GW - <u>49-0</u>

MONITORING REPORTS

YEAR(S):

2005



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October 25, 2005

Mr. Glenn von Gonten Senior Hydrologist New Mexico Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 OCT 26 2005

Oil Conservation Division Environmental Bureau

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

Dear Mr. von Gonten;

El Paso Tennessee Pipeline Company hereby submits the enclosed annual report "2005 Blanco North Flare Pit Annual Report". The enclosed report details sparge system operation and maintenance and groundwater sampling for the fourth quarter 2004 through third quarter 2005, and recommends additional site investigation activities for 2005/2006.

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:

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

OCT 26 2005

Environmental Bureau

Final 2005 BLANCO NORTH FLARE PIT **ANNUAL REPORT**

SAN JUAN COUNTY, NEW MEXICO

October, 2005

Prepared by:

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

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- Groundwater Sampling Field Forms В
- С Groundwater Analytical Laboratory Reports

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LIST OF ACRONYMS

AS	air sparging
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and total xylenes
cfm	cubic feet per minute
EPTPC	EL Paso Tennessee Pipeline Company
mg/L	milligrams per liter
μg/L	micrograms per liter
NMOCD	New Mexico Oil Conservation Division
NMWQCC	New Mexico Water Quality Control Commission
psi	pounds per square inch

1.0 INTRODUCTION

This 2005 Blanco North Flare Pit Annual Report has been prepared for EL Paso Tennessee Pipeline Company (EPTPC) to document the performance of the air sparging (AS) system and to report groundwater monitoring data at the Blanco Plant North Flare Pit site (Site). This report includes field data reports and groundwater analytical data reports for the period from October 2004 through September 2005. 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), and the 2004 Blanco North Flare Pit Annual Report (MWH 2004). 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), the *Blanco North Flare Pit Work Plan Update Technical Memorandum, June 2003* (Work Plan Update) (MWH, 2003b), and the *2004 Blanco North Flare Pit Annual Report* (MWH 2004). 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

EPTPC 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 operated continuously from start-up through April 2005, with the exception of minor periods of down-time due to system failures, and scheduled shut-downs for the purpose of groundwater monitoring. A meter was installed in January 2005 to record the amount of time the air sparge motor operates between visits. Ideally, air injection is 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. Intermittent electricity failures have occurred at the Site beginning in late 2004; as of April 2005, the electricity service was terminated at the Site by the City of Bloomfield and has not resumed to date. EPTPC and Enterprise are working together to resolve the issues and have service restored to the area.

During system operation, bi-weekly operation and monitoring (O&M) 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 O&M data and report any problems. Field O&M and site visit reports for the period between October 2004 and September 2005 are included in Appendix A, and selected data are summarized in Table 2.1, *AS System Operation and Monitoring Data (February 2003 – September 2005)*. 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; the amount of influence in terms of induced air pressures increased in MW-19 and remained steady in MW-26 while the dissolved oxygen concentrations continued to fluctuate in 2005. Less pronounced effects of the AS system were also observed in well 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

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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.

In April 2005, approximately 0.02 feet of free-product was measured and removed from MW-27. Free-product was not measured in this, or any other Site well, during the subsequent sampling events.

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 2004 Annual 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 November 2004, February 2005, May 2005, and August 2005. Forty-eight hours prior to each sampling event, the AS system was shut–down to ensure natural groundwater conditions were being evaluated. During each sampling event, groundwater levels and field parameters (pH, temperature, specific conductance and dissolved oxygen) were measured, and samples were analyzed for BTEX concentrations. Groundwater sample collection field forms are attached in Appendix B. Samples were not collected from MW-2 or MW-24 during any of the sampling rounds because the wells were either dry or bailed dry. Water levels could not be measured in MW-19 because the water level probe could not pass an obstruction in the casing; however, grab samples were collected from this well using a small-diameter bailer and submitted for analysis.

Analytical results from these four sampling rounds are presented with historic data in Table 2.2, *Groundwater Monitoring Analytical Data (June 1991 – August 2005)*. 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 – 2005, 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 2,040 μ g/L in August 2005 (an 80% reduction in concentration); and in MW-26, where free-product was present in June 2003, and the benzene concentration has declined to 18.2 μ g/L in August 2005. 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. There was a spike in benzene concentrations in wells MW-19, MW-23, and MW-26 during the May sampling event. This is possibly a rebound effect due to the air sparge

system being shut down in April 2005 (as water levels were generally stable between sampling events). These data results indicate that the AS system continues to be effective for groundwater remediation at the Site in the nearby vicinity of the sparge well, SW-1.

3.0 RECOMMENDATIONS FOR FUTURE ACTIVITIES

It is anticipated that electrical service will be resumed to the Site in the near future. At that time, EPTPC recommends continued operation of the AS system with monthly O&M visits. In addition, EPTPC plans to expand the AS system to more aggressively affect other areas of the Site. To that end, a site investigation work plan is being prepared which will include additional drilling and groundwater sampling in the area of the former flare pit and evaporation pond. Sparge points and an expanded sparging system will beevaluated based on the data collected during the additional investigation.

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 2005/2006 is presented in Table 3.1, *Groundwater Monitoring Schedule*. The next quarterly groundwater sampling event is scheduled for the 4th Quarter 2005. Results of the groundwater monitoring will be transmitted in an annual report, tentatively scheduled for submission to NMOCD in October 2006.

4.0 REFERENCES

- MWH, 2002. *Work Plan for the Blanco North Flare Pit*. Prepared for EL Paso Tennessee Pipeline Company. July 2002.
- MWH, 2003a. 2003 Blanco North Flare Pit Pilot Air Sparging System Report. Prepared for EL Paso Tennessee Pipeline Company. October 2003.
- MWH, 2003b. Blanco North Flare Pit Work Plan Update Technical Memorandum. Prepared for EL Paso Tennessee Pipeline Company. June 2003.
- MWH, 2004. 2004 Blanco North Flare Pit Annual Report. Prepared for EL Paso Tennessee Pipeline Company. October 2004.

TABLES

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TABLE 2.1 (Page 1 of 3)AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - AUGUST 2005)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
12/1/03	nm	64.07	50.98	67.18	64.63	64.95
12/1/03	nm	65.14	57.18	0/.1/	64.//	65.03
1/2/10/03	dry	64.22	57.01	67.20	65.02	65.10
1/2/04	nm dm/	64.22	55.09	67.15	64.76	65.10
1/15/04	dry	64.14	57.08	67.11	64.76	65.00
2/13/04	ury nm	64.13	57.08	67.12	64.70	65.22
2/15/04	nm	64.07	56.99	67.12	64.76	65.22
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	drv	64.2	57.075	67.11	65.09	65.47
4/26/04	nm	64.51	57.25	67.11	65.28	65.41
5/10/04	nm	65.50	57.03	67.11	65.17	65.64
5/17/04	dry	65.31	57.14	dry	65.54	65.74
6/1/04	dry	63.42	57.15	67.14	65.23	65.77
6/15/04	dry	64.78	57.07	67.1	65.58	65.85
7/14/04	dry	63.81	57.14	67.11	65.57	66.01
7/28/04	dry	63.75	57.08	67.11	65.59	66.06
8/17/04	dry	nm	57.17	67.05	65.78	66.22
9/8/04	dry	nm	57.18	67.11	65.65	66.3
9/23/04	dry	nm	57.23	67.12	65.77	66.32
10/11/04	dry	nm	57.13	67.12	65.92	66.38
10/26/04	dry	nm	57.13	67.11	66.79	66.44
11/17/04	dry	nm	57.19	67.19	65.67	66.55
12/7/04	dry	nm	57.00	67.14	35.67	66.64
12/22/04	ary devi	nm	57.09	67.12	65.85	66.68
1/10/05	dry	nm	57.15	67.12	65.22	00./1
2/8/05	dry		57.10	67.11	65.0	66.90
2/0/05	dry	nm	57.12	67.11	65.41	66.90
2/21/05	dry		57.12	67.11	66 10	67.15
3/7/05	dry	nm	57.08	67.11	65.51	66.06
3/23/05	drv	nm	57.64	67.12	67.68	67.1
<u> </u>	drv	nm	57.04	67.12	67.3	67.2
5/23/05	dry	nm	57.215	07.11 nm	66.25	67.41
5/30/05	drv	nm	57.22	67.13	67.16	67.58
8/30/05	drv	nm	57.22	67.13	66.08	67.8
0,00,00	<u>_</u>		<u>01.22</u>	07.11	00.00	07.0

dry - well was dry

nm - not measured

bgs - below ground surface

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TABLE 2.1 (Page 2 of 3)AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - AUGUST 2005)BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

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	1.40	1.57
11/3/03	nm	1.15	1.76	nm	1.32	1.20
11/17/03	nm	1.16	0.91	nm	1.07	1.07
12/1/03	nm	0.88	1.27	nm	1.08	1.19
1/2/04	nm	1.12	1.14	nm	1.65	1.07
1/15/04	nm	1.04	1.26	nm	0.44	1.16
1/30/04	nm	1.10	1.07	nm	0.98	1.23
2/13/04	nm	1.31	1.57	nm	2.50	0.93
2/27/04	nm	1.11	0.98	nm	2.98	0.79
3/12/04	nm	1.10	1.07	nm	0.62	0.98
3/26/04	nm	1.39	0.90	nm	2.17	0.84
4/13/04	nm	1.20	1.08	nm	0.43	1.07
4/26/04	nm	1.03	1.15	nm	0.36	0.86
5/10/04	nm	0.68	0.92	nm	0.80	1.18
6/1/04	nm	1.05	0.81	nm	2.22	0.90
6/15/04	nm	1.02	0.80	nm	0.65	1.06
7/14/04	nm	0.91	0.66	nm	0.88	0.89
7/28/04	nm	nm	0.80	nm	3.38	0.56
8/17/04	nm	nm	0.85	nm	1.77	0.78
9/8/04	nm	1.53	0.87	nm	0.71	1.23
9/23/04	nm	1.86	0.98	nm	3.35	1.22
10/11/04	nm	1.07	0.88	nm	0.81	0.98
10/26/04	nm	0.95	0.68	nm	0.50	0.61
11/17/04	nm	1.65	0.91	nm	1.78	0.89
12/7/04	nm	1.98	0.92	nm	2.75	0.98
12/22/04	nm	1.67	1.41	nm	1.34	1.16
1/10/05	nm	1.79	1.08	nm	1.86	0.73
1/23/05	nm	2.02	1.00	nm	3.49	0.88
2/8/05	nm	1.93	0.82	nm	1.98	0.94
2/21/05	nm	1.53	0.86	nm	3.43	0.89
3/ //05	nm	2.02	0.53	nm	3.29	0.56
3/23/05	nm	nm	0.51	nm	3.55	0.78
4/0/05	nm	nm	0.77	nm	0.41	0.84
5/25/05	nm	0.90	1.32	nm	0.84	1.60
5/30/05	nm	nm	nm	nm	nm	nm
8/30/05	hm	nm	nm	nm	nm	nm

