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Prepared for:

EL PASO NATURAL GAS COMPANY

elpaso

614 Reilly Avenue
Farmington, New Mexico 87401

2004 GROUNDWATER REPORT FOR THE BLANCO PLANT SOUTH FLARE PIT AND D PLANT AREAS

San Juan County, New Mexico

July 2004

Prepared by:

MWH
P.O. Box 774018
Steamboat Springs, Colorado 80477
(970) 879-6260

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LIST OF ACRONYMS

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

1.0 INTRODUCTION

This *2004 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 2004 annual groundwater sampling event at the Blanco Plant site. In addition, results of the chlorinated hydrocarbon sampling in the D Plant area from 2002 through 2004 are also presented. This work has been performed according to the proposed actions outlined in the *Groundwater Nitrate Report for the Blanco Plant South Flare Pit and D Plant Areas, April 2003* (Nitrate Report) (MWH, 2003a) and the *2003 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas, August 2003* (MWH, 2003b), which are as follows:

- All groundwater monitoring wells on the Blanco Plant and in the North Flare Pit area will be sampled annually and analyzed for nitrate+nitrite concentrations.
- Groundwater samples from monitoring wells in the D Plant Area (MW-12, MW-13, MW-14 and MW-15) will be analyzed for chlorinated hydrocarbon compounds.
- The results of the nitrate and chlorinated hydrocarbon groundwater sampling will be reported to NMOCD in annual groundwater monitoring reports.
- In accordance with the approval letter from NMOCD, dated May 3, 2002, EPC will plug and abandon monitoring wells MW-10, MW-16, MW-17 and MW-18.

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

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

Section 2.0 of this report summarizes historical information related to groundwater nitrate at the site, including a description of previous investigations and a description of the geology/hydrogeology of the area. Section 3.0 presents the results of the groundwater sampling investigation in 2004, and Section 4.0 discusses continued activities at the site.

2.0 SITE BACKGROUND

2.1 PREVIOUS INVESTIGATIONS OF GROUNDWATER NITRATE

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

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

Historic and recent groundwater nitrate data from several rounds of groundwater sampling (1991 – 2004) at the site (including North Flare Pit wells) are presented in Table 2.1, *Groundwater Nitrate Analytical Data (1991 – 2004).*

2.2 SITE GEOLOGY/HYDROGEOLOGY

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

An assessment of site hydrogeology and groundwater resources of the Blanco Plant area was conducted by Bechtel Environmental in 1989 (Bechtel, 1989). Based on the information collected during this study, it was concluded that the direction of groundwater flow through the plant area is to the south-southwest and then trends southward through the southern portion 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) to nine feet (at MW-10) below ground surface (5564 to 5552 feet above sea level) (EPNG, 1989). These results were generally consistent with the findings of K.W. Brown (1990).

A potentiometric surface map for the site has been prepared based on water level measurements collected in May 2004, and is presented in Figure 2.1, *Groundwater Potentiometric Surface Map – May 2004.* Based on these data, groundwater is flowing to the southeast with a hydraulic gradient of 0.027 ft/ft in the Blanco Plant site area and 0.067 ft/ft in the North Flare Pit area. At the southern boundary of the site the

groundwater gradient trends towards the east, likely as a result of groundwater mounding in that area due to recharge from Citizens Ditch. This is consistent with the groundwater flow pattern of previous years.

3.0 2004 ANNUAL GROUNDWATER SAMPLING

3.1 GROUNDWATER NITRATE DATA

Groundwater samples were collected on May 17, 2004 from wells MW-8, MW-12, MW-13, MW-14, MW-15, MW-19, MW-23, MW-26, MW-27, MW-28, MW-29 and MW-30 using standard purging and sampling techniques and analyzed for nitrite+nitrate concentrations. Groundwater sampling was attempted at wells MW-2, MW-5, MW-6, MW-7 and MW-24 at this time; however, these wells were either dry (MW-2, MW-5, MW-6 and MW-7) or purged dry (MW-24). Field data and sampling information are presented on field sampling forms, included in Appendix A.

Analytical data are listed in Table 2.1, and laboratory analytical reports are included in Appendix B. Nitrate concentrations were consistent with historic data for these wells. These data indicate that nitrate concentrations have consistently exceeded NMWQCC standards in monitoring wells MW-14, MW-15, MW-28, MW-29 and MW-30. Monitoring well MW-2 has not been sampled since 1994 because the well has been dry (although data collected from 1991 through 1994 indicated elevated nitrate concentrations at that location).

Monitoring well MW-20 was damaged in 2000 and abandoned in 2002. In accordance with the approval letter from NMOCD, EPC plugged and abandoned monitoring wells MW-10, MW-16, MW-17 and MW-18 in December 2003.

Groundwater nitrate concentrations from the May 2004 sampling event are presented on Figure 3.1, *Groundwater Nitrate Data – May 2004*. The 10 mg/L isoconcentration contour is also presented on this figure to indicate areas in exceedance of the NMWQCC standard. Nitrate concentrations in all of the wells in the North Flare Pit area are consistently low and well below the standard. As shown in this figure, there is no obvious source or apparent trend in the nitrate data. Instead, there appear to be two confined areas or "hot spots" of high nitrate concentrations that are adjacent to wells with nitrate concentrations consistently below NMWQCC standards. In addition, there is no indication that high nitrate groundwater is migrating off-site.

3.2 GROUNDWATER CHLORINATED HYDROCARBON DATA

Four wells in the D Plant area were also sampled and analyzed for a suite of selected chlorinated hydrocarbons (CHCs), in accordance with the site monitoring requirements The CHCs include tetrachloroethene (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 previously at the site. Analytical data from May 2002, June 2003 and May 2004 are presented in Table 3.1, *Groundwater Chlorinated Hydrocarbon Analytical Data (2002 - 2004)*. As shown in this table, analytical data are generally consistent between the two years, with the exception that concentrations of several CHCs in MW-12 decreased in 2003 and 2004. In 2004, PCE, the most highly-chlorinated solvent of the analyte group, occurred only in well MW-12, and TCE was present in wells MW-12, MW-13 and MW-14. Daughter products of these two compounds (DCE and/or DCA) are detected in each of the wells, indicating that degradation of these compounds is naturally occurring in the groundwater.

The only CHC detected in well MW-15 is a relatively low concentration of 1,1-DCA (6.3 µg/L in May 2004), indicating that the groundwater at this location is likely approaching non-detectable levels of CHCs.

4.0 CONCLUSIONS

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

Nitrates

- Nitrate concentrations in the North Flare Pit area wells (MW-19, MW-23, MW24, MW26 and MW-27) have consistently been below NMWQCC standards.
- Nitrate concentrations in the Blanco Plant area are not increasing or decreasing. Concentrations have remained stable in the two hot spots near the D Plant and the former flare pit.
- Groundwater with elevated nitrate concentrations does not appear to be migrating, based on the 2004 sample data.

Chlorinated Hydrocarbons

- In 2004, only the MW-13 groundwater sample exceeded Federal or NMWQCC standards for CHCs in the D Plant area.
- All CHCs appear to be degrading naturally and are expected to fall below NMWQCC standards over time.

5.0 RECOMMENDATIONS

In order to continue to monitor groundwater nitrate and CHC concentrations at the site, the following actions will continue to be conducted by EPNG:

- All groundwater monitoring wells in the Blanco Plant area, including MW-2, will be sampled annually and analyzed for nitrate+nitrite concentrations, as shown in Table 4.1, *Groundwater Sampling Schedule*.

- Five groundwater wells in the North Flare Pit area (MW-19, MW-23, MW24, MW26 and MW-27), which have consistently contained low nitrate concentrations below NMWQCC standards, will be removed from the sampling list.

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

- The results of the nitrate and chlorinated hydrocarbon 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, 1989. *Groundwater Investigation Report, El Paso Natural Gas Company's Blanco Plant, San Juan County, New Mexico.* January 1989.

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

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

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

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

TABLES

TABLE 2.1
GROUNDWATER NITRATE ANALYTICAL DATA (1991 - 2004)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Nitrate (mg/l)
	NMOCD Standard: 10 mg/L	
MW-2	6/18/91	180
	2/23/93	256
	6/8/93	228
	9/29/93	233
	2/10/94	249
	5/29/02	dry
	6/3/03	dry
	5/17/04	dry
MW-5	6/18/91	0.08
	2/19/93	<1.0
	6/7/93	<1.0
	1/27/94	<1.0
	8/8/00	4.6
	8/8/00	4.6
	11/10/00	4
	9/24/02	dry
	6/3/03	dry
	5/17/04	dry
MW-6	6/19/91	110
	2/19/93	63.5
	6/7/93	76.4
	9/28/93	85.9
	10/7/93	94.5
	1/26/94	95.8
	8/20/94	1.7
	12/20/94	94
	2/16/95	90.6
	11/10/00	59
	9/24/02	95.1
	6/3/03	74
	5/17/04	dry
MW-7	6/18/91	0.28
	6/7/93	3
	9/27/93	<2.8
	5/29/02	dry
	9/24/02	dry
	6/3/03	dry
	5/17/04	dry
MW-8	6/18/91	<0.06
	2/19/93	2.0
	6/7/93	<1.0
	9/27/93	<1.0
	1/27/94	<1.0
	11/10/00	<0.1
	11/10/00	<0.1
	3/23/01	0.21
	3/23/01	0.21
	8/28/01	0.33
	5/28/02	0.26
	6/3/03	0.13
	5/17/04	0.43
MW-10	6/18/91	0.74
	2/19/93	1.2
	6/7/93	2.2
	9/27/93	2.1
	1/27/94	2.0
	5/28/02	dry
	9/24/02	dry
	6/3/03	NS
	12/1/03	abandoned
MW-12	6/19/91	7.8
	2/25/93	7.8
	6/7/93	8.5
	9/28/93	9.1
	1/27/94	7.3
	8/8/00	<10
	11/9/00	5.7
	3/22/01	8.4
	8/28/01	8.0
	5/28/02	2.0
	6/3/03	6.7
	5/17/04	7.6
MW-13	6/19/91	6.3
	2/24/93	10.9
	6/8/93	8.1
	9/28/93	4.1
	1/27/94	5.4
	8/8/00	<12.5
	11/9/00	9.8
	3/22/01	13
	8/28/01	7.9
	5/28/02	6.0
	6/3/03	5.8
	5/17/04	9.8

