01 | Duplicate Sample: ____

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-8
Client: MWH | Date: 5/28/2009 | Time: 8:33
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 33.96 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 36.5 ft | Product Thickness: ft
Water Column Height: 2.54 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
2.54 x .65	1.65 x 3		4.95 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
8:39	7.09	4.99	59.7				0.4	clear, roots
	7.22	4.73	59.4				0.65	brownish color, bailing down
	7.23	4.68	59.4				1.15	
8:45	7.24	4.48	59.5				1.65	well is dry
Final: 8:52	7.26	4.5	59.6				1.7	brownish color, roots

COMMENTS: Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-8 | Sample Time: 8:50

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

Trip Blank: 28052009AA01 | Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-12
Client: MWH | Date: 5/28/2009 | Time: 12:02
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 17.2 ft | Depth to Product: ft
Well Diameter: 2" | Total Depth: 24.48 ft | Product Thickness: ft
Water Column Height: 7.28 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
7.28 x .16	1.16 x 3		3.5 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
12:05	7.57	5.03	62.4				0.25	clear
	7.52	5.19	61.2				0.5	
	7.48	5.11	61.5				0.75	
	7.61	5.15	61.5				1	sudsy
	7.62	5.14	61.9				2	
	7.61	5.16	61.5				3	
	7.58	5.19	61.9				3.5	
Final:	7.58	5.19	61.8				3.75	clear

COMMENTS: Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-12 Sample Time: 12:16

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

Trip Blank: 28052009AA01 Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-13
Client: MWH | Date: 5/28/2009 | Time: 11:45
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 14.55 ft | Depth to Product: ____ ft
Well Diameter: 2" | Total Depth: 23.05 ft | Product Thickness: ____ ft
Water Column Height: 8.5 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
8.5 x .16	1.36 x 3		4.08 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
11:47	4.39	6.99	64.2				0.25	clear
	7.06	7.05	64.0				0.5	
	7.03	7.76	64..0				0.75	sudsy
	7.04	7.37	63.7				1	
	7.00	8.23	64.4				2	
	6.98	8.30	64.4				3	
	6.98	8.31	64.4				4	
Final:	6.97	8.31	64.5				4.25	clear

COMMENTS: Sample is unpreserved. Groundwater reacted with HCl preservative.

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

Water Disposal: Rio Vista

Sample ID: MW-13 | Sample Time: 11:58

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

Trip Blank: 28052009AA01 | Duplicate Sample: ____

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-14
Client: MWH | Date: 5/28/2009 | Time: 12:19
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 16.3 ft | Depth to Product: ft
Well Diameter: 2" | Total Depth: 27.43 ft | Product Thickness: ft
Water Column Height: 11.13 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
11.13 x .16	1.78 x 3		5.34 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
12:22	7.06	5.89	65.3				0.25	clear
	7.08	4.98	64.8				0.5	
	7.12	5.39	64.8				0.75	
	7.17	5.34	64.2				1	
	7.05	7.24	64.9				2	bailing down
	7.04	7.28	65.5				2.5	well is dry
Final: 12:35	7.02	7.22	65.7				2.75	clear

COMMENTS: Sample is unpreserved. Groundwater reacted with HCl preservative. Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-14 | Sample Time: 12:35

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

Trip Blank: 28052009AA01 | Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-15
Client: MWH | Date: 5/28/2009 | Time: 11:15
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 18.83 ft | Depth to Product: ft
Well Diameter: 2" | Total Depth: 36.74 ft | Product Thickness: ft
Water Column Height: 17.91 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
17.91 x .16	2.87 x 3		8.61 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
11:22	7.10	10.57	65.7				0.25	bright yellow, clear
	4.71	10.65	65.3				0.5	sudsy
	4.68	10.53	64.8				0.75	orange, deep yellow color
	4.73	10.64	65.5				1	
	4.72	10.87	65.5				2	pale yellow and bailing down
	4.30	10.71	66.0				2.5	
	4.34	10.77	66.2				3	
	4.31	10.70	66.2				3.5	
	4.34	10.68	66.2				3.75	well is dry
Final: 11:43	4.3	10.76	66.4				4	pale yellow and clear

COMMENTS: Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-15 Sample Time: 11:42

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

Trip Blank: 28052009AA01 Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-28
Client: MWH | Date: 5/28/2009 | Time: 9:13
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 28.66 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 33.2 ft | Product Thickness: ft
Water Column Height: 4.54 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
4.54 x .65	2.95 x 3		8.85 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:15	7.37	3.17	62.4				0.5	obstruction in well, but able to purge water; brown, cloudy
	6.79	3.28	63.0				1	brown, cloudy
	6.75	3.24	62.4				1.25	
	6.77	3.23	62.2				2	
	6.74	3.30	62.1				2.5	
	6.71	3.32	62.1				3	
	6.77	3.33	61.9				3.5	
	6.79	3.34	62.4				4.5	
	6.77	3.32	62.2				5.5	
	6.79	3.39	62.4				6.5	
	6.78	3.32	62.2				7.5	
	6.8	3.38	62.1				8.5	
Final:	6.78	3.36	62				9	brown, cloudy

COMMENTS: Obstruction in well prevents bailer from reaching total depth. Well produces enough water to collect water from top of obstruction.

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

Water Disposal: Rio Vista

Sample ID: MW-28 | Sample Time: 9:55

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

Trip Blank: 28052009AA01 | Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-29
Client: MWH | Date: 5/28/2009 | Time: 9:58
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 31.9 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 37.11 ft | Product Thickness: ft
Water Column Height: 5.21 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
5.21 x .65	3.37 x 3		10.2 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:58	6.96	4.00	62.1				1	clear
	6.97	4.02	62.1				3	
	6.99	3.96	62.2				4	bailing down
	7.01	4.02	62.2				5	
	7.09	3.97	62.2				5.5	
	7.12	3.99	62.4				5.75	
10:08	7.10	3.98	62.4				6	well is dry
Final: 10:15	7.12	4.00	62.1				6.1	clear

COMMENTS: Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-29 | Sample Time: 10:14

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

Trip Blank: 28052009AA01 | Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Blanco South Flare Pit | Well No: MW-30
Client: MWH | Date: 5/28/2009 | Time: 10:17
Project Manager: Ashley Ager | Sampler's Name: Ashley Ager

Measuring Point: TOC | Depth to Water: 31.85 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 36.9 ft | Product Thickness: ft
Water Column Height: 5.05 ft

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

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

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
5.05 x .65	3.28 x 3		9.85 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:20	6.85	3.65	63.7				1	clear
	6.89	3.61	63.3				2	
	6.87	3.66	63.3				2.75	bailing down
	6.93	3.65	63.3				3.25	
	6.90	3.66	63.2				4	
10:30	6.98	3.67	63.1				5.25	well is dry
Final: 10:37	6.99	3.67	63.4				5.5	clear

COMMENTS: Well bailed dry after purging. Allowed to recharge, then collected sample. Measured parameters after sampling to confirm stability.

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

Water Disposal: Rio Vista

Sample ID: MW-30 | Sample Time: 10:35

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

Trip Blank: 28052009AA01 | Duplicate Sample:

APPENDIX B

Laboratory Analytical Report

NITRATE DATA

Gulf Coast ACCUTEST Laboratories

06/18/09

Technical Report for

Montgomery Watson

Blanco Plant South Flare Pit

Accutest Job Number: T30031

Sampling Date: 05/28/09

Report to:

1801 California St.
Suite 2900
DENVER, CO 80202
jed.smith@mwhglobal.com; daniel.a.wade@mwhglobal.com;
craig.moore@mwhglobal.com
ATTN: JED SMITH

Total number of pages in report:

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

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Georgia Jones 713-271-4700

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

CHAIN OF CUSTODY

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

FED-EX Tracking # 8693 8850 7720
Bottle Order Control #
Accutest Quote #
Accutest Job # T30031

Client / Reporting Information

Company Name: MWH
Project Contact: Jed Smith
E-Mail: jed.smith@mwhglobal.com
Address: 1801 California Street, Suite 2900
City: Denver
State: CO
Zip: 80202
Phone No.: 303-291-2276
Fax No.:
Samplers's Name: Ashley Ager

Project Information

Project Name / No.: Blanco Plant South Flare Pit 2009 GWM
Bill to: EPNG Pipeline
Invoice Attn.: Ian Yanagisawa
Address: P.O. Box 2511
City: Houston
State: TX
Zip: 77252
Phone No.: 713 420-736
Fax No.:
Client Purchase Order #

Requested Analyses

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH	HNO3	H2SO4	ENCORE	NaHSO4	MEOH	NONE	V8260SL	NO3/NO2 (353.2)	LAB USE ONLY
1	MW-8	5-28-09	0850	GW	1				✓						✓	
2	MW-28	5-28-09	0955	GW	1				✓						✓	
3	MW-29	5-28-09	1014	GW	1				✓						✓	
4	MW-30	5-28-09	1035	GW	1				✓						✓	
5	MW-6	5-28-09	1049	GW	1				✓						✓	
6	MW-5	5-28-09	1106	GW	1				✓						✓	
7	MW-15	5-28-09	1142	GW	4	✓			✓					✓	✓	
8	MW-13	5-28-09	1158	GW	4				✓					✓	✓	
9	MW-12	5-28-09	1216	GW	4	✓			✓					✓	✓	
10	MW-14	5-28-09	1235	GW	4				✓					✓	✓	

Turnaround Time (Business days)

- [X] 10 Day *STANDARD*
- [ ] 7 Day
- [ ] 4 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By:/ Date:

Real time analytical data available via Lablink

Data Deliverable Information

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

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

Comments / Remarks

MW-13 & MW-14 are unpreserved

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 L Ager	5-28-09 16:00	1	2 Fed Ex	0915 05/29/09	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ✓ Cooler Temp. 1.0

CHAIN OF CUSTODY

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

FED-EX Tracking # 869388507729 | Bottle Order Control #

Accutest Quote # | Accutest Job # T30031

Client / Reporting Information

Company Name: MWH

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

Address: 1801 California Street, Suite 2900

City: Denver | State: CO | Zip: 80202

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

Samplers's Name:

Project Information

Project Name / No.: Blanco Plant South Flare Pit 2009 GWM

Bill to: EPNG Pipeline | Invoice Attn.: Ian Yanagisawa

Address: P.O. Box 2511

City: Houston | State: TX | Zip: 77252

Phone No.: 713 420-736 | Fax No.:

Client Purchase Order #

Requested Analyses

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH	HNO3	H2SO4	ENCORE	NaHSO4	MEOH	NONE	V8260SL	NO3/NO2 (353.2)	LAB USE ONLY
11	28052009AA01	5-28-09	0700		2	✓								✓		

Turnaround Time (Business days)

- [X] 10 Day *STANDARD*
- [ ] 7 Day
- [ ] 4 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By:/ Date:

Real time analytical data available via Lablink

Data Deliverable Information

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

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

Comments / Remarks

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 L Ager	5-28-09 16:00	1	2 FedEx	05/29/09 0915	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ✓ Cooler Temp. 1.0

ACCUTEST
Laboratories

Subcontract Data

ACCUTEST Laboratories

Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A - Houston, TX 77041
Phone: 832-209-5200 Fax: 832-209-5009

18 June 2009

Accutest [1]

Attn: Accutest

10165 Harwin Drive

Houston, TX 77036

Project: Wet Chemistry

Enclosed are the results of analyses for samples received by the laboratory on 06/17/09 11:50. If you have any questions or concerns about your results please feel free to contact me.