dry - well was dry

nm - not measured

bgs - below ground surface

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· · · · · · · · · ·	Induced Air Pressure at Well (inches H2O)					
Date	MW-2	MW-19	MW-23	MW-24	MW-26	MW-27
2/3/03	drv	3.80	nm	nm	5.50	0.02
6/2/03	dry	NA	nm	nm	nump 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	nump in well	0.00
6/9/03	dry	610	0.00	0.00	pump in well	0.07
6/16/03	dry	6.00	0.00	0.09	pump in well	0.07
6/23/03	dry	6.15	0.00	0.10	pump in well	0.07
7/2/03	dry	7.40	0.00	0.09	pump in well	0.05
7/10/03	dry	5 20	0.00	0.10		0.10
7/10/03	day	6.10	0.00	0.02	>10	0.04
7/15/05	dry dry	6.10	0.00	0.04	>10	0.07
//29/03		0.00	0.00	0.09	>10	0.05
8/7/03	dry	0.00	0.00	0.00	0.00	0.00
8/21/03	dry	3.60	0.00	0.07	6.80	0.06
9/10/03	dry	6.40	0.00	0.03	<10	0.90
9/25/03	dry	3.10	0.00	0.06	3.90	0.04
10/6/03	nm	0.11	0.00	0.10	0.09	0.02
10/22/03	nm	2.60	0.00	0.00	3.25	0.25
11/3/03	nm	0.03	0.00	0.03	0.07	0.00
11/17/03	nm	3.00	0.00	0.06	3.60	0.11
12/1/03	nm	2.10	0.00	0.10	2.10	0.08
1/2/04	nm	3.00	0.00	0.06	2.10	0.12
1/15/04	nm	2.10	0.00	0.04	3.20	0.06
1/30/04	nm	2.00	0.00	0.07	3.10	0.03
2/13/04	nm	3.10	0.00	0.09	3.50	0.16
2/27/04	nm	3.00	0.00	0.13	3.20	0.24
3/12/04	nm	0.17	0.00	0.12	0.09	0.08
3/26/04	nm	3.00	0.00	0.14	3.20	0.18
4/13/04	nm	2.20	0.00	-0.02	4.10	0.13
4/26/04	nm	2.20	0.00	-0.03	1.90	0.08
5/10/04	nm	2.40	0.00	0.11	2.00	0.18
6/1/04	nm	5.60	0.00	0.06	8.30	0.11
6/15/04	nm	4.20	0.00	-0.04	6.60	0.00
7/14/04	nm	4.70	0.00	0.01	7.00	0.12
7/28/04	nm	4.80	0.00	-0.01	6.00	0.15
8/17/04	nm	3.20	0.00	0.02	6.00	0.07
9/8/04	nm	4.20	0.00	-0.01	5.30	0.03
9/23/04	nm	2.20	0.00	0.02	4.70	0.00
10/11/04	nm	0.01	0.00	0.02	0.02	0.01
10/26/04	nm	nm	nm	nm	nm	nm
11/17/04	nm	nm	nm	nm	nm	nm
12/7/04	nm	nm	nm	nm	nm	nm
12/22/04	nm	2.50	0.00	-0.03	7,30	0.05
1/10/05	nm	3.60	0.00	0.03	7.70	0.06
1/23/05	nm	5.40	0.00	0.03	8.80	0.03
2/8/05	nm	4.00	0.00	-0.02	>10	0.08
2/21/05	nm	5.30	0.00	0.00	9,40	0.02
3/7/05	pm	5.00	0.00	0.02	9.40	0.32
3/23/05	pm	0.00	0.00	-0.03	0.00	-0.01
4/6/05	nm	nm		0		
5/23/05	nm	nm		nm		nm nm
5/30/05		nm	nm	nm		pm
8/30/05	nm		nm	nm		
0/30/03	1 100	1 1111	1 1111	11111	1111	11111

TABLE 2.1 (Page 3 of 3)AS SYSTEM OPERATION AND MONITORING DATA (FEBRUARY 2003 - AUGUST 2005)BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

dry - well was dry

nm - not measured

bgs - below ground surface

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TABLE 2.2 GROUNDWATER MONITORING ANALYTICAL DATA (JUNE 1991 - AUGUST 2005) BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO

				Analytical P	arameters	
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
	6/18/91		<0.5	<0.5	0.7	0.9
MW-2	2/23/93		<0.5	<0.5	<0.5	<0.5
	6/8/93		<2.0	<2.0	<2.0	<2.0
	9/29/93		6.2	<2.0	<2.0	<2.0
	2/10/94		<2.0	<2.0	<2.0	<2.0
	5/13/94		<2.0	<2.0	<2.0	<2.0
	8/22/94		<2.0	<2.0	<2.0	<2.0
	11/9/00	dry		Well Dry - No Sa	mple Collected	
	3/25/01	dry		Well Dry - No Sa	mple Collected	
	6/2/03	dry		Well Dry - No Sa	mple Collected	
	0/2/02	dry		Well Dry - No Sa	mple Collected	
	12/16/03	dry		Well Dry No Sa	mple Collected	
	5/17/04	dry		Well Dry - No Sa	mple Collected	
	8/23/04	dry		Well Dry - No Sa	mple Collected	
	11/22/04	dry		Well Dry - No Sa	mple Collected	
	2/23/05	dry		Well Dry - No Sa	mple Collected	
	5/23/05	dry		Well Dry - No Sa	mple Collected	
	8/30/05	dry		Well Dry - No Sa	mple Collected	
	6/19/91		8,600	210	<25.0	4,200
MW-19	2/25/93		14,000	450.00	3,900	5100.00
	6/10/93		9,580	159	<u>928</u>	1,087
	11/13/00	63.45	7,200	<25	3,500	88
	3/26/01	63.37	12,000	<50	4,500	110
	5/30/02	63.54	12,000	<50	4,300	140
	6/2/03	63.90	10,100	<10	3,900	<30
	8/4/03	62.75	2,000	<10	304	<30
	9/3/03	65.06	3,580	<1.0	1,020	<3.0
	12/18/03	65.02	8.130	<50	<50	<100
	5/17/04	65 31	7 410	~13	1 160	45
	9/02/04		2,410		1,100	
	8723704	nm	2,050 Å 150	<23	303	<50
	2/23/05	nm	191	/ <10	<10	<20
	5/23/05	nm	8.520	<20	176	176
	8/30/05	nm	2.040	<20	117	<40
	9/26/92		2,770	221	7,690	6.090
MW-23	2/1/93		2,900	3,500	190	4,100
	2/25/93		2,900	190	3,500	4,100
	6/8/93		1,680	30	1,850	2,906
	9/29/93		2,133	216		3,823
	2/10/94		2,090	151	1,150	2,660
	5/13/94		3,530	255	852	2,150
	8/22/94	67.00	3,270	212	353	1,176
	11/13/00	57.02	3,700	<25	840	1,400
	5/20/01	57.07	9 300	<25	320	1,300
	6/2/03	57.12	8 920	<10	337	1,500
	8/4/03	57.06	2,250	<10	100	337
	9/3/03	57.11	3,860	8	208	768
	12/18/03	65.14	5,080	<50	<50	219
	5/17/04	57.14	8,020	<13	208	1,490
	8/23/04	57.04	4,480	<25	160	966
	11/22/04	57.13	3,360	<1	<1	<2
	2/23/05	53.17	7,450	<1	321	1,380
	5/23/05	57.22	9,900	37	270	1,650
	8/30/05	57.18	3,760	<5	53	199

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TABLE 2.2GROUNDWATER MONITORING ANALYTICAL DATA (JUNE 1991 - AUGUST 2005)BLANCO NORTH FLARE PIT - SAN JUAN COUNTY, NEW MEXICO(Page 2 of 2)

				Analytical P	arameters	
Monitoring	Sample	Static Water Level	Benzene	Toluene	Ethylbenzene	Total Xylenes
Well	Date	(ft BTOC)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
		NMWQCC Standard:	10	750	750	620
	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	o Sample Collected	
	8/4/03	66.91		Well Bailed Dry - No	o Sample Collected	
	9/3/03	dry		Well Dry - No Sa	mple Collected	
	12/16/03	57.31		Well Bailed Dry - No	Sample Collected	
	5/17/04	dry		Well Dry - No Sa	mple Collected	
	8/23/04	67.11		Well Bailed Dry - No	o Sample Collected	
	11/22/04	66.37		Well Bailed Dry - No	o Sample Collected	
	2/23/05	67.11		Well Bailed Dry - No	o Sample Collected	
	8/30/05	67.11		Not Enough Water to	Sample - TD 67.19	
	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	Free-F	Product Recovery Pump in	n Well - No Sample Coll	ected
	8/4/03	65.19		Well Bailed Dry - No	Sample Collected	
	9/4/03	65.00	538	10	139	466
	12/18/03	65.16	307	<0.5	158	685
	5/17/04	65.54	109	14	87	280
	8/23/04	66.11	29.5	<5	40	94
	11/22/04	66.37	19.0	<1	4	57
	2/23/05	66.12	22.7	<10	<10	11
	5/23/05	66.25	38.0	6	62	173
	8/30/05	66.08	18.2	<5	3	30
	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
	3/26/01	63.38	420	27	260	1,600
	5/30/02	63.54	420	13	170	1,100
	6/2/03	64.41	192	<25	328	1,480
	0/2/03	64.80	110	<10	145	1 240
	12/18/03	61.17	127	17	274	1,240
	5/17/04	65 74	95.0		317	1,000
	8/23/04	66.27	398	<25	<25	4,830
	11/22/04	66.63	<1	<1	330	1,520
	2/23/05	67.15	20.7	28	419	2,210
	5/23/05	67.41	<1	<1	<1	<2
	8/30/05	67.80	16.6	14	383	1.860

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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					
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:

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

2. The next quarterly sampling event is scheduled for 4th Quarter 2005.

3. Monitoring well MW-20 was damaged and abandoned in 2002.

BTEX: Benzene, Toluene, Ethylbenzene and Total Xylenes.

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Final 2005 NFP AS Tables 21Oct2005.xls, Figure 6

APPENDIX A AS System O&M and Site Visit Reports

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Lodestar Services, Incorporated

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

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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	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		С	umhos/cm	mg/L	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.

Services, Incorporated

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

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To:	Pam Anderson
From:	Martin Nee
CC:	File

Date: October 11, 2004

Re: Blanco North

10-11-04 0915 hrs. O&M site visit.

Well	Depth to	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		С	umhos/cm	mg/L	Inches
	Feet					
MW-23	57.13	6.94	14.7	>20000	0.88	0
MW-24	67.12	na	na	na	na	0.02
MW-27	66.38	6.88	14.0	13250	0.98	.01
MW-19	na	6.99	16.10	>20000	1.07	.01
MW-26	65.92	7.30	15.30	14120	0.81	.02

System Pressure 0 psi, flow 0.0 scfm

The electricity is off once again. The clock reads midnight. I do not know how long it has been off. Once the electricity comes on it will start cycling 12 hrs on 12 hrs off.

Scholestar Services, Incorporated

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

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To:	Pam Anderson
From:	Martin Nee
CC:	File
Date:	October 26, 2004
Re:	Blanco North

10-26-04 1141 hrs. O&M site visit.

Well	Depth to	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		С	umhos/cm	mg/L	Inches Water
	Feet					
MW-23	57.13	7.60	16.94	16130	0.68	na
MW-24	67.11	na	na	na	na	na
MW-27	66.44	7.05	18.83	6520	0.61	na
MW-19	na	7.26	19.28	15090	0.95	na
MW-26	66.79	7.46	18.22	8590	0.50	na

System Pressure 0 psi, flow 0.0 scfm

The electricity is off once again. The clock reads midnight, same time as two weeks ago. I do not know how long it has been off. Once the electricity comes on it will start cycling 12 hrs on 12 hrs off.

S Lodestar Services, Incorporated

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

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- From: Martin Nee
- cc: File
- Date: December 7, 2004
- Re: Blanco North

12/07/04 1117 O&M site visit.

Well	Depth to	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		\mathbf{F}	umhos/cm	mg/L	Inches
	Feet					() alor
MW-23	57.27	5.75	57.8	17850	0.92	na
MW-24	67.14	NA	NA	NA	na	na
MW-27	66.64	5.58	60.2	8810	0.98	na
MW-19	NA	5.90	57.9	15560	1.98	na
MW-26	65.67	6.32	59.8	9100	2.75	na

System Pressure 0 psi, flow 0.0 scfm

The electricity is off again. The clock reads 10 am .

Lodestar Services, Incorporated

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To:Pam AndersonFrom:Martin NeeCC:FileDate:November 17, 2004Re:Blanco North

11/17/04 1122 O&M site visit.

Well	Depth to	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		F	umhos/cm	mg/L	Inches Water
	Feet					
MW-23	57.19	7.41	59.1	<20,000	0.91	na
MW-24	67.19	NA	NA	NA	na	na
MW-27	66.55	7.25	60.2	8720	0.89	na
MW-19	NA	7.44	59.5	19910	1.65	na
MW-26	65.67	7.85	59.2	11270	1.78	na

System Pressure 0 psi, flow 0.0 scfm

The electricity is on!!!. The clock reads 10 pm. So the system was off during the visit. I left the system off pending sampling early next week.. Following sampling I will reset the clock.

Services, Incorporated

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

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- From: Martin Nee
- CC: File
- Date: December 22, 2004
- Re: Blanco North

12/22/04 0813 O&M site visit.

Well	Depth to	рН	Temp	Conductivity	Do	Pressure
	Water from TOC		F	umhos/cm	mg/L	Inches
	Feet					
MW-23	57.09	5.30	56.5	>20,000	1.41	0
MW-24	67.12	NA	NA	NA	na	03
MW-27	66.68	5.16	61.5	11150	1.16	0.05
MW-19	NA	5.37	61.4	>20,000	1.67	2.5
MW-26	65.85	5.73	60.03	11130	1.34	7.3

System Pressure 14psi, flow 6.5 scfm Reset clock that was 2 hrs slow

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To: Pam Anderson

- From: Martin Nee
- **CC:** File
- Date: January 10, 2005
- Re: Blanco North

1/10/05 1025 O&M site visit.