Monitoring Well	Sample Date	Nitrate (mg/l)
	NMOCD Standard: 10 mg/L	
MW-14	2/25/93	19.2
	6/8/93	17.5
	9/28/93	11.8
	1/27/94	15.4
	8/8/00	19
	11/13/00	0.24
	3/22/01	13
	8/28/01	20
	5/28/02	15
	6/3/03	15
	5/17/04	16
MW-15	6/19/91	50
	2/24/93	5
	6/8/93	48.1
	9/28/93	43
	1/27/94	43.7
	8/8/00	35
	11/9/00	38
	3/22/01	25
	8/28/01	30
	5/28/02	24
	6/3/03	21
	5/17/04	20
MW-16	6/19/91	0.07
	2/25/93	3.7
	6/8/93	<1.0
	6/3/03	NS
	12/1/03	abandoned
MW-17	2/25/93	15.3
	9/24/02	dry
	6/3/03	NS
	12/1/03	abandoned
MW-18	2/25/93	8.19
	6/8/93	<1.0
	9/28/93	<1.0
	9/24/02	3.1
	6/3/03	NS
	12/1/03	abandoned
MW-19	6/19/91	70
	2/25/93	18.6
	6/10/93	NA
	11/13/00	<0.1
	3/26/01	0.19
	5/30/02	0.13
	6/3/03	<0.10
	5/17/04	0.19
MW-20	9/26/92	NA
	2/24/93	<1.0
	6/10/93	<1.0
	9/29/93	<1.0
	1/27/94	<1.0
	5/13/94	NA
	8/22/94	NA
	11/13/00	damaged
	6/3/03	abandoned
MW-23	9/26/92	0.62
	2/1/93	NA
	2/25/93	0.56
	6/8/93	<1.0
	9/29/93	<1.0
	2/10/94	<1.0
	5/13/94	NA
	8/22/94	NA
	11/13/00	0.12
	3/26/01	0.18
	5/30/02	0.23
	6/3/03	<0.10
	5/17/04	0.29

Monitoring Well	Sample Date	Nitrate (mg/l)
	NMOCD Standard: 10 mg/L	
MW-24	9/26/92	1.42
	2/23/93	<1.0
	6/10/93	<1.0
	9/29/93	<1.0
	2/10/94	<1.0
	5/13/94	NA
	8/22/94	NA
	11/13/00	0.1
	3/26/01	0.18
	5/30/02	0.15
	6/3/03	dry
	5/17/04	dry
MW-26	2/25/93	23
	6/10/93	8.2
	3/26/01	0.24
	5/30/02	0.26
	6/3/03	NS
	5/17/04	0.53
MW-27	2/26/93	<1.0
	6/10/93	<1.0
	9/30/93	<1.0
	2/2/94	<1.0
	5/14/94	NA
	11/13/00	0.28
	3/26/01	0.61
	5/30/02	0.21
	6/3/03	<0.10
	5/17/04	0.56
MW-28	10/7/93	2.1
	2/2/94	2.8
	8/20/94	2.7
	12/20/94	0.33
	2/16/95	1.6
	8/10/00	25
	11/10/00	53
	3/23/01	34
	8/28/01	63
	5/28/02	83
	6/3/03	87
	5/17/04	82
MW-29	10/7/93	8.3
	2/2/94	19.6
	8/20/94	28.8
	12/20/94	41
	2/16/95	28.1
	8/10/00	50
	11/10/00	66
	3/26/01	70
	8/28/01	58
	5/28/02	70
	6/3/03	79
	5/17/04	88
MW-30	10/7/93	28.1
	2/2/94	57.1
	8/20/94	67.6
	2/16/95	91.3
	8/10/00	84
	11/10/00	70
	3/26/01	72
	8/28/01	76
	5/28/02	66
	6/3/03	58
	5/17/04	52

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

TABLE 3.1
GROUNDWATER CHLORINATED HYDROCARBON ANALYTICAL DATA (2002 - 2004)
BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Monitoring Well	Sample Date	Static Water Level (ft btoc)	Chlorinated Hydrocarbons by EPA M 8260 (ug/L)						
			1,1-DCA	1,2-DCB	1,1-DCE	trans 1,2-DCE	cis 1,2-DCE	TCE	PCE
NMWQCC Water Quality Standard:			25	NS	5.0	NS	NS	100	20
US EPA MCL:			NS	NS	7.0	100	70	5.0	5.0
May 2002 Sampling Event									
MW-12	5/28/02	20.95	21	5.2	<1.0	1.7	20	**8.0**	3.0
MW-13	5/28/02	16.76	**61**	79	1.3	8.2	45	**39**	1.6
MW-14	5/29/02	21.57	8.7	<1.0	<1.0	<1.0	2.9	1.9	<1.0
MW-15	5/28/02	20.33	5.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
June 2003 Sampling Event									
MW-12	6/3/03	16.99	8.2	3.4	<2.0	<2.0	8.2	4.5	3.2
MW-13	6/3/03	14.44	**53.8**	50.5	1.4	8.2	33	**35.1**	1.4
MW-14	6/3/03	19.85	9.5	<2.0	<2.0	<2.0	3.3	2.4	<2.0
MW-15	6/3/03	18.85	6.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
May 2004 Sampling Event									
MW-12	5/17/04	16.59	4.6	3.4	< 2.0	< 2.0	5.1	4.0	2.3
MW-13	5/17/04	14.12	**41.2**	29.2	< 2.0	4.0	21.2	**22.5**	< 2.0
MW-14	5/17/04	19.78	5.7	< 2.0	< 2.0	< 2.0	2.1	1.6	< 2.0
MW-15	5/17/04	18.475	6.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

Chlorinated Hydrocarbons by EPA Method 8260
PCE: Tetrachloroethene
TCE: Trichloroethene
DCE: Dichloroethene
DCB: Dichlorobenzene
DCA: Dichloroethane

< Indicates analyte not detected at the method detection limit (MDL). Value shown is the MDL.

NMWQCC: New Mexico Water Quality Control Commission
US EPA MCL: United States Environmental Protection Agency Maximum Contaminant Level

NS: No Standard

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

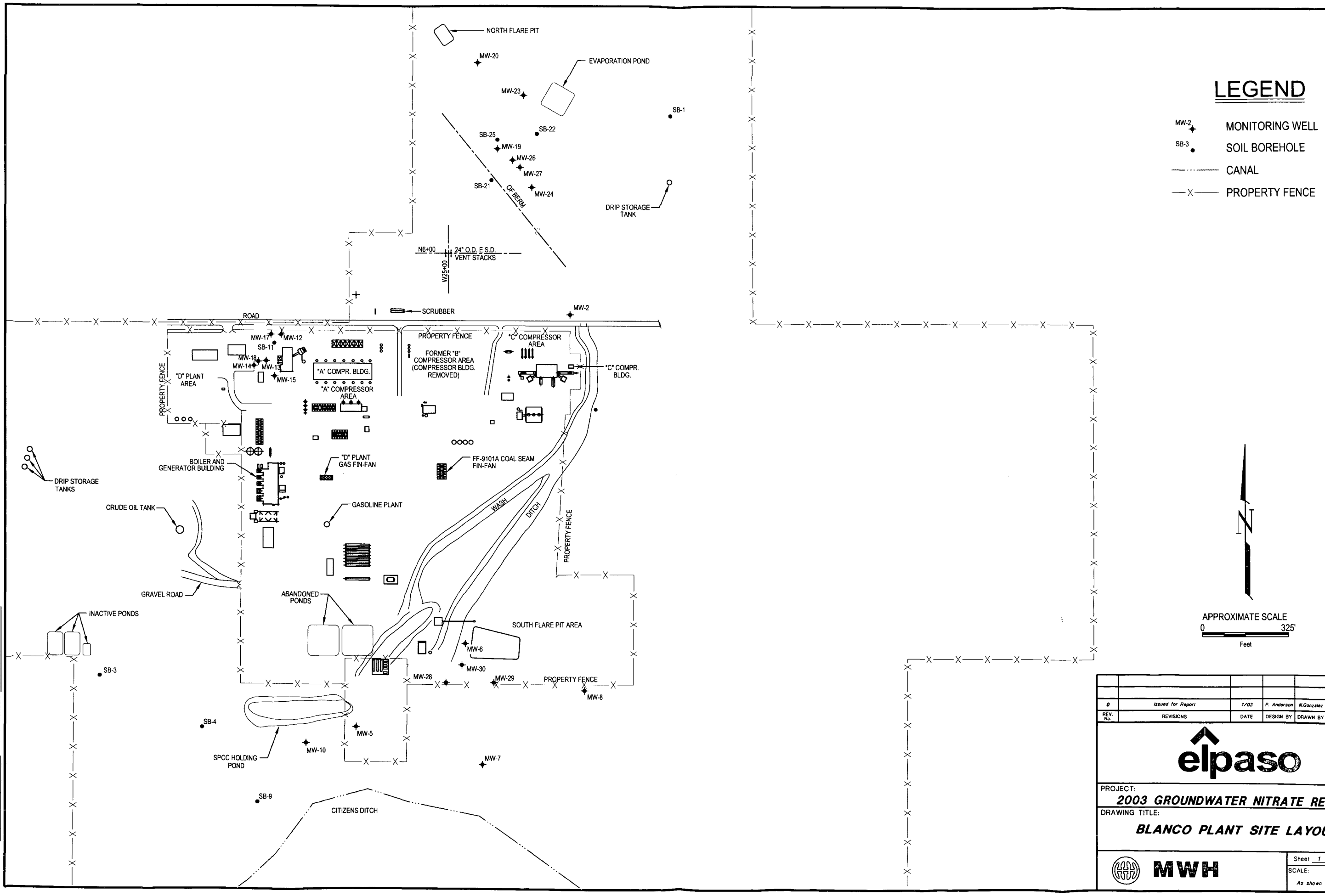
Monitoring Well	Analyses	Sampling Frequency
Blanco Plant Area		
MW-2	Nitrate+Nitrite	Annual
MW-5	Nitrate+Nitrite	Annual
MW-6	Nitrate+Nitrite	Annual
MW-7	Nitrate+Nitrite	Annual
MW-8	Nitrate+Nitrite	Annual
MW-28	Nitrate+Nitrite	Annual
MW-29	Nitrate+Nitrite	Annual
MW-30	Nitrate+Nitrite	Annual
D Plant Area		
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 M 8260: 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 M 353.2, 354.1, or 4500.