Contents Include:

Cover Letter
Summary of samples received
Chain of Custody
Analytical results
Quality Control Data
Notes and definitions

Kind regards,

Wendy Rambin

Project Manager

approved 6/18/09

ACCUTEST Laboratories
Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Flow	Date Sampled	Date Received
T30031-1	T9F1024-01	Water		05/28/09 08:50	06/17/09 11:50
T30031-2	T9F1024-02	Water		05/28/09 09:55	06/17/09 11:50
T30031-3	T9F1024-03	Water		05/28/09 10:14	06/17/09 11:50
T30031-4	T9F1024-04	Water		05/28/09 10:35	06/17/09 11:50
T30031-5	T9F1024-05	Water		05/28/09 10:49	06/17/09 11:50
T30031-6	T9F1024-06	Water		05/28/09 11:06	06/17/09 11:50
T30031-7	T9F1024-07	Water		05/28/09 11:42	06/17/09 11:50
T30031-8	T9F1024-08	Water		05/28/09 11:58	06/17/09 11:50
T30031-9	T9F1024-09	Water		05/28/09 12:16	06/17/09 11:50
T30031-10	T9F1024-10	Water		05/28/09 12:35	06/17/09 11:50

The results in this report apply only to the samples analyzed in accordance with the chain of custody document.

The test results in this report meet all of the requirements of the National Environmental Laboratory Accreditation Conference except as noted. This report shall not be reproduced, except in its entirety, without the written approval of Southwest Environmental Laboratories.

Please refer to SWEL's NELAC scope of accreditation for accredited parameters.

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

T104704237-08-TX

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

ACCUTEST Laboratories

SUBCONTRACT COC

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

Page 1 of 1

FEDEX Tracking # | Bottle Order Control # | Accutest Quote # | Accutest Job #

Client Information		Subcontract Information	
Company Name: Accutest Gulf Coast		Subcontract Laboratory: Accutest Tanner	
Project Contact: Georgia Jones	Email: georgiaj@accutest.com	Laboratory Contact: Sample Receiving	Email:
Address: 10165 Harwin Dr, Suite 150		Address: 11302 Tanner Road, Suite A, 2nd Floor	
City: Houston State: TX	Zip: 77036	City, State, Zip: Houston, TX 77041-6902	
Phone No.: 713-271-4700		Phone No.: 713-983-3180	PO#:

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Wastewater, SW - Surface Water, SO - Soil, SL - Sludge, OI - Oil, LIQ - Liquid, SOL - Other Solid

T9F1024

Accutest Sample Number	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles	353.2 Nitrate + Nitrite	LAB USE ONLY
T30031-1	5/28/2009	8:50	WW	1		X	-01
T30031-2	5/28/2009	9:55	WW	1		X	-02
T30031-3	5/28/2009	10:14	WW	1		X	-03
T30031-4	5/28/2009	10:35	WW	1		X	-04
T30031-5	5/28/2009	10:49	WW	1		X	-05
T30031-6	5/28/2009	11:06	WW	1		X	-06
T30031-7	5/28/2009	11:42	WW	1		X	-07
T30031-8	5/28/2009	11:58	WW	1		X	-08
T30031-9	5/28/2009	12:18	WW	1		X	-09
T30031-10	5/28/2009	12:35	WW	1		X	-10

Turnaround Time (Business days) — Approved By / Date

- [ ] STANDARD
- [ ] 7 Day
- [ ] 4 Day RUSH — JUNE 4th
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [x] 1 Day EMERGENCY
- [ ] Other

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [x] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] TRRP-13
- [ ] EDD Format______
- [ ] Other______

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

Comments / Remarks: REPORT QC WITH DATA

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]	6-17-9 1125	1 [signature] 1150 6-17-09	2		2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

ACCUTEST Laboratories

Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	Reported:
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T9F1024

ACCUTEST LABORATORIES GULF COAST
10165 HARWIN DRIVE
HOUSTON
TEXAS 77036
Phone : 713-271-4700 Fax : 713-271-4770
Web : WWW.ACCUTEST.COM

Sample #	Sample ID	Position	Dil	WNX3
1	CCB	Rack A1 - 1	1/1	X
2	CCV	Rack A1 - 2	1/1	X
3	ICB	Rack A1 - 3	1/1	X
4	ICV	Rack A1 - 4	1/1	X
5	NO2EFF	Rack A1 - 5	1/1	X
6	NO3EFF	Rack A1 - 6	1/1	X
7	BSP	Rack A1 - 7	1/1	X
8	MB	Rack A1 - 8	1/1	X
9	T30031-1S1	Rack A1 - 9	1/1	X
10	T30031-1D1	Rack A1 - 10	1/1	X
11	T30031-1	Rack A1 - 11	1/1	X
12	T30031-2	Rack A1 - 12	1/20	X
13	T30031-3	Rack A1 - 13	1/20	X
14	CCV	Rack A1 - 14	1/1	X
15	CCB	Rack A1 - 15	1/1	X
16	T30031-4	Rack A1 - 16	1/20	X
17	T30031-5	Rack B1 - 1	1/20	X
18	T30031-6	Rack B1 - 2	1/20	X
19	T30031-7	Rack B1 - 3	1/20	X
20	T30031-8	Rack B1 - 4	1/5	X
21	T30031-9	Rack B1 - 5	1/5	X
22	T30031-10	Rack B1 - 6	1/20	X
23	CCV	Rack B1 - 7	1/1	X
24	ICB	Rack B1 - 8	1/1	X
25	ICV	Rack B1 - 9	1/1	X
26	CCB	Rack B1 - 10	1/1	X

Based on original 40 ppm ruf. std.

Report Date :06/16/2009 **Operator : WESTCO** **Plan # :20090616006**
Plan Description : 061609w6no32

ACCUTEST Laboratories
Formerly: SouthWest Environmental Laboratories
11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-1

T9F1024-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	ND	2.00	mg/L	100	06/18/09 1·	6/18/09 14:41	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

T104704237-08-TX

ACCUTEST Laboratories
Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-2

T9F1024-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**22.7**	2.00	mg/L	100	06/18/09 1·	6/18/09 14:41	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

ACCUTEST Laboratories
Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-3

T9F1024-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**46.2**	2.00	mg/L	100	06/18/09 1·	6/18/09 14:41	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

ACCUTEST Laboratories
Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-4

T9F1024-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**16.9**	2.00	mg/L	100	06/18/09 1:	6/18/09 14:12	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

ACCUTEST Laboratories
Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-5

T9F1024-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**71.2**	2.00	mg/L	100	06/18/09 1	6/18/09 14:12	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac
T104704237-08-TX

ACCUTEST Laboratories
Formerly: SouthWest Environmental Laboratories

11302 Tanner Rd., Suite A
Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-6

T9F1024-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**10.0**	2.00	mg/L	100	06/18/09 1:	6/18/09 14:12	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

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832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-7

T9F1024-07 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**12.8**	2.00	mg/L	100	06/18/09 1:	6/18/09 14:12	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

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T104704237-08-TX

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Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-8

T9F1024-08 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**4.75**	1.00	mg/L	50	06/18/09 1:	6/18/09 14:12	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

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832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-9

T9F1024-09 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**4.25**	1.00	mg/L	50	06/18/09 1:	6/18/09 14:12	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

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T104704237-08-TX

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Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

T30031-10

T9F1024-10 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Analyst	Flags
Accutest Laboratories, Gulf Coast									
Classical Chemistry Parameters									
Nitrate/Nitrite as N	**7.80**	2.00	mg/L	100	06/18/09 1:	6/18/09 14:12	EPA 353.3	BF	

Accutest Laboratories, Gulf Coast

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T104704237-08-TX

ACCUTEST Laboratories

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Houston, TX 77041
832.209.5200 Phone
832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

Classical Chemistry Parameters - Quality Control

Accutest Laboratories, Gulf Coast

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9061815 - Default Prep GenChem										
Blank (9061815-BLK1)				Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	ND	0.02	mg/L							
LCS (9061815-BS1)				Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	0.48	0.02	mg/L	0.500		95.4	75-125			
Duplicate (9061815-DUP1)	**Source: T9F1028-02**			Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	17.8	1.00	mg/L		17.2			3.72	20	
Matrix Spike (9061815-MS1)	**Source: T9F1028-02**			Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	38.3	2.00	mg/L	25.0	17.2	84.6	85-115			
Matrix Spike Dup (9061815-MSD1)	**Source: T9F1028-02**			Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	39.8	2.00	mg/L	25.0	17.2	90.6	85-115	3.84	20	
Batch 9061816 - Default Prep GenChem										
Blank (9061816-BLK1)				Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	ND	0.02	mg/L							
LCS (9061816-BS1)				Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	0.46	0.02	mg/L	0.500		91.8	75-125			
Duplicate (9061816-DUP1)	**Source: T9F1024-01**			Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	0.40	2.00	mg/L		1.20			100	20	
Matrix Spike (9061816-MS1)	**Source: T9F1024-01**			Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	24.2	4.00	mg/L	25.0	1.20	92.0	85-115			