Well	Depth to	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		F	umhos/cm	mg/L	Inches Water
	Feet					
MW-23	57.15	6.85	61.1	>20,000	1.08	0
MW-24	67.11	NA	NA	NA	na	0.03
MW-27	66.71	6.70	64.8	11610	0.73	0.06
MW-19	NA	7.06	65.2	>20,000	1.79	3.6
MW-26	65.35	7.37	66.0	11150	1.86	7.7

System Pressure 14psi, flow 7.0 scfm

Clock showed correct time, indicating electricity has been on since last visit on 12/22/04

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To:	Pam Anderson	
From:	Martin Nee	
CC:	File	
Date:	January 21, 2005	0931 hrs
Re:	Blanco North Site Visit	

Arrived at site with electrician and installed meter on system to record amount of time the sparge motor operates. Electrician installed the meter in an electric box and mounted it on the wall. Installation took approximately 2 hrs on site.

System Pressure 14psi, flow 7.0 scfm

Lodestar Services, Incorporated

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To: Pam Anderson

- From: Martin Nee
- CC: File
- Date: January 23, 2005
- Re: Blanco North

1/23/05 0847 O&M site visit.

Well	Depth to Water from TOC	рН	Temp F	Conductivity umhos/cm	Do mg/L	Pressure Inches Water
MW-23	57.16	6.88	63.7	>20,000	1.00	0
MW-24	67.12	NA	NA	NA	na	0.03
MW-27	66.76	7.01	62.3	9320	0.88	0.03
MW-19	NA	7.20	61.7	17500	2.02	5.4
MW-26	65.32	7.21	61.0	11150	3.49	8.8

System Pressure 14psi, flow 7.0 scfm

The system operated 33.6 hrs since installation of the new meter approximately 3 days ago.

Lodestar Services, Incorporated

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

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To: Pam Anderson

- From: Martin Nee
- CC: File
- Date: February 8, 2005
- Re: Blanco North

2/8/05 0721 O&M site visit.

Well	Depth to Water from TOC Feet	рН	Temp F	Conductivity umhos/cm	Do mg/L	Pressure Inches Water							
							MW-23	57.12	6.83	61.2	17130	0.82	0
							MW-24	67.11	NA	NA	NA	na	-0.02
MW-27	66.82	6.71	61.4	9060	0.94	0.08							
MW-19	NA	7.03	60.3	16580	1.93	4.0							
MW-26	65.20	6.96	61.0	7100	1.98	>10							

System Pressure 14psi, flow 7.5 scfm Previous Meter Reading 1/24/05 2002 Current Meter Reading 2/8/05 12470 minutes Minutes since previous meter reading 10468 minutes (174.5 hrs) in 14 days (12.46 hrs/day)
Lodestar Services, Incorporated PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

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To: Pam Anderson

- From: Martin Nee
- cc: File
- **Date:** February 21, 2005
- Re: Blanco North

2/21/05 0739 O&M site visit.

Depth to	pН	Temp	Conductivity	Do	Pressure
Water from TOC		F	umhos/cm	mg/L	Inches Water
Feet					
57.21	6.85	52.7	17370	0.86	0.0
67.11	NA	NA	NA	na	0.0
66.89	6.80	55.6	8550	0.89	0.02
NA	7.08	55.8	14900	1.53	5.3
65.41	7.60	58.4	7110	3.43	9.4
	Depth to Water from TOC Feet 57.21 67.11 66.89 NA 65.41	Depth to Water from TOC pH Feet - 57.21 6.85 67.11 NA 66.89 6.80 NA 7.08 65.41 7.60	Depth to Water from TOC pH Temp Feet F 57.21 6.85 52.7 67.11 NA NA 66.89 6.80 55.6 NA 7.08 55.8 65.41 7.60 58.4	Depth to Water from TOCpHTempConductivityFumhos/cmFeet-57.216.8552.71737067.11NANANA66.896.8055.68550NA7.0855.81490065.417.6058.47110	Depth to Water from TOCpHTempConductivityDoFumhos/cmmg/LFeet

System Pressure 14psi, flow 7.5 scfm Previous Meter Reading 2/8/05 12470 Current Meter Reading 2/21/05 21659 minutes Minutes since previous meter reading 9189 minutes (153.1 hrs) in 13 days (11.78 hrs/day) 1 Lodestar Services, Incorporated

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

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To:Pam AndersonFrom:Martin NeeCC:FileDate:March 8, 2005Re:Blanco North

3/7/05 0854 O&M site visit.

Well	Depth to	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		F	umhos/cm	mg/L	Inches Water
	Feet					
MW-23	57.08	6.92	56.5	>20K	0.53	0.0
MW-24	67.11	NA	NA	NA	na	0.02
MW-27	66.96	6.70	58.2	10560	0.56	0.32
MW-19	NA	7.18	63.8	16570	2.02	5.0
MW-26	65.51	7.01	68.3	8410	3.29	9.4

System Pressure 14psi, flow 7.5 scfm

Previous Meter Reading 2/21/05 21659 minutes

Current Meter Reading 3/07/05 30095 minutes

System was down 2/21-23/05

Minutes since previous meter reading 8436 minutes (140.6 hrs) in 12 days (11.71 hrs/day)

1 Lodestar Services, Incorporated

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To: Pam Anderson

- From: Martin Nee
- **CC:** File
- Date: March 23, 2005
- Re: Blanco North

3/23/05 0657 O&M site visit.

Well	Depth to	pН	Temp	Conductivity	Do	Pressure
	Water from TOC		\mathbf{F}	umhos/cm	mg/L	Inches Water
	Feet					
MW-23	57.64	6.95	56.4	>20K	0.51	0.0
MW-24	67.12	NA	NA	NA	na	-0.03
MW-27	67.10	6.64	66.9	11040	0.78	-0.01
MW-19	NA	NA	NA	NA	NA	0.0
MW-26	67.68	6.73	63.2	8310	3.55	0.0

System Pressure 0 psi, flow 0 scfm

Previous Meter Reading 3/07/05 30095 minutes

Current Meter Reading 3/23/05 40774 minutes

System was down. There is no electricity.

Minutes since previous meter reading 10679 minutes (178 hrs) in 15 days (11.87 hrs/day)

Lodestar Services, Incorporated

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

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To: Pam Anderson

- From: Martin Nee
- **CC:** File
- Date: April 6, 2005
- Re: Blanco North

4/06/05 0951 O&M site visit.

Well	Depth to	pH	Temp	Conductivity	Do	Pressure
	Water from TOC		F	umhos/cm	mg/L	Inches Water
	Feet					
MW-23	57.37	6.74	60.2	>20K	0.77	na
MW-24	67.11	na	na	na	na	na
MW-27	67.20	6.62	63.0	11690	0.84	na
MW-19	na	na	na	na	na	na
MW-26	67.30	6.67	64.3	9520	041	na

System Pressure 0 psi, flow 0 scfm

Previous Meter Reading 3/23/05 40774 minutes

Current Meter Reading 4/06/05 40774 minutes

.02 feet of product in MW-27. System was down. Electricity is suspect as is the sparge motor. I usually know if the electricity is on by the lights and they did not work but there was a low hum coming from the compressor motor. We should have an electrician out. We still have the compressor from the San Juan River Plant.

Page 1

APPENDIX B Groundwater Sampling Field Forms

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Groundwater Sampling Field Forms – November 2004

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WATER LEVEL DATA

Services, Incorporated

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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	11/22/04
Site Name	Blanco North Flare Pit		

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Comments
MW-2	0959	-	-	Well is dry, TD 58.75
MW-19		-	na	well is blocked, cannot get interface probe to groundwater
MW-23		-	57.15	
MW-24		-	67.11	TD is 67.20 water may not be static water level and may be water accumulated in end cap of well
MW-26		-	66.37	
MW-27			66.63	

Comments

Signature:

Martin J. Nee

Date:

November 22, 2004

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Project No.: <u>(</u> Location:_Bl Project Mana Depth to Wa Water Colun	anco NF ager iteri nn Heigh	P We MJN a De tna We	Projec ell No:M pth to Produ ell Dia	t Name: <u>Bla</u> W-19 Date <u>11</u> uct <u>na</u> 2"	<u>nco NFP</u> - <u>-22-04</u> Product T	C D Start Tim hicknessn	Client:_ <u>MWH</u> Developmer e1116 a Mea	H/EL Paso ht <u>Sampling</u> Weather_ <u>cloudy 40s</u> Isuring Point <u>TOC</u>
Sampling Mo	ethod: Si	ubmersible Pu	mp 🗌	Centrifugal	Pump	Peristaltic	Pump 🔲	Other
Criteria: 31	Bo to 5 Casi	ottom Valve Bang Volumes of	ailer x Water Rem	Double Cho loval X stab	eck Valve ilization of	Bailer □ S	itainless-Ste rameters X	eel Kemmerer □ K Other <u>or bail dry</u>
Gal/ft x na	t ft of wat x .16	er	Gallons na x 3	Water Volur	ne in Well	Ounces na x 3		Gal/ oz to be removed na oz
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1125	5.86	18820	62.8				4	clear with black silt
				· · · · · · · · · · · · · · · · · · ·				
						· · ·		
Final: Time ph 1125 5	H S 5.86 11	C Temp 8820 62.8	Eh-ORP	D.O: T	urbidity	Ferrous Iron V	ol Evac. (4 d	Comments/Flow Rate clear with black silt
COMMENTS	S: grab sa	ample collecte	d due to wel	l constructior	n/accessat	pility problem	S	
INSTRUME		l: pH Mete DO Me onductivity Me	r X onitor eter X			Tempe Other	erature Mete	er x
Water Dispo <u>BTEX</u> VOC	sal_ <u>K</u> L Cs Alkal	<u>Itz</u> Sample inity TDS Ca	ID <u>Blanco N</u> tions Anion	NFP MW-19 ns Nitrate N	Samp Nitrite Amr	ole Time <u>11</u> nonia TKN N	<u>30</u> NMWQCC :	Metals Total Phosphorus
MS/MSD		BD	······	BD	Name/Tim	16		TB <u>_221104tb01</u>

Project No.: <u>3</u> Location:_Bl Project Mana Depth to Wa Water Colum Sampling Ma Criteria: 3 t <u>Gal/ft x</u> 9.7	anco NF ager tter5 nn Heigh ethod: S bo 5 Casi a ft of wat 1 x .65	P We <u>MJN</u> 7.15 De t <u>9.71</u> We ubmersible Pu ottom Valve Ba ng Volumes of er	Projec ell No: <u>M</u> pth to Produ ell Dia mp ailer x Water Rem <u>Gallons</u> 6.31 x 3	t Name: <u>Blan</u> <u>W-23</u> Date <u>11</u> uct <u>na</u> <u>4</u> " Centrifugal Double Che noval X stabi	22/04 Product T Pump	C D Start Time hicknessn Peristaltic Bailer [] S Indicator Par Ounces	lient: <u>MW⊢</u> evelopmen e1014_ a Meas Pump □ tainless-Ste rameters X	I <u>/EL Paso</u> t <u>Sampling</u> Weather_ <u>cloudy 40s</u> suring Point <u>TOC</u> Other □ eel Kemmerer □ Other_ <u>or bail dry</u> <u>Gal/oz to be removed</u> 18.93 gal
<u>p</u> a								
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1025	5.68	>20,000	59.6				1	gray, odor, sheen
	5.64	>20,000	60.0				2	gray, odor, sheen
	5.59	>20,000	58.7				5	gray, odor, sheen
	5.63	>20,000	58.9				7.5	well is bailing down
1058	5.97	>20,000	58.8				8.25	well has bailed down
Final: Time pr 1058 5	H S	C Temp 20,0 58:8 00	Eh-ORP	D.O Tu	rbidity	Ferrous Iron V	ol Evac. 0 8.25 v	Comments/Flow Rate vell has bailed down
COMMENTS	S:			.				
INSTRUMENTATION: pH Meter X Temperature Meter x DO Monitor Other Conductivity Meter X Water Disposal_Kutz Sample ID_Blanco NFP MW-23 Sample Time_1105 BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus								
MS/MSD	······	BD		BD I	Name/Tim	le		TB_112204tb01