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

FIGURES



LEGEND

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

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued for Report	7/03	P. Anderson	N.Gonzalez	D. Ellerbrock

elpaso

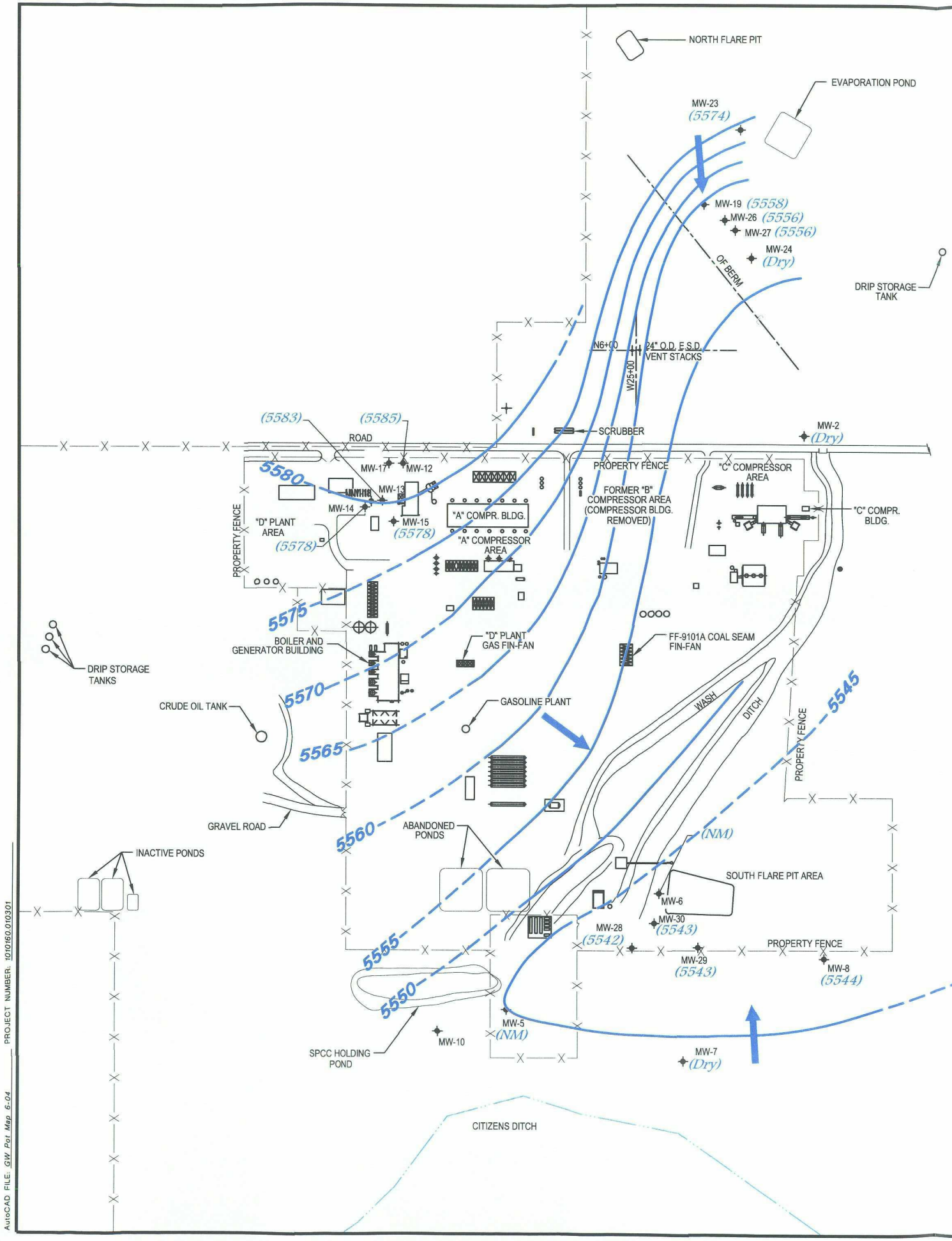
PROJECT:
2003 GROUNDWATER NITRATE REPORT

DRAWING TITLE:
BLANCO PLANT SITE LAYOUT

MWH

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

AutoCAD FILE: GW-Location Map 7-03 PROJECT NUMBER: 5030073.01804



LEGEND

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

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
1	Issued for Report	6/04	P.Anderson	K.Conrath	P.Anderson
0	Issued for Report	7/03	P. Anderson	N.Gonzalez	D. Ellerbroek

elpaso

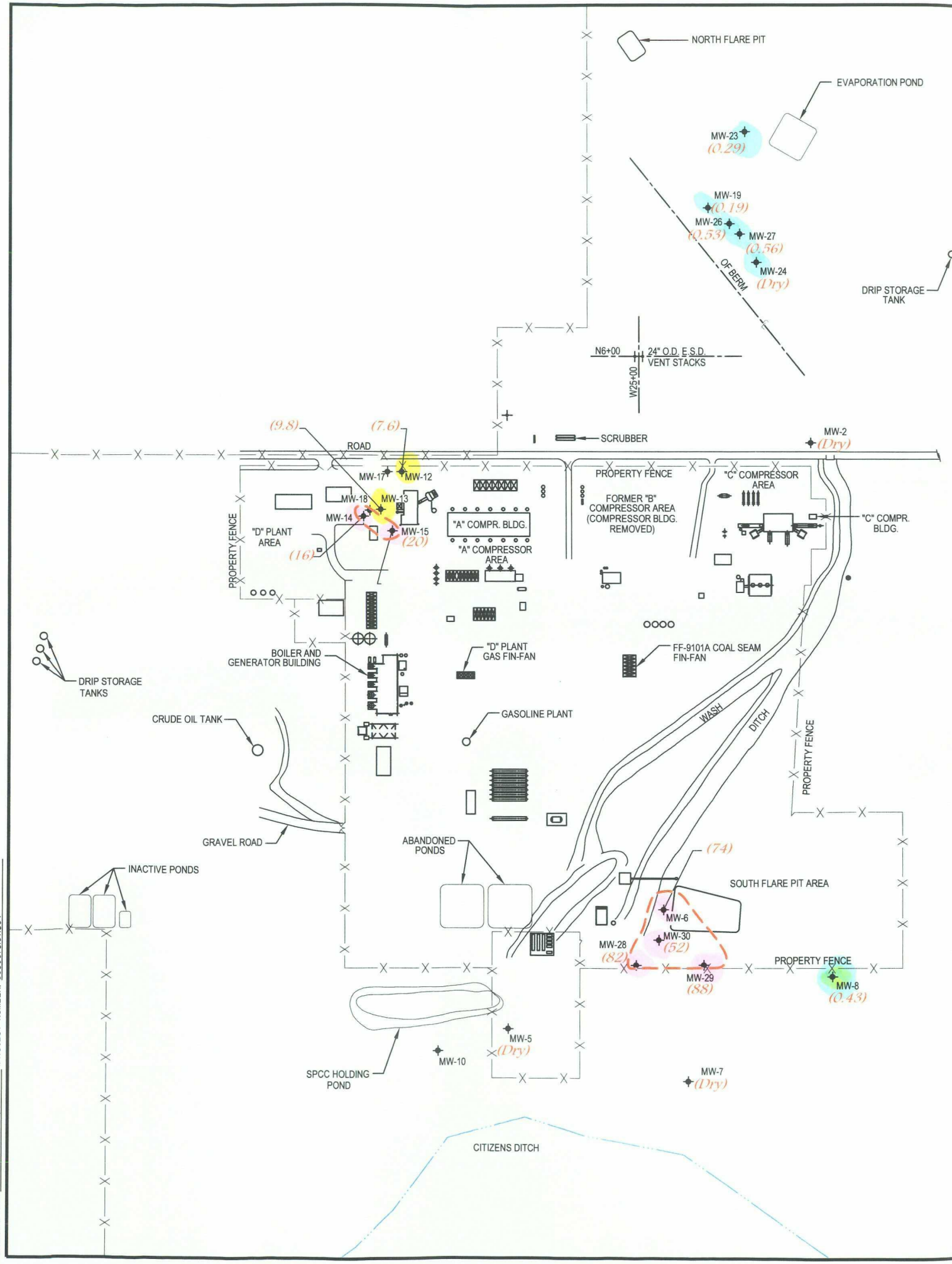
PROJECT:
2003 GROUNDWATER NITRATE REPORT

DRAWING TITLE:
GROUNDWATER POTENTIOMETRIC SURFACE MAP, MAY 2004

MWH

Sheet 1 Of 1 Sheets
SCALE: As shown
FIGURE No. 2.1

PROJECT NUMBER: 101060.010301
AutoCAD FILE: GW Pot Map 6-04



LEGEND

- MW-2 — MONITORING WELL
- (74) — GROUNDWATER NITRATE CONCENTRATION (NO_3 + NO_2 as N in mg/L)
- 10 — GROUNDWATER NITRATE ISOCONCENTRATION CONTOUR, MAY 2004 *(NO_3 + NO_2 as N in mg/L)*
- CANAL
- PROPERTY FENCE

NOTE: NITRATE CONCENTRATION IN MW-6 IS JUNE 2003 DATA.