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Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

Classical Chemistry Parameters - Quality Control

Accutest Laboratories, Gulf Coast

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9061816 - Default Prep GenChem										
Matrix Spike Dup (9061816-MSD1)	**Source: T9F1024-01**			Prepared & Analyzed: 06/18/09						
Nitrate/Nitrite as N	23.2	4.00	mg/L	25.0	1.20	88.0	85-115	4.22	20	

Accutest Laboratories, Gulf Coast

Wendy Rambin, Project Manager

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832.209-5009 Fax

Accutest [1]	Project: Wet Chemistry	
10165 Harwin Drive	Project Number: Wet Chemistry	**Reported:**
Houston TX, 77036	Project Manager: Accutest	06/18/09 16:27

Notes and Definitions

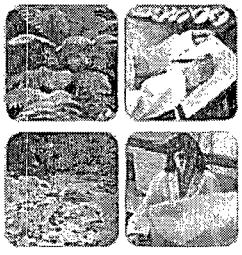
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CHLORINATED HYDROCARBON DATA

Gulf Coast ACCUTEST Laboratories

06/18/09

Technical Report for



Montgomery Watson

Blanco Plant South Flare Pit

Accutest Job Number: T30031

Sampling Date: 05/28/09

Report to:

1801 California St.
Suite 2900
DENVER, CO 80202
jed.smith@mwhglobal.com; daniel.a.wade@mwhglobal.com;
craig.moore@mwhglobal.com
ATTN: JED SMITH

Total number of pages in report: 19

ACCUTEST LABORATORIES 50 YEARS 1956-2006

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

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Georgia Jones 713-271-4700

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

Test results relate only to samples analyzed.

Table of Contents

Sections: 1 2 3 4 5

Sample Summary

Montgomery Watson

Job No: T30031

Blanco Plant South Flare Pit

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T30031-1	05/28/09	08:50 AA	05/29/09	AQ	Ground Water	MW-8
T30031-2	05/28/09	09:55 AA	05/29/09	AQ	Ground Water	MW-28
T30031-3	05/28/09	10:14 AA	05/29/09	AQ	Ground Water	MW-29
T30031-4	05/28/09	10:35 AA	05/29/09	AQ	Ground Water	MW-30
T30031-5	05/28/09	10:49 AA	05/29/09	AQ	Ground Water	MW-6
T30031-6	05/28/09	11:06 AA	05/29/09	AQ	Ground Water	MW-5
T30031-7	05/28/09	11:42 AA	05/29/09	AQ	Ground Water	MW-15
T30031-8	05/28/09	11:58 AA	05/29/09	AQ	Ground Water	MW-13
T30031-9	05/28/09	12:16 AA	05/29/09	AQ	Ground Water	MW-12
T30031-10	05/28/09	12:35 AA	05/29/09	AQ	Ground Water	MW-14
T30031-11	05/28/09	07:00 AA	05/29/09	AQ	Trip Blank Water	28052009AA01

ACCUTEST Laboratories

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T30031

Site: Blanco Plant South Flare Pit **Report Date** 6/18/2009 5:02:58 PM

4 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 05/28/2009 and were received at Accutest on 05/29/2009 properly preserved, at 1 Deg. C and intact. These Samples received an Accutest job number of T30031. 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:** VY2208

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T30031-8MS, T30031-8MSD were used as the QC samples indicated.
- T30031-8: Sample was not preserved to a pH < 2
- T30031-10: Sample was not preserved to a pH < 2

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-15		
Lab Sample ID:	T30031-7	**Date Sampled:**	05/28/09
Matrix:	AQ - Ground Water	**Date Received:**	05/29/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco Plant South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0033510.D	1	06/08/09	JL	n/a	n/a	VY2208
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	3.3	2.0	0.41	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.48	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.43	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.49	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.46	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	106%		87-119%
460-00-4	4-Bromofluorobenzene	104%		80-133%

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:	T30031-8	**Date Sampled:**	05/28/09
Matrix:	AQ - Ground Water	**Date Received:**	05/29/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco Plant South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	Y0033511.D	1	06/08/09	JL	n/a	n/a	VY2208
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	49.0	2.0	0.41	ug/l	
75-35-4	1,1-Dichloroethylene	0.88	2.0	0.48	ug/l	J
156-59-2	cis-1,2-Dichloroethylene	34.3	2.0	0.43	ug/l	
95-50-1	o-Dichlorobenzene	57.2	2.0	0.49	ug/l	
156-60-5	trans-1,2-Dichloroethylene	5.9	2.0	0.46	ug/l	
127-18-4	Tetrachloroethylene	1.2	2.0	0.50	ug/l	J
79-01-6	Trichloroethylene	18.8	2.0	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		79-122%
17060-07-0	1,2-Dichloroethane-D4	96%		75-121%
2037-26-5	Toluene-D8	108%		87-119%
460-00-4	4-Bromofluorobenzene	104%		80-133%

(a) Sample was not preserved to a pH < 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-12		
Lab Sample ID:	T30031-9	**Date Sampled:**	05/28/09
Matrix:	AQ - Ground Water	**Date Received:**	05/29/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco Plant South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0033512.D	1	06/08/09	JL	n/a	n/a	VY2208
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	4.2	2.0	0.41	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.48	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.0	2.0	0.43	ug/l	
95-50-1	o-Dichlorobenzene	4.1	2.0	0.49	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.46	ug/l	
127-18-4	Tetrachloroethylene	2.0	2.0	0.50	ug/l	
79-01-6	Trichloroethylene	2.6	2.0	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		79-122%
17060-07-0	1,2-Dichloroethane-D4	96%		75-121%
2037-26-5	Toluene-D8	107%		87-119%
460-00-4	4-Bromofluorobenzene	101%		80-133%

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-14		
Lab Sample ID:	T30031-10	**Date Sampled:**	05/28/09
Matrix:	AQ - Ground Water	**Date Received:**	05/29/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco Plant South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	Y0033513.D	1	06/08/09	JL	n/a	n/a	VY2208
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	6.4	2.0	0.41	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.48	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.4	2.0	0.43	ug/l	J
95-50-1	o-Dichlorobenzene	2.1	2.0	0.49	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.46	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
79-01-6	Trichloroethylene	1.5	2.0	0.47	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	96%		75-121%
2037-26-5	Toluene-D8	108%		87-119%
460-00-4	4-Bromofluorobenzene	102%		80-133%

(a) Sample was not preserved to a pH < 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:	28052009AA01		
Lab Sample ID:	T30031-11	**Date Sampled:**	05/28/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/29/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Blanco Plant South Flare Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0033509.D	1	06/08/09	JL	n/a	n/a	VY2208
Run #2							

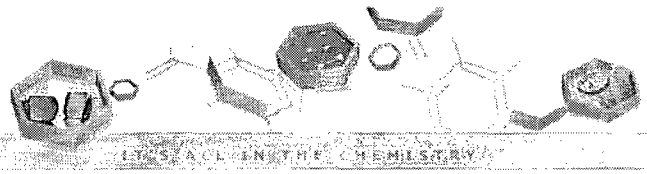
	Purge Volume
Run #1	5.0 ml
Run #2	

Volatile special list.

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	2.0	0.41	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.48	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.43	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.49	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.46	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	94%		75-121%
2037-26-5	Toluene-D8	107%		87-119%
460-00-4	4-Bromofluorobenzene	103%		80-133%

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



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

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

Page 1 of 2

FED-EX Tracking # 8693 8850 7720 | Bottle Order Control #

Accutest Quote # | Accutest Job # T30031

Client / Reporting Information

Company Name: MWH

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

Address: 1801 California Street, Suite 2900

City: Denver | State: CO | Zip: 80202

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

Samplers's Name: Ashley Ager

Project Information

Project Name / No.: Blanco Plant South Flare Pit 2009 GWM

Bill to: EPNG Pipeline | Invoice Attn.: Ian Yanagisawa

Address: P.O. Box 2511

City: Houston | State: TX | Zip: 77252

Phone No.: 713 420-736 | Fax No.:

Client Purchase Order #

Requested Analyses

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	HNO3	H2SO4	NaOH	ZnAc/NaOH	NaOH/ZnAc	MeOH	None	V8260SL	NO3/NO2 (353.2)	LAB USE ONLY
1	MW-8	5-28-09	0850	GW	1				✓						✓	
2	MW-28	5-28-09	0955	GW	1				✓						✓	
3	MW-29	5-28-09	1014	GW	1				✓						✓	
4	MW-30	5-28-09	1035	GW	1				✓						✓	
5	MW-6	5-28-09	1049	GW	1				✓						✓	
6	MW-5	5-28-09	1106	GW	1				✓						✓	
7	MW-15	5-28-09	1142	GW	4	✓			✓					✓	✓	
8	MW-13	5-28-09	1158	GW	4				✓					✓	✓	
9	MW-12	5-28-09	1216	GW	4	✓			✓					✓	✓	
10	MW-14	5-28-09	1235	GW	4				✓					✓	✓	

Turnaround Time (Business days)

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

Real time analytical data available via Lablink

Data Deliverable Information

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

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

Comments / Remarks

MW-13 & MW-14 are unpreserved

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 L Ager	5-28-09 16:00	1	2 Fed Ex	05/29/09 0915	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 1.0

T30031: Chain of Custody
Page 1 of 4

CHAIN OF CUSTODY

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

FED-EX Tracking # 8693 8850 7729 | Bottle Order Control #
Accutest Quote # | Accutest Job # T30031

Client / Reporting Information

Company Name: MWH
Project Contact: Jed Smith | E-Mail: jed.smith@mwhglobal.com
Address: 1801 California Street, Suite 2900
City: Denver | State: CO | Zip: 80202
Phone No.: 303-291-2276 | Fax No.:
Samplers's Name:

Project Information

Project Name / No.: Blanco Plant South Flare Pit 2009 GWM
Bill to: EPNG Pipeline | Invoice Attn.: Ian Yanagisawa
Address: P.O. Box 2511
City: Houston | State: TX | Zip: 77252
Phone No.: 713 420-736 | Fax No.:
Client Purchase Order #

Requested Analyses

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	H2SO4	HNO3	NaOH	ZnAcO	MeOH	NONE	V8260SL	NO3/NO2 (353.2)	LAB USE ONLY
11	28052009AA01	5-28-09	0700		2	✓							✓		

Turnaround Time (Business days)

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

Real time analytical data available via Lablink

Data Deliverable Information

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

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

Comments / Remarks

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 L Ager	5-28-09 16:00	1	2 Fed Ex	05/29/09 0915	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 1.0

4.1 4

SAMPLE INSPECTION FORM

Accutest Job Number: T30031 Client: MWH Date/Time Received: 05/29/09 0915

# of Coolers Received: 1 Thermometer #: IR-1 Temperature Adjustment Factor: -0.4

Cooler Temps: #1: 1.0 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

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

Airbill Numbers: _____

COOLER INFORMATION

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

CHAIN OF CUSTODY

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

SAMPLE INFORMATION

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

TRIP BLANK INFORMATION

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

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

Summary of Discrepancies:
1. Trip Blank was received but not labled/marked 28052004AA01 as is on COC.