Project No.: <u>3</u> Location:_Bl Project Mana Depth to Wa Water Colum Sampling Me	Project No.:30001.0 Project Name: Blanco NFP Client: MWH/EL Paso Location: Blanco NFP Well No: MW-26 Development Sampling Project ManagerMJN Date11-22-04 Start Time1141 Weathercloudy 40s Depth to Water66.37 Depth to Productn Project Thickness Measuring Point Water Column Height0 Well Dia4" Sampling Method: Submersible Pump Centrifugal Pump Peristaltic Pump Other Bottom Valve Bailer x Double Check Valve Bailer Stainless-Steel Kemmerer Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other								
Gal/ft x	ft of wate 3 x .65	er	Gallons 0.84 x 3	Water Volum	ne in Well	Ounces 108 x 3		Gal/oz to be removed 333 oz	
						······			
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz.)	Comments/ Flow rate	
1148	6.27	11060	61.6				32	gray, HC odor, Sheen	
Ī	6.26	11020	62				52	gray, HC odor, Sheen	
2	6.30	10940	61.6				66	gray, HC odor, Sheen	
	6.42	10900	61.0				74	gray, HC odor, Sheen	
<u>1206</u>	6.32	10800	60.4			-	80	gray, HC odor, Sheen	
X						ha			
a 			L	L		<u></u>		<u> </u>	
Final: Time pr 1206 6	1 Si 32 1	C Temp 0800 60.4	Eh-ORP	D:O. Tu	rbidity	Ferrous Iron V	ol Evac: C 80 g	comments/Flow Rate ray, HC odor, Sheen	
COMMENTS	S: Well ba	ailed dry.							
INSTRUMENTATION: pH Meter X Temperature Meter x DO Monitor Other Conductivity Meter X									
Water Dispo	sal <u>Kı</u> Cs Alkal	<u>utz_</u> Sample I inity TDS Cati	D <u>BlancoN</u> ions Anion	<u>NFP MW-26</u> 18 Nitrate N	Samp litrite Amr	ole Time <u>12</u> nonia TKN N	<u>10</u> JMWQCC N	_ Metals Total Phospho r us	
MS/MSD	BTEX VOCs Alkalinity TDS Cations Nitrate Nitrite Ammonia TKN NMWQCC Metalls Total Phosphorus MS/MSD BD BD Name/Time TB221104tb01							TB_221104tb01	

Project No.:	<u>30001.0</u> Ianco NF	P Wel	Project No: <u>M</u>	t Name: <u>Blan</u> N-27		C	Client:_ <u>MWH</u> Development	I/EL Paso t <u>Sampling</u>
Depth to Wa Water Colur	ager6 ater6 nn Heigh	<u>6.63</u> Dep t <u>2.65</u> Wel	th to Produ I Dia	Date <u>11/</u> uct <u>na</u> 2"	<u>22/04</u> Product T	hickness <u>n</u>	e <u>1218</u> <u>a</u> Meas	vveatner <u>cloudy 40s</u> suring Point <u>TOC</u>
Sampling M	ethod: S B to 5 Casi	ubmersible Purr ottom Valve Bai ng Volumes of V	np □ ller x Water Rem	Centrifugal Double Che oval X stabi	Pump □ eck Valve lization of	∣ Peristaltic Bailer □ S Indicator Pa	Pump □ tainless-Ste rameters X	Other Conter Conter
Gal/ft > 2.6	<u>k ft of wat</u> 65 x .16	er	Gallons 0.42 x 3	Water Volum	ne in Well	Ounces 54 x 3		Gal/ oz to be removed 161
[· ·
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1228	5.62	7360	63.4				32	clear, strong HC odor, sheen
	5.61	7960	63.3 63.2				56 70	well is bailing down
1040	5.00	7400	62.2				70	sheen
Final: Time pl 1240	H <u>S</u> 5.73	C Temp 7200 63.3	<u>Eh:ORP</u>	D.O. Tu	rbidity	Ferrous Iron V	ol Evac. C 78 v	Comments/Flow Rate vell has bailed dry
COMMENT	S: Well ba	ailed dry.						
INSTRUMENTATION: pH Meter X Temperature Meter x DO Monitor Other								
Water Dispo <u>BTEX</u> VO	o <mark>sal<u>K</u>i</mark> Cs Alkal	<u>utz</u> Sample I linity TDS Cati	D <u>Blanco N</u> ons Anion	<mark>NFP MW-27</mark> 18 Nitrate N	Samp Sitrite Amr	ole Time <u>12</u> monia TKN N	245 NMWQCC N	 Metals Total Phosphorus
MS/MSD		BD_	<u></u>	BD	Name/Tim	ne		_ TB_ <u>112204tb01</u>

Groundwater Sampling Field Forms – February 2005

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WATER LEVEL DATA

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	02/23/05
Site Name	Blanco		

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Comments
MW-2	0732		=	Well is dry, TD 58.75
MW-19		-	na	well is blocked, cannot get interface probe to groundwater
MW-23		-	57.13	
MW-24		-	67.11	TD is 67.20 water may not be static water level and may be water accumulated in end cap of well
MW-26		-	66.12	
MW-27		67.14	67.15	First measurable product in this well. Product was obvious in the bailer during sampling.

Comments

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No oknown

System was turned off on February 21, 2005 at approximately 0930 hrs. Also on the 21st, water was removed from these very slow recovering wells for field parameters.

Signature:

Martin J. Nee

Date: F

February 23, 2005

24-2 CA

Project No.: <u>3</u> Location:_Bl Project Mana Depth to Wa Water Colum	30001.0 anco NFI ager tern nn Height	P MJN a tna	Wel Dep Wel	Project I No: <u>MV</u> th to Produ I Dia.	Name: <u>Blan</u> V-19 Date <u>2-2</u> ct <u>na</u>	<u>3-05</u> Product Tl	C D Start Time hickness <u>na</u>	lient: <u>MW+</u> evelopmen e <u>0835</u> a Meas	I/EL Paso t <u>Sampling</u> _ Weather_ <u>cloudy 40s</u> suring Point <u>TOC</u>		
Sampling Me Criteria: 3 t	ethod: Si Bo	ubmer ottom [*] ng Vol	sible Pum Valve Bai umes of \	np □ Ier x Water Rem	Centrifugal Double Che oval X stabi	Pump	Peristaltic Bailer 🗆 Si Indicator Par	Pump □ tainless-Ste rameters X	Other eel Kemmerer Other <u>or bail dry</u>		
[Motor V-1						
 Gal/ft v	ft of wat	er		Gallone	vvater volum	ie in well	Ounces		Gal/oz to be removed		
na	1 X .16			na x 3			na x 3		na oz		
Time pH SC Temp ORP D.O. Turbidity Vol Evac. Comments/ (military) (su) (umhos/cm) (°F) (millivolts) (mg/L) (NTU) (ounces) Flow rate											
0855 7.24 12640 55.6 4 clear with b floaters and hydrocarbo								clear with black floaters and sediment, hydrocarbon odor			
Final: 	H	<u>C</u> 2640	<u>Temp</u> 55.6	<u>Éh-ORP</u>	<u>D:O.</u> Tu 0.65	rbidity	Ferrous Iron V	ol Evac: C 4 c a	Comments/Flow Rate lear with black floaters ind sediment, hydrocarbon odor		
COMMENTS	S: collecte	ed gra	b sample	without pur	ging due to v	vell structu	iral problems	. Could no	t measure water levels.		
INSTRUMEN	INSTRUMENTATION: pH Meter X Temperature Meter x DO Monitor Other Conductivity Meter X										
BTEX VOC	Cs Alkal	inity]	TDS Cati	ons Anion	s Nitrate N	litrite Amn	nonia TKN N	JMWQCC I	Metals Total Phosphorus		
MS/MSD	MS/MSD BD BD_Name/Time TB_022305TB01										
			<u></u>								

S. 10. A	Project N	o.: <u>30001</u>	.0		Project	Name: Blanco NFP Client: MWH/EL Paso V-23 Development Sampling						
	Project M	_bialico anager _				Date	_02-	23-05	_ Start T	ime073	<u>2_</u>	Weather_cloudy 40s
Anakia	Depth to	Water	<u>57.13</u>	Dep	oth to Produ	ict <u>na</u>	{	Product T	hickness_	_na1	Neas	uring PointTOC
	water Co	iumn He	ignt <u>9.</u>	<u>72</u> vve	II DIa	_4						
- State	Sampling	Method:	Subme	sible Pun	np 🗖	Centrifu	igal I	Pump 🗆	Perista	lltic Pump		Other
			Bottom	Valve Ba	iler x	Double	Che	ck Valve	Bailer 🗆	Stainless	-Stee	el Kemmerer
24 T.	Criteria:	3 to 5 C	asing Vo	lumes of	Water Rem	oval X s	tabi	lization of	Indicator	Parameter	s X	Other <u>or bail dry</u>
						Water V	olum	ne in Well				
N. 9. 1	Gal	ft x ft of v 9.72 x .6	vater 5		Gallons 6.32 x 3				Ounces			Gal/oz to be removed 18.95 gal
	Time	рН		SC	Temp	ORF)	D.O.	Turbidit	y Vol E	vac.	Comments/
	(military) (su) (um	hos/cm)	(°F)	(millivo	lts)	(mg/L)	(NTU)	(gallo	ons)	Flow rate
9 A	0740	0.5			55.5							sheen
, 		7.0	3 1	5040	57.4					2		dark olive/grey, sudsy, sheen
		7.0	5 1	6380	56.8					3		dark olive/grey, sudsy, sheen
in the	7.00 16690 56.8								5		dark olive/grey, sudsy, sheen	
		6.99 16770 56.0								8.2	5	well is bailing down, dark grey, sheen
Sec. 1	<u>0813</u>	7.0	9 1	7090	57.2					8.	5	well has bailed down, dark grey sheen
* . E S												
198. 5												
- [l	I		I				
	Final:	, ^т	80	Tomp			.	rhidity	Ferrous			ommonto/Elou: Doto
	<u>0813</u>	7.09	17090	57.2	EII-UNF	D.O.	<u> </u>			8.5	. U W	ell has bailed down,
34-97-72 × 4		an a									d	ark grey, sheen
	COMMEN	NTS:										
2 	INSTRUM		<u>ON</u> .	nH Meter	x				Ter	nperature	Mete	r y
				DO Mo	nitor				Oth	ner		
Conductivity Meter X								C	olo Time -	0000		
	<u>BTEX</u> V	iocs A	<u>_nutz_</u> Ikalinity '	Sample I TDS Cati	ons Anion	ns Nitrat	<u>23</u> e N	Samı litrite Amı	ne Time monia TKI	<u>_0820</u> N NMWQ	CC N	 Ietals Total Phosphorus
1 4.7 at 1			2									-
2	MS/MSD			BD_			ВD	Name/Tin	ne			IB_230205tb01
17 × 648. ²⁴												

Project No.: <u>s</u> Location:_Bl Project Mana Depth to Wa Water Colun Sampling Ma Criteria: 3 to <u>Gal/ft x</u>	30001.0 anco NFI ager ter66 nn Height ethod: Su Bo to 5 Casin to 5 Casin to 5 Casin to 5 Casin	P Well MJN 5.12 Dep t 1.55 Well ubmersible Pun ottom Valve Ba ng Volumes of er	Projec II No:M oth to Produ II Dia np iler x Water Rem Gallons 1.00 x 3	t Name: <u>Blan</u> <u>W-26</u> Date <u>02</u> - uct <u>na</u> <u>4</u> " Centrifugal Double Che noval X stabi <u>Water Volum</u>	23-05 Product TI Pump □ eck Valve I lization of ne in Well	C Start Time hicknessn Peristaltic Bailer [] S Indicator Pa Ounces 128 x 3	Client:_ <u>MW</u> evelopment e0903 a Mean Pump □ tainless-St rameters 2	H/EL Paso nt <u>Sampling</u> Weather <u>cloudy 40s</u> asuring PointTOC Other teel Kemmerer X Other_ <u>or bail dry</u> <u>Gal/oz to be removed</u> 438 oz
			Tama			Turkidity		
(military)	pH (su)	SC (umhos/cm)	lemp (°F)	(millivolts)	D.O. (mg/L)	(NTU)	Vol Evac	E. Comments/ Flow rate
0914	7.06	6610 6720	59.7 61.7				38 70	bailer top clear, bottom dark grey, silty, sheen dark grey, silty, sheen, well is bailing down
	7.52	6740	62.2				94	dark grey silty
	7.57	6770	62.6				112	dark grey silty
<u>0934</u>	7.61	6670	62.8				124	dark grey silty, well has bailed dry
Final: Time pr 0934 7	4 <u>S</u> 1 61 6	C Temp 670 62.8	EhtORP	D:O. Tu	irbidity.	Ferrous Iron V	ol Evac. 124	Comments/Flow Rate dark grey silty, well has bailed dry
	S: Well ba	ailed drv.						
		I: pH Meter DO Mo conductivity Met	X nitor ter X			Tempe Other	erature Me	ter x
Water Dispo	sal <u>KL</u> Cs All∽l	inity TDS Carl	U_BIANCO	NET MIV-26 Nitrate N	Samp	ne i me <u>10</u> nonia TKN N		 Metals Total Phoenhoms
MS/MSD		BD_		BD	Name/Tim	10 <u></u>		TB022305tb01