N

APPROXIMATE SCALE
0 325'
Feet

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	Issued for Report	7/03	P. Anderson	N.Gonzalez	D. Ellerbroek

elpaso

PROJECT:
2003 GROUNDWATER NITRATE REPORT

DRAWING TITLE:
GROUNDWATER NITRATE CONCENTRATIONS, MAY 2004

MWH

Sheet 1 Of 1 Sheets
SCALE: As shown
FIGURE No. 3.1

AutoCAD FILE: GW_NO3 conc. 6-04 PROJECT NUMBER: 5030073.01B04

APPENDIX A

FIELD SAMPLING FORMS

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-8 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1341 Weather sunny 80s
Depth to Water 34.73 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 1.87 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
1.87 x .65	1.22 x 3	155.6 x 3	466.75

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1346	**6.75**	**4820**	**70.9**				**18**	**Clear**
1350	**6.92**	**4690**	**65.4**				**48**	**Clear**
	6.71	**4600**	**65.0**				**62**	
	6.79	**4610**	**64.5**				**106**	**Clear**
1407	**6.83**	**4750**	**64.0**				**112**	**Well had bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1407	**6.83**	**4750**	**64.0**					**112**	**well has bailed dry, will return later to sample**

COMMENTS: Well bailed dry, returned to sample 5/18/04

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

Water Disposal Kutz Sample ID Blanco SFP MW-8 Sample Time 0818 5/18/04
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate** **Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco D Plant Client: MWH/EL Paso
Location: Blanco D Plant Area Well No: MW-12 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1657 Weather sunny 80s
Depth to Water 16.59 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 9.59 Well Dia. 2"

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
9.59 x .16	1.53 x 3	196 x 3	4.61

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1701	**7.12**	**5640**	**66.9**				**0.25**	**Clear**
	7.16	**5560**	**65.4**				**0.5**	
	7.07	**5650**	**65.3**				**0.75**	**Clear**
	6.8	**6380**	**65.3**				**4**	
	6.81	**6440**	**65.2**				**4.25**	
1712	**6.83**	**6330**	**65.2**				**4.75**	**Clear**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1712	**6.83**	**6330**	**65.2**					**4.75**	**Clear**

COMMENTS:

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

Water Disposal Kutz Sample ID Blanco D plant MW-12 Sample Time 1715
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus **CHCs**
MS/MSD_____ BD_____ BD Name/Time_____ TB 170504tb02

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco D Plant Client: MWH/EL Paso
Location: Blanco D Plant Area Well No: MW-13 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1633 Weather sunny 80s
Depth to Water 14.12 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 8.93 Well Dia. 2"

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

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
8.93 x .16	1.43 x 3	183 x 3	4.29

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1637	**6.57**	**4540**	**68.3**				**.25**	**Clear**
	6.36	**6790**	**67.0**				**.5**	
	6.33	**7260**	**66.8**				**.75**	
	6.40	**9000**	**66.9**				**4.0**	
	6.39	**8930**	**66.9**				**4.25**	
1649	**6.39**	**8830**	**66.9**				**4.5**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1649	**6.39**	**8830**	**66.9**					**4.5**	

COMMENTS: unpreserved due to rxn of hcl w/ gw

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

Water Disposal Kutz Sample ID Blanco D plant MW-13 Sample Time 1650
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus **CHCs**
MS/MSD_____ BD_____ BD Name/Time_____ TB 170504tb02

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco D Plant Client: MWH/EL Paso
Location: Blanco D Plant Area Well No: MW-14 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1742 Weather sunny 80s
Depth to Water 19.78 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 7.645 Well Dia. 2"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
7.64 x .16	1.22 x 3	156 x 3	4.67

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1747	**6.26**	**7520**	**70.4**				**0.25**	**Clear**
	6.28	**6430**	**67.4**				**0.5**	**Clear**
	6.19	**6880**	**66.9**				**0.75**	**clear**
1759	**6.19**	**7710**	**66.9**				**1.5**	**Well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1759	**6.19**	**7710**	**66.9**					**1.5**	**Well has bailed dry**

COMMENTS:

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

Water Disposal Kutz Sample ID Blanco D plant MW-14 Sample Time 1800

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

MS/MSD _____ BD _____ BD Name/Time _____ TB 170504tb02

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco D plant Client: MWH/EL Paso
Location: Blanco D Plant Area Well No: MW-15 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1602 Weather sunny 80s
Depth to Water 18.475 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 8.01 Well Dia. 2"

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
8.01 x .16	1.28 x 3	164 x 3	3.84

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1609	**4.43**	**11020**	**72.6**				**.25**	**Yellow**
	4.30	**10870**	**69.0**				**.5**	
	4.03	**10740**	**68.8**				**.75**	
	3.70	**10450**	**68.6**				**3.25**	
	3.04	**10530**	**68.1**				**3.5**	
	3.02	**10570**	**67.8**				**3.75**	**Yellow**
1622	**3.62**	**10530**	**68.1**				**4.0**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1622	**3.62**	**10530**	**68.1**					**4.0**	

COMMENTS:

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

Water Disposal Kutz Sample ID Blanco D plant MW-15 Sample Time 1625
BTEX VOCs Alkalinity TDS Cations Anions **Nitrate Nitrite** Ammonia TKN NMWQCC Metals Total Phosphorus **CHCs**
MS/MSD _____ BD _____ BD Name/Time _____ TB 170504tb02

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-19 Development **Sampling**
Project Manager MJN Date 5-17-04 Start Time 1133 Weather sunny 80s
Depth to Water 65.31 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 2.02 Well Dia. 2"

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
2.02 x .16	0.32 x 3	40.96 x 3	122.88 oz

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1135	**6.12**	**15640**	**72.4**				**22**	**Grey/ HC Odor**
	6.20	**14760**	**70.5**				**34**	**Grey/ HC Odor**
	6.22	**14480**	**69.7**				**40**	**Well is bailing down**
	6.32	**14050**	**69.8**				**46**	
1148	**6.38**	**13830**	**69.1**				**50**	**Well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1148	**6.38**	**13830**	**69.1**					**50**	**Well has bailed dry**

COMMENTS: Well bailed dry, returned to sample later

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

Water Disposal Kutz Sample ID Blanco NFP MW-19 Sample Time 0728 5/18/04

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

MS/MSD_____ BD_____ BD Name/Time_____ TB 170504tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-23 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1105 Weather sunny 80s
Depth to Water 57.14 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 9.705 Well Dia. 4"

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
9.705 x .65	6.31 x 3	807.456	18.924 gal

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1106	**6.12**	**15740**	**69.2**				**1**	**Grey sheen**
	6.11	**17040**	**65.9**				**2**	**Grey sheen/ odorous**
	6.12	**17780**	**66.5**				**3**	**Grey sheen/ odorous**
	6.14	**18070**	**65.9**				**4**	
	6.19	**18860**	**66.2**				**9**	
1128	**6.20**	**18710**	**66.7**				**9.25**	**Well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1128	**6.20**	**18710**	**66.7**					**9.25**	**Well has bailed dry, will sample later**

COMMENTS:

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

Water Disposal Kutz Sample ID Blanco NFP MW-23 Sample Time 0716 5/18/04

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

MS/MSD_____ BD_____ BD Name/Time_____ TB 170504tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-26 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1154 Weather Sunny 80s
Depth to Water 65.54 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 2.33 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
2.33 x .65	1.515 x 3	193.92 x 3	581.76 oz

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz.)	Comments/ Flow rate
1156	**6.80**	**8960**	**71.6**				**40**	**Grey opaque/ HC Odor**
	6.64	**8740**	**67.4**				**92**	
	6.71	**8810**	**67.3**				**142**	
	6.79	**8610**	**66.5**				**158**	**Well is bailing down**
	6.91	**8520**	**65.9**				**166**	**Well is bailing down**
1210	**7.03**	**8450**	**66.2**				**170**	**Well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1210	**7.03**	**8450**	**66.2**					**170**	**Well has bailed dry, will return later to sample**

COMMENTS: Well bailed dry. Collected sample 5/18/04

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

Water Disposal Kutz Sample ID Blanco NFP MW-26 Sample Time 0743 5/18/04

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

MS/MSD _____ BD _____ BD Name/Time _____ TB 170504tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso
Location: Blanco NFP Well No: MW-27 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1214 Weather sunny 80s
Depth to Water 65.74 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 3.54 Well Dia. 2"

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

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
3.54 x .16	0.5664 x 3	72.50 x 3	217.50

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1224	**6.23**	**7000**	**70.6**				**22**	**Clear**
	6.35	**7050**	**68.8**				**46**	
	6.21	**7130**	**68.2**				**78**	**Grey/ HC Odor**
	6.27	**7040**	**68.0**				**95**	**Well is bailing down**
	6.26	**6900**	**6.74**				**111**	
	6.38	**6870**	**67.1**				**121**	
1235	**6.52**	**6820**	**67.0**				**127**	**Well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1235	**6.52**	**6820**	**67.0**					**127**	**well is dry, will return later to sample**

COMMENTS: Well bailed dry, returned to sample 5/18/04

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

Water Disposal Kutz Sample ID Blanco NFP MW-27 Sample Time 0752 5/18/04

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

MS/MSD_____ BD_____ BD Name/Time_____ TB 170504tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-28 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 14438 Weather sunny 80s
Depth to Water 30.40 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 3.323 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
3.323 x .65	2.16 x 3	276.47 x 3	6.68

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1441	**6.14**	**4430**	**70.7**				**0.5**	**Clear**
	6.03	**4320**	**70.2**				**1**	
	6.04	**4330**	**66.6**				**1.75**	**Brown, silty**
	6.02	**4320**	**67.0**				**3.0**	
	6.06	**4310**	**66.5**				**5.75**	
	6.07	**4310**	**66.5**				**6.25**	
1455	**6.05**	**4330**	**66.9**				**7.0**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1455	**6.05**	**4330**	**66.9**					**7.0 gal**	

COMMENTS:

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

Water Disposal Kutz Sample ID Blanco SFP MW-28 Sample Time 1518

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

MS/MSD_____ BD_____ BD Name/Time_____ TB____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-29 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1459 Weather sunny 80s
Depth to Water 32.58 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 4.54 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
4.54 x .65	2.95 x 3	377.73 x 3	8.85

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1501	**6.29**	**4720**	**71.5**				**.5**	**Clear**
	6.20	**4650**	**69.7**				**1**	**Clear**
	6.11	**4600**	**69.4**				**1.5**	**Clear, well is bailing down**
	6.23	**4640**	**69.3**				**3**	**Clear**
1516	**6.57**	**4620**	**68.7**				**3.5**	**Well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1516	**6.57**	**4620**	**68.7**					**3.5**	**Well has bailed dry**

COMMENTS: Well bailed dry

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

Water Disposal Kutz Sample ID Blanco SFP MW-29 Sample Time 1518

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

MS/MSD_____ BD_____ BD Name/Time_____ TB____

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: Blanco SFP Client: MWH/EL Paso
Location: Blanco SFP Well No: MW-30 Development **Sampling**
Project Manager MJN Date 5/17/04 Start Time 1521 Weather sunny 80s
Depth to Water 32.48 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 4.423 Well Dia. 4"

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
4.423 x .65	2.875 x 3	368 x 3	8.62

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1529	**6.12**	**4350**	**71.8**				**.5**	**Clear**
	6.13	**4240**	**68.4**				**1.0**	
	6.11	**4190**	**66.2**				**1.5**	**Clear, well is bailing down**
	6.18	**4210**	**67.8**				**3.25**	**Clear sheen**
1543	**6.29**	**4250**	**68.0**				**4.5**	**Silty brown/ well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1543	**6.29**	**4250**	**68.0**					**4.5**	**Well has bailed dry**

COMMENTS: Well bailed dry

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

Water Disposal Kutz Sample ID Blanco SFP MW-30 Sample Time 1545

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

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

APPENDIX B

LABORATORY ANALYTICAL REPORTS

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 05/18/04

Laboratory: Accutest **MWH Job Number:** EPC-SJRB (Blanco North)