TECHNICIAN SIGNATURE/DATE: [signature] 05/29/09

INFORMATION AND SAMPLE LABELING VERIFIED BY: GC 5.29.09

CORRECTIVE ACTIONS

Client Representative Notified: Ted Sack **Date:** _____

By Accutest Representative: [signature] **Via:** (Phone) Email

Client Instructions: The sample is a trip blank for analysis.

i:\mwalker\forms\samplemanagement

4.1

SAMPLE RECEIPT LOG

JOB #: T30031 DATE/TIME RECEIVED: 05/29/09 0915

CLIENT: MWH INITIALS: EF

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	MW-8	05/28/09 0830	W	250 ml	1	IC	1 2 (3) 4 5 6 7 8	<2 >12
	2	MW-28	0955			1		1 2 (3) 4 5 6 7 8	<2 >12
	63	MW-29	1014			1		1 2 (3) 4 5 6 7 8	<2 >12
	4	MW-30	1015			1		1 2 (3) 4 5 6 7 8	<2 >12
	5	MW-6	1049			1		1 2 (3) 4 5 6 7 8	<2 >12
	6	MW-5	1106			1		1 2 (3) 4 5 6 7 8	<2 >12
	7	MW-15	1142		250 ml	1	IC	1 2 (3) 4 5 6 7 8	<2 >12
	"	"	"		40 ml	2-4	VR	1 (2) 3 4 5 6 7 8	<2 >12
	8	MW-13	1150		250 ml	1	IC	1 2 (3) 4 5 6 7 8	<2 >12
	"	"	"		40 ml	2-4	VR	(1) 2 3 4 5 6 7 8	<2 >12
	9	MW-12	1216		250 ml	1	IC	1 2 (3) 4 5 6 7 8	<2 >12
	"	"	"		40 ml	2-4	VR	1 (2) 3 4 5 6 7 8	<2 >12
	10	MW-14	1235		250 ml	1	IC	1 2 (3) 4 5 6 7 8	<2 >12
	"	"	"		40 ml	2-4	VR	(1) 2 3 4 5 6 7 8	<2 >12
	11	Trip Blank	—		"	1-2	VR	1 (2) 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
					EF 05/29/09			1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12

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

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

Rev 8/13/01 ewp

4.1 4

T30031: Chain of Custody
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GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T30031
Account: MWHCODE Montgomery Watson
Project: Blanco Plant South Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2208-MB	Y0033498.D	1	06/08/09	JL	n/a	n/a	VY2208

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

T30031-7, T30031-8, T30031-9, T30031-10, T30031-11

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	2.0	0.41	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.48	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.43	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.49	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.46	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.47	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	79-122%
17060-07-0	1,2-Dichloroethane-D4	92%	75-121%
2037-26-5	Toluene-D8	106%	87-119%
460-00-4	4-Bromofluorobenzene	103%	80-133%

Blank Spike Summary

Job Number: T30031
Account: MWHCODE Montgomery Watson
Project: Blanco Plant South Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2208-BS	Y0033516.D	1	06/08/09	JL	n/a	n/a	VY2208

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

T30031-7, T30031-8, T30031-9, T30031-10, T30031-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	25	22.9	92	76-121
75-35-4	1,1-Dichloroethylene	25	21.5	86	71-128
156-59-2	cis-1,2-Dichloroethylene	25	20.0	80	68-113
95-50-1	o-Dichlorobenzene	25	23.2	93	72-108
156-60-5	trans-1,2-Dichloroethylene	25	22.2	89	70-125
127-18-4	Tetrachloroethylene	25	22.2	89	77-120
79-01-6	Trichloroethylene	25	20.2	81	74-117

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	93%	75-121%
2037-26-5	Toluene-D8	105%	87-119%
460-00-4	4-Bromofluorobenzene	99%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T30031
Account: MWHCODE Montgomery Watson
Project: Blanco Plant South Flare Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T30031-8MS	Y0033514.D	1	06/08/09	JL	n/a	n/a	VY2208
T30031-8MSD	Y0033515.D	1	06/08/09	JL	n/a	n/a	VY2208
T30031-8 [a]	Y0033511.D	1	06/08/09	JL	n/a	n/a	VY2208

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

T30031-7, T30031-8, T30031-9, T30031-10, T30031-11

CAS No.	Compound	T30031-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	49.0		25	77.8	115	76.6	110	2	76-121/13
75-35-4	1,1-Dichloroethylene	0.88	J	25	23.7	91	23.8	92	0	71-128/19
156-59-2	cis-1,2-Dichloroethylene	34.3		25	61.7	110	60.6	105	2	68-113/13
95-50-1	o-Dichlorobenzene	57.2		25	82.7	102	84.0	107	2	72-108/12
156-60-5	trans-1,2-Dichloroethylene	5.9		25	30.5	98	29.7	95	3	70-125/14
127-18-4	Tetrachloroethylene	1.2	J	25	24.1	92	23.3	88	3	77-120/13
79-01-6	Trichloroethylene	18.8		25	41.6	91	41.3	90	1	74-117/12

CAS No.	Surrogate Recoveries	MS	MSD	T30031-8	Limits
1868-53-7	Dibromofluoromethane	94%	96%	96%	79-122%
17060-07-0	1,2-Dichloroethane-D4	99%	98%	96%	75-121%
2037-26-5	Toluene-D8	108%	106%	108%	87-119%
460-00-4	4-Bromofluorobenzene	96%	100%	104%	80-133%

(a) Sample was not preserved to a pH < 2

APPENDIX C

Data Validation Reports

NITRATE DATA

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: NO2/N03
Sample Collection Date(s): 5/25/2009
Client SJRB
Laboratory: Accutest
Matrix: Groundwater
Batch Identification: T30031
MS/MSD Parent(s)[(a)]: None

Verification Complete: Craig Moore 7/7/2009

(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits	Quals.	Comments
None	BPSFP	MW-8	T30331-1	N	None	
None	BPSFP	MW-28	T30331-2	Y	None	
None	BPSFP	MW-29	T30331-3	Y	None	
None	BPSFP	MW-30	T30331-4	Y	None	
None	BPSFP	MW-6	T30331-5	Y	None	
None	BPSFP	MW-5	T30331-6	Y	None	
None	BPSFP	MW-15	T30331-7	Y	None	
None	BPSFP	MW-13	T30331-8	Y	None	
None	BPSFP	MW-12	T30331-9	Y	None	
None	BPSFP	MW-14	T30331-10	Y	None	

Analytical Method: NO2/NO3 **Client** SJRB

Laboratory: Accutest **Batch Identification:** T30031

Verification Criteria							
Sample ID	**MW-8**	**MW-28**	**MW-29**	**MW-30**	**MW-6**	**MW-5**	**MW-15**
Lab ID	**T30031-1**	**T30031-2**	**T30031-3**	**T30031-4**	**T30031-5**	**T30031-6**	**T30031-7**
Hardcopy vs. Chain of Custody	A	A	A	A	A	A	A
Holding Time	A	A	A	A	A	A	A
Analyte List	A	A	A	A	A	A	A
Reporting Limits	A	A	A	A	A	A	A
Method Blank	A	A	A	A	A	A	A
Laboratory Control Sample (all methods)	A	A	A	A	A	A	A
Laboratory Control Sample Duplicate (lab specifi	A	A	A	A	A	A	A
Matrix Spike/Matrix Spike Duplicate	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Duplicate (lab specific)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Analytical Method: NO2/NO3 **Client** SJRB

Laboratory: Accutest **Batch Identification:** T30031

Verification Criteria							
Sample ID	**MW-13**	**MW-12**	**MW-14**				
Lab ID	**T30031-8**	**T30031-9**	**T30982-10**				
Hardcopy vs. Chain of Custody	A	A	A				
Holding Time	A	A	A				
Analyte List	A	A	A				
Reporting Limits	A	A	A				
Method Blank	A	A	A				
Laboratory Control Sample (all methods)	A	A	A				
Laboratory Control Sample Duplicate	A	A	A				
Matrix Spike/Matrix Spike Duplicate	N/A	N/A	N/A				
Matrix Duplicate (lab specific)	N/A	N/A	N/A				

CHLORINATED HYDROCARBON DATA

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: SW846-8021B (BTEX)
Sample Collection Date(s): 5/25/2009
Client SJRB
Laboratory: Accutest
Matrix: Groundwater
Batch Identification: T30031
MS/MSD Parent(s)[(a)]: None