3.5%

Project Locati Project Depth Water Samp	t No.: <u>6</u> on:Bl t Mana to Wa Colum ing Me a: 3 t <u>Gal/ft x</u> 2.1	30001.0 anco NF ager ter6 nn Heigh ethod: Si Bi so 5 Casi ft of wat 4 x .16	P 	Well Dept Well le Pum le Bail	Project No:Mv th to Produ Dia Dia P ler x Vater Rem Gallons	Name: <u>Blan</u> <u>V-27</u> Date <u>02/</u> oct <u>67.14</u> 2" Centrifugal Double Che oval X stabi	co NFP 23/05 Product Pump ck Valve B lization of ne in Well	C Start Tim Thickness_ Peristaltic Bailer □ S Indicator Pa Ounces 44 x 3	Client:_ <u>MWH</u> Developmen e0943 01M Pump [] tainless-Ste rameters X	I/EL Paso t Sampling Weathercloudy 40s easuringPointTOC Other Other eel Kemmerer Otheror bail dry Gal/oz to be removed 131
									<u> </u>	
Tin (milit	ne ary)	pH (su)	SC (umhos	; ;/cm)	Temp (°F)	ORP (millivolts)	D.O. (ma/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1004		6.96	810	0	61.7				24	grey, strong HC odor,
<u></u>		7.02	845	0	63.1				40	grey, strong HC odor, product
<u>1025</u>		7.03	840	0	63.1				48	well has bailed dry
					······					
Final Time 1025	: 7 // 7	H. S. X.03 8 S: Well ba	C T 3400 ailed dry.	emp 63.1	<u>Eh-ORP</u>	D.O. Tu	rbidity	-errous Iron V	ol Evac. (48 v	Comments/Flow Rate vell has bailed dry
INSTF Water <u>BTE</u> 2		NTATION C sal <u>Ki</u> Cs Alkal	I: pH Conductivi <u>utz</u> Sa inity TD	Meter DO Mor ity Mete mple II S Catio	X nitor er X D_Blanco N ons Anion	VFP MW-27 Ns Nitrate N	Samp	Tempo Other le Time <u>11</u> nonia TKN 1	erature Mete	er x Metals Total Phosphorus
MS/M	SD			BD_		BD	Name/Tim	e		TB_022305tb01

Groundwater Sampling Field Forms – May 2005

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Scholestar Services, Incorporated

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

WATER LEVEL DATA

Project Name_	San Juan Basin Ground Water	Project No.	30001.0
Project Manager	MJN		
Client Company	MWH	Date	5-30-05
Site Name	Blanco		
		-	

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Comments
MW-2	1105	-	-	well is dry TD 58.76
MW-19		-		no access
MW-23		-	57.22	well purged and sampled 5/23/05, looks static
MW-24		-	67.13	not enough water in well to sample TD 67.19
MW-26		-	67.16	well purged and sampled 5/23/05 not recovered not static
MW-27		-	67.58	well purged and sampled 5/23/05 not recovered not static
MW-5		-		Dry hole TD 21.15
MW-6		-	30.95	not enough water to sample TD 31.22, may not be static
MW-7		-		Well is dry TD is 21.24
MW-8		-	34.66	
MW-28		-	30.22	
MW-29		-	32.31	
MW-30		-	32.28	
MW-12		-	15.65	
MW-13		-	13.43	
MW-14		-	18.81	
MW-15		-	17.80	

Comments

Signature: 1

Martin J. Nee

Date: May 31, 2005

1.2.9 March 1.

48 Ber 4

Project No.: <u>3</u> Location:_Bla Project Mana	30001.0_ anco NF	P We MJN	Projec ell No: <u>M</u>	t Name: <u>Blan</u> <u>W-19</u> Date <u>5-2</u>	3-05_	C D Start Time	ilient:_ <u>MWH</u> evelopment e0920	/ <u>EL Paso</u> Sampling Weather_sunny 80s
Depth to Wa Water Colum	ter <u>n</u> n Heigh	<u>a De</u> t <u>na</u> We	pth to Produ ell Dia	uct <u>na</u> _2"	Product TI	nickness <u>n</u> i	a Meas	suring Point <u>TOC</u>
Sampling Me Criteria: 3 t	ethod: S B o 5 Casi	ubmersible Pu ottom Valve Ba ng Volumes of	mp □ ailer x Water Rem	Centrifugal Double Che noval X stabi	Pump	Peristaltic Bailer □ S Indicator Pa	: Pump □ tainless-Ste rameters X	Other
·								······································
Gal/ft v	ft of wat	or	Gallons	Water Volum	ne in Well			Gal/oz to be removed
na	na x .16 na x 3 na x 3 na oz							
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
0922	6.48	8520	71.1				4	grey with black floaters and sediment, hydrocarbon odor
Final: Time pl- 0922 6	H S 548 8	C. Temp 3520 71.1		D:0. Tu 0.96	rbidity	Ferrous Iron V	ol Evac. C	Comments/Flow Rate
	S: collect	ed grab sampl	e without pu	raina due to v	vell structu		a h s. Could not	nd sediment, ydrocarbon odor
Water Dispo	NTATION C sal <u>R</u> Cs Alkal	I: pH Mete DO M Conductivity Me to Vista_ Sar Linity TDS Ca	r X onitor eter X nple ID <u>Bla</u> tions Anior	nco NFP MW	-19 Samp	Tempe Other ole Time_09 nonia TKN N	erature Mete	er x —— Metals Total Phosphorus
MS/MSD	8 - 4	BD)	BD	Name/Tim	16		TB <u>230505TB01</u> _

S 2. 19.

Project No.: <u>30001.0</u> Location:_Blanco NFP	.	Project	Name: Blan		C	liont: MM/	H/EL Paso
Location:_Blanco NFP							<u>1/LL I asu</u>
	Well	No:MV	V-19		D	evelopmer	at Sampling
Proiect Manager N	/JN		Date 5-3	1-05	Start Time	e 0700	Weather sunny 80s
Depth to Water NA	Dept	h to Produ	ct na f	Product Th	nickness n	a Mea	suring Point TOC
Water Column Height	NA Well	Dia	2"			<u> </u>	
		Dia					
Sampling Method: Sub	mersible Pum	р 🗆	Centrifugal I	⊃ump 🗖	Peristaltic	Pump 🔲	Other
Bott	om Valve Bail	er x	Double Che	ck Valve I	Bailer 🗆 🛛 S	tainless-St	eel Kemmerer 🛛
Criteria: 3 to 5 Casing	Volumes of V	Vater Rem	oval X stabil	ization of	Indicator Pa	rameters)	Other_or bail dry_
			Water Volum	e in Well			
Gal/ft x ft of water		Gallons			Ounces		Gal/oz to be removed
na x .16		na x3			х З		na oz
	,l			····			
Time pH	SC	Temp	ORP	D.O.	Turbidity	Vol Evac.	. Comments/
(military) (su) ((umhos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	(ounces)	Flow rate
			·				
· · · · · · · · · · · · · · · · · · ·							· · · · ·
Final:					-errous		
Time i pH SC	Temp	Eh-ORP	D.O. Tu	bidity	Iron V	ol Evac.	Comments/Flow Rate
<u>新加速的設計。</u> 重要加速的調整。 重要加速的 電力 電力 電力 電力 電力 電力 電力 電力 電力 電力					a si Netista (Pap		
COMMENTS: a grab sa	mple was coll	ected due	to access pro	hlems w	ater levels ar	e not avail	able no nH conductivity or
temperature measurem	ents were coll	ected.		6101113, W		e not availa	able, no pri, conductivity, or
				<u> </u>	<u>.</u> .		
INSTRUMENTATION:	pH Meter	X	·		Tempe	erature Met	er x
	DO Mon	itor			Other		
Cor	nductivity Mete	er X	•*				
Water Disposal	Sample ID Bl	anco NFP	MW-19 Sam	ple Time	0745 5/31/	05	
VOCs Alkalini	ity TDS Catio	ns Anions	s Nitrate N	Jitrite Am	monia TKN	NMWQCO	 C Metals Total Phosphorus
	-						r
MS/MSD	BD		BD N	Name/Tim	e		TB_ <u>310505tb01</u>

A. 13. 14

Project No.: <u>(</u> Location:_Bl Project Mana Depth to Wa Water Colun Sampling Me	30001.0 anco NF ager iter5 nn Heigh ethod: S B to 5 Casi	P Wel <u>MJN</u> 7.215 Dep t <u>9.63</u> Wel ubmersible Pun ottom Valve Ba ng Volumes of	Projec II No:M oth to Produ II Dia np iler x Water Rem	t Name: <u>Blan</u> <u>N-23</u> Date <u>052</u> uct <u>na</u> I 4" Centrifugal Double Che	co NFP 2305 Product T Pump C ck Valve	C D Start Time hicknessna hicknessna Peristaltic Bailer [] S f Indicator Par	lient: <u>MWH</u> evelopment e <u>0932</u> a Meas Pump tainless-Ste rameters X	/EL Paso Sampling Weathercloudy 40s suring PointTOC Other □ el Kemmerer □ Otheror bail dry_		
Gal/ft x	t of wat	er	Gallons 6.26 x 3	Water Volum	ie in Well	Ounces		Gal/oz to be removed		
			0.20 × 0			<u> </u>		10.70 gui		
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate		
0940	6.35	7820	69.3				1	grey, sheen, sudsy		
	6.34	8070	66.3				2	grey, sheen, sudsy		
	6.32	8140	65.5		· ····		3	grey, sheen, sudsy		
· · · · · · · · · · · · · · · · · · ·	6.29	8670	65.6	· .			5	grey, sheen, sudsy		
	6.31	9040	65.2				7.5	as above, well is		
0953	6.48	9390	65.0		1.32		7.75 as above, v			
					-					
	L	1		I	I	<u> </u>	I			
Final:				EL ODD						
<u>1 me</u> 0953	<u>рн</u> 6.48	<u>9390</u>	1emp 65.0	En-ORP	D.O. 1.32	lurbidity	Vol Evac.	grey, sheen, sudsy,		
								well has bailed dry		
		V: pH Meter	X	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Tempe	erature Mete	er x		
		DO Mo	nitor	•		Other				
	C	onductivity Met	ter X				07			
BTEX VO	sal <u>Ri</u>	<u>o Vista</u> Sam	pie ID <u>Blai</u>	nco NFP MW-	1 <u>23</u> Sam	ple Lime <u>10</u>		Jetals Total Dheanh		
	Jo AIKAI	inty 105 Cat	0115 / 111101.	is initiate in	anne Ain	monia i Kin P		retais 10tai r nosphorus		
MS/MSD		BD_		BD	Name/Tir	ne		_ TB230505tb01		

Project No.:	30001.0_		Projec	t Name: <u>Blar</u>	ICO NFP	c	lient: <u>MWH</u>	I/EL Paso	
Location:_Bl	anco NF	P Wel	No: <u>M</u>	N-23		D	evelopment	t <u>Sampling</u>	
Project Mana	ager	_MJN		Date <u>5/3</u>	0/05	Start Time	e1202_	Weather <u>sunny 80</u>	<u>IS</u>
Depth to Wa	ter5	<u>7.22_</u> Dep	th to Produ	uct <u>na</u>	Product T	hickness <u>n</u> a	a Meas	suring Point <u>TOC</u>	
Water Colun	nn Heigh	t <u>9.625</u> Wel	l Dia	_4"			.		
Sampling M	ethod: S	ubmersible Pun	np 🗖	Centrifugal	Pump	Peristaltic	Pump	Other	
Criteria: 3	Bo to 5 Casi	ng Volumes of V	ller x Water Rem	loval X stabi	lization of	Indicator Pa	rameters X	Other <u>or bail dry</u>	
				Water Volum	ne in Well				
Gal/ft x	ft of wat	er	Gallons			Ounces		Gal/oz to be removed	
9.62	25 x .65		6.63 x 3					18.77 gal	
Time	pН	SC	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/	
(military)	(su)	(umhos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	(gallons)	Flow rate	dev
1215	0.07	0340	07.5					sheen	
	6.76	/5/0	65.4				2	sheen	lsy,
	6.67	8250	65.2				3	yellow tinge, suc sheen	lsy,
	6.61	8740	65.2				5	grey, sudsy, sheen	·
	6.74	9060	65.2				7.5	well is bailing do grey	wn,
<u>1234</u>	6.79	9170	65.5				7.25	well has bailed dry	
									
1									
, Final:			an a			Ferrous			
Time pl 1234 6	- S 5.79 9	C Temp 170 65.5	Eh-ORP	D.O. Tu	rbidity	Iron V	ol Evac. C 7.25 w	Comments/Flow Rate	
		観光							
COMMENTS	S:					•			
INSTRUME		I: pH Meter	X			Tempe	erature Mete	er x	
i	~	DO Mo	nitor	<u> </u>		Other			
Water Dispo	sal Ri	onductivity Met o Vista Sam	er a ple ID Blar		-23 Samr	ble Time 12	335 5/30/05		
VO	Cs Alkal	inity TDS Cati	ons Anior	as Nitrate I	<u>Vitrite</u> An	nmonia TKN	NMWQCC	Metals Total Phosphorn	15
MS/MSD	· <u> </u>	BD_	<u></u>	BD	Name/Tim	ne		TB <u>310505tb01</u>	
				<u> </u>		<u> </u>	· · ·		