Batch Identification: T7500 **Matrix:** Water

MS/MSD Parent(s)[a]: T7500-04 **Field Replicate Parent(s):** None

Verification Complete: Lisa Bottoms 5-27-04
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Blanco North	MW-23	T7500-01	Y		
None	Blanco North	MW-19	T7500-02	Y		
None	Blanco North	MW-26	T7500-03	Y		
None	Blanco North	MW-27	T7500-04	Y		
None	Trip Blank	Trip Blank 1	T7500-05	N		

DATA VERIFICATION WORKSHEET

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** EPC-SJRB (Blanco North)

Laboratory: Accutest **Batch Identification:** T7500

Verification Criteria								
Sample ID	**MW-23**	**MW-19**	**MW-26**	**MW-27**	**Trip Blank 1**			
Lab ID	**T7500-01**	**T7500-02**	**T7500-03**	**T7500-04**	**T7500-05**			
Holding Time	A	A	A	A	A			
Analyte List	A	A	A	A	A			
Reporting Limits	A	A	A	A	A			
Surrogate Spike Recovery	A	A	A	A	A			
Trip Blank	A	A	A	A	A			
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A			
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A			
Initial Calibration	N	N	N	N	N			
Initial Calibration Verification (ICV)	N	N	N	N	N			
Continuing Calibration Verification (CCV)	N	N	N	N	N			
Method Blank	A	A	A	A	A			
Laboratory Control Sample (LCS)	A	A	A	A	A			
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N			
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	A	N/A			
Retention Time Window	N	N	N	N	N			
Injection Time(s)	N	N	N	N	N			
Hardcopy vs. Chain-of-Custody	A	A	A	A	A			
EDD vs. Hardcopy	N	N	N	N	N			
EDD vs. Chain of Custody	N	N	N	N	N			

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

NOTES:

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: EPA 353.2 (NO3/NO2) **Sample Collection Date(s):** 05/18/04

Laboratory: Accutest **MWH Job Number:** EPC-SJRB (Blanco North)

Batch Identification: T7500 **Matrix:** Water

MS/MSD Parent(s)[a]: T7500-01 **Field Replicate Parent(s):** None

Lab Replicate Parent(s): T7500-01

Verification Complete: Brian Bittass 5-27-04 (Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Blanco North	MW-23	T7500-01	Y		
None	Blanco North	MW-19	T7500-02	Y		
None	Blanco North	MW-26	T7500-03	Y		
None	Blanco North	MW-27	T7500-04	Y		

DATA VERIFICATION WORKSHEET

Analytical Method: EPA 353.2 (NO3/NO2) **MWH Job Number:** EPC-SJRB (Blanco North)

Laboratory: Accutest **Batch Identification:** T7500

Validation Criteria								
Sample ID	**MW-23**	**MW-19**	**MW-26**	**MW-27**				
Lab ID	**T7500-01**	**T7500-02**	**T7500-03**	**T7500-04**				
Holding Time	A	A	A	A				
Analyte List	A	A	A	A				
Reporting Limits	A	A	A	A				
Method Blank (all methods)	A	A	A	A				
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A				
Field Duplicate/Replicate	N/A	N/A	N/A	N/A				
Laboratory Control Sample (LCS)	A	A	A	A				
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N				
Matrix Duplicate	A	N/A	N/A	N/A				
Matrix Spike/Matrix Spike Dup. (MS/MSD)	A	N/A	N/A	N/A				
Initial Calibration	N	N	N	N				
Initial Check Verification (ICV)	N	N	N	N				
Continuing Calibration Verification (CCV)	N	N	N	N				
Analysis Time(s)	N	N	N	N				
Hardcopy vs. Chain-of-Custody	A	A	A	A				
EDD vs. Hardcopy	N	N	N	N				
EDD vs. Chain of Custody	N	N	N	N				

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

NOTES:

Gulf Coast ACCUTEST Laboratories

05/28/04

Technical Report for

Montgomery Watson

Blanco North

D-MWH-05-08-03-MSG-01

Accutest Job Number: T7500

Sampling Dates: 05/17/04 - 05/18/04

Report to:

Montgomery Watson

brian.buttars@us.mwhglobal.com

ATTN: Brian Buttars

Total number of pages in report: **24**

ACCREDITED IN ACCORDANCE WITH nelac

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

Ron Martino
Laboratory Manager

Sections: 1 2 3 4 5

Table of Contents

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Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T7500

Blanco North
Project No: D-MWH-05-08-03-MSG-01

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T7500-1	05/18/04	07:16	MJN	05/19/04	AQ	Ground Water	BLANCO MW-23
T7500-2	05/18/04	07:28	MJN	05/19/04	AQ	Ground Water	BLANCO MW-19
T7500-3	05/18/04	07:43	MJN	05/19/04	AQ	Ground Water	BLANCO MW-26
T7500-4	05/18/04	07:52	MJN	05/19/04	AQ	Ground Water	BLANCO MW-27
T7500-5	05/17/04	07:30	MJN	05/19/04	AQ	Trip Blank Water	TRIP BLANK

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-23		
Lab Sample ID:	T7500-1	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK007144.D	25	05/20/04	NS	n/a	n/a	GKK374
Run #2	KK007149.D	100	05/20/04	NS	n/a	n/a	GKK374

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

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	8020 [a]	100	50	ug/l	
108-88-3	Toluene	ND	25	13	ug/l	
100-41-4	Ethylbenzene	208	25	13	ug/l	
1330-20-7	Xylenes (total)	1490	75	25	ug/l	
95-47-6	o-Xylene	ND	25	13	ug/l	
	m,p-Xylene	1490	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%	94%	71-127%
98-08-8	aaa-Trifluorotoluene	94%	89%	66-136%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-23		
Lab Sample ID:	T7500-1	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco North		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	0.29	0.10	mg/l	2	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-19		
Lab Sample ID:	T7500-2	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK007145.D	25	05/20/04	NS	n/a	n/a	GKK374
Run #2	KK007150.D	100	05/20/04	NS	n/a	n/a	GKK374

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

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	7410 [a]	100	50	ug/l	
108-88-3	Toluene	ND	25	13	ug/l	
100-41-4	Ethylbenzene	1160	25	13	ug/l	
1330-20-7	Xylenes (total)	44.8	75	25	ug/l	J
95-47-6	o-Xylene	ND	25	13	ug/l	
	m,p-Xylene	44.8	50	25	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%	96%	71-127%
98-08-8	aaa-Trifluorotoluene	95%	91%	66-136%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-19		
Lab Sample ID:	T7500-2	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco North		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	0.19	0.10	mg/l	2	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-26		
Lab Sample ID:	T7500-3	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK007146.D	25	05/20/04	NS	n/a	n/a	GKK374
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	109	25	13	ug/l	
108-88-3	Toluene	14.3	25	13	ug/l	J
100-41-4	Ethylbenzene	87.1	25	13	ug/l	
1330-20-7	Xylenes (total)	280	75	25	ug/l	
95-47-6	o-Xylene	52.5	25	13	ug/l	
	m,p-Xylene	227	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	105%		71-127%
98-08-8	aaa-Trifluorotoluene	100%		66-136%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-26		
Lab Sample ID:	T7500-3	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco North		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	0.53	0.10	mg/l	2	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-27		
Lab Sample ID:	T7500-4	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK007143.D	25	05/20/04	NS	n/a	n/a	GKK374
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	95.9	25	13	ug/l	
108-88-3	Toluene	27.6	25	13	ug/l	
100-41-4	Ethylbenzene	317	25	13	ug/l	
1330-20-7	Xylenes (total)	1600	75	25	ug/l	
95-47-6	o-Xylene	323	25	13	ug/l	
	m,p-Xylene	1270	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	104%		71-127%
98-08-8	aaa-Trifluorotoluene	102%		66-136%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-27		
Lab Sample ID:	T7500-4	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco North		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	0.56	0.10	mg/l	2	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	T7500-5	Date Sampled:	05/17/04
Matrix:	AQ - Trip Blank Water	Date Received:	05/19/04
Method:	SW846 8021B	Percent Solids:	n/a
Project:	Blanco North		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK007142.D	1	05/20/04	NS	n/a	n/a	GKK374
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	
	m,p-Xylene	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		71-127%
98-08-8	aaa-Trifluorotoluene	93%		66-136%

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

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

180504 MN-01

CHAIN OF CUSTODY

ACCUTEST Laboratories

10165 Harwin Drive, Ste. 150, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 846182756806 | Bottle Order Control # | Accutest Quote # | Accutest Job # T7500

Client / Reporting Information

Company Name: EL PASO
Address: 614 Reilly Ave
City: Farmington State: NM Zip: 87401
Project Contact: Scott Pope E-mail:
Phone #: 505 599 2124
Sampler's Name: MJNEE

Project Information

Project Name: BLANCO NORTH Plant Pit
Street:
City: State:
Project #:
Fax #: 505 599 2119
Client Purchase Order #:

Requested Analysis

Nitrate/Nitrite

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles	Nitrate/Nitrite	LAB USE ONLY
1	BLANCO MW-23		5/18/04	0716	MJN	WG	1	X	X	
2	BLANCO MW-19		5/18/04	0728	MJN	WG	1	X	X	
3	BLANCO MW-26		5/18/04	0743	MJN	WG	1	X	X	
4	BLANCO MW-27		5/18/04	0752	MJN	WG	1	X	X	

Turnaround Time (Business Days)

- [X] 10 Day STANDARD
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Approved By: / Date:

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

EPA 353.2, 354.1 or 4500

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:
5-18-04	1200	1	2	5/19/04	2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3	4		4
Relinquished by:	Date Time:	Received by:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp
5		5		☐	☑ 3°C

3.1 3

T7500: Chain of Custody
Page 1 of 3

CHAIN OF CUSTODY

180504MW02

ACCUTEST Laboratories

10165 Harwin Drive, Ste. 150, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 8421 5279 6806 | Bottle Order Control #
Accutest Quote # | Accutest Job # T7500

Client / Reporting Information

Company Name: EL PASO
Address: 614 Reilly Ave
City: FARMINGTON State: NM Zip: 87401
Project Contact: Scotty Pope E-mail:
Phone #: 505 599 2124 Fax #: 505 599 2119
Sampler's Name: MJ NEE

Project Information

Project Name: BLANCO NORTH Flare Pit
Street:
City: State:
Project #:
Client Purchase Order #:

