GW - 049 - 0

2004 AGWMR

10 / 20 / 2004



Via Federal Express

October 20, 2004

GW-49-2

RECEIVED

OCT 2 1 2004

Mr. William C. Olson New Mexico Oil Conservation Division 1220 St. Francis Dr. Santa Fe, NM 87504

OIL CONSERVATION DIVISION

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

Dear Mr. Olson;

El Paso Field Services (EPFS) hereby submits the enclosed annual report "2004 Blanco North Flare Pit Annual Report". The enclosed report details sparge system operation and maintenance and groundwater sampling for the fourth quarter 2003 through third quarter 2004.

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

Sincerely,

Scott T. Pope, P.G.

Senior Environmental Scientist

Enclosures: as stated

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; Via Federal Express

Prepared for:



El Paso Field Services 2 North Nevada Colorado Springs, Colorado 80903

FINAL 2004 BLANCO NORTH FLARE PIT ANNUAL REPORT

SAN JUAN COUNTY, NEW MEXICO

October 2004

Prepared by:

MWH

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

TABLE OF CONTENTS

Section	Page No.
1.0	INTRODUCTION1
2.0	REMEDIAL ACTIVITIES2
2.1	AIR SPARGING SYSTEM OPERATION
2.2	Free-product Removal
2.3	GROUNDWATER REMEDIATION BY AIR SPARGING
3.0	RECOMMENDATIONS FOR FUTURE ACTIVITIES4
4.0	REFERENCES5

LIST OF TABLES

Table No.	Description
2.1	AS System Operation and Monitoring Data (Feb 2003 – Sept 2004)
2.2	Groundwater Monitoring Analytical Data (June 1991 – August 2004)
3.1	Groundwater Monitoring Schedule

LIST OF FIGURES

Figure No.	Description
1	Blanco Plant Site Layout
2	Benzene Concentrations in Groundwater, December 2003
3	Benzene Concentrations in Groundwater, May 2004
4	Benzene Concentrations in Groundwater, August 2004
5	Historic Benzene Concentrations in Groundwater, 1991 - 2004

LIST OF APPENDICIES

No.	Description
Α	AS System Operation and Monitoring Reports
В	Groundwater Sampling Field Forms
C	Groundwater Analytical Laboratory Reports

LIST OF ACRONYMS

AS air sparging

bgs below ground surface

BTEX benzene, toluene, ethylbenzene and total xylenes

cfm cubic feet per minute
EPFS El Paso Field Services
mg/L milligrams per liter

µg/L micrograms per liter

NMOCD New Mexico Oil Conservation Division

NMWQCC New Mexico Water Quality Control Commission

psi pounds per square inch

1.0 INTRODUCTION

This 2004 Blanco North Flare Pit Annual Report has been prepared for El Paso Field Services (EPFS) to document the performance of the air sparging (AS) system and to report groundwater monitoring data at the Blanco Plant North Flare Pit site (Site). This report includes field data reports and groundwater analytical data reports for the period from October 2003 through September 2004. Data collected prior to this period, free-product removal data, and construction details of the AS system are included in the 2003 Blanco North Flare Pit Pilot Air Sparging System Report (MWH, 2003a) (2003 AS System Report). An evaluation of the AS system and recommendations for future activities are also included in this report.

The purpose of these activities is groundwater remediation downgradient of the North Flare Pit. Constituents of potential concern at the site include free-phase hydrocarbons (i.e., free-product), benzene, ethylbenzene, toluene and total xylenes (BTEX). Regulatory drivers for groundwater remediation at this Site include New Mexico Oil Conservation Division's (NMOCD) guidelines and the New Mexico Water Quality Control Commission's (NMWQCC) regulations.

Previous remediation activities conducted at the Site are described in the Work Plan for the Blanco North Flare Pit, July 2002 (Work Plan) (MWH, 2002) and the Blanco North Flare Pit Work Plan Update Technical Memorandum, June 2003 (Work Plan Update) (MWH, 2003b). The Work Plan summarizes available information related to the Site, including a summary of previous site activities and investigations, a description of the geology/hydrogeology of the area and historic groundwater quality data. Therefore these discussions will not be reiterated in this report.

2.0 REMEDIAL ACTIVITIES

2.1 AIR SPARGING SYSTEM OPERATION

EPFS is currently operating an AS system in the vicinity of the impacted groundwater to remediate dissolved-phase hydrocarbon contamination and reduce BTEX concentrations to below NMWQCC standards.

In December 2002, an AS well, SW-1, was installed approximately 25 feet upgradient (north) of monitoring well MW-26 as shown on Figure 1, *Blanco Plant Site Layout*. Details of the sparging well construction, including the geologic borelog and monitoring well installation report is included in the 2003 AS System Report. The AS system was instrumented and prepared for operation and testing during January/February 2003. Operation of the AS system was delayed during initiation of free-product removal in MW-26 in April/May 2003, as described further below. The AS system operation was initiated in June 2003, and the system has been continuously operating since start-up, with the exception of minor periods of down-time due to system failures, and scheduled shut-downs for the purpose of groundwater monitoring. Air injection has been conducted on a 12-hour off/on cycle with 5 to 9 cubic feet per minute (cfm) of air injection into the well at 13 to 16 pounds per square inch (psi) of pressure.

During system operation, bi-weekly operation and maintenance visits were made to the Site. Air pressure measurements were collected at each well head using magnehelic gauges, and groundwater field parameters (including water levels, pH, temperature, specific conductance and dissolved oxygen) were monitored. Following each visit, a field report was prepared to summarize all operation and monitoring data and report any problems. Field operation and monitoring reports for the period between October 2003 and September 2004 are included in Appendix A, and selected data are summarized in Table 2.1, AS System Operation and Monitoring Data (February 2003 – September 2004). As shown in this table, the air pressure and dissolved oxygen content data indicate that there has been good communication between the AS well (SW-1) and wells MW-26 and MW-19, although the amount of influence in terms of both induced air pressures and dissolved oxygen concentrations has decreased in 2004. Effects of the AS system are also observed in wells MW-24 and MW-27.

2.2 FREE-PRODUCT REMOVAL

During drilling and installation of the AS well in December 2002, free-product was discovered in well MW-26. The nearby monitoring wells were checked for the presence of free-product; none was encountered in any of the other existing wells or the new AS well. In December 2002, a total of approximately 4.5 gallons of water/free-product was hand bailed from MW-26. On April 22, 2003, approximately 2 feet of free-product was measured, and in late-April a skimmer pump was installed in MW-26 for free-product removal. Between April and June 2003, the skimmer pump removed an additional 3.1 gallons of free-product. No additional free-product has been measured at the Site since June 2003.

2.3 GROUNDWATER REMEDIATION BY AIR SPARGING

The purpose of the groundwater monitoring program at the Site is to evaluate the effectiveness of the AS system for groundwater hydrocarbon remediation. Since the 2003 AS System Report was submitted, groundwater monitoring has been conducted at the six monitoring wells in the North Flare Pit area (MW-2, MW-19, MW-23, MW-24, MW-26 and MW-27) during December 2003, May 2004 and August 2004. (Groundwater monitoring at the Site during the first quarter of 2004 was inadvertently missed.) Fortyeight hours prior to each sampling event, the AS system was shut-down to ensure natural groundwater conditions were being evaluated. During each sampling event, groundwater levels and field parameters (pH, temperature, specific conductance and dissolved oxygen) were measured, and samples were analyzed for BTEX concentrations. Groundwater sample collection field forms are attached in Appendix B. Samples were not collected from MW-2 or MW-24 during any of the sampling rounds because the wells were either dry or bailed dry. In August 2004, the water level could not be measured in MW-19 because the water level probe could not pass an obstruction in the casing; however, a grab sample was collected from this well using a small-diameter bailer and submitted for analysis.

Analytical results from these three sampling rounds are presented with historic data in Table 2.2, Groundwater Monitoring Analytical Data (June 1991 – August 2004). Laboratory analytical reports are attached in Appendix C. Benzene concentrations in groundwater for each of the recent sampling events are presented on site maps in Figures 2 through 4, Benzene Concentrations in Groundwater. These maps also present the groundwater flow direction based on water levels measured during the sampling event. Figure 5, Historic Benzene Concentrations in Groundwater, 1991 – 2004, presents trends in historic benzene concentrations in wells MW-19, MW-23, MW-26 and MW-27.

As shown in the data table and presented in the figures, groundwater BTEX concentrations in all of the monitoring wells decreased significantly immediately following AS system start-up in June 2003. Concentrations have continued to generally decrease in the wells with some fluctuations in concentrations. The largest decreases in concentrations have occurred in MW-19, where the benzene concentration was reduced from 10,100 micrograms per liter (μ g/L) in June 2003 to 2,650 μ g/L in August 2004 (an 74% reduction in concentration); and in MW-26, where free-product was present in June 2003, and the benzene concentration has declined to 30 μ g/L in August 2004. These wells were also the locations where physical effects of the AS system (induced air pressure and dissolved oxygen concentrations) have been most pronounced. BTEX concentration decreases were also observed at MW-23 and MW-27 over this period. These data results indicate that the AS system continues to be effective for groundwater remediation at the Site.

3.0 RECOMMENDATIONS FOR FUTURE ACTIVITIES

EPFS recommends continued operation of the AS system with monthly operation and monitoring visits. Groundwater sampling will continue on a quarterly basis until four consecutive rounds of groundwater samples indicate BTEX concentrations below NMWQCC standards or until levels reach steady-state values. The groundwater monitoring schedule for 2004/2005 is presented in Table 3.1, *Groundwater Monitoring Schedule*. The next quarterly groundwater sampling event is scheduled for the 4th Quarter 2004. Results of the groundwater monitoring will be transmitted in an annual report, tentatively scheduled for submission to NMOCD in October 2005.

4.0 REFERENCES

- MWH, 2002. Work Plan for the Blanco North Flare Pit. Prepared for El Paso Field Services. July 2002.
- MWH, 2003a. 2003 Blanco North Flare Pit Pilot Air Sparging System Report. Prepared for El Paso Field Services. October 2003.
- MWH, 2003b. Blanco North Flare Pit Work Plan Update Technical Memorandum. Prepared for El Paso Field Services. June 2003.

Tables



TABLE 2.1 (Page 1 of 3)
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2004)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

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

dry - well was dry

nm - not measured

bgs - below ground surface

TABLE 2.1 (Page 2 of 3)
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2004)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

D-4-	Dissolved Oxygen (mg/L)								
Date	MW-2	MW-19	MW-23	MW-24	MW-26	MW-27			
2/3/03	dry	nm	nm	nm	nm	nm			
6/2/03	dry	nm	nm	nm	pump in well	nm			
6/5/03	dry	nm	nm	nm	pump in well	nm			
6/6/03	dry	nm	nm	nm	pump in well	nm			
6/9/03	dry	1.60	1.85	1.51	pump in well	0.88			
6/16/03	dry	1.54	1.89	1.34	pump in well	0.80			
6/23/03	dry	2.72	0.94	1.54	pump in well	1.44			
7/2/03	dry	nm	nm	nm	pump in well	nm			
7/10/03	dry	2.98	0.94	1.50	4.44	1.17			
7/15/03	dry	1.29	0.75	2.09	6.89	0.96			
7/29/03	dry	1.41	0.64	1.55	6.16	0.94			
8/7/03	dry	0.60	1.42	nm	0.49	1.00			
8/21/03	dry	0.91	1.11	nm	2.23	0.59			
9/10/03	dry	1.10	0.64	nm	2.02	0.86			
9/25/03	dry	1.10	1.12	1.71	0.50	1.01			
10/6/03	nm	1.12	1.75	1.02	1.69	0.79			
10/22/03	nm	1.07	1.83	nm	1.4	1.57			
11/3/03	nm	1.15	1.76	nm	1.32	1.2			
11/17/03	nm	1.16	0.91	nm	1.07	1.07			
12/1/03	nm	0.88	1.27	nm	1.08	1.19			
1/2/04	nm	1.12	1.14	nm	1.65	1.07			
1/15/04	nm	1.04	1.26	nm	0.44	1.16			
1/30/04	nm	1.1	1.07	nm	0.98	1.23			
2/13/04	nm	1.31	1.57	nm	2.5	0.93			
2/27/04	nm	1.11	0.98	nm	2.98	0.79			
3/12/04	nm	1.1	1.07	nm	0.62	0.98			
3/26/04	nm	1.39	0.9	nm	2.17	0.84			
4/13/04	nm	1.2	1.08	nm	0.43	1.07			
4/26/04	nm	1.03	1.15	nm	0.36	0.86			
5/10/04	nm	0.68	0.92	nm	0.80	1.18			
6/1/04	nm	1.05	0.81	nm	2.22	0.9			
6/15/04	nm	1.02	0.8	nm	0.65	1.06			
7/14/04	nm	0.91	0.66	nm	0.88	0.89			
7/28/04	nm	nm	0.8	nm	3.38	0.56			
8/17/04	nm	nm	0.85	nm	1.77	0.78			
9/8/04	nm	1.53	0.87	nm	0.71	1.23			
9/23/04	nm	1.86	0.98	nm	3.35	1.22			

dry - well was dry nm - not measured

bgs - below ground surface

TABLE 2.1 (Page 3 of 3)
AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - SEPTEMBER 2004)
BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

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

dry - well was dry

nm - not measured

bgs - below ground surface

TABLE 2.2 GROUNDWER MONITORING ANALYTICAL DATA (JUNE - AUGUST 2004) BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO (Page 1 of 2)

0.0000000000000000000000000000000000000			- 11111		Parameters	
Monitoring	Sample	Static Water Level	Benzene	Toluene	Ethylbenzene	Total Xylene
Well	Date	(ft BTOC)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
		NMWQCC Standard:	10	750	750	620
	6/18/91		<0.5	<0.5	0.7	0.9
MW-2	2/23/93		<0.5	<0.5	<0.5	<0.5
Ī	6/8/93		<2.0	<2.0	<2.0	<2.0
	9/29/93		6.2	<2.0	<2.0	<2.0
[2/10/94		<2.0	<2.0	<2.0	<2.0
	5/13/94		<2.0	<2.0	<2.0	<2.0
	8/22/94		<2.0	<2.0	<2.0	<2.0
1	11/9/00	dry		Well Dry - No	Sample Collected	
	3/25/01	dry		Well Dry - No	Sample Collected	
	6/2/03	dry		Well Dry - No	Sample Collected	
[8/4/03	dry		Well Dry - No	Sample Collected	
[9/3/03	dry		Well Dry - No	Sample Collected	
	12/16/03	dry		Well Dry - No	Sample Collected	
	5/17/04	dry		Well Dry - No	Sample Collected	
	8/23/04	dry		Well Dry - No	Sample Collected	
	6/19/91		8,600	210	<25.0	4,200
MW-19	2/25/93		14,000	450.00	3,900	5100.00
200-200	6/10/93		9,580	159	928	1,087
	11/13/00	63.45	7,200	<25	3,500	88
	3/26/01	63.37	12,000	<50	4,500	110
	5/30/02	63.54	12,000	<50	4,300	140
1	6/2/03	63.90	10,100	<10	3,900	<30
	8/4/03	62,75	2,000	<10	304	<30
	9/3/03	65.06	3,580	<1.0	1,020	<3.0
	12/18/03	65.02	8,130	<50	<50	<100
	5/17/04	65.31	7,410	<13	1,160	45
	8/23/04	nm	2,650	<25	303	<50
	9/26/92		2,770	221	7,690	6,090
MW-23	2/1/93		2,900	3,500	190	4,100
127 (290): 2 771 (6):	2/25/93		2,900	190	3,500	4,100
	6/8/93		1,680	30	1,850	2,906
	9/29/93		2,133	216	1,807	3,823
	2/10/94		2,090	151	1,150	2,660
18	5/13/94		3,530	255	852	2,150
	8/22/94		3,270	212	353	1,176
	11/13/00	57.02	3,700	<25	840	1,400
	3/26/01	57.07	7,200	<25	520	1,300
	5/30/02	57.08	9,300	<50	360	1,500
	6/2/03	- 57.12	8,920	<10	337	1,450
	8/4/03	57.06	2,250	<10	100	337
	9/3/03	57.11	3,860	8	208	768
	12/18/03	65.14	5,080	<50	<50	219
	5/17/04	57.14	8,020	<13	208	1,490
	8/23/04	57.04	4,480	<25	160	. 966
	9/26/92		2,650	95	<50	1,340
MW-24	2/23/93		1,300	71	<12.5	600
	6/10/93		59	15	7	95
	9/29/93		1,040	63	8	918
	2/10/94		490	44	<2.0	395
	5/13/94		1,390	69	<2.0	898
	8/22/94		836	60	<2.5	154
	11/13/00	65.06	200	<1	5	22
	3/26/01	65.00	1,500	<5.0	18	35
	5/30/02	65.65	2,100	13	29	<25
	6/2/03	66.38		Well Bailed Dry -	No Sample Collected	
	8/4/03	66.91			No Sample Collected	
	9/3/03	dry			Sample Collected	
	12/16/03	57.31		****************	No Sample Collected	
	5/17/04	dry		Well Dry - No	Sample Collected	



GROUNDWATER MONITORING ANALYTICAL DATA (JUNE 1991 - AUGUST 2004) BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO (Page 2 of 2)

			Analytical Parameters			
Monitoring Well	Sample Date	Static Water Level (ft BTOC)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
	NMWQCC Standard:		10	750	750	620
	2/25/93		11,000	860	9,900	10,000
MW-26	6/10/93		12,180	470	7,504	4,959
	3/26/01	62.36	6,400	100	280	1,900
	5/30/02	63.68	6,200	50	270	1,300
	6/2/03	NA NA	Free-	Product Recovery Pump	in Well - No Sample Coll	ected
1	8/4/03	65.19		Well Bailed Dry -	No Sample Collected	***************************************
Г	9/4/03	65.00	538	10	139	466
1	12/18/03	65.16	307	<0.5	158	685
	5/17/04	65.54	109	14	87	280
Ī	8/23/04	66.11	30	<5	40	94
	2/26/93		9,100	470	5,700	4,900
MW-27	6/10/93		8,970	376	137	5,406
	9/30/93		13,200	402	420	3,100
	2/2/94		9,740	212	209	1,750
	5/14/94		10,100	358	180	4,500
	11/13/00	63.67	4,400	4,700	12,000	60,000
Γ	3/26/01	63.38	420	27	260	1,600
	5/30/02	63,54	420	13	170	1,100
T.	6/2/03	64.41	192	<25	328	1,480
	8/4/03	63.72	116	<10	145	. 697 -
T T	9/3/03	64.80	137	17	274	1,240
	12/18/03	61.17	127	17	250	1,060
	5/17/04	65.74	96	28	317	1,600
	8/23/04	66.27	398	<25	<25	4,830

Notes

1. Shaded data indicate exceedance of New Mexico Water Quality Control Commission's (NMWQCC) standards.

2. All detected concentrations are shown in bold type.

< Analyte detected below the reporting limit (RL). Value shown is the RL.