Verification Complete: Craig Moore 7/7/2009

(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits	Quals.	Comments
None	BPSFP	MW-15	T30031-7	Y	None	
1	BPSFP	MW-13	T30031-8	Y	J J J J J J J	1,1-Dichloroethane @ 49.0 µg/l 1,1-Dichloroethylene @ 0.88 µg/l cis-1,2-Dichloroethylene @ 34.3 µg/l o-Dichlorobenzene @ 57.2 µg/l trans-1,2-Dichloroethylene @ 5.9 µg/l Tetrachloroethylene @ 1.2 µg/l Trichloroethylene @ 18.8 µg/l
None	BPSFP	MW-12	T30031-9	Y	None	
1	BPSFP	MW-14	T30982-10	Y	J UJ J J UJ UJ J	1,1-Dichloroethane @ 6.4 µg/l 1,1-Dichloroethylene @ <2.0 µg/l cis-1,2-Dichloroethylene @ 1.4 µg/l o-Dichlorobenzene @ 2.1 µg/l trans-1,2-Dichloroethylene @ <2.0 µg/l Tetrachloroethylene @ <2.0 µg/l Trichloroethylene @ 1.5 µg/l
None		28052009AA01	T30982-11	N	None	

Analytical Method:	**SW846-8021B (BTEX)**
Laboratory:	**Accutest**
Client	**SJRB**
Batch Identification:	**T30031**

Verification Criteria							
Sample ID	**MW-15**	**MW-13**	**MW-12**	**MW-12**	**TB**		
Lab ID	**T30031-7**	**T30031-8**	**T30031-9**	**T30982-10**	**T30982-11**		
Holding Time	A	A[1]	A	A[1]	A		
Analyte List	A	A	A	A	A		
Reporting Limits	A	A	A	A	A		
Method Blank	A	A	A	A	A		
Trip blank	A	A	A	A	N/A		
Surrogate Spike Recovery	A	A	A	A	A		
Laboratory Control Sample (LCS)	A	A	A	A	A		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	A	A	N/A	N/A	N/A		
Hardcopy vs. Chain-of-Custody	A	A	A	A	A		

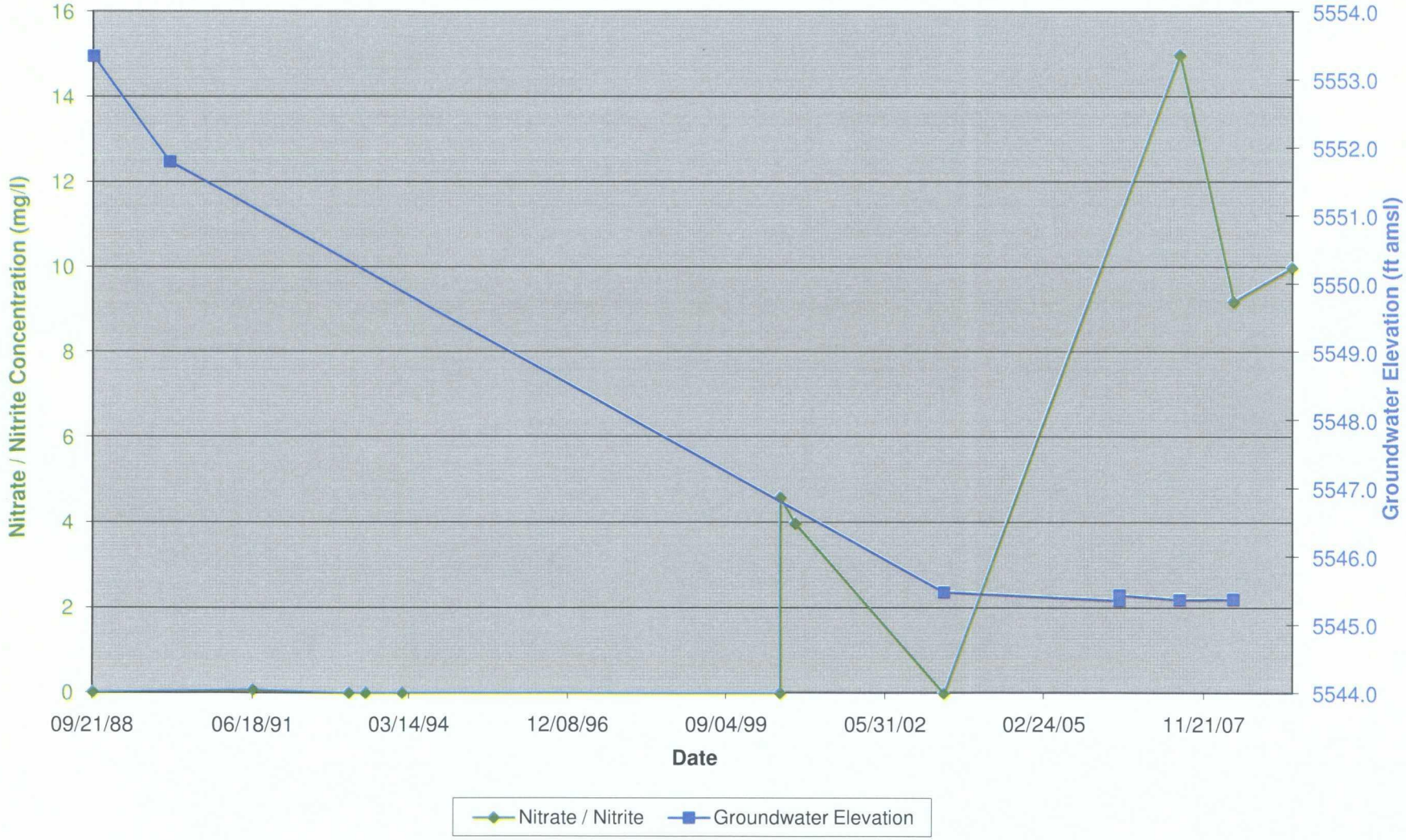
Notes

[1] Sample pH at time of analysis was greater than two, thus reducing the holding time from 14 days to seven. Sample were analyzed three days outside of the holding time. Detected analytes are qualified with a "J" flag indicating the the data are estimated, potentially biased low. Non-detected analytes are qualified with a "UJ" flag indicating a possible false negative.