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Project No.:	30001.0_		Project	t Name: <u>Blan</u>	co NFP	с	lient: <u>MWH</u>	/EL Paso
Location:_BI	anco NFI	P We	ll No: <u>M\</u>	N-26		D	evelopment	<u>Sampling</u>
Project Mana	ager	MJN		Date <u>05-</u>	<u>23-05</u>	Start Time	e0841	Weather <u>sunny 80s</u>
Depth to Wa	ter <u>6</u> 6	<u>5.25</u> Dep	oth to Produ	ict <u>na</u> F	Product T	hickness <u>n</u> a	a Meas	suring Point
Water Colun	nn Height	t <u>1.55</u> We	ll Dia	4"				
Sampling Me	ethod: Su	ubmersible Pur	np 🗖	Centrifugal I	Pump	Peristaltic	Pump	Other
Criteria: 31	Bo 5 Casii	ottom Valve Ba	iler x Water Rem	oval X stabil	ck Valve ization of	Indicator Par	rameters X	Other_or bail dry_
	P===1			Water Volum	e in Well			
Gal/ft x	ft of wat	er	Gallons			Ounces		Gal/oz to be removed
1.:	38 .65		0.897 x 3	x 3 114.81 x 3			344.45 oz	
Time	pH	SC (umbas (am)	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/
(military) 0848	(su) 6.39	(umnos/cm) 6610	(°F) 65.20	(millivoits)	(mg/L)		(02.) 33	dark grey, sheen, HC
	6.47	6150	64.8				57	well is bailing down
	6.48	6060	64.3				75	dark grey, sheen, HC odor
	6.47	6150	64.6				91	dark grey, sheen, HC odor
<u>0901</u>	6.52	6160	64.9		0.84		98	well is dry
							. <u>, , , , , , , , , , , , , , , , , , ,</u>	
								· · · · · · · · · · · · · · · · · · ·
Final: Time	рН	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
<u>0901</u>	6.52	6160	64.9		0.84		98	well is dry.
COMMENTS	S: Well ba	ailed dry.						
INSTRUME	NTATION	I: pH Meter	X	······		Tempe	erature Mete	r x
	~	DO Mo	nitor tor X			Other		
Water Dieno	sal Di	onuuciiviiy ivie o Vista Sam	ici A Inle ID Blar		26 Same	ole Time 00	10	
BTEX VO	Cs Alkal	inity TDS Cat	ions Anion	is Nitrate N	itrite Am	monia TKN N	IMWQCC N	- 1etals Total Phosphorus
MS/MSD		BD_		BD I	Name/Tin	ne		_ TB230505tb01

Project No.: <u>3</u>	80001.0		Project	Name:_ <u>E</u>	Blanco NFP		Client:_M	WH/EL P	aso			
Location:_Bl	anco NFI	> Wel	l No: <u>_MV</u>	<u>V-26</u>		.	Developn	nent <u>Sa</u>	impling			
Project Mana	ager	_MJN	<u> </u>	Date	5/30/05	Start T	ime <u>1356</u>	<u> </u>	eather_ <u>Sunn</u>	<u>y 80s</u>		
Depth to Wa	ter <u>67</u>	7.16 Dep	th to Produ	ct <u>na</u>	Product 1	hickness_	<u>na</u> N	leasuring	Point <u>10C</u>			
water Colum	in Height	<u>0.47</u> we	i Dia	_4								
Sampling Me	ethod: Su	ubmersible Pun	ים קו	Centrifu	gal Pump] Perista	altic Pump	D Ot	her 🔲	<u></u> .		
_	Bo	ottom Valve Ba	iler x	Double (Check Valve	Bailer 🛛	Stainless	-Steel Ke	mmerer 🛛			
Criteria: 3 t	o 5 Casi	ng Volumes of	Water Rem	oval X st	tabilization o	f Indicator	Parameter	sX Öt	her <u>or bail dr</u>	<u>Y_</u>		
	······			Water Vo	olume in Wel]		
Gal/ft x	ft of wat	er	Gallons	·		Ounces		Gal/c	z to be remove	ed		
0.4	0.47 x .65					39.17 x 3			117 oz			
Time	pН	SC	Temp	ORP	D.O.	Turbidit	y Vol Ev	/ac.	Comments	/		
(military)	(su)	(umhos/cm)	(°F)	(millivol	ts) (mg/L)	(NTU)	(oz.)	Flow rate			
1408	6.59	7890	70.2				18	vel rec pre	ll has not overed vious weeks	fully from BTEX		
A	6.73	7920	67.9				27	gre	y, HC odor, sl	heen		
	6.76	8010	68.1	-			31	gre	y, HC odor, sl	heen		
<u>1438</u>	6.78	8070	68.2		·		39	grey, HC odor,		heen		
ine Ser Ser												
[· · · · ·									
2 *			L									
Final:		C		DO	Turbidity	Ferrous	Vol Evac	Comm	onte/Elow/ Pat			
<u>1438</u>	5.78 8	8070 68.2	EIFORE	<u></u>			39	grey,	HC odor, shee	e en		
	S: Well ba	ailed dry on 5/3	0/05 not en	ough wate	er to sample	on 5/31/05	or 6/1/05.	Water le	vel had not rec	covered		
	g 5/25/00	sampling write	in purged of	1 3/3 1/03								
INSTRUME	NTATION	I: pH Meter	X			_ Ter	nperature N	Meter x				
		DO Mo	nitor	•		_ Oth	ner					
6	C	Conductivity Me	ter X			-				ł		
Water Dispo	sal <u>R</u>	io Vista_ Sam	ple ID <u>Blar</u>	ICO NFP N	<u>MW-26</u> Sam	ple Time_	none co	llected		1		
VO	Cs Alka	linity TDS Cat	ions Anion	s Nitrat	e Nitrite A	mmonia Tł	KN NMWQ	QCC Meta	ls Total Phospl	horus		
MS/MSD		BD_			BD Name/Tii	ne		ТВ	<u>_na</u> _			
					<u> </u>]		

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Project No.:3	30001.0		Projec	t Name: <u>Bl</u> a	nco NFP	C	lient: <u>M</u>	NH/EL Paso
Location:_BI	anco NFF	> Wel	I No: <u>M</u> \	W-27		D	evelopm	ent Sampling
Project Man	ager	MJN		Date 05	/23/05_	Start Time	e0 <u>810</u>	Weather sunny 80s
Depth to Wa	ter <u>67</u>	7.41 Dep	oth to Produ	uct67.34_	Product	Thickness_	.02	_MeasuringPoint <u>TOC</u>
Water Colun	nn Height	. <u>1.91</u> Wel	l Dia	_2"				
Sampling M	ethod: Su Bo	ubmersible Pun ottom Valve Ba	np 🗋 iler 🗴	Centrifugal	Pump	Peristaltic 3ailer □ S	Pump [□ Other □ Steel Kemmerer □
Criteria: 3	to 5 Casir	ng Volumes of V	Water Rem	noval X stab	ilization of	Indicator Pa	rameters	X Other or bail dry
				Water Volu	me in Well			A 1/
Gal/ft x	t of wate	er	Gallons			Ounces		Gal/oz to be removed
1.8	JI X . 10				`			
Time		SC	Temp	OBP		Turbidity		ac. Comments/
(military)	(su)	(umhos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	(ounce	es) Flow rate
0817	6.34	490	63.6			<u></u>	24	strong HC odor, grey
· · · · · · · · · · · · · · · · · · ·	6.37	1030	64.9			<u> </u>	37	well is bailing down
<u> </u>	6.50	1040	64.9				41	strong HC odor, grey
0836	6.50	1090	65.1		1.60		43	strong HC odor, grey,
·								weir has baned dry
<u> </u>							+	
		· · · · · · · · · · · · · · · · · · ·		· · · ·				
						<u> </u>	+	
		·	<u> </u>	.1			£	
Final:	nH	SC	Temp	Fh-OBP	DO	Turbidity	Vol Eva	ac Comments/Flow Bate
<u>0836</u>	6.50	1090	65.1		1.60		43	strong HC odor, grey,
	an managers beinge		I THERE IS A PARTY OF THE PARTY	ally, all should be a series of the series o				an a la far ann an
COMMENT	S: Well ba	ailed dry. Not e	enough wat	er atter 2 hrs	recovery f	or 2 VOAs.	Submitte	a 1 VOA to laboratory
NSTRUME	NTATION	I: pH Meter	X			Tempe	erature M	leter x
	_	DO Mo	nitor		<u> </u>	Other		
Motor Dia		Conductivity Mel	ter X		1.07 6000	la Tima 10	07	
BTEX VO	Cs Alkal	inity TDS Cati	ions Anior	ns Nitrate 1	<u>Nitrite Amr</u>	nonia TKN I	NMWQC	C Metals Total Phosphorus
							-	
					NIA was a /Time			

Project No.: <u>s</u> Location:_Bl Project Mana Depth to Wa Water Colum Sampling Ma Criteria: 3 f	30001.0 lanco NF ager tter6 nn Heigh ethod: S B to 5 Casi c ft of wat 7 x .16	P Wel <u>MJN</u> 7.58 Dep t <u>1.7</u> Wel ubmersible Pur ottom Valve Bai ng Volumes of V er	Projec I No:M th to Produ I Dia I Dia Water Rem Gallons 0.27 x 3	t Name: <u>Blan</u> <u>N-27</u> Date <u>5/3</u> uct <u>na</u> 1 2" Centrifugal Double Che loval X stabil Water Volum	<u>co NFP</u> 0/05 Product T Pump □ ck Valve ization of ie in Well	C Start Time hicknessna Peristaltic Bailer □ S Indicator Par Ounces 34.81 x 3	lient:_ <u>MWH</u> evelopment e1258 a Meas Pump [] tainless-Ster rameters X	<u>/EL Paso</u> <u>Sampling</u> Weather <u>sunny 80s</u> suring Point <u>TOC</u> Other □ el Kemmerer □ Other_ <u>or bail dry</u> <u>Gal/oz to be removed</u> 104.45
Time	pH	SC (umbos/cm)	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/
(military) 1313	(su) 6.22	(unnos/cm) 8870	(°F) 71.0	(minvoits)	(mg/L)	(UVTU)	(ounces) 22	grey, product, HC odor
	6.60	8880	69.7			<u></u>	32	grey, product, HC odor
₹ 3.	6.55	9370	70.3				36	grey, product, HC odor
<u>1323</u>	6.91	10470	69.7				38	well has bailed dry
								· · · · · · · · · · · · · · · · · · ·
Final: Time ph 1323 6	H IS 591 1	C. Temp 0470 69.7	Eh:ORP.	.D.O: Tu	rbidity	Ferrous	ol Evac. C 38 w	omments/Flow Rate ell has bailed dry
Water Dispo	NTATION Cosal <u>Ri</u> Cs Alkal	I: pH Meter DO Mor conductivity Met <u>o Vista</u> Sam inity TDS Catio	X nitor er X ple ID <u>Blar</u> ons Anion	nco NFP MW- Nitrate N	<u>27</u> Samp Jitrite Am	Tempe Other Ile Time <u>08</u> Imonia TKN	orature Mete	r x Metals Total Phosphorus
MS/MSD		BD_		BD I	Name/Tim			_ TB_ <u>310505tb01</u>

Groundwater Sampling Field Forms – August 2005

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Scholestar Services, Incorporated

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

WATER LEVEL DATA

Project Name_	San Juan Basin Ground Water	Project No.	30001.0
Project Manager	MJN	-	
Client Company	MWH	Date	August 30, 2005
Site Name	Blanco	-	· · · · · · · · ·
Site Name	Blanco	-	

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Comments
MW-2	0752	· •	-	well is dry TD 58.76
MW-19		-		no access
MW-23		-	57.18	well purged and sampled
MW-24	·	-	67.11	not enough water in well to sample TD 67.19
MW-26		-	66.08	well purged and sampled
MW-27		-	67.80	pulled absorbent sock, not static
			· · · · · · · · · · · · · · · · · · ·	

Comments

Signature:

Martin J. Nee

Date:

August 30, 2005

E. as light

2.40 4.