BTOC = Below Top of Casing NA = Not Applicable

TABLE 3.1 GROUNDWATER MONITORING SCHEDULE BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO EL PASO FIELD SERVICES

Monitoring Well	Monitoring Schedule	Analyses
North Flare Pit Area	1	
MW-2	Quarterly	Field Parameters, BTEX
MW-19	Quarterly	Field Parameters, BTEX
MW-23	Quarterly	Field Parameters, BTEX
MW-24	Quarterly	Field Parameters, BTEX
MW-26	Quarterly	Field Parameters, BTEX
MW-27	Quarterly	Field Parameters, BTEX

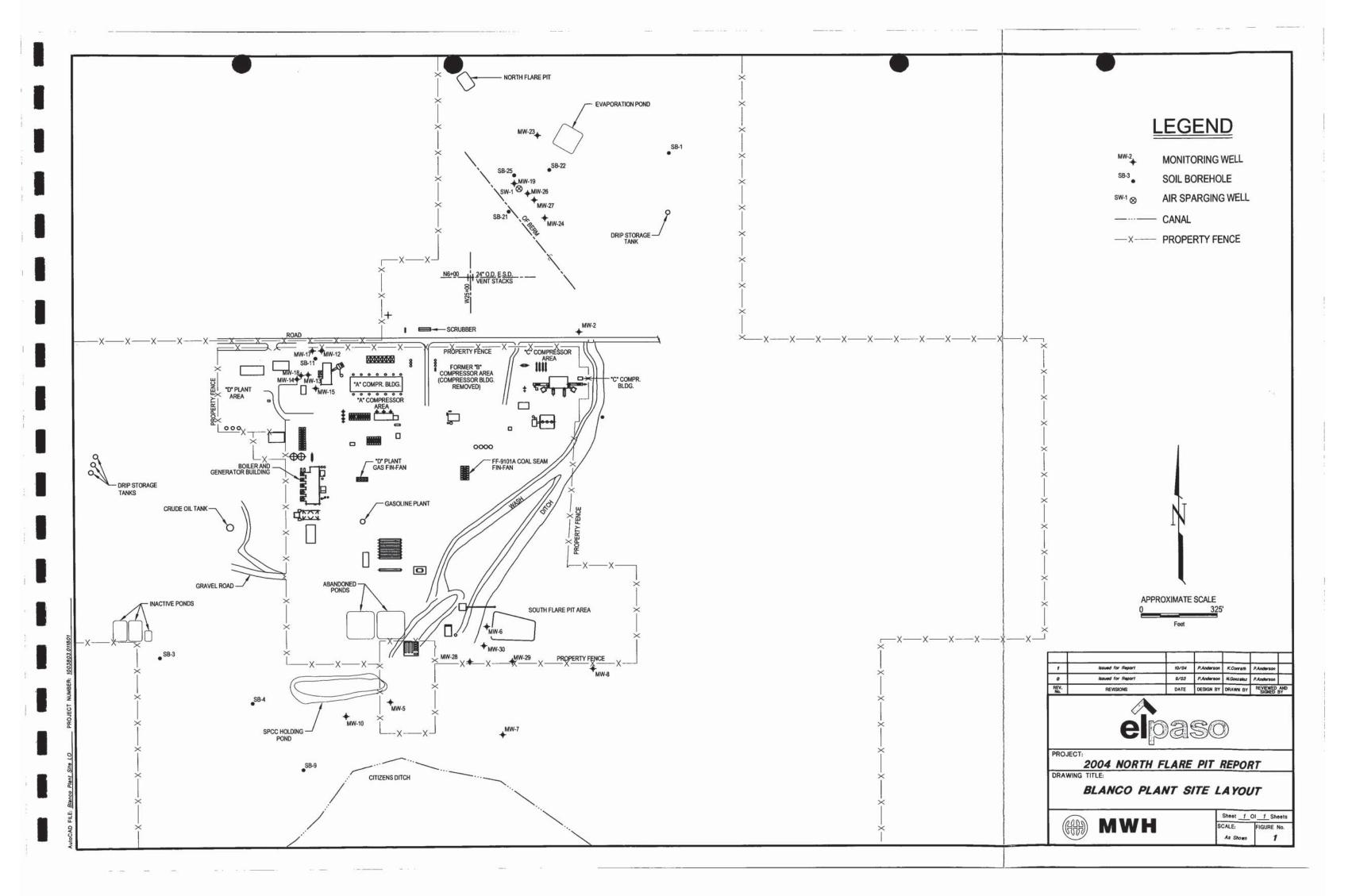
Notes:

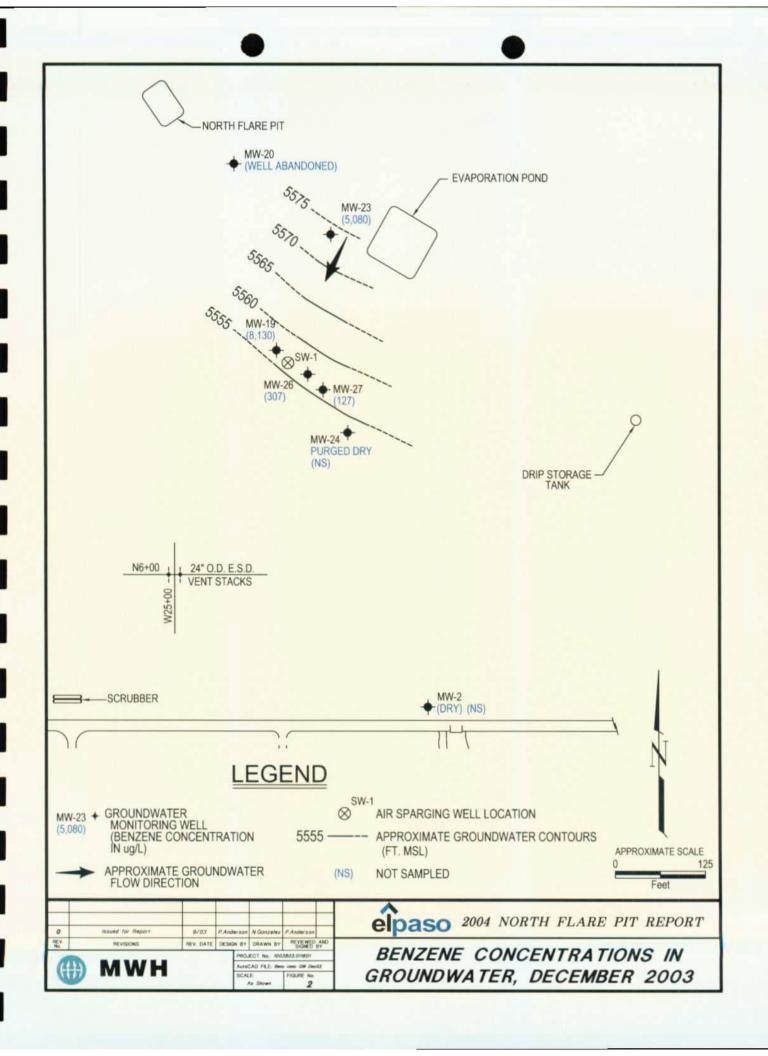
- 1. Field Parameters include temperature, pH, dissolved oxygen and specific conductance.
- 2. The next quarterly sampling event is scheduled for 4th Quarter 2004.
- 3. Monitoring well MW-20 was damaged and abandoned in 2002.

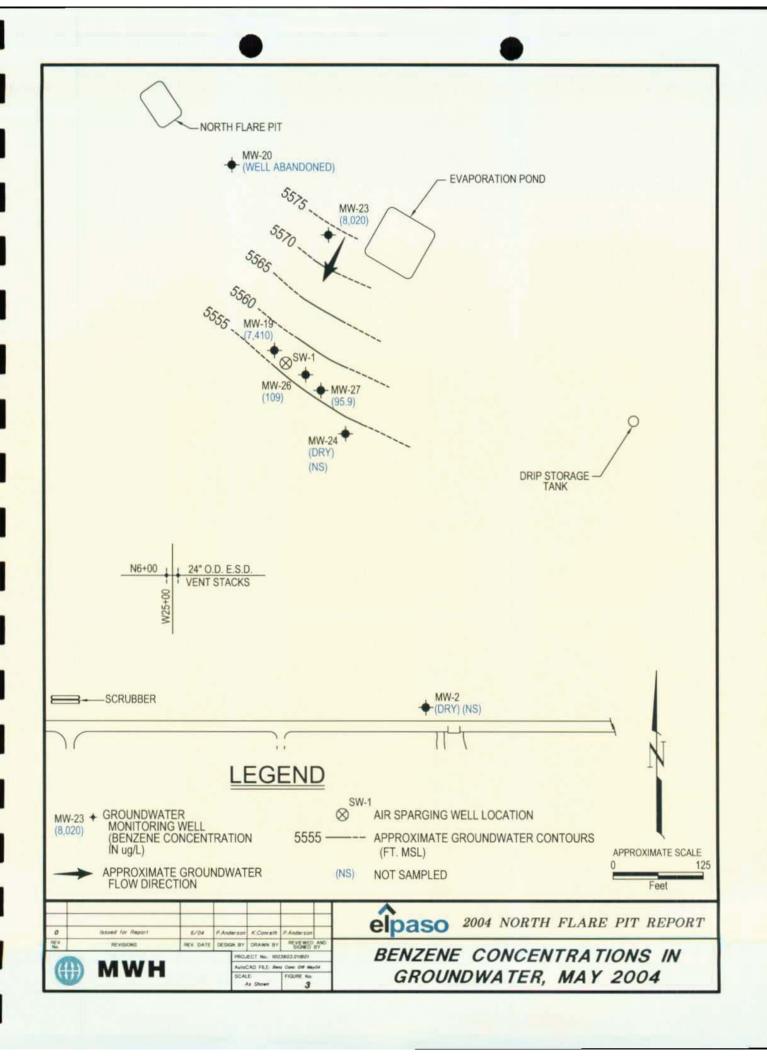
BTEX: Benzene, Toluene, Ethylbenzene and Total Xylenes.

Figures









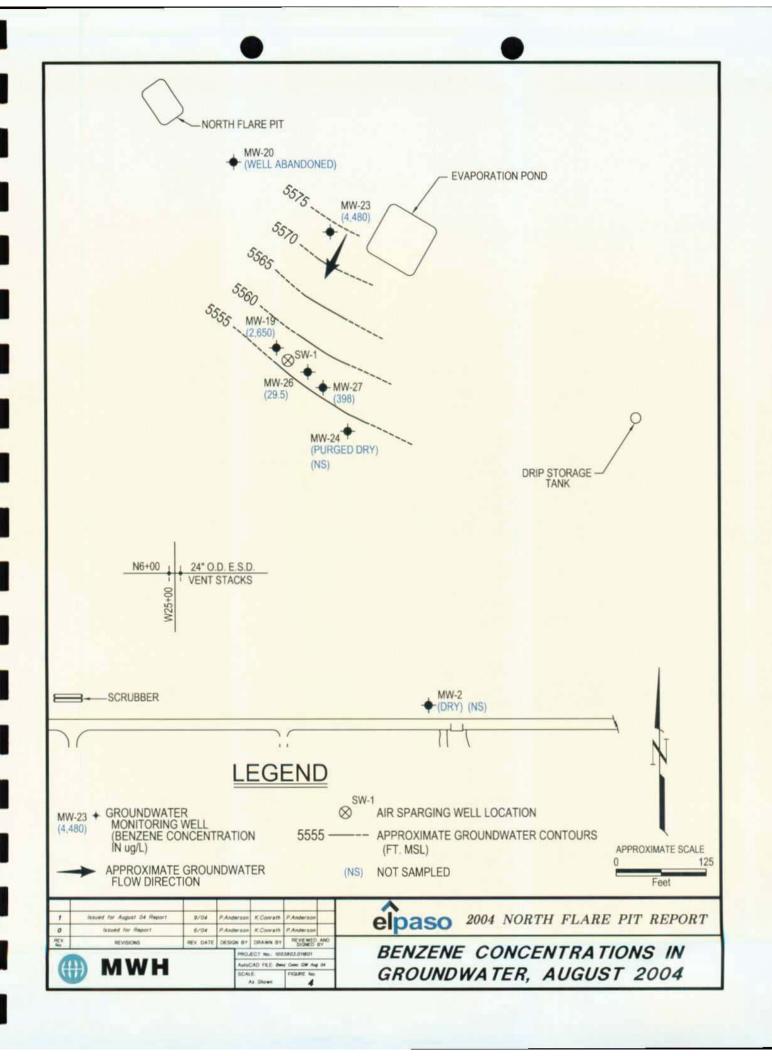
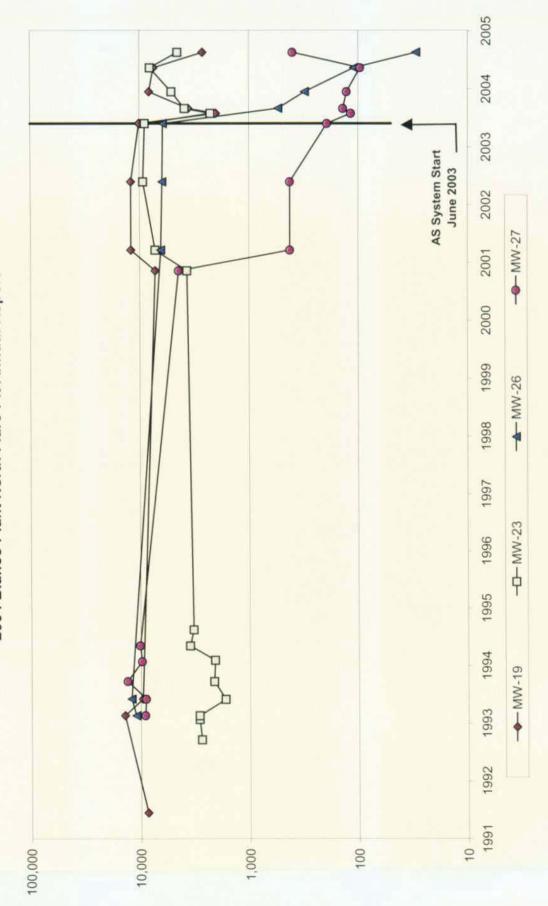


FIGURE 5
Historic Benzene Concentrations in Groundwater, 1991 - 2004
2004 Blanco Plant North Flare Pit Annual Report



Appendix A



APPENDIX A
AS System Operation and Monitoring Reports

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: October 6, 2003

Re: Blanco North

10/6/03 1300 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.07	6.90	21.0	>20,000	1.75	0.0
MW-24	67.11	6.79	22.2	7260	1.02	0.10
MW-27	64.82	6.89	22.0	9790	0.79	0.02
MW-19	64.58	6.97	22.4	>20,000	1.12	0.11
MW-26	64.62	7.56	20.4	14820	1.69	0.085

System is in the off cycle that started at 1200 hrs.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: October 22, 2003

Re: Blanco North

10/21/03 0743 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.16	6.89	15.4	>20,000	1.83	0.0
MW-24	67.15	na	na	na	na	0.0
MW-27	64.95	6.90	15.9	6890	1.57	0.25
MW-19	64.16	7.01	15.7	>20,000	1.07	2.6
MW-26	64.65	7.29	20.4	14010	1.40	3.25

Pressure at the compressor is 14 psi. Flow at the sparge well is 9 scfm. Site appears to have been graded along a pipeline running through the site near MW-24, possibly indicating construction. Could not collect enough water from MW-24 for field parameter measurements.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: November 3, 2003

Re: Blanco North

11-3-03 1258 hrs. O&M site visit.

Well	Depth to Water from TOC	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
	Feet				J	
MW-23	56.99	7.29	17.1	>20,000	1.76	0
MW-24	67.17	na	na	na		0.03
MW-27	64.90	7.34	16.9	6390	1.20	0.0
MW-19	64.75	7.31	16.8	17950	1.15	0.03
MW-26	64.69	7.80	15.9	10740	1.32	0.07

System was in off cycle during site visit. Could not collect enough water from MW-24 for field parameter measurements.

Memo

To: Pam Anderson

From: Martin Nee

CC: File

Date: November 17, 2003

Re: Blanco North

11-17-03 0745 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	рН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	56.98	7.24	15.6	>20,000	0.91	0.0
MW-24	67.18	na	na	na		0.055
MW-27	64.95	7.36	15.7	10010	1.07	0.11
MW-19	64.07	7.16	16.1	<20,000	1.16	3.0
MW-26	64.63	7.82	14.9	15470	1.07	3.6

System pressure at compressor was 14 psi. Air flow was 9 scfm. Reset timer according to Daylight savings time.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: December 1, 2003

Re: Blanco North

12-1-03 1027 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	рН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.18	7.31	16.9	>20,000	1.27	0.0
MW-24	67.17	na	na	na		0.1
MW-27	65.03	7.36	16.7	12460	1.19	80.0
MW-19	64.29	7.21	17.4	<20,000	0.88	2.1
MW-26	64.77	7.87	16.6	19740	1.08	2.1

System pressure at compressor was 16 psi. Air flow was 9 scfm.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: January 2, 2004

Re: Blanco North

1-2-04 1000 hrs. O&M site visit.