Requested Analysis

BTEX

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc	HNO3	None	Methanol	MeOH	EnCore	BTEX
1	BLANCO MW-23		5/18/04	0716	MJN	WG	2					X				X
2	BLANCO MW-19		5/18/04	0728	MJN	WG	2					X				X
3	BLANCO MW-26		5/18/04	0743	MJN	WG	2					X				X
4	BLANCO MW-27		5/18/04	0752	MJN	WG	2					X				X
5	BLANCO TRIP BLANK		5/17/04	0730	MJN	WQ	1					X				X

Turnaround Time (Business Days)

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

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13
- [ ] EDD Format ____

Commercial "A" = Results Only

Comments / Remarks

Unpreserved Samples

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received by:	Relinquished by	Date Time:	Received by:
1	5-18-04	1200		2	5/19/04 1130	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. 3°C

T7500: Chain of Custody
Page 2 of 3

ACCUTEST Laboratories

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T7500 DATE/TIME RECEIVED: 5/19/04 11:30am

CLIENT: EL PASO INITIALS: LJ

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

1. (Y) N Sample received in undamaged condition.
2. (Y) N Samples received within temp. range.
3. (Y) N Sample received with proper pH.
4. (Y) N Sample received in proper containers.
5. (Y) N Sample volume sufficient for analysis.
6. (Y) N Sample received with chain of custody.
7. (Y) N Chain of Custody matches sample IDs on containers.
8. (Y) N Custody seal received intact and tamper evident on cooler.
9. (Y) N Custody seal received intact and tamper evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-4	1-2	5/18/04	AQ	40ml	VREF	(1),2,3,4,5,6	U, <2, >12, (NA)
1-4	3	↓	↓	500ml	1T	1,2,3,(4),5,6	U, (<2), >12, NA
5	1	5/17/04	↓	40ml	VREF	(1),2,3,4,5,6	U, <2, >12, (NA)
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
		(4) 5/19/04				1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

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

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

(pH of waters checked excluding volatiles)

pH of soils N/A

Comments:

Delivery method: Courier: FedEX

Tracking#: 8421 5279 6806

COOLER TEMP: 3° COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Method of sample disposal: (circle one) Accutest disposal Hold Return to Client

Form: SM012

T7500: Chain of Custody
Page 3 of 3

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T7500
Account: MWHSLCUT Montgomery Watson
Project: Blanco North

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK374-MB	KK007140.D	1	05/20/04	NS	n/a	n/a	GKK374

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

T7500-1, T7500-2, T7500-3, T7500-4, T7500-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	
	m,p-Xylene	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	96%	71-127%
98-08-8	aaa-Trifluorotoluene	93%	66-136%

Blank Spike Summary

Job Number: T7500
Account: MWHSLCUT Montgomery Watson
Project: Blanco North

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK374-BS	KK007141.D	1	05/20/04	NS	n/a	n/a	GKK374

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

T7500-1, T7500-2, T7500-3, T7500-4, T7500-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.0	95	76-128
100-41-4	Ethylbenzene	20	18.9	95	79-129
108-88-3	Toluene	20	18.9	95	77-126
1330-20-7	Xylenes (total)	60	59.4	99	79-126
95-47-6	o-Xylene	20	19.4	97	78-125
	m,p-Xylene	40	40.0	100	79-127

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	101%	71-127%
98-08-8	aaa-Trifluorotoluene	92%	66-136%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T7500
Account: MWHSLCUT Montgomery Watson
Project: Blanco North

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T7500-4MS	KK007147.D	25	05/20/04	NS	n/a	n/a	GKK374
T7500-4MSD	KK007148.D	25	05/20/04	NS	n/a	n/a	GKK374
T7500-4	KK007143.D	25	05/20/04	NS	n/a	n/a	GKK374

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

T7500-1, T7500-2, T7500-3, T7500-4, T7500-5

CAS No.	Compound	T7500-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	95.9		500	570	95	553	91	3	70-134/21
100-41-4	Ethylbenzene	317		500	776	92	758	88	2	73-132/15
108-88-3	Toluene	27.6		500	485	91	471	89	3	66-137/22
1330-20-7	Xylenes (total)	1600		1500	2820	81	2760	77	2	69-130/19
95-47-6	o-Xylene	323		500	795	94	774	90	3	66-131/20
	m,p-Xylene	1270		1000	2020	75	1990	72	1	68-132/19

CAS No.	Surrogate Recoveries	MS	MSD	T7500-4	Limits
460-00-4	4-Bromofluorobenzene	101%	97%	104%	71-127%
98-08-8	aaa-Trifluorotoluene	88%	86%	102%	66-136%

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7500
Account: MWHSLCUT - Montgomery Watson
Project: Blanco North

Analyte	Batch ID	RL	MB Result	Units	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427				104.0	80-114%
Nitrogen, Nitrate + Nitrite	GN6427	0.050	<0.050	mg/l	107.0	80-114%

Associated Samples:
Batch GN6427: T7500-1, T7500-2, T7500-3, T7500-4

5.1

5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7500
Account: MWHSLCUT - Montgomery Watson
Project: Blanco North

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427	T7455-1	mg/l	0.52	0.52	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.29	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	7.7	1.3	0-5%

Associated Samples:
Batch GN6427: T7500-1, T7500-2, T7500-3, T7500-4

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7500
Account: MWHSLCUT - Montgomery Watson
Project: Blanco North

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427	T7455-1	mg/l	0.52	0.200	0.72	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.200	0.49	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.200	0.50	103.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	2.00	9.7	105.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	2.00	9.7	105.0	90-115%

Associated Samples:
Batch GN6427: T7500-1, T7500-2, T7500-3, T7500-4

DATA VERIFICATION WORKSHEET
Page 1 of 2

Analytical Method/Analytes: EPA 353.2 (NO3/NO2) **Sample Collection Date(s):** 05/17-18/04

Laboratory: Accutest **MWH Job Number:** EPC-SJRB (Blanco South)

Batch Identification: T7501 **Matrix:** Water

MS/MSD Parent(s)[a]: T7501-01 **Field Replicate Parent(s):** None

Lab Replicate Parent(s): T7501-01

Verification Complete: Brian Buttars 5-27-04
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Blanco South	MW-28	T7501-01	Y		
None	Blanco South	MW-29	T7501-02	Y		
None	Blanco South	MW-30	T7501-03	Y		
None	Blanco South	MW-8	T7501-04	Y		

DATA VERIFICATION WORKSHEET

Analytical Method: EPA 353.2 (NO3/NO2) **MWH Job Number:** EPC-SJRB (Blanco South)

Laboratory: Accutest **Batch Identification:** T7501

Validation Criteria								
Sample ID	**MW-28**	**MW-29**	**MW-30**	**MW-8**				
Lab ID	**T7501-01**	**T7501-02**	**T7501-03**	**T7501-04**				
Holding Time	A	A	A	A				
Analyte List	A	A	A	A				
Reporting Limits	A	A	A	A				
Method Blank (all methods)	A	A	A	A				
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A				
Field Duplicate/Replicate	N/A	N/A	N/A	N/A				
Laboratory Control Sample (LCS)	A	A	A	A				
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N				
Matrix Duplicate	N/A	N/A	N/A	N/A				
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A				
Initial Calibration	N	N	N	N				
Initial Check Verification (ICV)	N	N	N	N				
Continuing Calibration Verification (CCV)	N	N	N	N				
Analysis Time(s)	N	N	N	N				
Hardcopy vs. Chain-of-Custody	A	A	A	A				
EDD vs. Hardcopy	N	N	N	N				
EDD vs. Chain of Custody	N	N	N	N				

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

NOTES:

Gulf Coast ACCUTEST. Laboratories

05/26/04

Technical Report for

Montgomery Watson

Blanco South

D-MWH-05-08-03-MSG-02

Accutest Job Number: T7501

Sampling Dates: 05/17/04 - 05/18/04

Report to:

Montgomery Watson

brian.buttars@us.mwhglobal.com

ATTN: Brian Buttars

Total number of pages in report: 14

ACCREDITED IN ACCORDANCE WITH nelac

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

Ron Martino
Laboratory Manager

Sections: 1 2 3 4

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Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T7501

Blanco South
Project No: D-MWH-05-08-03-MSG-02

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T7501-1	05/17/04	14:57	MJN	05/19/04	AQ	Ground Water	BLANCO MW-28
T7501-2	05/17/04	15:18	MJN	05/19/04	AQ	Ground Water	BLANCO MW-29
T7501-3	05/17/04	15:45	MJN	05/19/04	AQ	Ground Water	BLANCO MW-30
T7501-4	05/18/04	08:18	MJN	05/19/04	AQ	Ground Water	BLANCO MW-8

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-28		
Lab Sample ID:	T7501-1	Date Sampled:	05/17/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	82.0	5.0	mg/l	100	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-29		
Lab Sample ID:	T7501-2	Date Sampled:	05/17/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	88.0	5.0	mg/l	100	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-30		
Lab Sample ID:	T7501-3	Date Sampled:	05/17/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	52.0	5.0	mg/l	100	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-8		
Lab Sample ID:	T7501-4	Date Sampled:	05/18/04
Matrix:	AQ - Ground Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	0.43	0.050	mg/l	1	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY 180504MN03

ACCUTEST Laboratories

10165 Harwin Drive, Ste. 150, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 846279 6906 | Bottle Order Control # | Accutest Quote # | Accutest Job # T7501

Client / Reporting Information

Company Name: EL PASO
Address: 614 Reilly Ave
City: Farmington State: NM Zip: 87401
Project Contact: Scott Pope E-mail:
Phone #: 505 599 2124 Fax #: 505 599 2119
Sampler's Name: MJ NEE

Project Information

Project Name: BLANCO PLANT SOUTH Flare Pit
Street:
City: State:
Project #:
Client Purchase Order #:

Requested Analysis

Nitrate/Nitrite

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	HNO3	H2SO4	NaOH	ZnAc	NaHSO4	MEOH	NaOH/ZnAc	Nitrate/Nitrite	LAB USE ONLY
1	BLANCO MW-28		5/17/04	1457	MJN	WG	1				X					X	
2	BLANCO MW-29		5/17/04	1518	MJN	WG	1				X					X	
3	BLANCO MW-30		5/17/04	1545	MJN	WG	1				X					X	
4	BLANCO MW-8		5/18/04	0818	MJN	WG	1				X					X	

Turnaround Time (Business Days)

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

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

EPA 353.2, 354.1 on 4500

Sample Custody must be documented below each time samples change possession, including courier delivery

Relinquished by Sampler:	Date Time:	Received by:	Relinquished by	Date Time:	Received by:
1 5-18-04	1200	1	2	5/19/04 1132	2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3	4		4
Relinquished by:	Date Time:	Received by:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.
5		5		☐	☑	3°

T7501: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T7501

DATE/TIME RECEIVED: 5/19/04 1130.