1.000

Project No.: <u>3</u>	80001.0		Project	t Name: <u>Blan</u>	co NFP	_ c	lient: <u>MWH</u>	/EL Paso
Location:_Bl	anco NFI	P We	ell No: <u>MV</u>	V-19		D	evelopment	<u>Sampling</u>
Project Mana	ager	MJN		Date <u>8-3</u>	<u>0-05_</u>	Start Time	e_ <u>1000</u>	Weather_sunny 80s
Depth to Wa	ter <u>na</u>	a De	pth to Produ	ict <u>na</u> I	Product Th	nickness <u>n</u> a	a Meas	uring Point <u>TOC</u>
Water Colum	n Height	t <u>na</u> We	ell Dia	_2"				
Sampling Me	ethod: Su	ubmersible Pul	mp 🗌	Centrifugal	Pump		Pump	
Criteria: 3 t	o 5 Casii	ng Volumes of	Water Rem	oval X stabi	lization of	Indicator Pai	rameters X	Other_or bail dry_
_ [Water Volum	ne in Well			
Gal/ft x	ft of wat	er	Gallons			Ounces		Gal/ oz to be removed
na	x .16		na x 3			na x3		na oz
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (ounces)	Comments/ Flow rate
1036	6.51	7820	71.9				4	grey with black suspended organic material and sediment, hydrocarbon odor
Final:						Ferrous		
<u>Time pF</u> 1036 6	51 7	<u>820</u> 71.9	En-ORP			Iron V	ol <u>Evac</u> ii C 4 g s n h	omments/Flow Rate rey with black uspended organic naterial and sediment, ydrocarbon odor.
COMMENTS	S: Collect	ed grab sampl	e without pu	irging due to	well struct	ural problem	s. Could no	t measure water levels.
INSTRUMEN		l: pH Meter DO Mo onductivity Me	r X onitor eter X		· ···	Tempe Other	erature Mete	r x
Water Dispo	sal <u>Ri</u>	<u>o Vista</u> San	nple ID <u>Blar</u>	nco NFP MW	19 Samp	le Time <u>10</u>	19	
<u>btex</u> voc	Cs Alkal	inity TDS Cat	ions Anion	is Nitrate N	itrite Amn	nonia TKN N	NMWQCC N	letals Total Phosphorus
MS/MSD		BD		BD	Name/Tim	e		_ TB_ <u>300805TB01</u>
				<u>,</u>	<u></u>			

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Project No.: <u>(</u> Location:_Bl Project Man Depth to Wa Water Colum	<u>30001.0</u> anco NF ager iter <u>5</u> nn Heigh ethod: S	P Wo MJN 7.18 De t <u>9.96</u> Wo ubmersible Pu	Projec ell No:M epth to Produ ell Dia mp ailer x	t Name: <u>Blan</u> <u>W-23</u> Date <u>8/3</u> uct <u>na</u> 4 <u>4</u> " Centrifugal Double Che	0/05 Product TI Pump	C D Start Time hicknessn Peristaltic Bailer [] S	ilient: <u>MWH</u> evelopment <u>e_0753</u> <u>a</u> Meas Pump [] tainless-Ste	/ <u>EL Paso</u> <u>Sampling</u> Weathersunny 80s Furing PointTOC Other el Kemmerer
Criteria: 3	to 5 Casi	ng Volumes of	Water Rem	noval X stabi	lization of	Indicator Pa	rameters X	Other <u>or bail dry</u>
Gal/ft > 9.9	c ft of wat 96 x .65	er	Gallons 6.28 x 3	Water Volum	ne in Well	Ounces		Ga l/oz to be removed 18.85 gal
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0801	6.51	4090	61.5			· · · · · · · ·	1	grey, hydrocarbon odor
	6.48	4700	62.1				2	grey, hydrocarbon odor
Res 4. 	6.48	5290	62.4				5	odor grey, hydrocarbon
	6.53	5550	62.3				7.5	odor, sheen grey, hydrocarbon odor, sheen, well is bailing down
<u>0812</u>	6.76	5680	62.3				8.125	grey, hydrocarbon odor, well has bailed dry
Final: pl Time pl 0812 0	+ .s 5.76 f	C Temp 5680 62:3	Eh-ORP	D.O: Tu	rbidity	Ferrous Iron V	ol Evac. C 8.125 g w	omments/Flow Rate rey, hydrocarbon odor, ell has bailed dry
	S:		· · · ···					
INSTRUME		N: pH Mete DO M Conductivity Me	r X onitor eter X			Tempe Other	erature Mete	r x
Water Dispo BTEX VO	/salRi Cs Alkal	<u>io Vista</u> Sar linity TDS Ca	nple ID <u>Bla</u> tions Anior	nco NFP MW 18 Nitrate N	- <u>23</u> Samp litrite Amr	ole Time <u>08</u> nonia TKN N	<u>15 8/30/05</u> MWQCC N	Aetals Total Phosphorus
MS/MSD		BD)	BD	Name/Tim	ie		_ TB_ <u>300805tb01</u>

Project No.:3	30001.0_		Project	t Name: <u>Blan</u>	co NFP	c	lient:_ <u>MW</u>	H/EL Paso
Location:_Bl	anco NFI	P Wel	l No:M\	N-26		D	evelopmer	nt <u>Sampling</u>
Project Mana	ager	MJN		Date <u>8/3</u>	0/05	Start Time	∋ <u>0908</u>	Weather Sunny 80s
Depth to Wa	ter <u>66</u>	<u>6.08</u> Dep	oth to Produ	ict <u>na</u> l	Product Th	nickness <u>n</u>	a Mea	asuring Point
Water Colum	nn Height	t <u>1.79</u> Wel	l Dia	_4"				
Sampling Me	ethod: Si	ubmersible Pun	np 🗖	Centrifugal	Pump 🗖	Peristaltic	Pump 🔲	Other
	B	ottom Valve Ba	iler x	Double Che	ck Valve F	Bailer∏ S	tainless-St	eel Kemmerer
Criteria: 3 t	to 5 Casi	ng Volumes of '	Water Rem	oval X stabi	lization of	Indicator Pa	rameters)	X Other <u>or bail dry</u>
				Water Volum			<u> </u>	
Gal/ft x	ft of wat	er	Gallons	Water Volum		Ounces		Gal/oz to be removed
1.7	9 x .65		1.16 x 3			149 x 3		447 oz
						<u> </u>		
			T	000		T T		0
l Ime (military)	pH (su)	SC (umbos/cm)	Iemp (°⊑)	(millivolte)	D.O. (ma/l.)	I Urbidity	VOI EVAC	Elow rate
	(3U) 6 44	E200	665		(¹¹ 9/Ľ)		20	arey bydroeerbor
1900	0.41	3360	00.5				30	odor
	6.41	5220	65.2		<u> </u>		70	grey, hydrocarbon
								odor, well is bailing
	6.40	4050	GE A				06	down
	0.40	4950	05.4				00	odor
	6.40	4900	65.0				94	grey, hydrocarbon
0921	643	4900	65.1				98	grey, hydrocarbon
<u> </u>	0.40	4300	00.1					odor, well has bailed
								dry
		· · · · · · · · · · · · · · · · · · ·						
		·						
					<u>├</u>			
	ease to get the state	and the second	· · · · · · · · · · · · · · · · · · ·	and the second second	giffigiji)Witer bead	The second second second	and the second state of th	and and the state of the second state and the second second second second second second second second second se
Final:						-errous		
i ime ⇒ pH	1 S		EU-ORK	ט.ש. 10	rolaity	Iron V		comments/Flow Hate
								well has bailed dry
		2						and the second sec
COMMENTS	S:							
NSTRUME	NTATION	I: pH Meter	X			Tempe	erature Met	ter x
		DO Mo	nitor			Other		
	C	onductivity Met	er X					
Water Dispo	sal <u>Ri</u>	<u>o Vista_</u> Sam	ple ID <u>Blar</u>	nco NFP MW-	<u>26</u> Samp	le Time	8/30/05 09	25
BTEX VOC	Cs Alkal	inity TDS Cati	ons Anion	is Nitrate N	litrite Amn	nonia TKN N	IMWQCC	Metals Total Phosphorus
							-	*
MS/MSD		BD_		BD	Name/Tim	e		TB_300805tb01

Present Configuration

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Project No.: <u>3</u> Location:_Bla Project Mana Depth to Wa Water Colum Sampling Me Criteria: 3 t	<u>60001.0</u> anco NFI agerter <u>67</u> an Height ethod: Su Bo 5 Casin <u>ft of wat</u> 8 x .16	Well MJN Z.80 Dep J.48 Well ubmersible Pum bttom Valve Bai ng Volumes of V er	Project No: <u>MV</u> th to Produ Dia Ip ler x Water Rem <u>Gallons</u> 0.23 x 3	t Name: <u>Blar</u> <u>W-27</u> Date <u>8/3</u> Ict <u>na</u> 2" Centrifugal Double Che oval X stabi	0/05 Product T Pump	C Start Tim Thicknessr Peristaltin Bailer □ S Indicator Pa Ounces 30 x 3	Client:_ <u>MWI</u> Developmen ne0846 naMea c Pump Stainless-Str arameters >	H/EL Paso t <u>Sampling</u> Weathersunny 80s asuring PointTOC Other [] eel Kemmerer [] (Otheror bail dry Gal/oz to be removed 91
[<u></u>					
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac (ounces)	. Comments/ Flow rate
0850	6.32	4280	65.2				16	grey, sheen, bydrocarbon odor
	6.39	4680	65.1				26	grey, sheen, hydrocarbon odor, well is bailing down
33 <u>0902</u>	6.64	7100	65.2				30	grey, sheen, hydrocarbon odor, well has bailed down
Final: Time ph 0902 6	1.64 S	CTemp '100 65:2	Eh-ORP.	D,O. Tu	irbidity	Ferrous Iron A	/ol Evac. 30	Comments/Flow Rate grey, sheen, hydrocarbon odor, well has bailed down
						· · · · · · · · · · · · · · · · · · ·		
Water Dispo	NTATION C sal_ <u>Ri</u> Cs Alkal	I: pH Meter DO Mo conductivity Met <u>o Vista</u> Sam linity TDS Cati	X nitor er X ple ID <u>Bla</u> r ons Anior	nco NFP MW	<u>-27</u> Samı Jitrite Amı	Temp Other ole Time_09 monia TKN	erature Met	er x Metals Total Phosphorus
MS/MSD		BD_		BD	Name/Tin	ne		TB <u>300805tb01</u>

APPENDIX C Groundwater Analytical Laboratory Reports

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Groundwater Analytical Report – November 2004