	Depth to			装		*
Well	Water from	pН	Temp	Conductivity	Do	Pressure
VV CII	TOC	pri	C	umhos/cm	mg/L	Inches Water
	Feet					
MW-23	57.04	7.42	15.3	>20,000	1.14	0.0
MW-24	67.20	na	na	na		0.06
MW-27	65.10	7.34	15.2	9180	1.07	0.12
MW-19	64.22	7.39	15.9	17910	1.12	3.0
MW-26	64.77	8.11	14.9	12450	1.65	2.1

System pressure at compressor was 16 psi. Air flow was 8.5 scfm.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: January 15, 2004

Re: Blanco North

1-15-04 1018 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	55.98	7.37	15.3	>20,000	1.26	0.0
MW-24	67.15	na	na	na	na	0.04
MW-27	65.11	7.28	15.2	7920	1.16	0.06
MW-19	64.23	7.34	15.9	19360	1.04	2.1
MW-26	64.76	7.91	14.9	12680	0.44	3.2

System pressure at compressor was 15 psi. Air flow was 8.5 scfm.

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

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

January 30, 2004

Re:

Blanco North

1-30-04

0830 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.08	6.94	15.3	>20,000	1.07	0.0
MW-24	67.11	na	na	na	na	0.07
MW-27	65.09	7.11	15.2	12120	1.23	0.025
MW-19	64.14	7.09	15.9	<20,000	1.10	2.0
MW-26	64.76	7.83	14.9	13910	0.98	3.1

System pressure at compressor was 13 psi. Air flow was 9 scfm.

Memo

To: Pam Anderson

From: Martin Nee

CC: File

Date: February 13, 2004

Re: Blanco North

2-13-04 0953 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.09	6.92	16.5	>20,000	1.57	0.0
MW-24	67.12	na	na	na	na	0.085
MW-27	65.22	6.82	16.4	8580	0.93	0.16
MW-19	64.13	6.80	17.2	18110	1.31	3.1
MW-26	64.79	7.61	16.9	12490	2.50	3.5

System pressure at compressor was 13 psi. Air flow was 9 scfm.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: February 27, 2004

Re: Blanco North

2-27-04 1059 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	56.99	6.84	16.3	18800	0.98	0.0
MW-24	67.12	na	na	na	na	0.13
MW-27	65.24	6.85	16.8	7780	0.79	0.24
MW-19	64.07	6.81	17.2	16200	1.11	3.0
MW-26	64.76	7.62	15.8	11920	2.98	3.2

System pressure at compressor was 14 psi. Air flow was 9 scfm.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: March 12, 2004

Re: Blanco North

3-12-04 1427 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	56.96	6.95	17.3	16550	1.07	0.0
MW-24	67.11	na	na	na	na	0.115
MW-27	65.30	6.84	18.8	8850	0.98	0.08
MW-19	65.01	6.82	18.9	15660	1.10	.165
MW-26	65.06	7.89	17.8	11090	0.62	0.09

System was off during this visit.

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

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

March 26, 2004

Re:

Blanco North

3-26-04

0843 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	56.98	6.87	16.4	17680	0.90	0
MW-24	67.23	na	na	na	na	.14
MW-27	65.24	6.75	16.7	8760	0.84	.18
MW-19	64.06	6.79	16.8	16100	1.39	3.0
MW-26	64.69	7.41	16.2	11820	2.17	3.2

System Pressure 14 psi, flow 9.0 scfm

Not enough water in mw-26 to gather data

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

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

April 13, 2004

Re:

Blanco North

4-12-04

0743 hrs. O&M site visit.

Well	Depth to Water from TOC	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
	Feet	(*)				
MW-23	57.075	6.88	15.0	17560	1.08	0
MW-24	67.11	na	na	na	na	02
MW-27	65.47	6.93	14.9	10230	1.07	.13
MW-19	64.20	6.88	15.9	16100	1.20	2.2
MW-26	65.09	7.74	15.4	14070	0.43	4.1

System Pressure 14 psi, flow 9.5scfm

Not enough water in mw-26 to gather data. Negative pressure at MW-23 may be due to atmospheric high pressure cell moving into area.

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

Memo

To: Pa

Pam Anderson

From:

Martin Nee

CC:

File

Date:

April 26, 2004

Re:

Blanco North

4-26-04

0702 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	рН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.25	6.99	15.0	<20000	1.15	0
MW-24	67.11	na	na	na	na	025
MW-27	65.41	7.03	15.8	10350	0.86	.08
MW-19	64.51	6.93	16.8	<20000	1.03	2.2
MW-26	65.28	7.74	16.4	15010	0.36	1.9

System Pressure 14 psi, flow 8 scfm

Not enough water in mw-26 to gather data. Still negative pressure at MW-23.

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

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

May 10, 2004

Re:

Blanco North

5-10-04

1034 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.03	6.22	17.5	12970	0.92	0
MW-24	67.11	na	na	na	na	0.11
MW-27	65.64	6.28	18.7	7840	1.18	.18
MW-19	64.50	6.11	18.5	17610	0.68	2.4
MW-26	65.17	6.91	15.4	9460	0.80	2.0

System Pressure 14 psi, flow 8 scfm

Not enough water in mw-26 to gather data.

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

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: June 1, 2004

Re: Blanco North

6-1-04 953 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	рН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.15	6.27	19.2	12220	0.81	0
MW-24	67.14	na	na	na	na	0.06
MW-27	65.77	6.20	21.4	5360	0.9	.11
MW-19	63.42	6.48	20.5	12290	1.05	5.6
MW-26	65.23	7.16	20.2	7190	2.22	8.3

System Pressure 14 psi, flow 6 scfm

Not enough water in mw-26 to gather data.

Note: large increases in pressures at MW-19 and MW-26 and lower flow at injection well

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

June 15, 2004

Re:

Blanco North

6-15-04

805 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.07	6.29	20.5	8460	0.80	0
MW-24	67.10	na	na	na	na	-0.04
MW-27	65.85	6.21	19.61	4050	1.06	0.0
MW-19	64.78	6.38	19.44	12090	1.02	4.2
MW-26	65.58	6.93	19.56	7350	0.65	6.6

System Pressure 14 psi, flow 7 scfm

Not enough water in mw-26 to gather data. Apparently the electricity to the site was interrupted because the timer clock read 2030 hrs and the system was off. I reset the timer clock and started the system prior to taking readings.

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: July 14, 2004

Re: Blanco North

7-14-04 805 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.14	6.92	20.22	<20000	0.66	0
MW-24	67.11	na	na	na	na	.01
MW-27	66.01	6.78	22.33	6810	0.89	0.12
MW-19	63.81	6.86	21.5	17080	0.91	4.7
MW-26	65.57	7.39	20.50	9870	0.88	7.0

System Pressure 14 psi, flow 7 scfm

Not enough water in mw-26 to gather data.

Lodestar Services, Incorporated

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

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

July 28, 2004

Re:

Blanco North

7-14-04

805 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	рН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.08	7.07	20.22	<20000	0.80	0
MW-24	67.11	na	na	na	na	01
MW-27	66.06	6.83	22.33	6810	0.56	0.15
MW-19	63.75	na	na	na	na	4.8
MW-26	65.59	7.46	20.50	9870	3.38	6.0

System Pressure 14 psi, flow 7.5 scfm

Not enough water in mw-26 to gather data. MW-19 is obstructed. Cannot get 1.6-inch bailer past 27.2 feet BTOC. Interface probe will pass but snags at 27.2 '. Tried a new straight bailer but it would not pass. Tried looking down well with a flashlight but could not view far enough. Will bring a more powerful flashlight next visit and examine the well again.

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

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

August 17, 2004

Re:

Blanco North

8-17-04

0726 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.17	6.82	16.51	19040	0.85	0
MW-24	67.05	na	na	na	na	0.02
MW-27	66.22	6.77	17.94	6960	0.78	.07
MW-19	na	na	na	na	na	3.2
MW-26	65.78	7.18	18.00	9740	1.77	6.0

System Pressure 14 psi, flow 7.5 scfm

Not enough water in mw-26 to gather data. MW-19 is obstructed. Cannot get bailer or interface probe into well. Well is bowed and cannot see to obstruction..

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

Memo

To: Pam Anderson

From: Martin Nee

cc: File

Date: September 8, 2004

Re: Blanco North

9-8-04 0830 hrs. O&M site visit.

Well	Depth to Water from TOC Feet	pН	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.18	6.92	16.00	17960	0.87	0
MW-24	67.11	na	na	na	na	-0.01
MW-27	66.30	6.90	17.72	12100	1.23	.03
MW-19	na	7.01	18.94	>20000	1.53	4.2
MW-26	65.65	7.48	19.28	16320	0.71	5.3

System Pressure 14 psi, flow 7.5 scfm

System was off when arrived at site. Clock read 10 pm. The electricity must have been off for some time. Reset clock and started system immediately before collecting data..

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

Memo

To:

Pam Anderson

From:

Martin Nee

CC:

File

Date:

September 23, 2004

Re:

Blanco North

9-23-04

0800 hrs. O&M site visit.

Well	Depth to Water from TOC	pH	Temp C	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
	Feet					
MW-23	57.23	6.95	14.02	>20000	0.98	0
MW-24	67.12	na	na	na	na	0.02
MW-27	66.32	6.90	14.33	10790	1.22	.0
MW-19	na	7.15	15.06	>20000	1.86	2.2
MW-26	65.77	7.41	18.06	16510	3.35	4.7

System Pressure 14 psi, flow 7.0 scfm

System was off when I arrived at site. The clock read 7 am. The electricity came on at approximately 9:30 just prior to taking the readings at MW-19 and MW-26. Reset clock before leaving.

Appendix B



APPENDIX B
Groundwater Sampling Field Forms

Groundwater Sampling Field Forms – December 2003

WATER LEVEL DATA

Martin J. Nee PO Box 3861 Farmington, NM 87499-3861 (505)334-2791 (505)320-9675cell

Project Name	San Juan Basin Ground Water	Project No.	30001.0
Project Manager	MJN		
Client Company	MWH	Date	12-16-03
Site Name	Blanco North Flare Pit	-	

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Comments
MW-2	1117	-	-	well is dry
MW-19		-	65.14	
MW-23		-	57.31	94
MW-24		-	67.165	
MW-26			65.02	
MW-27		-	65.16	
MW-5		-		(6)
MW-6		-		
MW-7		-		
MW-8		•		
MW-28		-		
MW-29		-		
MW-30		-		
MW-12		•		
MW-13		-		
MW-14	1	• •		a di
MW-15				
,				

Comments

Signature: Martin J. Nee Date: December 16, 2003	

Project No	30001 (n		Proiec	Name:	Bland	co NFP		Clie	nt· MW	H/EL Paso
				li No: M\	HUMAN SALVA MARKA						nt Sampling
Project Ma								Start T			
		The Street Color									asuring Point TOC
				II Dia		12.511.71		_			
Sampling				mp 🗆		_] Perista			
Criteria:				iler x Water Rem							teel Kemmerer X Other or bail dry
						olum	e in Well				
	txft of w			Gallons		_		Ounces			Gal/oz to be removed
	2.19 x .16			0.35 x	3			44.8 x 3			134.55
Time (military)	pH (su)		SC hos/cm)	Temp (°F)	ORF (millivo		D.O. (mg/L)	Turbidit (NTU)		Vol Evad	경기로 내용
1306	7.22	1	7100	55.8	-			É		26	gray, HC odor
	7.27	1	8320	58.1						36	gray, HC odor
	7.28	1	8140	58.7			77			44	gray, HC odor
1317	7.39	1	9090	57.5			1.77			52	well has bailed dry
			-				2				
	2.41						* ,				
Final:							1	Ferrous			•
	A RECOVERING VERBOUR DES	SC 19090	Temp 57.5	Eh-ORP	D.O. 1.77	Tui	rbidity	Iron	-	Evac. 52	Comments/Flow Rate well has bailed dry
COMMEN	TS: Well	bailed d	ry, retum	ed to samp	le later						
NSTRUM			DO Mo	nitor	<u>-</u>				mpera	ature Me	eter x
	oosalk	Kutz	Sample I	D Blanco N		121					
STEX VO	OCs Alk	alinity T	DS Cati	ons Anion	s Nitrate	e Ni	itrite Am	monia TK	N NI	MWQC	C Metals Total Phosphorus
IS/MSD_			BD_		<u> </u>	BD N	Name/Tir	ne			TB161203tb02

Water Colur Sampling M	lanco NF ager ater5 nn Heigh ethod: S	MJN 7.31 t 9.535 ubmersible	Depth to Prod Well Dia Pump e Bailer x	Date_ductna4" Centrific Double	12/16/0 Produgal Pur	03 duct T	Start Thickness_ Perista	na M Itic Pump Stainless-	ent \$ _ \ easuring Steel K	
				Water V	olume i	n Well				
	ft of wat	er	Gallo			- 45 - 75	Ounces		Ga	Voz to be removed
9.53 x .65 6.2 x 3 18.60										18.60
Time (military)	pH (su)	SC (umhos/d		ORF (millivo		0.O. ng/L)	Turbidit (NTU)	(gallor	ns)	Comments/ Flow rate
1341	7.30	>20,00	0 53.4					1	C	lear, sheen
	7.25	>20,00	0 55.7					. 2	G	iray
	7.26	>20,00	0 56.9					3	G	iray
	7.31	>20,00	0 56.5					7.3	G	Gray
1406	7.47	>20,00	0 55.5		1	1.36		8.11	V	Vell is dry
Final: Time pl 1406 7		C Ter 20,0 55		D.O. 1.36	Turbio		Ferrous Iron	Vol Evac. 8.11		nments/Flow Rate
COMMENTS	3:									
NSTRUME			eter X Monitor Meter X				Ter	nperature M	Meter >	e7 U
*			ole ID <u>Blanco</u> Cations Anio						CC Met	als Total Phosphorus
MS/MSD		_	BD		BD Nar	ne/Tin	ne			TB 161203tb02

Depth to War Water Colum Sampling Me	anco NF ager ter _67.1 nn Heigh ethod: S	MJN 165 De t 0.055 We ubmersible Purottom Valve Ba	ell No: M' pth to Produ ell Dia mp ailer x	W-24 Dateuctna4" Centrifu	Product	Start T Thickness_ Perista	Developme ime 1043 na Me altic Pump [Stainless-S	WH/EL Paso ent Sampling Weather sunny 20s easuring Point TOC Other Steel Kemmerer X Other or bail dry
	ft of wat	er	gallons	5	olume in We	Ounces		Gal/oz to be removed
0.05	55 x .65		0.035 x	3		4.57		
Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORF (millivo		Turbidit (NTU)		
Final: Time pH	S	C Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
INSTRUMEN	ITATION C salKu	DO Mo onductivity Met tz Sample I	X nitor er X		Sample Time	Otl		eter x C Metals Total Phosphorus
MS/MSD		BD_		_	BD Name/Ti	me		TB

Project M Depth to Water Co Sampling Criteria:	_Blanco N anager Water lumn Heig Method:	FP MJN 65.02 ht2. Subme Bottom sing Vo	We Dep 85 We rsible Pur Valve Ba	Il No: M	W-26 Dateuctna _4" Centrifu Double noval X Water V	12/ Lugal Che	16/03 Product T Pump ck Valve	Start T hickness_ Perista Bailer Indicator	Developime113naI Ittic Pump Stainless Paramete	Meas S-Stee	Sampling Weatherclear 20s uring PointTOC Other el Kemmerer Otheror bail dry Gal/oz to be removed 5.56
Time (military	pH (su)	(um	SC hos/cm)	Temp (°F)	ORF (millive		D.O. (mg/L)	Turbidit (NTU)			Comments/ Flow rate
1143	7.94	1	1960	57.5					0.	5	gray translucent, first bailer is not full, strong HC odor
	7.87	1	2030	58.8					0.8	33	gray translucent, HC odor
	7.86	1	2300	59.2					1.0	8	gray translucent, HC odor
	7.88	1	2540	59.9					1.2	25	gray translucent, HC odor
1208	7.99	1	2760	61.0			0.55		1.0	55	well bailed dry, will return later to sample
		<u> </u>		l	<u> </u>		<u> </u>				1
Final:	-1.1	sc	T	EL OPP	D.O.	Ī.,		Ferrous	V. F		
Time 1208		12760	Temp 61.0	Eh-ORP	0.55 1.55 well baile						comments/Flow Rate vell bailed dry, will return ater to sample
COMMEN	ITS: Well	bailed d	ry,well di	d not recov	er 3 hrs a	fter	bailing wi	ll retum ne	ext day for	sam	ple
INSTRUM		ssen.cs .	DO Mo	nitor					mperature ner	Mete	er x
Water Dis			1.0	D Blanco Nons Anion				pl e Time_ monia TK	N NMW(QCC 1	— Metals Total Phosphorus
MS/MSD_			BD		e	BD I	Name/Tin	ne			TB161203tb02

Water Colu	Blanco N nager /ater umn Heig	MJN 65.16 ht <u>4</u>	De _j .12 We	oth to Produ	N-27 Date_ uctna _2"	12/ l	16/03 Product 1	Start T 「hickness_	De Time na	evelopmen 1220 Mea	t Sampling Weather sunny 20s suring Point TOC
Sampling I	1	Bottom	Valve Ba	iler x	Double	Che stabil	ck Valve	Bailer □ f Indicator	St		Other eel Kemmerer Other or bail dry
Calff	x ft of wa	ator		Gallon		/olum	e in Wel	Ounces			Calles to be removed
	.12 x .16			0.66 x				84.48 x 3			Gal/oz to be removed 253.00
Time (military)	pH (su)	(um	SC nhos/cm)	Temp (°F)	ORI (millivo		D.O. (mg/L)	Turbidit (NTU)		Vol Evac (ounces)	
1230	7.36		7130	55.5	100					32	Gray, strong HC odor
	7.29		8120	57.4						64	Gray, strong HC odor
	7.30		8140	58.2						96	Gray, strong HC odor
	7.37	1	8110	58.0						124	Gray, strong HC odor
-/	7.39	+	7920	57.5						144	Gray, strong HC odor
1245	7.48		8080	57.4			1.31			168	well is dry, will return later to sample
Final: Time	7.48	SC 8080	Temp 57.4	Eh-ORP	D.O. 1.31	Tui	rbidity	Ferrous Iron	V	168	Comments/Flow Rate well is dry, will return later to sample
COMMENT			ry, return	ed to samp				To			
Water Disp	osal <u>K</u>	Conduc	DO Mor tivity Met Sample II	nitor er X D <u>Blanco N</u>	IFP MW-	-27		Otl	her 14		*
BTEX VO	Cs Alka	linity ?	TDS Catio	ons Anion	s Nitrat	e N	itrite Am	monia TK	NN	MWQCC	Metals Total Phosphorus
				To the							