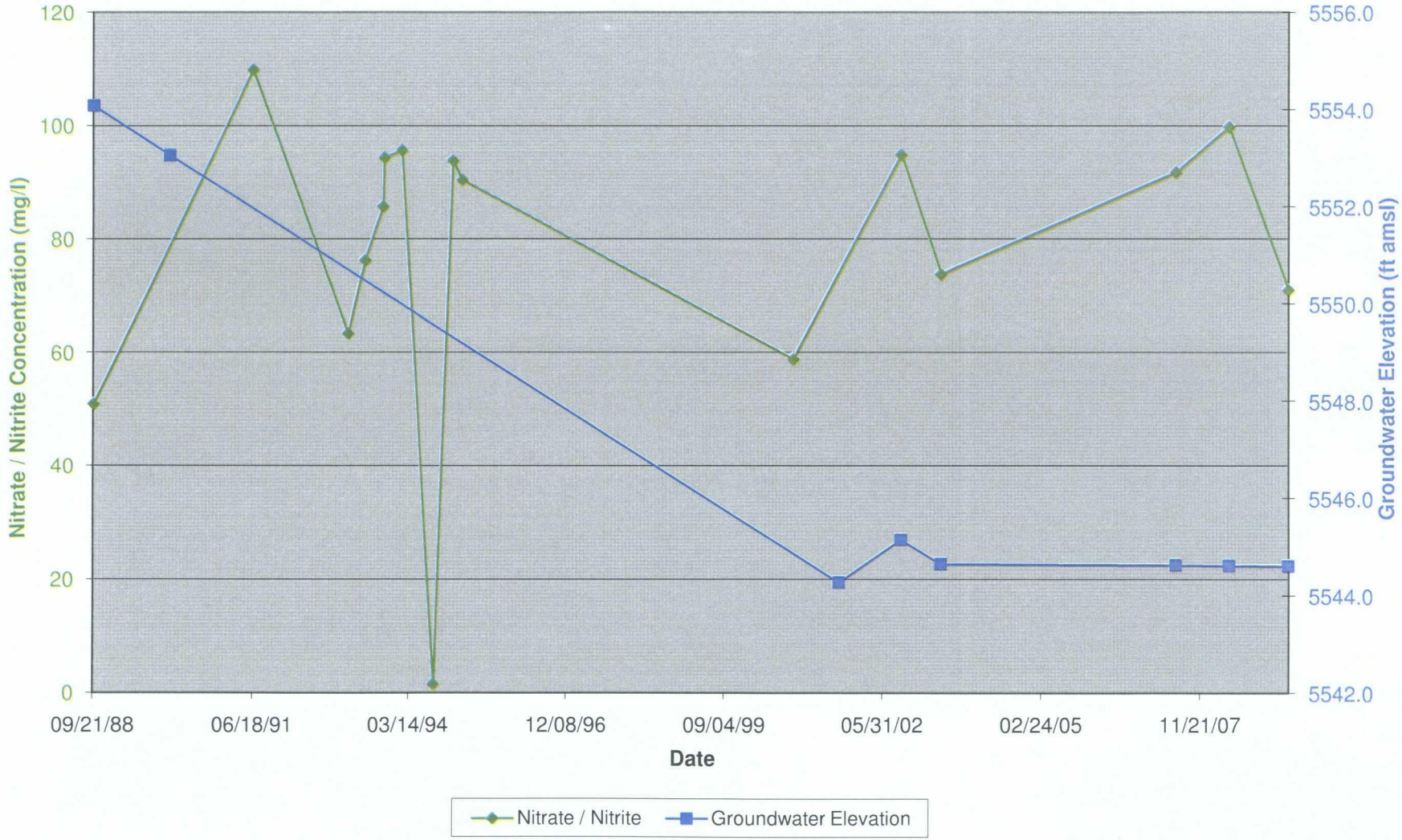
APPENDIX D

Nitrate+Nitrite Concentration and Groundwater Elevation Graphs

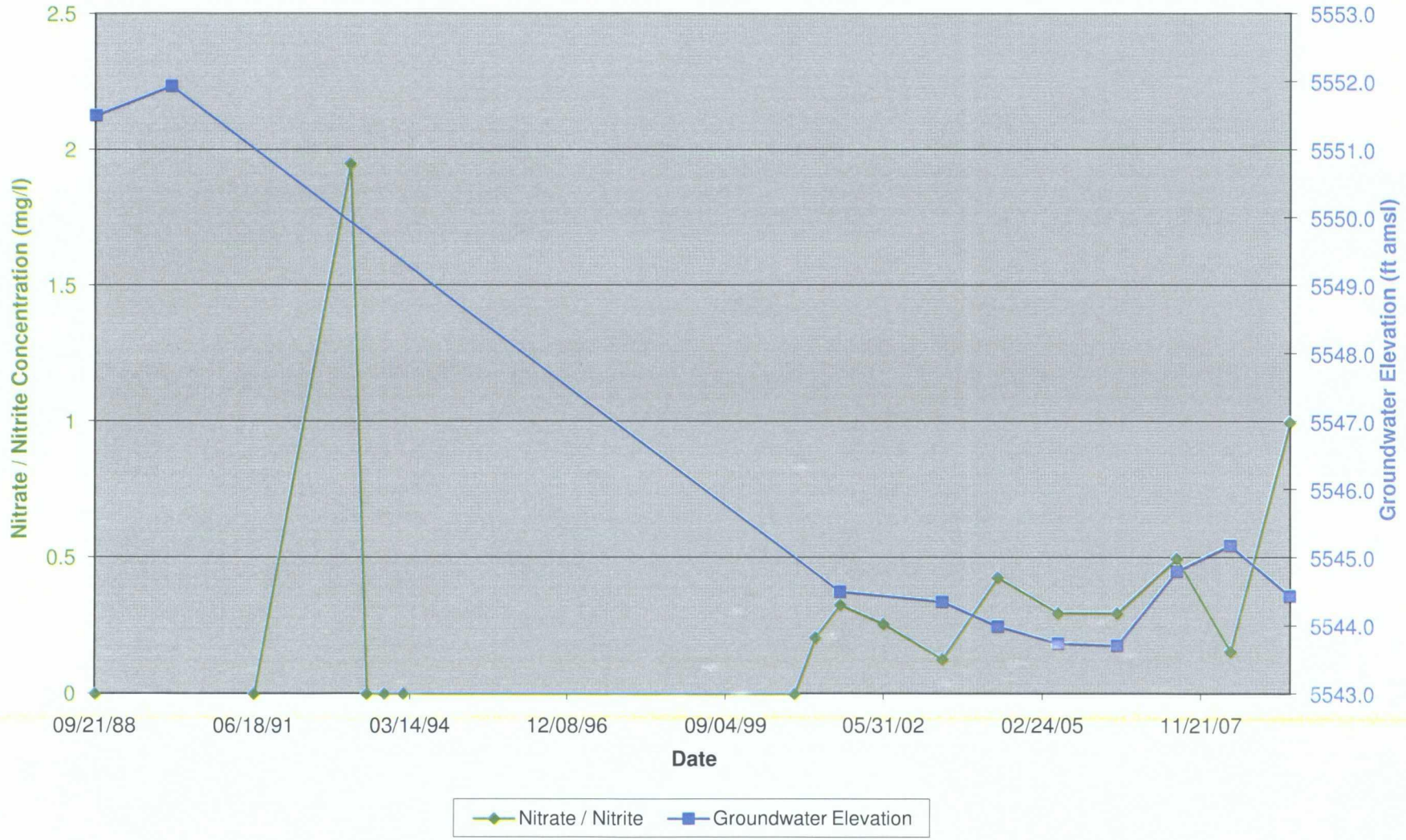
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-5



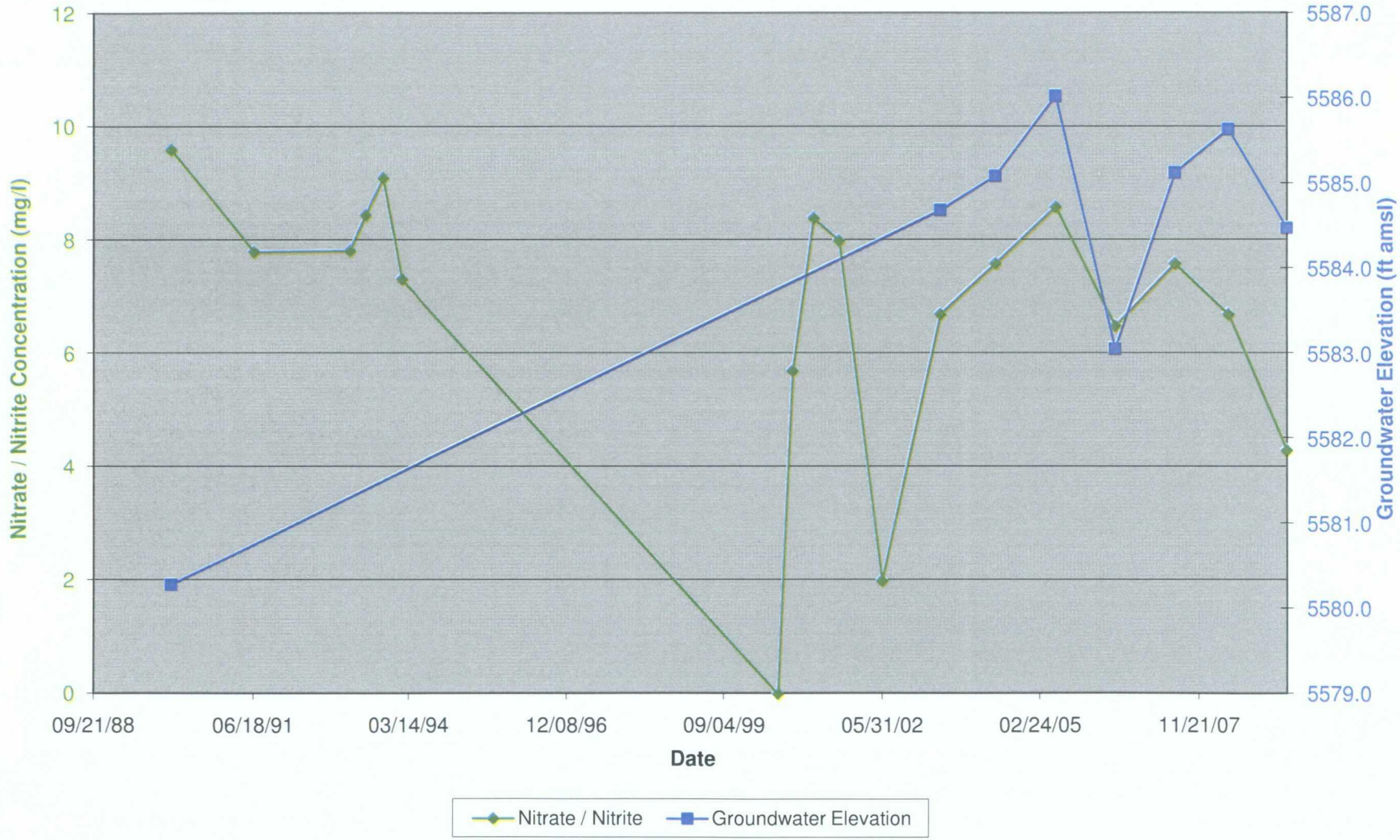
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-6



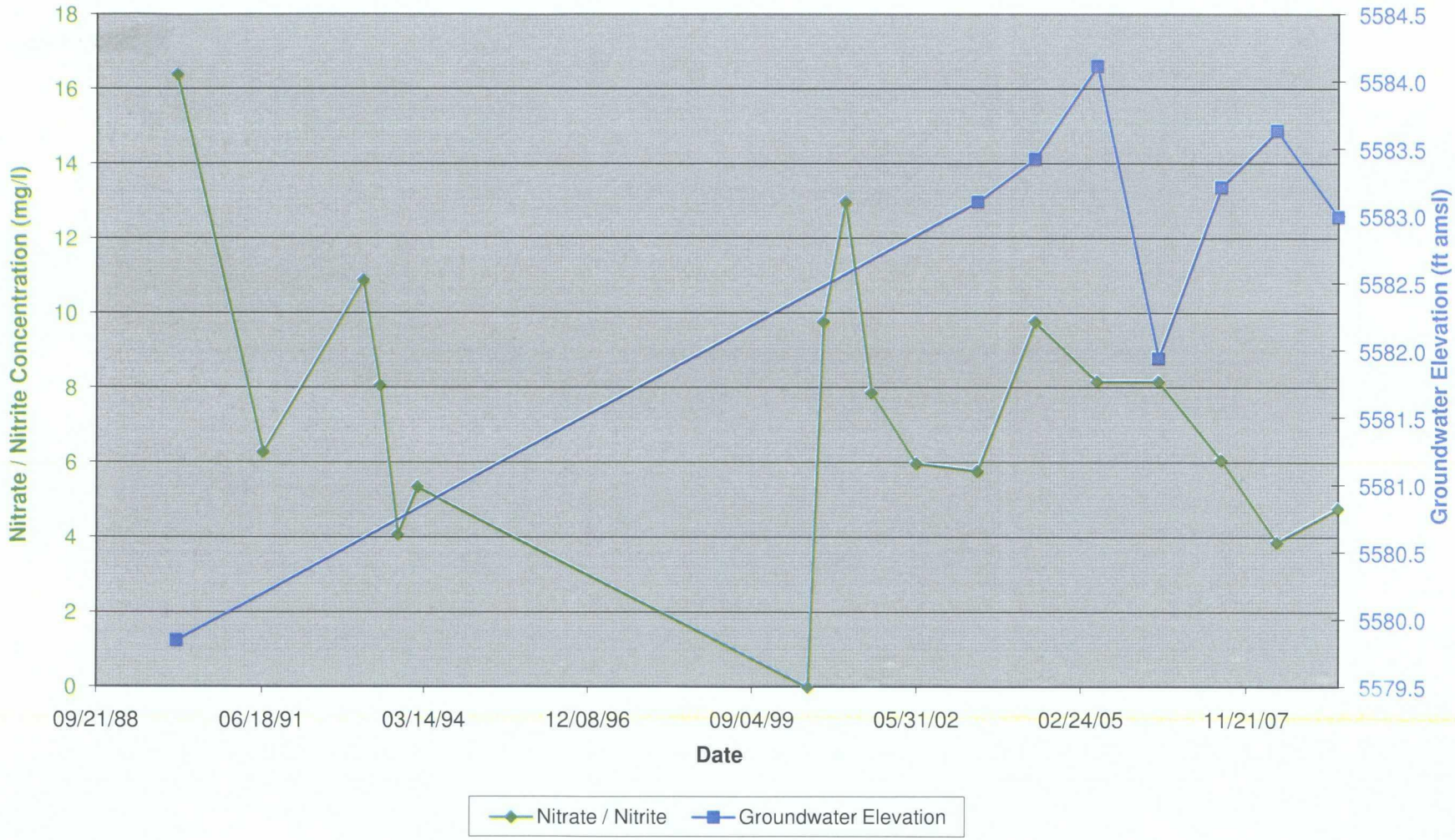
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-8