CLIENT: El Paso

INITIALS: LJ

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

1. [✓ Y] N Sample received in undamaged condition.
2. [✓ Y] N Samples received within temp. range.
3. [✓ Y] N Sample received with proper pH.
4. [✓ Y] N Sample received in proper containers.
5. [✓ Y] N Sample volume sufficient for analysis.
6. [✓ Y] N Sample received with chain of custody.
7. [✓ Y] N Chain of Custody matches sample IDs on containers.
8. [✓ Y] N *Custody seal received intact and tamper evident on cooler.*
9. [✓ Y] N Custody seal received intact and tamper evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-3	1	5/17/04	AQ	500ml	IT	1,2,3,[✓ 4],5,6	U, [✓ <2], >12, NA
4	1	5/18/04	↓	↓	IT	1,2,3,[✓ 4],5,6	U, [✓ <2], >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

Bradly Nagy
5/19/04

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

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

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier:

Tracking#:

COOLER TEMP: 3°C

COOLER TEMP:

COOLER TEMP:

COOLER TEMP:

Method of sample disposal: (circle one) Accutest disposal Hold Return to Client

Form: SM012

T7501: Chain of Custody

Page 2 of 2

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7501
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South

Analyte	Batch ID	RL	MB Result	Units	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427				104.0	80-114%
Nitrogen, Nitrate + Nitrite	GN6427	0.050	<0.050	mg/l	107.0	80-114%

Associated Samples:
Batch GN6427: T7501-1, T7501-2, T7501-3, T7501-4

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7501
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427	T7455-1	mg/l	0.52	0.52	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.29	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	7.7	1.3	0-5%

Associated Samples:
Batch GN6427: T7501-1, T7501-2, T7501-3, T7501-4

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7501
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427	T7455-1	mg/l	0.52	0.200	0.72	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.200	0.49	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.200	0.50	103.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	2.00	9.7	105.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	2.00	9.7	105.0	90-115%

Associated Samples:
Batch GN6427: T7501-1, T7501-2, T7501-3, T7501-4

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: SW-846 8260B (VOC) **Sample Collection Date(s):** 05/18/04

Laboratory: Accutest **MWH Job Number:** EPC-SJRB (Blanco South)

Batch Identification: T7502 **Matrix:** Water

MS/MSD Parent(s)[a]: T7502-02 **Field Replicate Parent(s):** None

Verification Complete: Brian Bittars 5-27-04 (Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Blanco South	MW-15	T7502-01	Y		
None	Blanco South	MW-13	T7502-02	Y		
None	Blanco South	MW-12	T7502-03	Y		
None	Blanco South	MW-14	T7502-04	Y		
None	Trip Blank	Trip Blank 2	T7502-05	N		

DATA VERIFICATION WORKSHEET

Analytical Method: SW-846 8260B (VOC) **MWH Job Number:** EPC-SJRB (Blanco South)

Laboratory: Accutest **Batch Identification:** T7502

Verification Criteria								
Sample ID	**MW-15**	**MW-13**	**MW-12**	**MW-14**	**Trip Blank 2**			
Lab ID	**T7502-01**	**T7502-02**	**T7502-03**	**T7502-04**	**T7502-05**			
Holding Time	A	A	A	A	A			
Analyte List	A	A	A	A	A			
Reporting Limits	A	A	A	A	A			
Surrogate Spike Recovery	A	A	A	A	A			
Trip Blank	A	A	A	A	A			
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A			
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A			
Initial Calibration	N	N	N	N	N			
Initial Calibration Verification (ICV)	N	N	N	N	N			
Continuing Calibration Verification (CCV)	N	N	N	N	N			
Method Blank	A	A	A	A	A			
Laboratory Control Sample (LCS)	A	A	A	A	A			
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N			
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	A	N/A	N/A	N/A			
Retention Time Window	N	N	N	N	N			
Injection Time(s)	N	N	N	N	N			
Hardcopy vs. Chain-of-Custody	A	A	A	A	A			
EDD vs. Hardcopy	N	N	N	N	N			
EDD vs. Chain of Custody	N	N	N	N	N			

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

NOTES:

DATA VERIFICATION WORKSHEET

Analytical Method/Analytes: EPA 353.2 (NO3/NO2)

Sample Collection Date(s): 05/17/04

Laboratory: Accutest

MWH Job Number: EPC-SJRB (Blanco South)

Batch Identification: T7502

Matrix: Water

MS/MSD Parent(s)[a]: T7502-03

Field Replicate Parent(s): None

Lab Replicate Parent(s): T7502-03

Verification Complete: Brian Buttars 5-27-04
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Blanco South	MW-15	T7502-01	Y		
None	Blanco South	MW-13	T7502-02	Y		
None	Blanco South	MW-12	T7502-03	Y		
None	Blanco South	MW-14	T7502-04	Y		

DATA VERIFICATION WORKSHEET
Page 2 of 2

Analytical Method: EPA 353.2 (NO3/NO2) **MWH Job Number:** EPC-SJRB (Blanco South)

Laboratory: Accutest **Batch Identification:** T7502

Validation Criteria								
Sample ID	**MW-15**	**MW-13**	**MW-12**	**MW-14**				
Lab ID	**T7502-01**	**T7502-02**	**T7502-03**	**T7502-04**				
Holding Time	A	A	A	A				
Analyte List	A	A	A	A				
Reporting Limits	A	A	A	A				
Method Blank (all methods)	A	A	A	A				
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A				
Field Duplicate/Replicate	N/A	N/A	N/A	N/A				
Laboratory Control Sample (LCS)	A	A	A	A				
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N				
Matrix Duplicate	N/A	N/A	A	N/A				
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	A	N/A				
Initial Calibration	N	N	N	N				
Initial Check Verification (ICV)	N	N	N	N				
Continuing Calibration Verification (CCV)	N	N	N	N				
Analysis Time(s)	N	N	N	N				
Hardcopy vs. Chain-of-Custody	A	A	A	A				
EDD vs. Hardcopy	N	N	N	N				
EDD vs. Chain of Custody	N	N	N	N				

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

NOTES:

Gulf Coast ACCUTEST Laboratories

05/26/04

Technical Report for

Montgomery Watson

Blanco South

D-MWH-05-08-03-MSG-02

Accutest Job Number: T7502

Sampling Date: 05/17/04

Report to:

Montgomery Watson

brian.buttars@us.mwhglobal.com

ATTN: Brian Buttars

Total number of pages in report: **25**

ACCREDITED IN ACCORDANCE WITH nelac

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

Ron Martino
Laboratory Manager

Sections: 1 2 3 4 5

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Sample Summary

Montgomery Watson

Job No: T7502

Blanco South
Project No: D-MWH-05-08-03-MSG-02

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T7502-1	05/17/04	16:25	MN	05/19/04	AQ	Water	BLANCO MW-15
T7502-2	05/17/04	16:50	MN	05/19/04	AQ	Water	BLANCO MW-13
T7502-3	05/17/04	17:15	MN	05/19/04	AQ	Water	BLANCO MW-12
T7502-4	05/17/04	18:00	MN	05/19/04	AQ	Water	BLANCO MW-14
T7502-5	05/17/04	00:00	MN	05/19/04	AQ	Trip Blank Water	BLANCO TRIP BLANK 2

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-15		
Lab Sample ID:	T7502-1	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Blanco South		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0061277.D	1	05/20/04	LJ	n/a	n/a	VF1246
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	6.3	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		72-135%
17060-07-0	1,2-Dichloroethane-D4	93%		65-136%
2037-26-5	Toluene-D8	97%		77-142%
460-00-4	4-Bromofluorobenzene	114%		87-150%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-15		
Lab Sample ID:	T7502-1	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	20.0	2.5	mg/l	50	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-13		
Lab Sample ID:	T7502-2	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Blanco South		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0061274.D	1	05/20/04	LJ	n/a	n/a	VF1246
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	41.2	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	21.2	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	29.2	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	4.0	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	22.5	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		72-135%
17060-07-0	1,2-Dichloroethane-D4	97%		65-136%
2037-26-5	Toluene-D8	95%		77-142%
460-00-4	4-Bromofluorobenzene	109%		87-150%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-13		
Lab Sample ID:	T7502-2	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	9.8	2.5	mg/l	50	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-12		
Lab Sample ID:	T7502-3	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Blanco South		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0061275.D	1	05/20/04	LJ	n/a	n/a	VF1246
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	4.6	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.1	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	3.4	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	2.3	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	4.0	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-135%
17060-07-0	1,2-Dichloroethane-D4	90%		65-136%
2037-26-5	Toluene-D8	96%		77-142%
460-00-4	4-Bromofluorobenzene	117%		87-150%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-12		
Lab Sample ID:	T7502-3	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	7.6	1.0	mg/l	20	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-14		
Lab Sample ID:	T7502-4	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Blanco South		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0061276.D	1	05/20/04	LJ	n/a	n/a	VF1246
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	5.7	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.1	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	1.6	2.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		72-135%
17060-07-0	1,2-Dichloroethane-D4	89%		65-136%
2037-26-5	Toluene-D8	97%		77-142%
460-00-4	4-Bromofluorobenzene	116%		87-150%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO MW-14		
Lab Sample ID:	T7502-4	Date Sampled:	05/17/04
Matrix:	AQ - Water	Date Received:	05/19/04
		Percent Solids:	n/a
Project:	Blanco South		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	16.0	2.5	mg/l	50	05/25/04 13:15	LN	EPA 353.2

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	BLANCO TRIP BLANK 2		
Lab Sample ID:	T7502-5	Date Sampled:	05/17/04
Matrix:	AQ - Trip Blank Water	Date Received:	05/19/04
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Blanco South		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0061273.D	1	05/20/04	LJ	n/a	n/a	VF1246
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	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-135%
17060-07-0	1,2-Dichloroethane-D4	90%		65-136%
2037-26-5	Toluene-D8	95%		77-142%
460-00-4	4-Bromofluorobenzene	111%		87-150%

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

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

180504MN04

ACCUTEST Laboratories

10165 Harwin Drive, Ste. 150, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 872152796806 | Bottle Order Control #
Accutest Quote # | Accutest Job # T7502