Groundwater Sampling Field Forms – May 2004

MJN 65.31 eight2. d: Subme Bottom Casing Vo	Depth D2 Well rsible Pump Valve Baile blumes of W	h to Product Dia	Date 5- t na Centrifuga Double Cl val X sta Water Volu	Product The Product The Pump □ neck Valve Builization of burne in Well	Start Time ickness na Peristaltic sailer S Indicator Pa	e1133aMeasuse Pump □	Sampling Weathersunny 80s uring PointTOC Other el Kemmerer Otheror bail dry					
d: Subme Bottom Casing Vo	Depth D2 Well rsible Pump Valve Baile plumes of V	h to Product Dia2 P □ er x Vater Remo	Centrifuga Double Cl val X sta	Product The Product The Pump □ neck Valve Builization of burne in Well	Peristaltic	a Measu : Pump □ :tainless-Stee	Other el Kemmerer					
d: Subme Bottom Casing Vo	Depth D2 Well rsible Pump Valve Baile plumes of V	h to Product Dia2 P □ er x Vater Remo	Centrifuga Double Cl val X sta	Product The Product The Pump □ neck Valve Builization of burne in Well	Peristaltic	a Measu : Pump □ :tainless-Stee	Other el Kemmerer					
d: Subme Bottom Casing Vo of water .16 pH su) (un	valve Baile	er x Vater Remo	Centrifuga Double Cl val X sta Water Volu	neck Valve B bilization of l	sailer □ S	tainless-Stee	el Kemmerer 🛚					
Bottom Casing Vo of water .16 pH su) (un	Valve Baile	er x Vater Remo Gallons	Double Cl val X sta Water Volu	neck Valve B bilization of l	sailer □ S	tainless-Stee	el Kemmerer 🛚					
Casing Vo	sc SC	Vater Remo Sallons	val X sta Water Volu	bilization of l	Indicator Pa							
of water .16 pH (un	SC	Gallons	Water Vol	ume in Well								
.16 pH su) (un	127		10		_							
pH su) (un	127	0.32 x 3	18									
su) (un	127		2.02 x .16									
.12	nhos/cm)	Temp (°F)	ORP (millivolts	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)						
	15640	72.4				22	Grey/ HC Odor					
5.20	14760	70.5				34	Grey/ HC Odor					
5.22	14480	69.7				40	Well is bailing down					
		69.8				46						
5.38	13830	69.1				50	Well has bailed dry					
	1		200		Ferrous							
		Eh-ORP	D.O.	Turbidity		Vol Evac.	Comments/Flow Rate Well has bailed dry					
Well bailed	dry, return	ned to same	ole later									
	DO Mo	onitor			041		eter x					
lKutz	Sample	ID_Blanco	Mary Commence									
Alkalını	r IDS Car	tions Anio	ns Nitra	te Nitrite	Ammonia T.	KN NMWQ	CC Metals Total Phosphic					
	DO			PD Name (imo		TD 1705044001					
5 5 5	.12	.12	12	12	15640 72.4	12	12					

	ager	MJN 57.14_	Depth		Date <u>5</u> na	/17/0)4	Start Time	e <u>1105</u>	Sampling Weather sunny 80s suring Point TOC
, E.	ı	Bottom V	alve Baile	er x	Double C	heck	Valve E	Bailer□ S		Other eel Kemmerer Other or bail dry
Gal/ft	x ft of wa	ater			Vater Vol		in Well	Ounces 807.456		Gal/oz to be removed 18.924 gal
Time (military)	pH (su)	947	SC os/cm)	Temp (°F)	ORP (millivolt		D.O. (mg/L)	Turbidity (NTU)	Vol Evac (gallons)	[80] [1] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4
1106	6.12	_	740	69.2			, ,		1	Grey sheen
	6.11	17	040	65.9	**				2	Grey sheen/ odorous
	6.12	17	780	66.5					3	Grey sheen/ odorous
11 1141 2007	6.14	18	3070	65.9					4	
	6.19	18	3860	66.2					9	
1128	6.20	18	3710	66.7					9.25	Well has bailed dry
Final: Time	pН	SC	Temp	Eh-ORP	D.O.	Tui	rbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1128	6.20	18710	66.7						9.25	Well has bailed dry, w sample later
COMMEN	ITS:			· · · · · · · · · · · · · · · · · · ·						
	posal	Conduc Kutz		onitor eter X ID <u>Blanco</u>	NFP MW	-23		Otl	mperature M	
DIEA V	OCS A	жаниту	IDS Cal	LIOHS ANIO	ns initta	ne i	Nitrite)	minonia 1	VIA INTIM C	C Metals 10th Phosphoru
MS/MSD_			BD			BD	Name/	Time		TB170504tb01

ocation:_Bla roject Mana epth to Wa Vater Colum	ger6	MJN 5.54	Depth	[to Product	Date5 :na	/17/	04	Start Time	1154	Sampling Weather Sunny 80s uring Point TOC
	В	Bottom V	alve Baile	er x	Double C	hec	k Valve B	ailer 🗆 S	tainless-Ste	Other Other Other Other or bail dry
	ft of wa	iter		Gallons 1.515 x 3	Water Vo	lume		Ounces 93.92 x 3		Gal/oz to be removed 581.76 oz
Time (military)	pH (su)	10	SC os/cm)	Temp (°F)	ORP (millivolt		D.O. (mg/L)	Turbidity (NTU)	Vol Evac	. Comments/ Flow rate
1156	6.80	89	960	71.6					40	Grey opaque/ HC Odor
	6.64	87	740	67.4	-				92	
	6.71	88	810	67.3					142	
	6.79	8	610	66.5					158	Well is bailing down
	6.91	8	520	65.9					166	Well is bailing down
1210	7.03	8	450	66.2					170	Well has bailed dry
Final:	н	sc	Temp	Eh-ORP	D.O.	Ti	urbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1210	7.03	8450	66.2					P	170	Well has bailed dry, v
	ENTATIO	ON: Conduc Kutz	pH Meter DO Mo ctivity Me Sample	X onitor ter X ID_Blanco	NFP MW	1-26		Oth _ mple Time_	0743 5/18/	04
BTEX VO	OCs Al	kalinity	TDS Cat	ions Anio	ns Nitr	ate	Nitrite /	Ammonia T	KN NMWÇ	QCC Metals Total Phosphore
MS/MSD_							. N			TB170504tb01

Project No.:30 ocation:_Bla Project Mana Depth to Wat Vater Colum	nco NFF ger er65	MJN	Well f	No: <u>MW</u> In to Product	27	17/04_	Do Start Time	1214	Sampling Weather_sunny 80s uring Point _TOC
	Во	ottom Va	alve Baile	er x	Double Ch	neck Valve E	sailer□ S		Other Other Other Other Or bail dry
Gal/ft x	ft of wat				20 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	ıme in Well	Ounces		Gal/oz to be removed
3.5	4 x .16			0.5664 x 3		7	72.50 x 3		217.50
Time (military)	pH (su)	9.55	SC os/cm)	Temp (°F)	ORP (millivolts	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	A Section 1
1224	6.23	70	000	70.6				22	Clear
	6.35	70)50	68.8	West of the			46	
	6.21	71	130	68.2				78	Grey/ HC Odor
	6.27	70	040	68.0				95	Well is bailing down
	6.26	69	900	6.74				111	
	6.38	68	870	67.1				121	
1235	6.52	6	820	67.0				127	Well has bailed dry
миления — — — — — — — — — — — — — — — — — — —									
		SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1235	6.52	6820	67.0	in i				127	well is dry, will retur later to sample
COMMENT	S: Well	bailed d	ry, returr	ned to samp	ole 5/18/04	1			
INSTRUME		Conduc	DO Mo	eter X			_ Oth	8:	
	The state of the s		THE RESIDENCE AND ADDRESS.	Committee of the commit				_0752 5/18/0 KN NMWQ	OC Metals Total Phosphorus
MS/MSD_		~	BD			BD Name/	Time		TB170504tb01

Groundwater Sampling Field Forms – August 2004

WATER LEVEL DATA

♦ Lodestar	S	T
V Lodestar	Services,	Incorporated

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

Project Name_	San Juan Basin Ground Water	Project No.	30001.0
Project Manager	MJN		
Client Company	MWH	Date	8/23/04
Site Name	Blanco NFP	.	

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Comments
MW-2	1159	-		Well is dry
MW-19		-	na	well is blocked, cannot get interface probe to groundwater
MW-23		-	57.04	
MW-24		-	67.11	
MW-26		-	66.11	
MW-27		-	66.27	

Comments

Signature:	Martin	J. Nee	Date:	August 23, 2004	

Project No.:	:30001.	0	373,6327	Project	Name:	Blan	co NFP		Client:_M	WH/	EL Paso	
Location:_E											Sampling	
Project Mar									me1330)	Weather_sunny	80s
											uring PointTOC_	
Water Colu								viii—				
						-						
Sampling M	1ethod:	Submer	sible Pun	прП	Centrifu	igal I	Pump [Peristal	tic Pump	П	Other	2500
- 1 3				, _		-	· -100.00 00.00					
		Bottom	Valve Bai	iler x	Double	Che	ck Valve	Bailer 🗌	Stainless	-Stee	el Kemmerer 🔲	
Critoria: 3	to 5 Ca	eina Vo	lumes of	Mater Rem	oval X s	tahil	lization of	Indicator F	Parameter	c X	Other_or bail dr	V
Officia. 3	10 3 0	ising vo	unies or	water nem	Ovai A S	nabii	iization oi	moleator	arameter	5 A	Other_or ball di	<u>Y</u>
					Water V	olum	ne in Well					
	x ft of w	ater		Gallons				Ounces		(Gal/oz to be remove	ed
n	a x .16			nax 3				na x3			na oz	
									1			
Time	pН		SC	Temp	ORF)	D.O.	Turbidity	/ Vol Ev	ac.	Comments	/
(military)	(su)		hos/cm)	(°F)	(millivo		(mg/L)	(NTU)	(ounc		Flow rate	
1356	6.80) 1	6160	75.7					10		clear with	black
	100-0-188			12.000-010-0							floaters and sec	
		٠-,		74.0						_	hydrocarbon odd	
	6.91	' '	6930	74.3					24	10	clear with floaters and sec	black
											hydrocarbon odd	
	6.93	3 1	7180	74.9					38		black with ver	
		Î						1			black	sand,
1447	6.91	-	7720	74.4			0.65		52	_	hydrocarbon odd black with ver	
1447	0.5	' '	1120	/4.4			0.03		32	8	black with ver	sand,
											hydrocarbon odd	
						_						
Final:		-	11 4 4	1.		Ľ.	in the	Ferrous		2		
	Н	SC	Temp	Eh-ORP	D.O.	Tu	rbidity	Iron	Vol Evac		comments/Flow Rat	e
	6.91	17720	74.4		0.65				52		lack with very fin	
e e jed garta fr	1 44		× 5 %.				111		D. C	s	and, hydrocarbon	odor
												32
											of one inch diamet	
Spent 1.5 h						irgec	same a	mount as v	was purge	d du	iring the May 04 sa	ampling.
Spent 1.51	iis picki	ng up m	ateriais ai	iu ilistalling	i pvc.						Vi	
INSTRUME	ENITATI	ONI	nH Motor	V				Ton	anoratura	Moto		
INSTRUME	ENTAIN	OIV.	pH Meter DO Mo					0.11	nperature	wete	er x	
		Candua						Oth	er			
Mate Die			ctivity Met		150 101			- 	45001	0/00	10.4	
Water Disp								ple Time				
BLEX AC	OCs Al	kalinity '	TDS Cati	ons Anion	s Nitrat	e N	litrite Am	monia TKI	N NMWQ	CC 1	Metals Total Phosph	orus
MS/MSD_			BD_			BD	Name/Tir	me			TB082304TB0)1

Project No.: Location:_B Project Mar Depth to Water Colum	lanco NF nager ater5	P MJN 7.04	Wel	th to Produ	V-23 Date ctna_	8/2	3/04	Start T	De ime_	velopmen _1631_	t Sampling Weather sunny 80s suring Point TOC	
Sampling M						·	Enterodo (A.F.). A Prop			Parametric Carren	555 50 4 00 - 221	
Oriteria: 3			Valve Bai umes of \								eel Kemmerer Cother or bail dry	
	x ft of wa 81 x .65	ter		Gallons 6.381 x 3	1111	olum	ne in Well	Ounces	77		Gal/oz to be removed 19.13 gal	
Time (military)	pH (su)		SC nos/cm)	Temp (°F)	ORF (millivo		D.O. (mg/L)	Turbidit (NTU)		Vol Evac (gallons)	(2011년)	
1636	6.77	>2	0,000	71.3						1	slight gray, sudsy	
	6.76		0,000	67.9 67.2						3	slight gray, suds odorous, sheen slight gray, sudsy	
	6.77		- 27 	67.3					+	7.5	well is bailing down	
1656			67.5		0.88				8	well has bailed dry		
Final:						F.,	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ferrous			Para Alexander (grander) (et a	
Time p		20,0 00	Temp 67.5	Eh-ORP	D.O. 0.88	7.5	rbidity	Iron	Vo		Comments/Flow Rate well has bailed dry	
COMMENT	S:	× — ; =										
NSTRUME	(Conduc	DO Moi tivity Met Sample I	nitor			Sam	_ Ot	her	rature Me		
BTEX VO	Cs Alka	linity T	DS Cati	ons Anion	s Nitrat	e N	litrite Am	monia TK	NN	MWQCC	Metals Total Phosphorus	
MS/MSD			BD			BD	Name/Ti	me			TB082304tb01	

Project Ma Depth to W	nager /ater	MJN 66.11	Dep	th to Produ	Date ctna_	8/2: F	3/04	Start T	ime150	4	Sampling Weather Sunny 80s uring Point TOC
		Bottom	Valve Bai	iler x	Double	Che	ck Valve	Bailer 🗆	Stainles	s-Ste	Other el Kemmerer Other or bail dry
	x ft of w	ater		Gallons 0.98 x 3		olum	ne in Well	Ounces 124 x 3			Gal/oz to be removed 374 oz
Time (military)	pH (su)	1	SC hos/cm)	Temp (°F)	ORF (millivo		D.O. (mg/L)	Turbidit (NTU)			Flow rate
1515	7.04		1190	75.0 71.1					6		black, hydrocarbon odor
1000000	7.39		1140	68.8					8		
	7.39		1290	69.2					9		dark gray, hydrocarbon odor, we is bailing down
1529	7.42		1450	70.2			0.16			80	well has bailed dry
Final:			[. o . s ·				22.30.71	Ferrous			
Time		SC 11450	Temp 70.2	Eh-ORP	D.O. 0.16	Tu	rbidity	Iron	Vol Eva 130		Comments/Flow Rate vell has bailed dry
COMMEN day.	TS: Well	bailed (dry. Colle	ected samp	ole 8/24/0)4 T	he well l	nad barely	recovere	d end	ough to sample by the ne
	osall	Conduc		nitor er X D <u>Blanco N</u>	NFP MW	-26		_ Oti - pple Time_		24/04	

Project Mana Depth to Wa	anco NF ager6	MJN 6.20 [Vell No:M\	N-27 Date uctna	8/2	3/04_	Start T	Developi ime <u>154</u>	ment 0	Sampling Weather_sunny 80s uring Point _TOC
Sampling Me	ethod: Si	ubmersible F	umb □	Centrifu	ıgal	Pump [] Perista	ltic Pump		Other
										el Kemmerer 🛚
Criteria: 3	to 5 Casi	ng Volumes	of Water Rem			10		Paramete	rs X	Other or bail dry
Gal/ft x	t ft of wat	er	Gallons	water v	olum	ne in Well	Ounces			Gal/oz to be removed
	98 x .16	<u> </u>	0.49 x 3				63 x 3			189
Time (military)	pH (su)	SC (umhos/cn	Temp n) (°F)	ORF (millivo		D.O. (mg/L)	Turbidit (NTU)			Comments/ Flow rate
1550	6.79	9900	: 76.6					32	2	clear
	6.79	9540	71.3				4	60)	gray, hydrocarbon odor
	6.89	9800	72.3					80		gray, hydrocarbon odor
	6.88	9050	69.9				4	92	2	gray, hydrocarbon odor
<u>1610</u>	6.99	9050	71.0			0.77		10	2	well has bailed dry, will return later to sample
Final: Time pl		C Tem		D.O. 0.77	Tu	ırbidity	Ferrous Iron	Vol Evad	_	Comments/Flow Rate vell has bailed dry, will
			the section of		13					eturn later to sample
COMMENTS	S: Well ba	ailed dry, reti	urned to samp	le 8/24/0	4. B	Bailer and	sample co	ontainers o	onta	ined product droplets.
INSTRUME		DÖ	ter X Monitor					mperature ner	Mete	er x
177	salKı		e ID <u>Blanco I</u>				•			4 Metals Total Phosphorus
MS/MSD		B	D		BD	Name/Tir	me	32 105510		TB_082304tb01

Appendix C



APPENDIX C
Groundwater Analytical Laboratory Reports

Groundwater Analytical Report – December 2003

DATA VERIFICATION WORKSHEET

(Page 1 of 3)

Analytical Method/Analytes: _	SW-846 8021B (BTEX)	Sample Collection Date(s): _	12/16/03
Laboratory:	Accutest	MWH Job Number: _	EPC-SJRB

(Blanco North)

Batch Identification: T6396 Matrix: Water

MS/MSD Parent(s)^(a): _____ Field Replicate Parent(s): ____ None

Verification Complete: / Jan / 8-00 (Date/Signature)