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



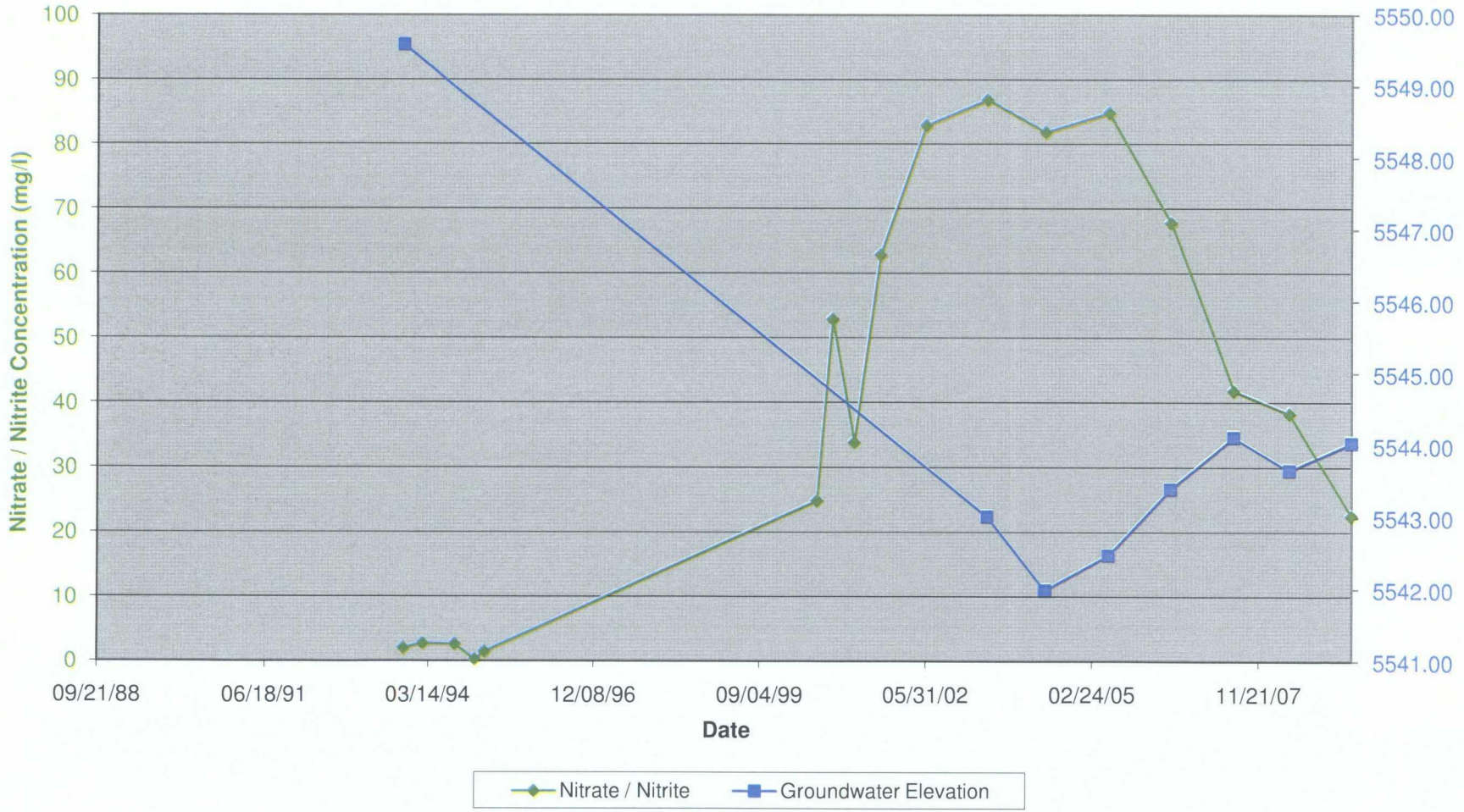
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-13



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

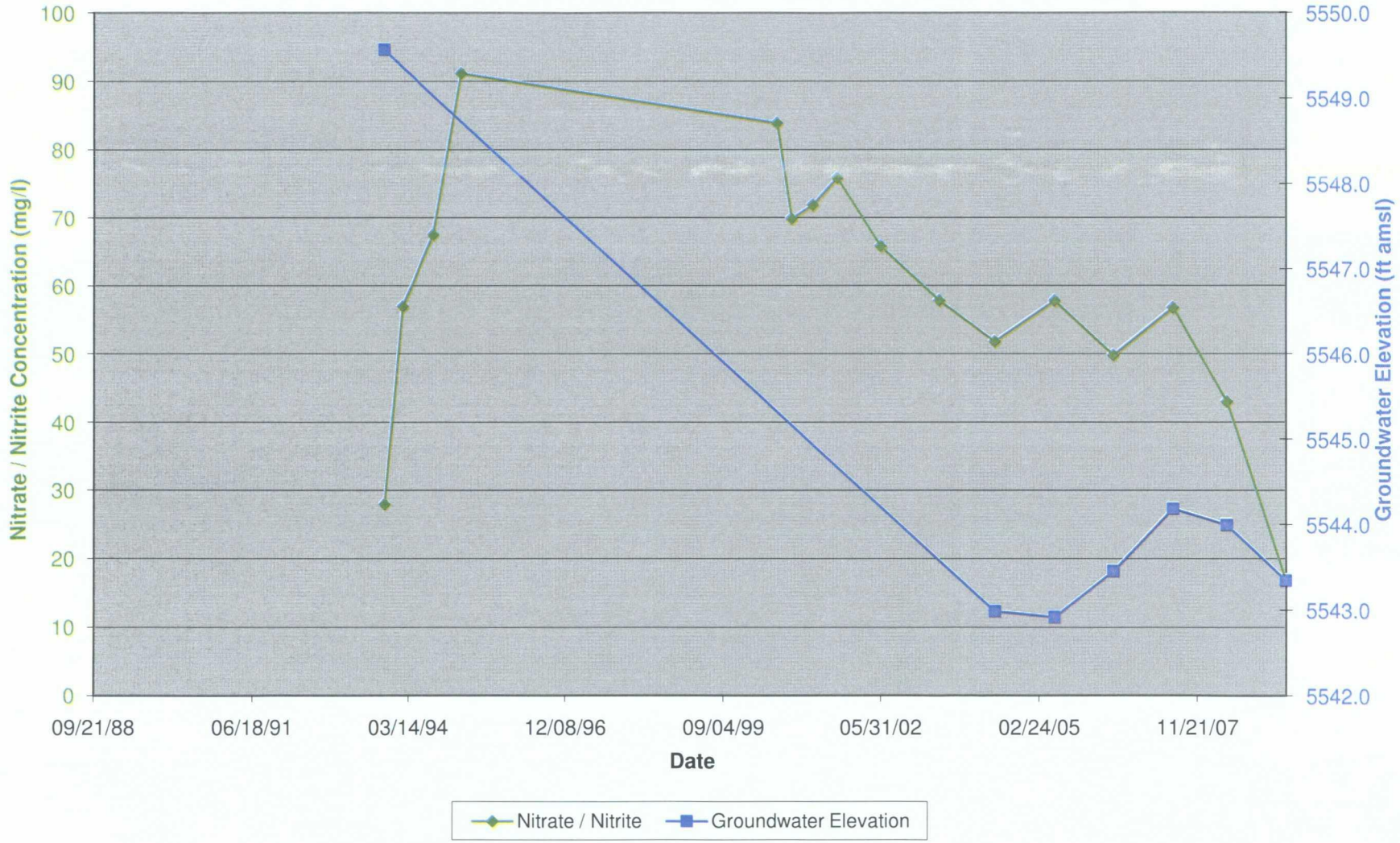
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-15