Client / Reporting Information

Company Name: EL PASO
Address: 614 Reilly Ave
City: FARMINGTON State: NM Zip: 87401
Project Contact: SCOTT POPE E-mail:
Phone #: 505 599 2124 Fax #: 505 599 2119
Sampler's Name: MONEE

Project Information

Project Name: BLANCO D PLANT AREA
Street:
City: State:
Project #:
Client Purchase Order #:

Requested Analysis

NITRATE / NITRITE

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles	NITRATE / NITRITE	LAB USE ONLY
1	BLANCO MW-15		5/17/04	1625	MJN	WG	1		X	
2	BLANCO MW-13		5/17/04	1650	MJN	NG	1		X	
3	BLANCO MW-12		5/17/04	1715	MJN	WG	1		X	
4	BLANCO MW-14		5/17/04	1800	MJN	WG	1		X	

Turnaround Time (Business Days)

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

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A" — [ ] EDD Format
- [ ] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13

Commercial "A" = Results Only

Comments / Remarks

EPA 353.2, 354.1 or 4500

Sample #13 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 5-18-04	1200	1	2	5/19/04 1130	2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3	4		4
Relinquished by:	Date Time:	Received by:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.
5		5		☐	☑	3°C

T7502: Chain of Custody
Page 1 of 4

ACCUTEST Laboratories

180504MN05

CHAIN OF CUSTODY

ACCUTEST Laboratories

10165 Harwin Drive, Ste. 150, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 849152796806 | Bottle Order Control # | Accutest Quote # | Accutest Job # T7502

Client / Reporting Information

Company Name: EL PASO
Address: 614 Reilly Ave
City: FARMINGTON State: NM Zip: 87401
Project Contact: Scott Pope E-mail:
Phone #: 505 599 2124
Sampler's Name: MJ NEE

Project Information

Project Name: BLANCO D PLANT AREA
Street:
City: State:
Project #:
Fax #: 505 599 2119
Client Purchase Order #:

Requested Analysis

CHCS

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	MEOH	ENCORE	H2SO4	HNO3	NAOH	MEOH	ENCORE	CHCS	LAB USE ONLY
1	BLANCO MW 15		5/17/04	1625	MJN	WG	3	X								X	
2	BLANCO MW 13		5/17/04	1650	MJN	WG	3	X								X	
3	BLANCO MW 12		5/17/04	1715	MJN	WG	3	X								X	
4	BLANCO MW 14		5/17/04	1800	MJN	WG	3	X								X	
5	BLANCO TRIP BLANK 2		5/17/04	0800	MJN	WQ	1	X								X	

Turnaround Time (Business Days)

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

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A" — [ ] EDD Format _____
- [ ] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13

Commercial "A" = Results Only

Comments / Remarks

CHLORINATED HYDROCARBONS
EPA M 8260 1,1-DCA 1,1-DCE
1,2-DCB CIS 1,2-DCE
TRANS 1,2 DCE TCE & PCE

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received by:	Relinquished by	Date Time:	Received by:
1	5-18-04 1200	1	2	5/18/04 1130	2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3	4		4
Relinquished by:	Date Time:	Received by:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.
5		5		[ ]	[X]	3°C

3.1 B

T7502: Chain of Custody
Page 2 of 4

ACCUTEST Laboratories

ACCUTEST.

VARIANCE MEMO
SAMPLE LOG-IN

SAMPLE(S) T7502-2 DATE 5/19/04
PROJECT Blanco D Plant Area
FILED BY Bradley Nye LAB NO. _____

VARIANCE - Check applicable items(s):

_____ Insufficient sample sent for proper analysis; received approx. _____
_____ Sample bottle received broken and/or cap not intact.
_____ Samples received without paperwork; paperwork received without samples.
_____ Samples received without proper refrigeration, when it has been deemed necessary. Temperature at receipt: _____
_____ Illegible sample number or label missing from bottle.
_____ Numbers on sample not the same as numbers on paper work.
_____ Incomplete instructions received with sample(s) ie.,no request for analysis, no chain of custody, incomplete billing instructions, no due date, etc. Temperature at reciept: _____
_____ Samples received in improper container or lacking proper preservation.
_____ Physical characteristics different than those on sampling sheets; Describe: _____
_____ Rush samples on hold because of incomplete paperwork.
_____ Other (specify) Bottle was preserved w/ H_2SO_4, coc states that bottle was unpreserved. PH of bottle was checked & was found to be less than 2.
BLANCO MW-13 : Test Nitrate/Nitrite

CORRECTIVE ACTION TAKEN

_____ Person Contacted
_____ Client informed verbally.
_____ Client informed by memo/letter.
_____ Samples processed as is.
_____ Samples preserved by lab.
_____ Client will resample and resubmit.
_____ By phone.
_____ Samples processed for information only and noted on report.
_____ Samples processed with higher detection limits accepted.
_____ Samples rejected.

Notes: _____

ROUTING

TITLE	DATE	INITIALS	CORRECTED?
Sample Manager:			
Login:			
Project Manager:			

Comments:

Form: SM006

T7502: Chain of Custody
Page 3 of 4

ACCUTEST. Laboratories

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T7502 DATE/TIME RECEIVED: 5/19/04 11:30am

CLIENT: EL PASO INITIALS: EJ

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

1. (Y) N Sample received in undamaged condition.
2. (Y) N Samples received within temp. range.
3. (Y) N Sample received with proper pH.
4. (Y) N Sample received in proper containers.
5. (Y) N Sample volume sufficient for analysis.
6. (Y) N Sample received with chain of custody.
7. (N) Y Chain of Custody matches sample IDs on containers. → Variance report written
8. (N) Y Custody seal received intact and tamper evident on cooler.
9. (Y) N Custody seal received intact and tamper evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-4	1-3	5/17/04	AQ	40ml	VLEF	(1),2,3,4,5,6	U, <2, >12, (NA)
1-4	4	↓	↓	500ml	IT	1,2,3,(4),5,6	U, <2, >12, NA
5	1	↓	↓	40ml	VLEF	(1),2,3,4,5,6	U, <2, >12, (NA)
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
		(EJ) 5/19/04				1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

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

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

pH of waters checked excluding volatiles
pH of soils- NA

Comments:

Delivery method: Courier: FedEx
Tracking#: 8421 8279 6806

COOLER TEMP: 3° COOLER TEMP:
COOLER TEMP: COOLER TEMP:

Method of sample disposal: (circle one) Accutest disposal Hold Return to Client

Form: SM012

T7502: Chain of Custody
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GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T7502
Account: MWHSLCUT Montgomery Watson
Project: Blanco South

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF1246-MB	F0061271.D	1	05/20/04	LJ	n/a	n/a	VF1246

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

T7502-1, T7502-2, T7502-3, T7502-4, T7502-5

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	92%	72-135%
17060-07-0	1,2-Dichloroethane-D4	84%	65-136%
2037-26-5	Toluene-D8	96%	77-142%
460-00-4	4-Bromofluorobenzene	110%	87-150%

Blank Spike Summary

Job Number: T7502
Account: MWHSLCUT Montgomery Watson
Project: Blanco South

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF1246-BS	F0061270.D	1	05/20/04	LJ	n/a	n/a	VF1246

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

T7502-1, T7502-2, T7502-3, T7502-4, T7502-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	25	24.0	96	71-123
75-35-4	1,1-Dichloroethylene	25	27.5	110	69-138
156-59-2	cis-1,2-Dichloroethylene	25	23.6	94	69-116
95-50-1	o-Dichlorobenzene	25	22.5	90	73-114
156-60-5	trans-1,2-Dichloroethylene	25	25.4	102	72-129
127-18-4	Tetrachloroethylene	25	24.1	96	76-126
79-01-6	Trichloroethylene	25	24.7	99	73-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	90%	72-135%
17060-07-0	1,2-Dichloroethane-D4	80%	65-136%
2037-26-5	Toluene-D8	97%	77-142%
460-00-4	4-Bromofluorobenzene	103%	87-150%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T7502
Account: MWHSLCUT Montgomery Watson
Project: Blanco South

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T7502-2MS	F0061278.D	1	05/21/04	LJ	n/a	n/a	VF1246
T7502-2MSD	F0061279.D	1	05/21/04	LJ	n/a	n/a	VF1246
T7502-2	F0061274.D	1	05/20/04	LJ	n/a	n/a	VF1246

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

T7502-1, T7502-2, T7502-3, T7502-4, T7502-5

CAS No.	Compound	T7502-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	41.2		25	65.5	97	63.9	91	2	67-127/21
75-35-4	1,1-Dichloroethylene	ND		25	21.4	86	22.2	89	4	63-141/25
156-59-2	cis-1,2-Dichloroethylene	21.2		25	40.7	78	41.1	80	1	62-120/24
95-50-1	o-Dichlorobenzene	29.2		25	47.2	72	46.7	70	1	64-117/20
156-60-5	trans-1,2-Dichloroethylene	4.0		25	24.8	83	24.6	82	1	67-132/22
127-18-4	Tetrachloroethylene	ND		25	22.1	88	20.8	83	6	70-128/21
79-01-6	Trichloroethylene	22.5		25	45.5	92	45.4	92	0	68-122/19

CAS No.	Surrogate Recoveries	MS	MSD	T7502-2	Limits
1868-53-7	Dibromofluoromethane	95%	92%	95%	72-135%
17060-07-0	1,2-Dichloroethane-D4	92%	84%	97%	65-136%
2037-26-5	Toluene-D8	93%	90%	95%	77-142%
460-00-4	4-Bromofluorobenzene	104%	109%	109%	87-150%

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7502
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South

Analyte	Batch ID	RL	MB Result	Units	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427				104.0	80-114%
Nitrogen, Nitrate + Nitrite	GN6427	0.050	<0.050	mg/l	107.0	80-114%

Associated Samples:
Batch GN6427: T7502-1, T7502-2, T7502-3, T7502-4

5.1
5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7502
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427	T7455-1	mg/l	0.52	0.52	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.29	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	7.7	1.3	0-5%

Associated Samples:
Batch GN6427: T7502-1, T7502-2, T7502-3, T7502-4

5.2
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T7502
Account: MWHSLCUT - Montgomery Watson
Project: Blanco South

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GN6427	T7455-1	mg/l	0.52	0.200	0.72	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.200	0.49	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/l	0.29	0.200	0.50	103.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	2.00	9.7	105.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/l	7.6	2.00	9.7	105.0	90-115%

Associated Samples:
Batch GN6427: T7502-1, T7502-2, T7502-3, T7502-4