2.2011				Hits		
Notes	Site ID	Sample ID	Lab. ID	(Y/N)	Quals.	Comments
1,9, 11,12	Trip Blank	161203TB02	T6396-01	N		35
2,10,	Blanco North	MW-27	T6396-02	Y	J	Benzene @ 127 µg/l
13,14					J	Toluene @ 17.0 µg/l
18			1		J	Ethylbenzene @ 250 µg/l
					J	Xylenes (total) @ 1060 μg/l
					J	o-Xylene @ 222 µg/l
					J	m/p-Xylene @ 834 µg/l
3,4,10,	Blanco North	MW-19	T6396-03	Y	J	Benzene @ 8130 µg/l
13,14			1		UJ	Toluene @ <100 µg/l
			Ì		UJ	Ethylbenzene @ <100 µg/l
				re-	UJ	Xylenes (total) @ <300 μg/l
			3		UJ	o-Xylene @ <100 μg/l
					UJ	m/p-Xylene @ <200 µg/l
5,6,10,	Blanco North	MW-23	T6396-04	Y	J	Benzene @ 5080 µg/l
13,14,					UJ	Toluene @ <100 μg/l
15,16			8		UJ	Ethylbenzene @ <100 µg/l
1					J	Xylenes (total) @ 219 T μg/l
1					UJ	o-Xylene @ <100 μg/l
					. J	m/p-Xylene @ 219 µg/l
7,8,10,	Blanco North	MW-26	T6396-05	Y	J	Benzene @ 307 µg/l
13,14	20		58		UJ	Toluene @ <1.0 µg/l
1					J	Ethylbenzene @ 158 µg/l
	V1 V1				J	Xylenes (total) @ 685 μg/l
	140				J	o-Xylene @ 138 μg/l
					J	m/p-Xylene @ 546 µg/l
					Marie I	

DATA VERIFICATION WORKSHEET

(Page 2 of 3)

Analytical Method:	SW-846 8021B (BTEX)	MWH Job Number:	EPC-SJRB (Blanco North)
Laboratory:	Accutest	Batch Identification:	T6396

Verification Criteria							
Sample ID	161203TB 02	Blanco North MW-27	Blanco North MW-19	Blanco North MW-23	Blanco North MW-26		
Lab ID	T6396-01	T6396-02	T6396-03	T6396-04	T6396-05		31
Holding Time	A	A ²	A ³	A ⁵	A ⁷		
Analyte List	.А	Α	A	Α	A		
Reporting Limits	A	A	A	Α	A		
Surrogate Spike Recovery	A ¹	A	A ⁴	A ⁶	A ⁸		
Trip Blank	A	Α	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 ⁹	A ¹⁰	A ¹⁰	A ¹⁰	A ¹⁰		
Laboratory Control Sample (LCS)	A ^{11,12}	A ^{13,14}	A ^{13,14}	A ^{13,14}	A ^{13,14}		
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	A ^{15,16}	N/A		
Retention Time Window	N	N	N	N	N		
Injection Time(s)	N	N	N	N	N		1700-
Hardcopy vs. Chain-of-Custody	A	A	Α	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:

- 1) Surrogate percent recovery for aaa-Trifluorotoluene outside acceptance criteria @ 131% (71-121), indicating a possible high bias. Only one surrogate outside acceptance criteria, no analytes detected in the sample, no data qualified.
- 2) Sample was not preserved, holding time reduced from 14 days to 7. Sample analyzed 21 days after sample collection, exceeding holding time by 14 days, introducing a possible low bias. Qualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased low.
- 3) Sample was not preserved, holding time reduced from 14 days to 7. Sample analyzed 14 days after sample collection, exceeding holding time by 7 days, introducing a possible low bias. Qualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased low. Qualify associated sample non-detects with "UJ" flags, indicating possible false negatives.
- 4) Surrogate percent recovery for 4-Bromofluorobenzene outside acceptance criteria @ 122% (64-121), indicating a possible high bias. Only one surrogate outside acceptance criteria, no data qualified.

DATA VERIFICATION WORKSHEET

(Page 3 of 3)

- 5) Sample was not preserved, holding time reduced from 14 days to 7. Sample analyzed 14 days after sample collection, exceeding holding time by 7 days, introducing a possible low bias. Qualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased low. Qualify associated sample non-detects with "UJ" flags, indicating possible false negatives.
- 6) Surrogate percent recovery for 4-Bromofluorobenzene outside acceptance criteria @ 125% (64-121), indicating a possible high bias. Only one surrogate outside acceptance criteria, no data qualified.
- 7) Sample was not preserved, holding time reduced from 14 days to 7. Sample analyzed 22 days after sample collection, exceeding holding time by 15 days, introducing a possible low bias. Qualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased low. Qualify associated sample non-detects with "UJ" flags, indicating possible false negatives.
- 8) Surrogate percent recovery outside acceptance criteria for the following compounds:
 - a) 4-Bromofluorobenzene @ 122% (64-121), indicating a possible high bias. Qualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased high.
 - aaa-Trifluorotoluene @ 149% (71-121), indicating a possible high bias. Qualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased high.
- Surrogate percent recovery for aaa-Trifluorotoluene outside acceptance criteria @ 126% (71-121), indicating a possible high bias.
 Only one surrogate outside acceptance criteria, no data qualified (GKK338-MB).
- 10) Surrogate percent recovery outside acceptance criteria for the following compounds (GKK339-MB):
 - a) 4-Bromofluorobenzene @ 137% (64-121), indicating a possible high bias. No analytes detected in the sample, no data qualified.
 - b) aaa-Trifluorotoluene @ 130% (71-121), indicating a possible high bias No analytes detected in the sample, no data qualified.
- 11) Surrogate percent recovery for aaa-Trifluorotoluene outside acceptance criteria @ 126% (71-121), indicating a possible high bias. Only one surrogate outside acceptance criteria, no data qualified (GKK338-BS).
- 12) LCS percent recovery outside acceptance criteria for the following compounds (GKK338-BS):
 - a) Ethylbenzene @ 118% (82-115), indicating a possible high bias. Analyte not detected in associated samples, no data qualified.
 - b) Toluene @ 119% (77-116), indicating a possible high bias. Analyte not detected in associated samples, no data qualified.
 - c) o-Xylene @ 129% (78-114), indicating a possible high bias. Analyte not detected in associated samples, no data qualified.
- 13) Surrogate percent recovery outside acceptance criteria for the following compounds (GKK339-BS):
 - a) 4-Bromofluorobenzene @ 130% (64-121), indicating a possible high bias. This explains the high percent recovery for associated analytes, no data qualified.
 - b) aaa-Trifluorotoluene @ 124% (71-121), indicating a possible high bias. This explains the high percent recovery for associated analytes, no data qualified.
- 14) LCS percent recovery outside acceptance criteria for the following compounds (GKK339-BS):
 - a) Ethylbenzene @ 118% (82-115), indicating a possible high bias. Qualify associated sample hits with "J" flags indicating the data are estimated and possibly biased high.
 - b) Toluene @ 118% (77-116), indicating a possible high bias. Qualify associated sample hits with "J" flags indicating the data are estimated and possibly biased high.
 - c) Xylenes (total) @ 117% (79-115), indicating a possible high bias. Qualify associated sample hits with "J" flags indicating the data are estimated and possibly biased high.
 - d) o-Xylene @ 117% (78-114), indicating a possible high bias. Qualify associated sample hits with "J" flags indicating the data are estimated and possibly biased high.
 - e) m/p-Xylenes @ 117% (79-116), indicating a possible high bias. Qualify associated sample hits with "J" flags indicating the data are estimated and possibly biased high.
- 15) Matrix spike (MS) surrogate percent recoveries outside acceptance criteria for the following compounds:
 - a) 4-Bromofluorobenzene @ 124% (64-121), indicating a possible high bias. This helps to explain the percent recoveries outside acceptance criteria for associated analytes, no data qualified.
 - b) aaa-Trifluorotoluene @ 4% (71-121), indicating a possible low bias. This helps to explain the percent recoveries outside acceptance criteria for associated analytes, no data qualified.
- 16) Matrix spike and/or matrix spike duplicate (MSD) percent recoveries and/or MS/MSD relative percent differences (RPD) outside acceptance criteria for the following compounds:
 - a) Benzene @ 15% & 324% (64-124) and 183% (16), bias unknown. Qualify associated sample hit with a "J" flag indicating the datum is estimated with an unknown bias.
 - b) Ethylbenzene @ 131% & 110% (64-123) and 18% (14), indicating a possible high bias. Analyte not detected in associated samples, no data qualified.
 - c) Toluene @ 1365% & 111% (64-120) and 170% (13), indicating a possible high bias. Analyte not detected in associated samples, no data qualified.



01/07/04

Technical Report for

Montgomery Watson

Blanco North

161203MN02

Accutest Job Number: T6396

Report to:

Montgomery Watson

brian.buttars@us.mwhglobal.com

ATTN: Brian Buttars

Total number of pages in report: 22



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

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sections:

Table of Contents



Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: T6396-1: 161203TB02	4
2.2: T6396-2: NFPMW-27	5
2.3: T6396-3: NFPMW-19	6
2.4: T6396-4: NFPMW-23	7
2.5: T6396-5: NFPMW-26	8
Section 3: Misc. Forms	9
3.1: Chain of Custody	10
Section 4: GC Volatiles - QC Data Summaries	13
4.1: Method Blank Summary	14
4.2: Blank Spike Summary	17
4.3: Matrix Spike/Matrix Spike Duplicate Summary	20









Accutest Laboratories

Sample Summary

Montgomery Watson

Job No:

T6396

Blanco North Project No: 161203MN02

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
T6396-1	12/16/03	07:00 MN	12/18/03	AQ	Ground Water	161203TB02
T6396-2	12/16/03	14:16 MN	12/18/03	AQ	Ground Water	NFPMW-27
T6396-3	12/16/03	14:27 MN	12/18/03	AQ	Ground Water	NFPMW-19
T6396-4	12/16/03	14:45 MN	12/18/03	AQ	Ground Water	NFPMW-23
T6396-5	12/17/03	09:38 MN	12/18/03	AQ	Ground Water	NFPMW-26



By

BC

Client Sample ID: 161203TB02 Lab Sample ID:

T6396-1

Date Sampled: 12/16/03

Matrix:

AQ - Ground Water SW846 8021B

DF

1

Date Received: 12/18/03

Method: Project:

Percent Solids: n/a

Blanco North

Prep Date

n/a

Prep Batch n/a

Analytical Batch GKK338

Run #1 a Run #2

Purge Volume

KK006297.D

Run #1

5.0 ml

File ID

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	Lim	its	
460-00-4	4-Bromofluorobenzene	120%		64-1	21%	
98-08-8	aaa-Trifluorotoluene	131% b		71-1	21%	

Analyzed

12/29/03

(a) Confirmed by GC/MS

(b) High bia spike.

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



Client Sample ID: NFPMW-27

Lab Sample ID:

T6396-2

AQ - Ground Water

Date Sampled: 12/16/03

Matrix: Method:

SW846 8021B

Date Received: 12/18/03

Project:

Blanco North

Percent Solids: n/a

DF

Prep Date

Prep Batch

Analytical Batch **GEE424**

Run #1 a Run #2 b EE007616.D 10 KK006317.D 100 Analyzed By 01/06/04 BC 12/30/03 BC

n/a n/a n/a n/a

GKK339

Purge Volume

Run #1

5.0 ml

File ID

Run #2 5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	127	10	5.0	ug/l	
108-88-3	Toluene	17.0	10	5.0	ug/I	
100-41-4	Ethylbenzene	250	10	5.0	ug/l	
1330-20-7	Xylenes (total)	1060	30	10	ug/l	
95-47-6	o-Xylene	222	10	5.0	ug/l	
	m,p-Xylene	834	20	10	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
460-00-4	4-Bromofluorobenzene	105%		64-1	21%	
460-00-4	4-Bromofluorobenzene		127% c	64-1	21%	
98-08-8	aaa-Trifluorotoluene	119%		71-1	21%	
98-08-8	aaa-Trifluorotoluene		124% c	71-1	21%	

- (a) Sample reanalyzed beyond hold time; reported results are considered minimum values.
- (b) Confirmed by GC/MS. Samples were not preserved.
- (c) High bias spike.

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



By

BC

Client Sample ID: NFPMW-19

Lab Sample ID: Matrix:

T6396-3

AQ - Ground Water SW846 8021B Blanco North

DF

100

Date Sampled: 12/16/03

Prep Date

n/a

Date Received: 12/18/03

Prep Batch

n/a

Percent Solids: n/a

Analytical Batch GKK339

Run #1 a Run #2

Method:

Project:

Purge Volume

KK006318.D

File ID

5.0 ml

Run #1

Run #2

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	8130	100	50	ug/l	
108-88-3	Toluene	ND	100	50	ug/l	
100-41-4	Ethylbenzene	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	ND	300	100	ug/l	
95-47-6	o-Xylene	ND	100	50	ug/l	
	m,p-Xylene	ND	200	100	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	122% b		64-1	21%	
98-08-8	aaa-Trifluorotoluene	116%		71-1	21%	

Analyzed

12/30/03

(a) Confirmed by GC/MS. Samples were not preserved.

(b) High bias spike.

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



Client Sample ID:

Lab Sample ID:

NFPMW-23 T6396-4

Matrix:

AQ - Ground Water

Method: Project:

SW846 8021B Blanco North

Date Sampled: 12/16/03

71-121%

Date Received: 12/18/03

Percent Solids: n/a

File ID DF Analyzed By Prep Date Prep Batch **Analytical Batch** BC Run #1 a KK006319.D 100 12/30/03 n/a **GKK339** n/a

Run #2

Purge Volume

5.0 ml Run #1

Run #2

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5080	100	50	ug/l	
108-88-3	Toluene	ND	100	50	ug/I	
100-41-4	Ethylbenzene	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	219	300	100	ug/l	1
95-47-6	o-Xylene	ND	100	50	ug/l	
	m,p-Xylene	219	200	100	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	125% b		64-1	21%	

117%

(a) Confirmed by GC/MS. Samples were not preserved.

aaa-Trifluorotoluene

(b) High bias spike.

98-08-8

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



Client Sample ID: NFPMW-26 T6396-5

Lab Sample ID: Matrix:

Method:

Project:

AQ - Ground Water

SW846 8021B Blanco North

Date Sampled: 12/17/03

Date Received: 12/18/03

Percent Solids: n/a

File ID DF Analyzed By **Prep Date** Prep Batch **Analytical Batch** EE007618.D 01/07/04 BC **GEE424** Run #1 a 1 n/a n/a Run #2 a EE007619.D 01/07/04 BC **GEE424** 10 n/a n/a Run #3 b 12/30/03 BC KK006322.D 100 n/a n/a **GKK339**

Purge Volume Run #1 5.0 ml Run #2 5.0 ml 5.0 ml Run #3

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	307 c	10	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	158 c	10	5.0	ug/l	
1330-20-7	Xylenes (total)	685 c	30	10	ug/l	
95-47-6	o-Xylene	138 c	10	5.0	ug/l	
	m,p-Xylene	546 ^c	20	10	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run	# 3	Limits
460-00-4	4-Bromofluorobenzene	145% d	122% ^e			64-121%
460-00-4	4-Bromofluorobenzene			1189	%	64-121%
98-08-8	aaa-Trifluorotoluene	222% d	149% f			71-121%
98-08-8	aaa-Trifluorotoluene			1159	%	71-121%

- (a) Sample reanalyzed beyond hold time; reported results are considered minimum values.
- (b) Confirmed by GC/MS. Sample were not preserved.
- (c) Result is from Run# 2
- (d) Outside control limits due to matrix interference.
- (e) Outside control limits due to matrix interference. Confirmed by reanalysis.
- (f) Outside of control limits, limits still being evaluated.

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

C	۵
٤	_

90

<u>***</u> /	ACCUTEST				1016	55 Har TEL.			Ste. 1 00 F			ton, -271	TX -477	77036 0	FED-F 84	X Tracking #	9453	51	Acou	Order C	Control #	33	76
	Client / Reporting Informa	ton leave visiting		0.00		P	roject Inf	ormati	ion	-		r Silv	WINDS		1000	7.3		Re	quested A	nalvsis	The second second		Matrix Codes
Company N	arne /		Proje	t Name	leno	_ /	NE	= 1	0					-	T		T	\neg	T	T		T	DW - Drinking Wat
EL	Peso		Stree		ienc	> /	"		_	-					1		1 1	1	1		1	1	GW - Ground Water
1014	Reilb		Suee														1 1						WW - Water
City	, State	Ζb	City				Stat								1		11						SW - Surface Wate
For.	nington NM	8740								-				-	1		1 1						SO · Soil
Project Cont	off Pope	E-mail	Projec	*																1 1			St Studge
Phone #		1000 - 1000 -	Fax #	505	-	30	71	13	_	_	_	_		_	1		1 1		1				01-04
50	5 599 2124		_			11	21	-7		_			_		14		1 1			1			LKQ - Other Liquid
Sampler's N	arrem N-ce		Client	Purchase Or	rdar #										WI		11		1				SOL - Other Solid
Accutest	Field ID / Point of Collection	SUMMA		Collection			T		Numl	ber o	f prese	rved	Bottles	1	8		1 1			1 1			WP - Wipe
Sample #	A SAL GOVERNMENT AND	MEOH Viai	Date	Time	Sampled By	Matrix	# of bottles		ğ	60	7 N	1	10	NOOM	1		1 1				. 1	- 1	LAB USE ONLY
7	161203TBP2		12.160	oxo	mu	wa	_	1		1	-	Ť	+	1	X				1			+	
2	NFPMW-27		12/10	1416	mu	WG	z		\forall	7	1	x	+	+	X		1	_			-	+	
3	NFPMW-A		1	1427	+	-	2		+	+	1	7	+	+	文	-	++	+	+		-	+	-
		2	-	-	-	-	2	Н	+	+	+	7	+	+	7	-	+	+	+	\vdash	-	+	
4_	NFP MW-a	2	-	1445	mN	WG	-	\vdash	+	+	-1	7	+	+			+	-	+-	\vdash	-	+	-
5_	NFP MW-26	0	21703	0938	m	WG-	2	2	4	4	4	4	4	\perp	*		+	_	1			_	
			_		_					\perp	\perp	\perp	\perp	1									
											1	1	1									T	T
							1000			T		T	Т						1				
		1	$\overline{}$		T	_			\top	7	+	†	+	+	_			-	+			+	
_	- 10a C		_		 			\vdash	+	+	+	+	+	+		-	++	+	+	-	-	_	-
237/2010	Turnaround Time (Business Days)	20000000		S. Street, San			Data De	Ivera	ble Info	ormat	lon.	F3	20,000	20.5%				Salah Marini	Commo	1 1 2 - 0	nata NOT		
10 Day		Total Indiana	-	☐ Comme	THE REAL PROPERTY.	No.		_	EDO F	_		_	ace:xe	-		T		n de la company	Contine	IIS / NEII	NING MAN	- Harriston	
☐ 5 Day R	USH		_	☐ Comme	rdal "B"							.0	1	200000		-				_		_	
	MERGENCY			☐ Reduce ☐ Full Tier	d Tier 1	UN	Dr	25	sei	rv	10	a	-	1	225								
	MERGENCY	202 20 120		☐ TRRP1	, _	UN Sal	m.	ol	po	3			_	1									
Other	MERGENCY		_		-	100	1	۲.	•					5000		-	_	_	-			_	
	g-Kinglin		_	Comm	nercial *A	" = Res	utts Only	,										-					
Emergency	& Rush T/A data available VIA LabLink															1							
	<u> </u>	104.7-		Custody mus				ch tim				poss	ession	, includ	ing cour	er delivery.					200	de per	400000000000000000000000000000000000000
A LA	y Sampler:	12:17-63	ceived by	ul	19-1	8-0	30		Reling 2	quane	0 01						Date Te	mę.	Receive	nd try			
Resinquished to	7	Date Time R	capabl				30		Reing	quisited	d by:	_		-			Date Te	me	Receive	d by			
1		13							4	VIII - 1									4				