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



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

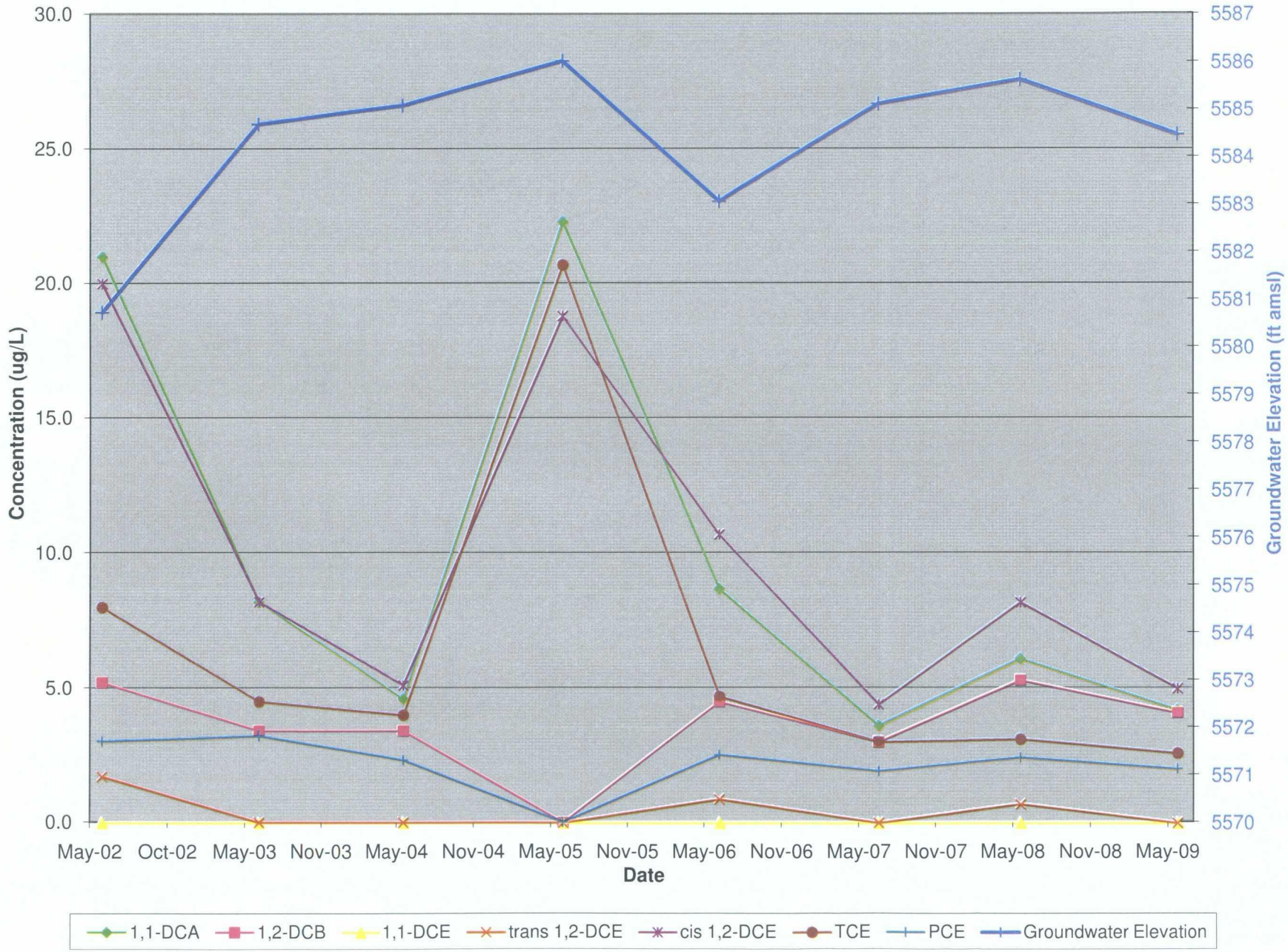
Historic Nitrate / Nitrite Concentrations and Groundwater Elevations
Monitoring Well MW-30



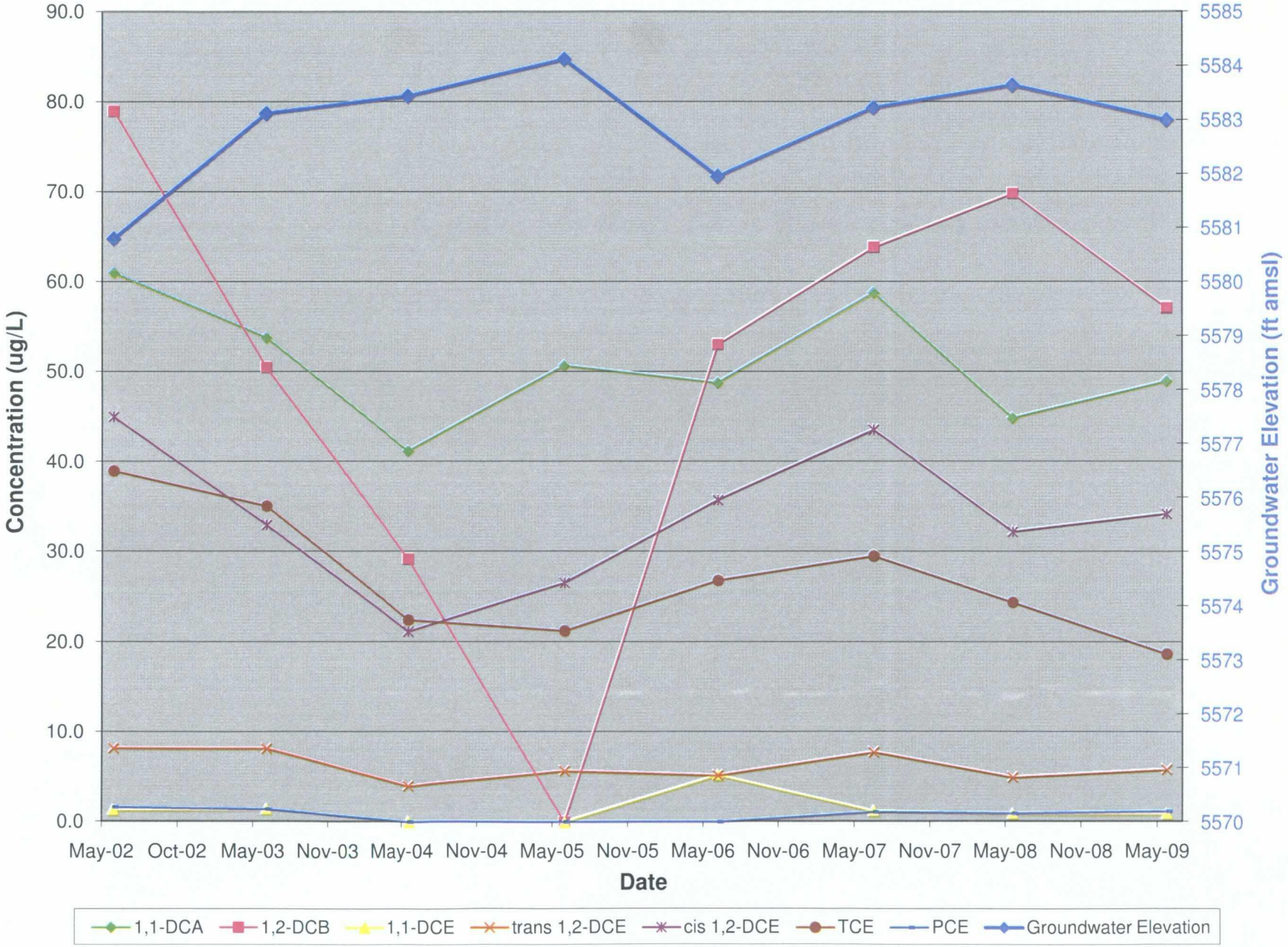
APPENDIX E

Chlorinated Hydrocarbon Concentration and Groundwater Elevation Graphs

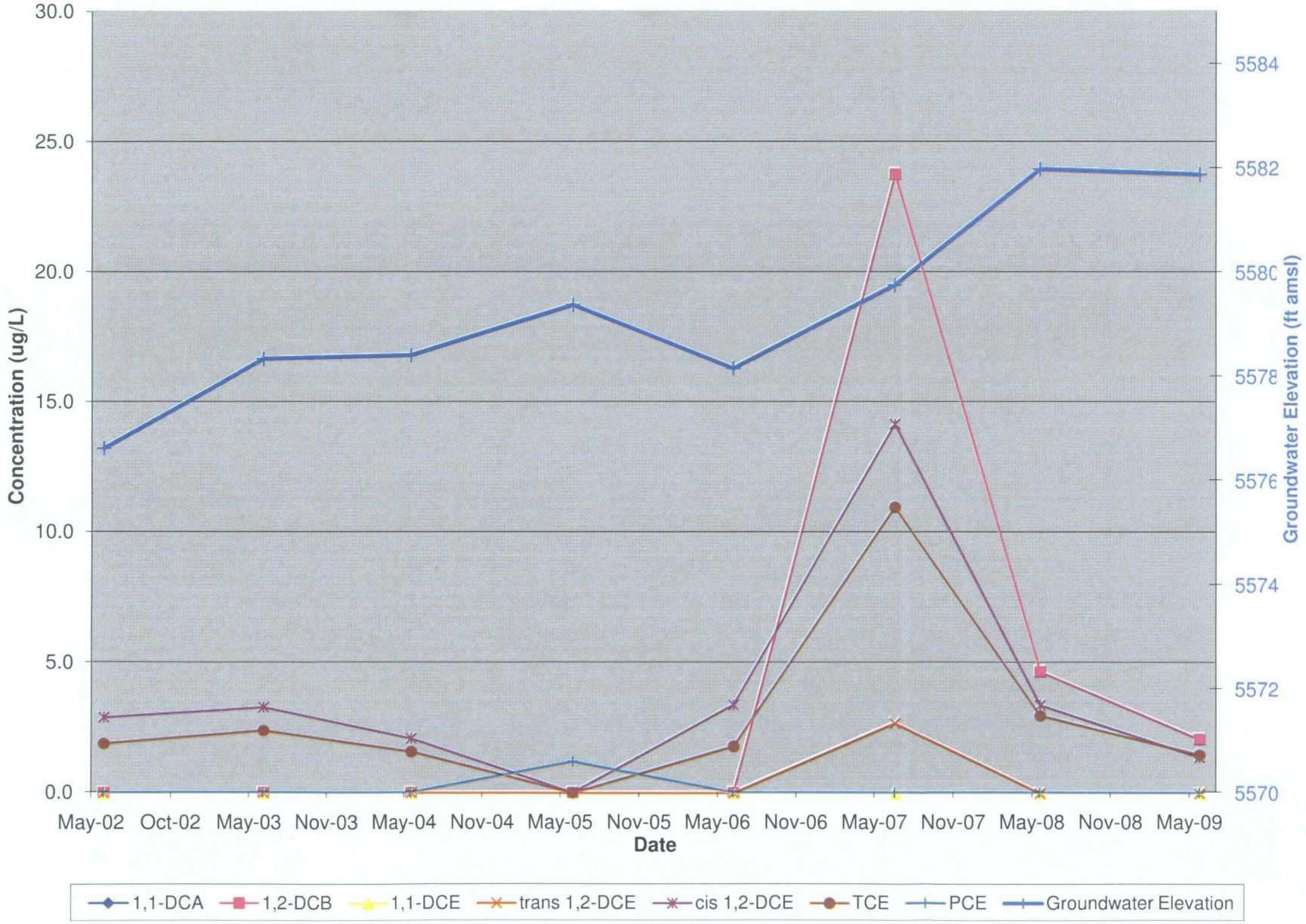
Historic Chlorinated Hydrocarbon Concentrations and Groundwater Elevations
Monitoring Well MW-12



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