T6396: Chain of Custody Page 1 of 3

. 1	ion): . range. . tainers. . custody.	IN PRESERV. PH	1 (B3,4,5,6 U, <2, >12 (B)	1,2,3,4,5,6 U, <2, >12, NX	123,4,5,6 U, <2, >12(6)	1@3,4,5,6 U, <2, >12,(1)	1,2,3,4,5,6 U, <2, >12, NA	1,2,3,4,5,6 U, <2, >12, NA	1,2,3,4,5,6 U, <2, >12, NA	1,2,3,4,5,6 U, <2,>12, NA	1,2,3,4,5,6 U, <2, >12, NA	1,2,3,4,5,6 U, <2,>12, NA		COOLER TEMP:						
10	1f"N" is circled, see variance for explanation): 2 N Samples received within temp. range. 4. R N Sample received in proper containers. 6. N Sample received with chain of custody. notainers. ident on cooler.	LOCATION	VReF	8	VRef	\rightarrow														MP: AMP
INITIALS:	see variance bles received ble received i ble received i	VOLUME	40ml	80-81-61	Homl	\rightarrow	1				7	7	,						EF: Encore Freezer: Other	COOLER TEMP:
9	1. N" is circled, a 2. N Samp 4. R Samp 6. N Samp containers. ident on cooler, ident on bottles.	MATRIX	WTB	1	GW	\rightarrow				_			>					- 1 1	act EF: Enco OH 6: Other Comments:	
	0 > >	DATE SAMPLED	13-16-03		15-16-03	\rightarrow						7	· ·	-				1 1	B. SUB: Subcontract 3 4: H2SO4 5: NAOH Co	11
2	Variance (Circle "Y" for yes and "N" for no. Sample received in undamaged condition. Sample received with proper ph. Sample received with proper ph. Sample volume sufficient for analysis. Chain of Custody matches sample IDs on Custody seal received infact and tamper ecustody seal received infact and tamper ecustody seal received infact and tamper e	BOTTLE#	\		/	1-2													VR: Volatile Refrig.	ler:
CLIENT:	Condition/Variance (Circle "Y" for yes and "N" for no. 1. Y (A) Sample received in undamaged condition. 3. Y (A) Sample received with proper ph. 5. Ø N Sample volume sufficient for analysis. 7. Ø N Chain of Custody matches sample IDs on 8. Y (A) Custody seal received infact and tamper e. 9. Y (A) Custody seal received infact and tamper e.	SAMPLE or FIELD ID	_	2	2-3	4-2													LOCATION: WI: Walk-in VR: Volatile Refrig. SUB: Subcontract EF: En PRESERVATIVES: 1: None 2: HCL 3: HN03 4: H2SO4 5: NAOH 6: Other Comments: PH of waiters checked excluding volatiles PH of soils NIA	Delivery method: Courier:_ Tracking#:

SAMPLE RECEIPT LOG
DATEITIME RECEIVED: 13-18-03

T6396: Chain of Custody Page 2 of 3

MACCOLES!	ה ה	SAMPLE LOG-IN	NI-90	
SAMPLE(S) PROJECT FILED BY			LAB NO.	DATE 12-12-03 6396
VARIANCE - Check applicable items(s): Insufficient sample sent for proper	r applicable it	- Check applicable items(s): Insufficient sample sent for proper analysis;	received approx,	
/of 2 Sample b	sottle received b received withou	roken and/or cap no t paperwork; paper	Sample bottle received broken and/or cap not intact. on $5/5 \# 3 \neq \# \psi$ (vrey aw- $77 \neq 9$) Samples received without paperwork; paperwork received without samples. $\gamma / F P_{MW}$	## (NFP MW-27 & samples. NFPMW-19)
Samples	received withoun	Samples received without proper refrigeration deemed necessary. Temperature at receipt:	Samples received without proper refrigeration, when it has been deemed necessary. Temperature at receipt:	
Illegible	sample number	Illegible sample number or label missing from bottle.	n bottle.	ı
Incomple	te instructions r	Incomplete instructions received with sample(s) ie.,no request	(s) ie.,no request	8
for analysis, no choose date, etc.	sis, no chain of a	for analysis, no chain of custody, incomplete billing instructions, no due date, etc. Temperature at recient:	billing instructions, t:	
Samples	received in imp	roper container or la	Samples received in improper container or lacking proper preservation.	tion.
Physical c	characteristics of	different than those	Physical characteristics different than those on sampling sheets;	P.11
Rush samples Other (specify)	nples on hold be	Rush samples on hold because of incomplete paperwork. Other (specify)	e paperwork.	
CORRECTIVE ACTION TAKEN	ION TAKEN			
Scot Pose	Person Contacted	ntacted	By phone.	o i
Client inf	Client informed verbally.		Samples	Samples processed for informa-
Client int	Client informed by memo/letter.	o/letter.	tion only	tion only and noted on report.
Samples	Samples processed as is.	<i>i</i> i -	Samples	Samples processed with higher
Samples Client will	Samples preserved by lab.	D.	Samples	detection limits accepted.
Notes:			Coldingo	rejected.
ROUTING				
	H	INITIALS CORF	CORRECTED?	
Sample Manager: Login:	13-18-03	20		
Project Manager:	1			
Comments:				

T6396: 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: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample GKK338-MB

DF File ID KK006295.D1

Analyzed 12/29/03

By BC

Prep Date n/a

Prep Batch n/a

Analytical Batch GKK338

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-1

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	a	Limi	ts		
460-00-4	4-Bromofluorobenzene	118%	64-12	1%		
98-08-8	aaa-Trifluorotoluene	126%* a	71-12	1%		

⁽a) High bias spike.

Method Blank Summary Job Number: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

- 1	Sample GKK339-MB

File ID DF KK006315.D1

Analyzed 12/30/03

By BC

Prep Date n/a

Prep Batch n/a

Analytical Batch

Page 1 of 1

GKK339

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-2, T6396-3, T6396-4, T6396-5

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 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

137%* a 130%* a

64-121% 71-121%

(a) High bias spike.



Method Blank Summary Job Number: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample GEE424-MB File ID DF EE007602.D 1

Analyzed 01/06/04

By BC

Prep Date n/a

Prep Batch n/a

Analytical Batch

GEE424

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-2, T6396-5

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		Limi	ts		
460-00-4	4-Bromofluorobenzene	98%	64-12	21%		
98-08-8	aaa-Trifluorotoluene	104%	71-12	21%		



Blank Spike Summary Job Number: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample GKK338-BS a

DF File ID KK006294.D1

Analyzed 12/29/03

By BC **Prep Date** n/a

Prep Batch n/a

Analytical Batch

Page 1 of 1

GKK338

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	21.6	108	74-119
100-41-4	Ethylbenzene	20	23.5	118*	82-115
108-88-3	Toluene	20	23.7	119*	77-116
1330-20-7	Xylenes (total)	60	68.7	115	79-115
95-47-6	o-Xylene	20	25.8	129*	78-114
	m,p-Xylene	40	42.9	107	79-116
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4	4-Bromofluorobenzene	121%		-121%	
98-08-8	aaa-Trifluorotoluene	126%*	b 71	-121%	

(a) High bias spike but no compound were reported with it's associated samples.

(b) High bias spike.



Blank Spike Summary

Job Number:

T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample GKK339-BS a File ID DF KK006313.D1 Analyzed 12/30/03 By BC

Prep Date n/a Prep Batch

Analytical Batch

Page 1 of 1

n/a

GKK339

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-2, T6396-3, T6396-4, T6396-5

CAS No.	Compound	Spike ug/I	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	23.5	118	74-119
100-41-4	Ethylbenzene	20	23.6	118*	82-115
108-88-3	Toluene	20	23.5	118*	77-116
1330-20-7	Xylenes (total)	60	70.3	117*	79-115
95-47-6	o-Xylene	20	23.4	117*	78-114
	m,p-Xylene	40	46.9	117*	79-116

CAS No. Surrogate Recoveries

BSP

Limits

460-00-4 98-08-8 4-Bromofluorobenzene aaa-Trifluorotoluene

130%* a 124%* a 64-121% 71-121%

(a) High bias spike.



Blank Spike Summary Job Number: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

	Sample GEE424-BS
١	GEE424-BS

File ID DF EE007601.D 1

Analyzed 01/06/04

Ву BC **Prep Date** n/a

Prep Batch n/a

Analytical Batch

Page 1 of 1

GEE424

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-2, T6396-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.6	103	74-119
100-41-4	Ethylbenzene	20	20.8	104	82-115
108-88-3	Toluene	20	20.7	104	77-116
1330-20-7	Xylenes (total)	60	63.0	105	79-115
95-47-6	o-Xylene	20	21.0	105	78-114
	m,p-Xylene	40	42.0	105	79-116
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4	4-Bromofluorobenzene	101%	64	-121%	
98-08-8	aaa-Trifluorotoluene	106%	71	-121%	



Page 1 of 1

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
T6395-4MS	KK006301.	D1	12/30/03	BC	n/a	n/a	GKK338
T6395-4MSD	KK006302.	D1	12/30/03	BC	n/a	n/a	GKK338
T6395-4 a	KK006300.	D1	12/30/03	BC	n/a	n/a	GKK338

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-1

CAS No.	Compound	T6395-4 ug/l Q	Spike ug/l	MS ug/I	MS %	MSD ug/I	MSD %	RPD	Limits Rec/RPD
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND 39 39 ND	20 20 20 60 20 40	22.6 21.9 27.5 96.0 34.2 61.8	113 110 138* 94 -26* 155*	22.4 30.5 34.1 105 37.0 68.1	112 153* 171* 109 -12* 170*	1 33* 21* 9 8 10	64-124/16 64-123/14 64-120/13 66-118/18 65-119/20 66-120/14
CAS No. 460-00-4 98-08-8	Surrogate Recoveries 4-Bromofluorobenzene aaa-Trifluorotoluene	MS 135%* b 171%* b	MSD 133%* ¹ 168%* ¹	b 12	5395-4 5%* b 1%* b	Limits 64-1219 71-1219		*:	ä

- (a) Confirmed by GC/MS
- (b) High bias spike.



Page 1 of 1

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T6396-4MS a	KK006320.	D 100	12/30/03	BC	n/a	n/a	GKK339
T6396-4MSD	KK006321.	D 100	12/30/03	BC	n/a	n/a	GKK339
T6396-4 b	KK006319.	D 100	12/30/03	BC	n/a	n/a	GKK339

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-2, T6396-3, T6396-4, T6396-5

CAS No.	Compound	T6396-4 ug/l Q	Spike ug/l	MS MS ug/l %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	5080 ND ND 219 J ND 219	2000 2000 2000 6000 2000 4000	291 15* 2610 131 27300 136 6220 96 2010 101 4220 94	* 2190	324* 110 111 107 110 106	183* 18* 170* 10 9	64-124/16 64-123/14 64-120/13 66-118/18 65-119/20 66-120/14
CAS No. 460-00-4 98-08-8	Surrogate Recoveries 4-Bromofluorobenzene aaa-Trifluorotoluene	MS 124%* 4%*	MSD 119% 111%	T6396-4 125%* ^c 117%	Limits 64-1219 71-1219			

(a) High RPD due to poor purging of the MS.

(b) Confirmed by GC/MS. Samples were not preserved.

(c) High bias spike.

Page 1 of 1

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T6396

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

ile ID	DE	A 1 1			Company of the Compan	AND THE RESERVE AND THE
IG ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
E007614.D	10	01/06/04	BC	n/a	n/a	GEE424
E007615.D	10	01/06/04	BC	n/a	n/a	GEE424
E007611.D	10	01/06/04	BC	n/a	n/a	GEE424
E	E007614.D E007615.D	E007614.D 10 E007615.D 10	E007614.D 10 01/06/04 E007615.D 10 01/06/04	E007614.D 10 01/06/04 BC E007615.D 10 01/06/04 BC	E007614.D 10 01/06/04 BC n/a E007615.D 10 01/06/04 BC n/a	E007614.D 10 01/06/04 BC n/a n/a E007615.D 10 01/06/04 BC n/a n/a

The QC reported here applies to the following samples:

Method: SW846 8021B

T6396-2, T6396-5

CAS No.	Compound	T6435-4 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/I	MSD %	RPD	Limits Rec/RPD
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	50.7 139 ND 447 56.7 390	200 200 200 600 200 400	312 328 223 1010 256 749	131* 95 112 94 100 90	298 315 208 967 247 720	124 88 104 87 95 83	5 4 7 4 4	64-124/16 64-123/14 64-120/13 66-118/18 65-119/20 66-120/14
CAS No. 460-00-4 98-08-8	Surrogate Recoveries 4-Bromofluorobenzene aaa-Trifluorotoluene	MS 102% 113%	MSD 99% 108%	T64 889 769		Limits 64-121% 71-121%	30		



Groundwater Analytical Report - May 2004



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:

MWH

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 24



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

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sections:

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: T7500-1: BLANCO MW-23	4
2.2: T7500-2: BLANCO MW-19	6
2.3: T7500-3: BLANCO MW-26	8
2.4: T7500-4: BLANCO MW-27	10
2.5: T7500-5: TRIP BLANK	12
Section 3: Misc. Forms	13
3.1: Chain of Custody	14
Section 4: GC Volatiles - QC Data Summaries	17
4.1: Method Blank Summary	18
4.2: Blank Spike Summary	19
4.3: Matrix Spike/Matrix Spike Duplicate Summary	20
Section 5: General Chemistry - QC Data Summaries	
5.1: Method Blank and Spike Results Summary	22
5.2: Duplicate Results Summary	23
5.3: Matrix Spike Results Summary	24











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	Matr Code		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	8
T7500-3	05/18/04	07:43 MJN	05/19/04	AQ	Ground Water	BLANCO MW-26	हीं क
T7500-4	05/18/04	07:52 MJN	05/19/04	AQ	Ground Water	BLANCO MW-27	<u>a</u>
T7500-5	05/17/04	07:30 MJN	05/19/04	AQ	Trip Blank Water	TRIP BLANK	1

Page 1 of 1

Client Sample ID: BLANCO MW-23

Lab Sample ID:

T7500-1

File ID

AQ - Ground Water SW846 8021B

DF

25

100

Date Sampled: 05/18/04 Date Received: 05/19/04

Percent Solids: n/a

Method: Project:

Matrix:

Blanco North

Prep Date

Prep Batch n/a

Analytical Batch GKK374

Run #1 Run #2 KK007144.D KK007149.D

05/20/04 05/20/04

Analyzed

By NS NS

n/a 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	Lim	its	

101%

94%

94%

89%

71-127%

66-136%

(a) Result is from Run# 2

460-00-4 98-08-8

4-Bromofluorobenzene

aaa-Trifluorotoluene

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

Page 1 of 1

Client Sample ID: BLANCO MW-23 Lab Sample ID: T7500-1

Matrix:

AQ - Ground Water

Date Sampled: 05/18/04

Date Received: 05/19/04

Project:

Blanco North

Percent Solids: n/a

General Chemistry

Analyte

Result

RL

Units

DF

2

Analyzed

By Method

Nitrogen, Nitrate + Nitrite

0.29

0.10

mg/l

05/25/04 13:15 LN

EPA 353.2

Page 1 of 1

Client Sample ID: BLANCO MW-19

Lab Sample ID:

T7500-2

Matrix:

AQ - Ground Water

Method:

SW846 8021B

Date Sampled: Date Received:

05/18/04 05/19/04

Percent Solids: n/a

Units

ug/l

ug/l

ug/l

ug/l

ug/l

ug/l

Project:

Blanco North

Prep Date

Prep Batch **Analytical Batch**

Run #1 Run #2 KK007145.D KK007150.D

Purge Volume

25 100

DF

05/20/04 05/20/04

Result

7410 a

ND

1160

44.8

ND

44.8

Analyzed

NS NS

RL

100

25

25

75

25

50

Run# 2

By

n/a n/a

MDL

50

13

13

25

13

25

n/a n/a

Q

J

J

GKK374 GKK374

Run #1 Run #2

5.0 ml 5.0 ml

File ID

Purgeable Aromatics

CAS No. Compound

71-43-2 Benzene

108-88-3 Toluene 100-41-4 Ethylbenzene 1330-20-7 Xylenes (total)

95-47-6 o-Xylene m,p-Xylene

CAS No. Surrogate Recoveries

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

Run#1 102%

95%

96% 91% Limits 71-127% 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



Page 1 of 1

Client Sample ID: BLANCO MW-19

T7500-2

Lab Sample ID: Matrix:

AQ - Ground Water

Date Sampled: 05/18/04

Date Received: 05/19/04

Percent Solids: n/a

Project:

Blanco North

General Chemistry

Analyte

Result

RL

Units

DF

2

Analyzed

By Method

Nitrogen, Nitrate + Nitrite

0.19

0.10

mg/l

05/25/04 13:15 LN

EPA 353.2

RL = Reporting Limit

By

NS

Page 1 of 1

Client Sample ID: BLANCO MW-26

Lab Sample ID:

T7500-3

Matrix: Method:

Project:

AQ - Ground Water

DF

25

SW846 8021B Blanco North

Date Sampled: 05/18/04

n/a

Date Received: 05/19/04

n/a

Percent Solids: n/a

Prep Date Prep Batch Analytical Batch

GKK374

Run #1 Run #2

Purge Volume

KK007146.D

File ID

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	8
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/I	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	105%		71-1	27%	
98-08-8	aaa-Trifluorotoluene	100%		66-1	36%	

Analyzed

05/20/04

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



Page 1 of 1

Client Sample ID: BLANCO MW-26

Lab Sample ID: Matrix:

T7500-3 AQ - Ground Water Date Sampled: 05/18/04

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

Client Sample ID: BLANCO MW-27

Lab Sample ID:

T7500-4

Matrix: Method:

Project:

AQ - Ground Water

SW846 8021B Blanco North

Date Sampled: 05/18/04

Date Received: 05/19/04

Percent Solids: n/a

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

Purge Volume 5.0 ml

Run #1

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	Lim	its	
460-00-4	4-Bromofluorobenzene	104%		71-1	27%	
98-08-8	aaa-Trifluorotoluene	102%		66-1	36%	

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

Page 1 of 1

Client Sample ID: BLANCO MW-27

Lab Sample ID:

T7500-4

Matrix:

AQ - Ground Water

Date Sampled: 05/18/04

Date Received: 05/19/04

Percent Solids: n/a

Project:

Analyte

Blanco North

General Chemistry

Result

RL

Units

DF

2

Analyzed

Method By

Nitrogen, Nitrate + Nitrite

0.56

0.10

mg/l

05/25/04 13:15 LN

EPA 353.2

Page 1 of 1

Client Sample ID: TRIP BLANK

Lab Sample ID:

T7500-5

Matrix: Method: AQ - Trip Blank Water

DF

1

SW846 8021B

Date Sampled: Date Received:

05/17/04 05/19/04

Percent Solids: n/a

Project:

Blanco North

Run #1

File ID KK007142.D Analyzed 05/20/04

n/a

By NS Prep Date n/a

Prep Batch

Analytical Batch **GKK374**

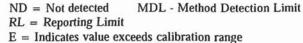
Run #2

Purge Volume

Run #1 Run #2 5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/I	
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	
[6]	m,p-Xylene	ND	2.0	1.0	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	93%		71-1	27%	
98-08-8	aaa-Trifluorotoluene	93%		66-1	36%	



J = Indicates an estimated value

Misc.	Forms
TATIOC.	I OTHIS

Custody Documents and Other Forms

Includes the following where applicable:

· Chain of Custody

	PARTICIPATE TO STATE OF THE STA
10000	tx Codes
.ω	finking Water
-	round Ylater
77	- Water
	- Water

				IAI									•				180	504	MN	0/
ACCUTEST	-		10	TEL.				0, Ho XX: 71 st.com		, TX 7 1-4770	7036	FED-EX 842 Accutes	Tracking in 182 of Ouote #	756	806		be Order (Control #	()	
Client / Reporting Informati				P	roject Info	ormation	1	E ANTA				1.11.15		Trans.	SAUTHER WHAT IN	Requested	- entertone			Matrix Codes
ompany Name		Project Nar	LANG	ca	Klas	xH	12	lad	, ,	PIT	_	h		T	П	T	T	П		DW - Drinking Water
FI PASO		Street	LANG	,0 /	944		-	-	<u> </u>		-	16		1	1			1 1		GW - Ground Water WW - Water
Farmingroy Sime					State		_		_		_	2		1	1			iΙ		SW - Surface Water
FARMINGTON NM	8740120	City			State							18				-[1 1		50 - Self
Scott POPE	E-mail	Project #	£8									3				1				St Studge
	,	Fax #		77-	-0	a	7/	10	_	-	_	P			11	-1		1 1		01 - Of
505 599 2124	<u> </u>	Cfaul Duri	hase Order #	25	57	7	01	//			_	1	- 1	1		-		11		AIR - Air
. MO NEE			_			111.0						8								SOL - Other Solid
ccutest Field ID / Point of Collection	SUMMA		lection Same			٦.	Numbe	er of pre	Servec	Bottles 3 x	T _K	13	-							WP - Woe
	MEOH Via		Time Sam	_	# of bottles	0 3	1 1	1	9	3 8	ğ	\Rightarrow	+	+-	\vdash		+	₩	+	LAB USE ONLY
BLANCO MW - 23		5/8/40		-	1.	Н	+	X	Н	+	Н	4	+	+	-	+	+	\vdash	-	-
CALLED TOTAL	-	11/1		NW6	/	+	+	13	H	+	\vdash	4	-	+	\vdash	-	-	\vdash	-	
CONTROL ITTY DE		1707		NWA	1	+	+	1	Н	+	H	4	-	+	-	+	+-	\vdash	+	
9 BLANCO MW-27		\$18,640	75Z MO	WA	1	Н	+	1	Н	+	Н	4	+	+-	-	-	+-	-	-	-
		+		+	-	+	+	+	Н	+	Н	\vdash	+	+	-	+	+	\vdash	-	
		-		+-		+	+	+	-	+	Н	\dashv	-	+-	\vdash	+	+	\vdash	+	-
	7.	+	_	+-		+	+	+	Н	+	Н	\vdash	-	+	+	+	+-	\vdash	-	-
		-	-	-	\vdash	+	+	+	Н	+	Н	\vdash	+	+	-	+	+-	\vdash	+-	
		+		+-	Н	+	+	+	Н	+	Н	-	-	-	\vdash	+	+-	\vdash	+	-
Turnaround Time (Business Days)		MANUFACTURE AND ADDRESS OF THE PARTY OF THE		COSTAGE CONTRACTOR	Data On	Everable .	e Infor	mation	Ц	there's a		200 500	Market State of State			Comm	ante / Day			
10 Day STANDARD Approved By:	/ Date:		Commercial */				DD F						F	24:					245	
5 Day RUSH 3 Day EMERGENCY		_	Commercial *E Reduced Tier										-	,, ,	300.	-	,,,,	,,,		
2 Day EMERGENCY			Full Tier 1										-	_			_			
1 Day EMERGENCY		_ -	TRRP13															-0.0		
- Other		_	**********														-777			
ergency & Rush T/A data available VIA LabLink		-	Commercial	A = Kes	uits Uniy	,										-	-		-	
		Sample Cust	tody must be d	ocumented	below eac				ge pos	session,	include	ng courie	delivery.			d V			i namenia et	
15-18-04 5-18-04	1200	teceived by La	(und)		41 165	- 1.	Reinqui 2	ished by						5/	19/04	A Receiv	wed by:			
neutrober	Date Time:	Received by.	MACO.	-	+ ++-			ished by				_			Time:	Receiv	ved by:			
inquished by	Data Time.	Inceived by.	-		-	-1	4 Custody	Sex #				_	Preserved	where apple	able	001	ice .		Cooler	Temp
																011			Cooper	

T7500: Chain of Custody Page 1 of 3

■ AC	CUTEST	
	Laboratories	

		Sir. 150, Houston, TX 77036	FEO-EX Tracking #	Bottle Order Control #
ACCUTEST.	TEL. 713-271-470	00 FAX: 713-271-4770	34215279 6906 Accutest Quote #	77500
Client / Reporting Information	Project Informati	on the second second second		Requested Analysis Matrix Codes
ompany Name PASO	Project Name RUANKO NORTH Flans	PT		DW - Drinking Water
	Street	-///		GW - Ground Water
614 Reilly AVC				WW - Water SW - Surface Water
Famingran State NM 8740120	City State			SO-Sail
Project Contact_ E-mail	Project #			SL - Studge
SOOTY POPE				01-01
Trone \$ 505 599 2124	505 599	2//9		LIQ - Other Liquid
Secretary Manua	Client Purchase Order #		ו ו וא	AIR - Air
Accutest Field ID / Point of Collection SUMMA	a Collection	Number of preserved Bottles	(A)	SOL - Other Solid WP - Wide
Accutest Field ID / Point of CoSection SUMMA: Sample # MECH Vis	" Comment and	9 8 8 8 9 5 M	46	LAB USE ONLY
1 BLANCO MW-23	5/18/40716 MM W6 2			
2 BLANCO MW-19	7/8/04 0728 MIN W4 2		$\frac{2}{2}$	
3 BLANCO MW-28	5/8/14 0743 MIN WG Z	- 	$\overline{\forall}$	
		1 9 1		
DIFFIACO MIL	101.101.101	 	31-1-1-1	- - - - -
5 BLANCO TRIP GLANKS	5/17/14/0230 MIN WR 1	 	<u> </u>	
			-	
		+		
	And the state of t	ble Information		Comments / Remarks
(10 Dey STANDARD Approved By: / Date:	Commercial "A"	EDO Formst	Unpresse	ened Samples
□ 3 Day EMERGENCY	Reduced Tier 1			
2 Day EMERGENCY	— Gui Tier 1			
1 Day EMERGENCY	— L 1660-15			
	Commercial "A" = Results Only			
Emergency & Rush T/A data available VIA Labi.ink	_			
	Sample Custody must be documented below each time		g courier delivery.	PARTICIPA MATERIAN DE LA CONTRACTOR DE L
Return 1 5-14-04 1800	Received by.	Relinquished by	5/19/04	Received by.
Reinofoliadoy. Date Time:	Received by:	Retingushed by:	Date Time:	Received by:
3 Reinquished by Date Time:	3 Received by	4 Custody Seal #	Preserved where applicable	On los Cooler Temp
5	5			On ica Cooler Temp

T7500: Chain of Custody

Page 2 of 3



	1-2 5/18/04 AQ 40nl VEEF 1234.5.6 S/17/04	[23 18 04 49 40 m 17 12,3 d b b b b b b b b b b b b b b b b b b	1-2 slikby 1-2 slikby 1 slinby	1 3	youl your	VEEF VEEF	12,363,6 12,363,6 123,4,5,6	1000
3 4 40ml 17 12.3636 1 5/17/04 4 40ml WEF 12.34.56 12.34.56 12.34.56 12.34.56 12.34.56 12.34.56 12.34.56 12.34.56	3 . 4 . 40 . 40 . 40 . 40 . 40 . 40 . 40	S/17/04 4 40nL 1T 12,343,6 12,34,5,6 12,34,5,6 12,34,5,6 12,34,5,6 12,3,4,5,6	2 4 E		50ml Your	IT VREF	1,2,3(3),6	
1234.56 1234.56 1234.56 1234.56 1234.56 1234.56 1234.56 1234.56 1234.56 1234.56 1234.56	\$\int \sqrt{123.4.5.6}	S/17/04 4 40ad WEF 12.34.5.6 12.34.5.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6 12.34.6.6	volri/2		God	VPEF	1,2,3,4,5,6	U(52,)12, NA
1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	12.3.4.5,6 12.3.4.5,6 12.3.4.5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6 12.3.4,5,6				N	1,2,3,4,5,6	U, <2, >12, N
1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	(12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6)				N		U, <2, >12, NA
1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	(12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6)	(12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6) (12,3,4,5,6)					1,2,3,4,5,6	U, <2, >12, NA
1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	(4) A) A (4) A (5) A (7) A (7) A (7) B (7) A (7) B (7)	(4) (4) (4) (4) (1,2,3,4,5,6)			/	\	1,2,3,4,5,6	U, <2, >12, NA
1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	## 12,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	(12,3,4,5,6 12,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5					1,2,3,4,5,6	U, <2, >12, NA
	71,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6		1			1,2,3,4,5,6	U, <2, >12, NA
	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 2, HCL 3; HNO3 4; H2SO4 5; NAOH 6; Other Comments:	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6					1,2,3,4,5,6	U, <2, >12, NA
	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other Comments:	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6	_				1,2,3,4,5,6	U, <2, >12, NA
	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 2: HCL 3: HNO3 4: HZSO4 5: NAOH 6: Other Comments:	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 Comments:					1,2,3,4,5,6	U, <2, >12, NA
	7,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 2. HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other Comments:	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 Comments:					1,2,3,4,5,6	U, <2, >12, NA
	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 2: HCL 3: HN03 4: H2SO4 5: NAOH 6: Other Comments:	1,2,3,4,5,6 1,2,3,4,5,6 Refrig. SUB: Subcontract EF: Encore Freezer HNO3 4: H2SO4 5: Obler Comments:					1,2,3,4,5,6	U, <2, >12, NA
	7,2,3,4,5,6 R: Volatile Refrig. SUB: Subcontract EF: Encore Freezer 2: HCL 3: HN03 4: H2SO4 5: NAOH 6: Other Comments:	Refrig. SUB: Subcontract EF: Encore Freezer HN03 4: H2SO4 5: NAOH 6: Other Comments:					1,2,3,4,5,6	U, <2, >12, NA
_	R: Votatile Refrig. SUB: Subcontract EF: Encore Freezer 2: HCL 3: HN03 4: H2SO4 5: NAOH 6: Other Comments:	Refrig. SUB: Subcontract EF: Encore Freezer HN03 4: H2SO4 5: NAOH 6: Other Comments:					1,2,3,4,5,6	U, <2, >12, NA
	R: Volatile Refrig. SUB: Subcontract 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6 Com	Refrig. SUB: Subcontract HN03 4: H2SO4 5: NAOH 6 Com	<u></u>				1,2,3,4,5,6	

SAMPLE RECEIPT LOG
DATEITIME RECEIVED: S/19/09 11:39am

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 GKK374-MB	File ID KK007140	DF	Analyzed 05/20/04	By NS	Prep Date	Prep Batch	Analytical Batch GKK374
GNN3/4-MD	KK00/140	J.D I	03/20/04	143	II/a	II/a	GRK3/4

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/I	
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		Limi	ts		
460-00-4	4-Bromofluorobenzene	96%	71-12	7%		
98-08-8	aaa-Trifluorotoluene	93%	66-13	6%		

Blank Spike Summary Job Number: T7500

Account:

MWHSLCUT Montgomery Watson Blanco North

Project:

Sample	File ID	DF	Analyzed 05/20/04	By	Prep Date	Prep Batch	Analytical Batch
GKK374-BS	KK007141	1.D1		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	Li	mits	
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
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	95.9 317 27.6 1600 323 1270	500 500 500 1500 500 1000	570 776 485 2820 795 2020	95 92 91 81 94 75	553 758 471 2760 774 1990	91 88 89 77 90 72	3 2 3 2 3 1	70-134/21 73-132/15 66-137/22 69-130/19 66-131/20 68-132/19
CAS No. 460-00-4 98-08-8	Surrogate Recoveries 4-Bromofluorobenzene aaa-Trifluorotoluene	MS 101% 88%	MSD 97% 86%	T75	2.7	Limits 71-1279 66-1369			



51

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

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/I	0.52	0.52	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/I	0.29	0.29	0.0	0-5%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/I	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/1	0.52	0.200	0.72	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/I	0.29	0.200	0.49	100.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7500-1	mg/I	0.29	0.200	0.50	103.0	90-115%
Nitrogen, Nitrate + Nitrite	GN6427	T7502-3	mg/1	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

Groundwater Analytical Report – August 2004

DATA VERIFICATION WORKSHEET (Page 1 of 3)

Analytical Method/Analytes: _	SW-846 8021B (BTEX)	Sample Collection Date(s):	08/23-24/04
Laboratory:	Accutest	MWH Job Number:	EPC-SJRB
· ·		20.	(Plance North)

Batch Identification: T8100 Matrix: Water

MS/MSD Parent(s)^(a): T8100-02 Field Replicate Parent(s): None

Foot				Hits		
Notes	Site ID	Sample ID	Lab. ID	(Y/N)	Quals.	Comments
1	Blanco North	MW-19	T8100-01	Y	J	Benzene @ 2650 μg/l
	}	,			J	Ethylbenzene @ 303 µg/l
					UJ	Xylenes, total @ <150 μg/l
					UJ	m,p-Xylenes @ <100 µg/l
1,4	Blanco North	MW-23	T8100-02	Y	J ·	Benzene @ 4480 µg/l
					J	Ethylbenzene @ 160 µg/l
	1	1		di di	J	Xylenes, total @ 966 µg/l
	1				J	o-Xylenes @ 64.4 µg/l
					J	m,p-Xylenes @ 901 µg/l
1,2	Blanco North	MW-26	T8100-03	Y	J	Benzene @ 29.5 μg/l
			1		UJ	Toluene @ <10 µg/l
	(1			J	Ethylbenzene @ 40.0 µg/l
	1	1	1		J	Xylenes, total @ 93.6 µg/l
21	}		1		J	o-Xylenes @ 27.2 µg/l
					J	m,p-Xylenes @ 66.3 µg/l
1,3	Blanco North	MW-27	T8100-04	Y	J	Benzene @ 398 µg/l
					UJ	Toluene @ <50 µg/l
	}	1	1		UJ	Ethylbenzene @ <50 µg/l
	Ī				J	Xylenes, total @ 4830 µg/l
	ļ	1			J	o-Xylenes @ 1040 μg/l
			L		J	m,p-Xylenes @ 3790 μg/l
None	Trip Blank	082304TB01	T8100-05	N		
-		-				
		 				

DATA VERIFICATION WORKSHEET (Page 2 of 3)

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

Laboratory: Accutest Batch Identification: T8100

Verification Criteria								
Sample ID	MW-19	MW-23	MW-26	MW-27	082304TB 01			
Lab ID	T8100-01	T8100-02	T8100-03	T8100-04	T8100-05			
Holding Time	A ¹	A ¹	A ¹	A ¹	A			
Analyte List	Α	A	A	A	A			
Reporting Limits	A	A	A	Α	A			
Surrogate Spike Recovery	A	A	A ²	A ³	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	5 3 5 5 5 5		
Laboratory Control Sample (LCS)	Α	A	A	A	A	7		
Laboratory Control Sample Duplicate (LCSD)	N.	N	N	N	N	2.5	7/6	
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	A ⁴	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	Α	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:

- Sample submitted to laboratory unpreserved; sample holding time reduced from 14 days to seven. Sample analyzed outside of
 holding time introducing a possible low bias. Qualify associated sample hits with "J" flags indicating the data are estimated and
 possibly biased low. Qualify associated sample non-detects with "UJ" flags indicating possible false negatives unless the nondetect data is consistent with historical data.
- 2) Surrogate percent recovery outside acceptance criteria for the following compounds:
 - a) aaa-Trifluorotoluene @ 258% (66-136). Only one surrogate outside acceptance criteria; no data qualified. Sample was diluted and reanalyzed; surrogate percent recovery was within acceptance criteria and the target analyte results were comparable to the initial run.

DATA VERIFICATION WORKSHEET

(Page 3 of 3)

3) Surrogate percent recovery outside acceptance criteria for the following compounds:

a) 4-Bromofluorobenzene @ 128% (71-127), indicating a possible high bias. Qualify associated sample hits with "J" flags indicating the data are estimated and possibly biased high. Sample was diluted and reanalyzed; surrogate percent recovery was within acceptance criteria and the target analyte results were comparable to the initial run.

b) aaa-Trifluorotoluene @ 1826% (66-136), indicating a possible high bias. Qualify associated sample hits with "J" flags indicating the data are estimated and possibly biased high. Sample was diluted and reanalyzed; surrogate percent recovery

was still outside acceptance criteria and the target analyte results were comparable to the initial run.

4) MS/MSD percent recoveries outside acceptance criteria for the following compounds:

a) Benzene @ 57% and 48% (70-134). Sample concentration greater than four times the spike amount; analyte recovery not expected, no data qualified.



09/08/04

Technical Report for

Montgomery Watson

Blanco North

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

Accutest Job Number: T8100

Sampling Dates: 08/23/04 - 08/24/04

Report to:

Montgomery Watson

brian.buttars@us.mwhglobal.com

ATTN: Brian Buttars

Total number of pages in report: 15



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

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sections:

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: T8100-1: BLANCO NFP MW-19	4
2.2: T8100-2: BLANCO NFP MW-23	5
2.3: T8100-3: BLANCO NFP MW-26	6
2.4: T8100-4: BLANCO NFP MW-27	7
2.5: T8100-5: 082304TB01	8
Section 3: Misc. Forms	9
3.1: Chain of Custody	10
Section 4: GC Volatiles - QC Data Summaries	12
4.1: Method Blank Summary	13
4.2: Blank Spike Summary	14
4.3: Matrix Spike/Matrix Spike Duplicate Summary	15









Accutest Laboratories

Sample Summary

Montgomery Watson

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

Job No:

T8100

Sample Number	Collected Date	Time By	Received	Matri		Client Sample ID
T8100-1	08/23/04	15:00 MN	08/25/04	AQ	Ground Water	BLANCO NFP MW-19
T8100-2	08/23/04	17:00 MN	08/25/04	AQ	Ground Water	BLANCO NFP MW-23
T8100-3	08/24/04	07:55 MN	08/25/04	AQ	Ground Water	BLANCO NFP MW-26
T8100-4	08/24/04	08:30 MN	08/25/04	AQ	Ground Water	BLANCO NFP MW-27
T8100-5	08/23/04	10:00 MN	08/25/04	AQ	Ground Water	082304TB01



By

BC

Page 1 of 1

Client Sample ID: BLANCO NFP MW-19

Lab Sample ID:

T8100-1

Matrix: Method: AQ - Ground Water

DF

50

File ID

KK01559.D

SW846 8021B

Date Sampled:

08/23/04

Date Received: 08/25/04

Percent Solids: n/a

Project:

Blanco North

Prep Date n/a

Prep Batch

n/a

Analytical Batch **GKK423**

Run #1 a Run #2

Purge Volume

Run #1

Run #2

Purgeable Aromatics

5.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2650	50	25	ug/l	
108-88-3	Toluene	ND -	50	25	ug/l	
100-41-4	Ethylbenzene	303	50	25	ug/l	
1330-20-7	Xylenes (total)	ND	150	50	ug/l	
95-47-6	o-Xylene	ND -	50	25	ug/l	
	m,p-Xylene	ND	100	50	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	120%		71-1	27%	
98-08-8	aaa-Trifluorotoluene	110%			36%	

Analyzed

09/02/04

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

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: BLANCO NFP MW-23

Lab Sample ID:

T8100-2

AQ - Ground Water

SW846 8021B

Date Sampled: 08/23/04

Date Received: 08/25/04

Percent Solids: n/a

Method: Project:

Matrix:

Blanco North

File ID DF Analyzed By

50

Prep Date BC n/a

Prep Batch n/a

Analytical Batch **GKK423**

Run #1 a Run #2

Purge Volume

5.0 ml

KK01560.D

Run #1

Run #2

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4480	50	25	ug/l	
108-88-3	Toluene	ND —	50	25	ug/l	
100-41-4	Ethylbenzene	160	50	25	ug/l	
1330-20-7	Xylenes (total)	966	150	50	ug/l	
95-47-6	o-Xylene	64.4	50	25	ug/l	
	m,p-Xylene	901	100	50	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	115%		71-1	27%	
98-08-8	aaa-Trifluorotoluene	109%		66-1	36%	

09/02/04

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

ND = Not detected

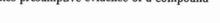
MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound





Page 1 of 1

Client Sample ID: BLANCO NFP MW-26

Lab Sample ID:

T8100-3

Matrix: Method:

Project:

AQ - Ground Water SW846 8021B

Blanco North

Date Sampled: Date Received:

08/24/04 08/25/04

Percent Solids: n/a

u. 00/23

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK01555.D	10	09/02/04	BC	n/a	n/a Î	GKK423
Run #2	KK01556.D	50	09/02/04	BC	n/a	n/a	GKK423

Run #1	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	29.5	10	5.0	ug/I	
108-88-3	Toluene	ND	10	5.0	ug/l	
100-41-4	Ethylbenzene	40.0	10	5.0	ug/l	
1330-20-7	Xylenes (total)	93.6	30	10	ug/l	
95-47-6	o-Xylene	27.2	10	5.0	ug/l	
	m,p-Xylene	66.3	20	10	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	118%	114%	71-1	27%	
98-08-8	aaa-Trifluorotoluene	258% a	133%	66-1	36%	

(a) Outside control limits due to matrix interference.

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



By

BC

BC

n/a

Page 1 of 1

Client Sample ID: BLANCO NFP MW-27

Lab Sample ID:

T8100-4

Matrix: Method:

Project:

Run #1 a

Run #2 a

AQ - Ground Water SW846 8021B

DF

50

500

Blanco North

Date Sampled: 08/24/04

Date Received: 08/25/04

Percent Solids: n/a

Prep Date Prep Batch **Analytical Batch** n/a n/a **GKK423**

GKK423

n/a

Purge Volume Run #1 5.0 ml Run #2 $5.0 \, ml$

File ID

KK01557.D

KK01558.D

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	398	50	25	ug/l	
108-88-3	Toluene	ND	50	25	ug/l	
100-41-4	Ethylbenzene	ND	50	25	ug/l	
1330-20-7	Xylenes (total)	4830	150	50	ug/l	
95-47-6	o-Xylene	1040	50	25	ug/l	
	m,p-Xylene	3790	100	50	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	128% b	119%	71-1	27%	
98-08-8	aaa-Trifluorotoluene	1826% b	219% c		36%	

Analyzed

09/02/04

09/02/04

- (a) Sample was not preserved to a pH < 2; reported results are considered minimum values.
- (b) Outside control limits due to matrix interference.
- (c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Accutest Laboratories

Report of Analysis

By

BC

Page 1 of 1

Client Sample ID: Lab Sample ID:

082304TB01 T8100-5

Date Sampled: 08/23/04

Matrix:

AQ - Ground Water

1

Date Received: 08/25/04

Method: Project:

SW846 8021B Blanco North

Percent Solids: n/a

File ID DF

Prep Date n/a

Prep Batch n/a

Analytical Batch GKK423

Run #1 Run #2

Purge Volume

KK01554.D

Run #1

5.0 ml

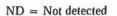
Run #2

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	Lim	its	
460-00-4	4-Bromofluorobenzene	107%		71-1	27%	
98-08-8	aaa-Trifluorotoluene	107%		66-1	36%	

Analyzed

09/02/04



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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

· Chain of Custody



4	
Ç	o
•	8
-	
-	***

		-	•	
2	200	de	m	RO
移	8	23	Θſ	ä
扱	88	æ		
10	r	'n	r	q
100		o	ъ	1

H L										6 FED	X Tracking		34m		8/ Order Con	ntrol #		
ACCUTEST.			TEL.	113-271	-4700 vw.acc	FAX	: 71.	-271	4770	- 227	5215 esi Quote i	77/	677	Accula	st Job #	80	O	
Client / Reporting Information			Pr	oject Infor	mation			70R					Req	uested Ar	alysis	1000		Matrix Codes
many Name EL V230 dress Z North Neuzda	Project N	Blan	200	Vor	H.F	Tax	e P	74		1								DW - Dinsking Water GW - Ground Water WW - Water
	3 City			State									١,					SW - Surface Water SO - Soil
Brott Pone	Project #														11			SL - Sludge OL - Oli
719 520 4433	Fax #	715 5	20	47	16	,],								UQ - Other Liquid
Martin Mee		rchase Order #	_			umber			Name of the last	H								SOI - Other Solid
coutest ample # Field ID / Point of Collection SUM MECH	Wal# Date	Time Sampled	Matrix	# of bottles	9 8	$\overline{}$	10104	N O	TO B	8								UP - Wipe
1 BISNED WIF MU-19	82304	1500 m	us	2	\perp	Ц		X	П	J								
Z BlanoNAP MW-23		700 MM	WE	Z	_	Ш		Х	11	1								
3 Blanco NAP MW 26	82404	2755PON	as	2	L		Ц	7	Ш	V		1						
4 BLANCONEP MN-27	82490	7830 mu	WG	2	\perp	Ш		×		1								
5 0823041801	82304 /	1000 MW	us	2	+	Н		*	+	1		+	-	\perp	-	-		
					I			\pm	\pm	\pm	\vdash			\Box	\Box			
					-	Н		1	Π	L		1		\perp		_		
	+-+		Н	-	+	Н	+	+	++	+	\vdash	+	\vdash	Н	\vdash	+	Н	
			SI .	Data Deli				12		100	iquetic.	i Alexan		Commen	ts / Remar	rks See		9.65314944
10 Dey STANDARD Approved By: 1 Date: 5 Day RUSH 3 Day EMERGENCY 2 Day EMERGENCY 1 Day EMERGENCY Other	_	Commercial "A" Commercial "B" Reduced Tier 1 Full Tier 1 TRRP13			□ ED	O Form	nat	_									_	
Inquisited by Sampler: Date Time:	Sample Cut	Commercial "A				imples		e posse	ession, incl	uding cou	Ner delivery		Time.	Received			in the second	tt-H.
104 104 104 104 100 Time	Received by.	co Marl	net !	100	Re	inquish	ed by.			-		Date	Time.	2 Received	l by:			
linquished by: Data Time	Received by:				Č	slody Se	eaf #	*****			Preserve	d where apple	cable	Onlice	:	9	Cooler Ten	φ.

T8100: Chain of Custody

Page 1 of 2

CUENT: COCATION WILLS. COCATION WILLS.	ACCUTEST.	TEST.	SAMPLE	SAMPLE RECEIPT LOG	100			
INITIALS: Sand TW for no. If "N" is circled, see variance for explanation): The sample ordition. 2. N Samples received with chain of cuts is sample to condition. Sand and sand analysis on conditions. Sample received with chain of cuts is sample to conditioners. Sample received with chain of cuts is sample to conditioners. DATE SAMPLED MATRIX PLYM THUM T	N	00	DATE/TIME RECEI	VED:	gesty	1000		
inaged condition. 2. (N) Samples received within temp. rain ranged condition. 2. (N) Samples received with chain of custs as sample IDs and analysis on containers. Is a sample IDs and analysis on containers. Is an analysis on conter Temp. Is an analysis on contain temp. The cooler Temp. Is an analysis on the received with chain of custs and the containers. In an analysis on containers. In an analysis on the received with chain of custs the cooler Temp. In an analysis on the received with chain to client. In an analysis and analysis and analysis one Accutes the cooler Temp. In an analysis and analysis and analysis one Accutes the cooler Temp.		Pare	ļ		INITIALS:	Pm		
## DATE SAMPLED MATRIX VOLUME LOCATION PRESERV. ### CALUME LOCATION PRESERV. ### CALUME LOCATION PRESERV. #### CALUME LOCATION PRESERV. ##### CALUME LOCATION PRESERV. ###################################	Condition/Variance (C) 1. Sample reconditions Sample volt 5. Change of Cultural Conditions of Cultural Conditions of Cultural Conditions see	eived in undamageived in undamageived with proper ume sufficient for istody matches as all received intact all received intact.	nd "N" for no. If "N" ged condition. pH. analysis. ample IDs and ana and tamper evident and tamper evident and tamper evident		ee variance for Samples N Sample in N Sample ritainers.	r explanation) received with eceived in pro- eceived with	in temp, ran oper contain chain of cus	ge. ers. tody.
## 12.34.5.6 12.	SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME		PRESERV.	Hd .
12.3.4.5.6 12.	1-5	2-1	Stell	as	SYUM	DAN	12,4,5,6	U. (2) 12,
12,34,5,6 U, 12,34							1,2,3,4,5,6	U, <2, >12,
1,2,34,5,6 U, 1,		(2)				1	1,2,3,4,5,6	U, <2, >12
1,2,3,4,5,6 U, 1,2,4,5,5 U, 1,2,4,5,5 U, 1,2,4,5,5 U, 1,2,4,5,5 U, 1,2,4,5,5 U, 1							1,2,3,4,5,6	U, <2, >12
12.34.5.6 U. 12.34							1,2,3,4,5,6	U, <2, >12
12,34,5,6 U, 12,34,5,5 U, 12,34				/			1,2,3,4,5,6	U, <2, >12
12,34,5,6 U, 12,34,5,5 U, 12,34		•		\			1,2,3,4,5,6	U, <2, >12
1,2,3,4,5,6 U, 1,2,3,			1				1,2,3,4,5,6	U, <2, >12
12,34,5,6 U, 12,34,5,5 U, 12,34			\				1,2,3,4,5,6	U, <2, >12
12,3,4,5,6 12,3,4,5,5 12,3,4,5,5 12,3,4,5,5 12,3,4,5,5 12,3,4,5,5 12,3,4,5,5 12,3,4,5,5 12,3,4,5,5 12,							1,2,3,4,5,6	U, <2, >12
1,2,3,4,5,6			dell	,			1,2,3,4,5,6	U, <2, >17
1,2,3,4,5,6 U			1/4/				1,2,3,4,5,6	U, <2, >13
12,34,5,6 12,34,5,5 12,3			≼				1,2,3,4,5,6	U, <2, >12,
12,34,5,6 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,34,5,5 12,3	\ \ .						1,2,3,4,5,6	U, <2, >12,
Refrig. SUB: Subcontract. EF: Encore Freezer HN03 4: H2S04 5: NAOH 6: Other Comments: COOLER TEMP: Y 2 COOLER TEMP: CO		÷					1,2,3,4,5,6	U, <2, >13
Refrig. SUB: Subcontract. EF: Encore HN03 4: H2SO4 5: NAOH 6: Other Comments: Comments: CT2 294277 C C C C C C C C C C C C C C C C C C							1,2,3,4,5,6	U, <2, >12
12 29477 C	LOCATION: WI: Walk-In PRESERVATIVES: 1: Nor	VR: Volatile Refri	SUB: Subcontra 4: H2SO4 5: NAO	t . EF: Encor	e Freezer			
674/12 294/27 C	pH of soils N/A	Salario Amo						
Hold	Delivery method: Courl Tracking	34215	29417	20	COOLER TEMP	2	COOLER TEM	46.
	Method of sample dis	posal: (circle on	e) Accutest dispo		k.	lient		

T8100: Chain of Custody Page 2 of 2

age 2 of 2

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: T8100

Job Number:

GKK423-MB

Account:

MWHSLCUT Montgomery Watson

DF

Project:

Sample

460-00-4

98-08-8

Blanco North

File ID KK01553.D 1

Analyzed 09/02/04

Ву BC Prep Date n/a

Prep Batch n/a

Analytical Batch

Page 1 of 1

GKK423

The QC reported here applies to the following samples:

Method: SW846 8021B

T8100-1, T8100-2, T8100-3, T8100-4, T8100-5

4-Bromofluorobenzene

aaa-Trifluorotoluene

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	ž.	Limi	ts	

106%

107%

71-127%

66-136%

Blank Spike Summary Job Number: T8100

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample F	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK423-BS K	KK01552.D	1	09/02/04	BC	n/a	n/a	GKK423
K423-BS K	KK01552.D	1	09/02/04	BC	n/a	n/a	GKK423

The QC reported here applies to the following samples:

Method: SW846 8021B

T8100-1, T8100-2, T8100-3, T8100-4, T8100-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	21.1	106	76-128
100-41-4	Ethylbenzene	20	22.2	111	79-129
108-88-3	Toluene	20	22.0	110	77-126
1330-20-7	Xylenes (total)	60	67.4	112	79-126
95-47-6	o-Xylene	20	22.8	114	78-125
	m,p-Xylene	40	44.6	112	79-127
CAS No.	Surrogate Recoveries	BSP	Liı	mits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	120% 110%	1507	-127% -136%	

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T8100

Job Number:

Account:

MWHSLCUT Montgomery Watson

Project:

Blanco North

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T8100-2MS a	KK01561.D	50	09/02/04	BC	n/a	n/a	GKK423
T8100-2MSD a	KK01562.D	50	09/02/04	BC	n/a	n/a	GKK423
T8100-2 a	KK01560.D	50	09/02/04	BC	n/a	n/a	GKK423

The QC reported here applies to the following samples:

Method: SW846 8021B

T8100-1, T8100-2, T8100-3, T8100-4, T8100-5

CAS No.	Compound	T8100-2 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	4480 160 ND 966 64.4 901	1000 1000 1000 3000 1000 2000	5050 1110 989 4010 1090 2920	57* b 95 99 101 103 101	4960 1090 969 3930 1070 2850	48* b 93 97 99 101 97	2 2 2 2 2 2	70-134/21 73-132/15 66-137/22 69-130/19 66-131/20 68-132/19
CAS No. 460-00-4 98-08-8	Surrogate Recoveries 4-Bromofluorobenzene aaa-Trifluorotoluene	MS 118% 110%	MSD 119% 108%	T81 115 109	35.0	Limits 71-127% 66-136%			

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

⁽b) Outside control limits due to high level in sample relative to spike amount.