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Verifica Foot Notes 1,2 B	Laborator Batch Identificatio MS/MSD Parent(s) ⁽ ation Complete Site ID Blanco North	ry:A	ccutest F8855 8855-04 Bria Lab. ID T8855-01 T8855-02	Fie <i>n But</i> (D) Hits (Y/N) Y	MWH eld Replic tars — ate/Signature Quals. J UJ UJ UJ UJ UJ UJ	Job Number: Matrix: ate Parent(s): 12/06/04 (a) Com Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ < m/n-Xylenes @ <	EPC-SJRB (Blanco North Water None 4 4 50 μg/l μg/l @ <1 μg/l @ <2 μg/l (2 μg/l (1 μg/l
Verifica Foot Notes 1,2 B	Batch Identificatio MS/MSD Parent(s) ⁽ ation Complete Site ID Blanco North	on:	Example 1 Brian Lab. ID T8855-01	Fie n But (D) Hits (Y/N) Y	eld Replic tars — ate/Signature Quals. J UJ UJ UJ UJ UJ UJ	Matrix: Tate Parent(s): 12/06/04 (a) Com Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ < m/n-Xylenes @	Water None 4 Mone 4 0 μg/l μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
Verifica Foot Notes 1,2 B	MS/MSD Parent(s) ⁽ ation Complete Site ID Blanco North Blanco North	(a):	8855-04 Brian Lab. ID T8855-01	Fie n But (D) Hits (Y/N) Y	eld Replic tars — ate/Signature Quals. J UJ UJ UJ UJ UJ UJ	ate Parent(s): <u>12/06/04</u> <u>e</u>) <u>Con</u> Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ < m/n-Xylenes @	<u>None</u> <u>None</u> <u>A</u> <u>Mone</u> <u>4</u> <u>60 μg/l</u> μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
Verifica Foot Notes 1,2 B	MS/MSD Parent(s) ⁽ ation Complete Site ID Blanco North	(a):	8855-04 Bria Lab. ID T8855-01	Fie n Buti (D) Hits (Y/N) Y	eld Replic tars — ate/Signature Quals. J UJ UJ UJ UJ UJ UJ	ate Parent(s): 12/06/04 (a) Com Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ < m/n-Xylenes @	None 4 5 60 μg/l μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
Foot Notes 1,2 1,3 1	ation Complete Site ID Blanco North	e: Sample ID MW-23 MW-19	Bria Lab. ID T8855-01	n Buti (D) Hits (Y/N) Y	tars — ate/Signature Quals. J UJ UJ UJ UJ UJ UJ	2/06/04 e) Com Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ < m/p-Xylenes @	4 5 6 0 μg/l μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
Foot Foot Notes 1,2 B 1,2 B B 1,3 B B 1 B B	Site ID Blanco North	Sample ID MW-23 MW-19	Lab. ID T8855-01	(D) Hits (Y/N) Y	Quals. J UJ UJ UJ UJ UJ UJ UJ	Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ <	ments 60 μg/l μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
Foot Notes 1,2 B 1,3 B 1,3 B	Site ID Blanco North Blanco North	Sample ID MW-23 MW-19	Lab. ID T8855-01	Hits (Y/N) Y	Quals. J UJ UJ UJ UJ UJ UJ	Com Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ <	ments 60 μg/l μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
1,2 B	Blanco North	MW-23 MW-19	T8855-01	Y		Benzene @ 33 Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ <	60 μg/l μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
1,3 E	Blanco North	MW-19	T8855-02		UJ UJ UJ UJ UJ	Toluene @ <1 Ethylbenzene Xylenes, total o-Xylenes @ <	μg/l @ <1 μg/l @ <2 μg/l <1 μg/l
1,3 E	Blanco North	MW-19	T8855-02		UJ UJ UJ UJ	Ethylbenzene Xylenes, total o-Xylenes @ <	@ <1 μg/l @ <2 μg/l <1 μg/l
1,3 E	Blanco North	MW-19	T8855-02		UJ UJ UJ	Xylenes, total o-Xylenes @ < m/n-Xylenes @	@ <2 μg/l <1 μg/l
1,3 E	Blanco North	MW-19	T8855-02		UJ UJ	o-Xylenes @ <	<1 µg/l
1,3 E	Blanco North	MW-19	T8855_02		UI	m/n-Xylenes	
1,3 E	Blanco North	MW-19	T8855-02		0.	1 mp myrules (@ <2 μg/l
1 B			1 10055-02	Y	J	Benzene @ 41	50 μg/l
1 B					J	Toluene @ 6.8	βµg/l
1 B					UJ	Ethylbenzene	@ <1 µg/l
1 B					UJ	Xylenes, total	@ <2 µg/l
1 B					UJ	o-Xylenes @ <	<1 µg/l
1 B					UJ	m/p-Xylenes @	@ <2 μg/l
	Blanco North	MW-26	T8855-03	Y	J	Benzene @ 19	µg/l
					UJ	Toluene @ <1	μg/l
					J	Ethylbenzene	@ 3.5 µg/l
					J	Xylenes, total	@ 56.8 µg/l
						o-Xylenes @ 1	1.5 µg/l
1.4	01N	NUM 07	T0055 04	V	J	m/p-Xylenes	$\frac{g}{2}$ 45.4 µg/l
1,4 B	Blanco North	MW-27	18855-04	Y		Benzene @ <1	μg/l
						Toluene @ <1 Ethylbonzono	μg/I @ 220.u.~/l
					J	Xylenes total	@ 350 μg/I @ 1520 μg/I
					J T	O-Xylenes @ 2	@ 1520 μg/1 990 μα/l
					J T	m/n-Xylenes (
None T	 Frin Blank	221104TB01	T8855-05	N		in p-Aylenes (e 1220 μg/1
		2211041001	10055 05	14	-		
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DATA VERIFICATION WORKSHEET

(Page 2 of 2)

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

Laboratory:

Accutest

Batch Identification:

T8855

Verification Criteria						<u></u>	
Sample ID	Blanco North MW-23	Blanco North MW-19	Blanco North MW-26	Blanco North MW-27	221104TB 01		
Lab ID	T8855-01	T8855-02	T8855-03	T8855-04	T8855-05		
Holding Time	A ¹	A ¹	A ¹	A ¹	A		
Analyte List	A	А	А	А	А		
Reporting Limits	A	A	А	А	А		
Surrogate Spike Recovery	A ²	A ³	А	A ⁴	А		
Trip Blank	А	А	А	А	А		
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	А	А	A	Α		
Laboratory Control Sample (LCS)	А	А	А	А	А		
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	А	N/A		
Retention Time Window	N	N	N	N	N		
Injection Time(s)	Ν	Ν	N	N	N		
Hardcopy vs. Chain-of-Custody	Α	Α	А	А	Α		
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 analyzed three days outside of holding time, introducing a possible low bias. Qualify associated sample hits with "J" flags \mathbf{D} indicating the data are estimated and possibly biased low. Qualify associated sample non-detects with "UJ" flags indicating possible false negatives.
- Surrogate aaa-trifluorotoluene recovery outside acceptance criteria for Run #1 @ 244% (66-136); no analytes detected above the 2) method detection limit (MDL) associated with Run #1; no data qualified.
- Surrogate aaa-trifluorotoluene recovery outside acceptance criteria for Run #1@ 151% (66-136), indicating a possible high bias. 3) Oualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased high.
- Surrogate 4-bromofluorobenzene and aaa-trifluorotoluene recoveries outside acceptance criteria for Run #1 @ 238% (71-127) and 4) 0% (66-136) respectively, indicating an unknown bias. No analytes detected above the MDL associated with Run #1; no data qualified.



12/06/04

Technical Report for

Montgomery Watson

Blanco North

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

Accutest Job Number: T8855

Sampling Date: 11/22/04

Report to:

MWH

nor ak

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 14



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

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T8855 Laboratoria

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Sample Summary

Montgomery Watson

Job No: T8855

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

Sample	Collected			Matr	ix	Client
Number	Date	Time By	Received	Code	Туре	Sample ID
T8855-1	11/22/04	11:05 MN	11/24/04	AQ	Water	BLANCO MW-23
T8855-2	11/22/04	11:30 MN	11/24/04	AQ	Water	BLANCO MW-19
T8855-3	11/22/04	12:10 MN	11/24/04	AQ	Water	BLANCO MW-26
T8855-4	11/22/04	12:45 MN	11/24/04	AQ	Water	BLANCO MW-27
T8855-5	11/22/04	07:00 MN	11/24/04	AQ	Trip Blank Water	BLANCO TRIP 221104TB01



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Client Sam Lab Samp Matrix: Method: Project:	Client Sample ID:BLANCO MW-23Lab Sample ID:T8855-1Matrix:AQ - WaterMethod:SW846 8021BProject:Blanco North			Date S Date J Perce	Sampled Received nt Solids			
Run #1 ^a Run #2 ^a	File ID DF KK03068.D 1 KK03069.D 100	Analyzed 12/03/04 12/03/04	By JH JH	Prep D n/a n/a	ate	Prep Batch n/a n/a	Analytical Batch GKK471 GKK471	
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml				· ··· · · · · · · · · · · · · · · · ·			
Purgeable	Aromatics							
CAS No.	Compound	Result	RL	MDL	Units	Q		
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	3360 ^b ND ND ND ND ND	100 1.0 1.0 2.0 1.0 2.0	40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l ug/l			
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	104% 244% ^c	94% 121%	71-1 66-1	27% 36%			

Report of Analysis

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

(b) Result is from Run# 2

(c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

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E = Indicates value exceeds calibration range

		Page 1 of 1							
Client Sam Lab Samp Matrix: Method: Project:	Client Sample ID:BLANCO MW-19Lab Sample ID:T8855-2Matrix:AQ - WaterMethod:SW846 8021BProject:Blanco North				Date S Date I Percer	Sampled: Received nt Solids	: 11/22/04 : 11/24/04 : n/a		
Run #1 ^a Run #2 ^a	File ID KK030 KK030	72.D 73.D	DF 1 100	Analyzed 12/03/04 12/03/04	By JH JH	Prep D n/a n/a	Date	Prep Batch n/a n/a	Analytical Batch GKK471 GKK471
Run #1 Run #2	Purge 5.0 ml 5.0 ml	Volume	3						
Purgeable	Aromati	ics							
CAS No.	Comp	ound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benze Toluer Ethylt Xylen o-Xyle m,p-X	ne ne benzene es (total ene Kylene))	4150 b 6:8 ND ND ND ND	100 1.0 1.0 2.0 1.0 2.0	40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surro	gate Re	ecoveries	Run# 1	Run# 2	Lim	nits		
460-00-4 98-08-8	4-Bron aaa-Tr	mofluor rifluoro	obenzene toluene	126% 151% ^c	92% 108%	71-1 66-1	1 27% 1 36%		

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

(b) Result is from Run# 2

(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





		Page 1 of 1						
Client Sam Lab Samp Matrix: Method: Project:	nple ID: BLA le ID: T885 AQ - SW8 Bland	NCO MW-26 5-3 Water 46 8021B co North			Date S Date I Perces	Sampled: Received nt Solids	11/22/04 : 11/24/04 : n/a	
Run #1 ^a Run #2	File ID KK03074.D	DF 1	Analyzed 12/03/04	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch GKK471
Run #1 Run #2	Purge Volum 5.0 ml	ie						
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzen Xylenes (tota o-Xylene m,p-Xylene	e al)	19:0 ND 3:5 56:8 11:5 45:4	1.0 1.0 2.0 1.0 2.0	0.40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate F	Recoveries	Run# 1	Run# 2	Lim	its		
460-00-4 98-08-8	4-Bromofluc aaa-Trifluor	orobenzene otoluene	101% 114%		71-1 66-1	27% 36%		

(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



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Client Sample ID:BLANCO MW-27Lab Sample ID:T8855-4Matrix:AQ - WaterMethod:SW846 8021BProject:Blanco North			Date Sampled: 11/22/04 Date Received: 11/24/04 Percent Solids: n/a						
	File ID		DF	Analyzed	Ву	Prep D	ate	Prep Batch	Analytical Batch
Run #1 ^a Run #2 ^a	KK0307 KK0307	6.D 7.D	1 50	12/03/04 12/03/04	ЈН ЈН	n/a n/a		n/a n/a	GKK471 GKK471
	Purge V	olume	. ,						
Run #1 Run #2	5.0 ml 5.0 ml								
Purgeable	Aromatio	S							
CAS No.	Compo	ound		Result	RL	MDL	Units	Q	
71-43-2	Benzen	e		ND	1.0	0.40	ug/l		
108-88-3	Toluen	e		ND	1.0	0.40	ug/l		
100-41-4	Ethylbe	enzene		330 ^b	50	20	ug/l		
1330-20-7	Xylene	s (total)		1520 ^b	100	40	ug/l		
95-47-6	o-Xyle:	ne		299 b	50	20	ug/l		
	m,p-Xy	ylene		1220 b	100	40	ug/l		
CAS No.	Surrog	gate Red	coveries	Run# 1	Run# 2	Lim	nits		
460-00-4	4-Bromofluorobenzene		benzene	238% ^c	95%	71-1	127%		
98-08-8	aaa-Tri	fluoroto	oluene	0% c	109%	66-1	l 36 %		

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

(b) Result is from Run# 2

(c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = 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



2.4

Report of Analysis

		Page 1 of 1							
Client Sam Lab Samp Matrix: Method: Project:	iple ID: BLANCC le ID: T8855-5 AQ - Trij SW846 8 Blanco N) TRIP 2 p Blank ' 021B orth	221104TB01 Water		Date Sampled: 11/22/04 Date Received: 11/24/04 Percent Solids: n/a				
Run #1 Run #2	File ID KK03067.D	DF 1	Analyzed 12/03/04	By JH	Prep D n/a)ate	Prep Batch n/a	Analytical Batch GKK471	
Run #1 Run #2	Purge Volume 5.0 ml								
Purgeable	Aromatics								
CAS No.	Compound		Result	RL	MDL	Units	Q		
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene		ND ND ND ND ND ND	1.0 1.0 2.0 1.0 2.0	0.40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l ug/l			
CAS No.	Surrogate Recov	veries	Run# 1	Run# 2	Lim	nits			
460-00-4 98-08-8	4-Bromofluorobe aaa-Trifluorotolu	enzene Iene	80% 97%		71-1 66-1	27% 36%			

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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E = Indicates value exceeds calibration range

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody



- -

ACCUTEST.	10165 Harwin Drive, TEL, 713-271-47	Ste. 150, Houston, TX 77036 '00 FAX: 713-271-4770	FED-EX Tracking # 849304501316	Bottle Order Control #
Laboratories	www.	accutesi.com	Accutest Quote #	Acculest Job # T8855
normania and a state client Reporting Information and a state of the s	Project Name Project Name Blanca N7 Street	ton EP		Requested Analysis Mittin Water GW - Dreiking Water GW Gound Water WW - Water
olored Springs CO 80903 ed Capital E-mail	City State	11-		SO - Soil SL - Suidge OL - Oil LUO - Othar Liquid
mpler's Name	Client Purchase Order #	Number of preserved Battles		AIR - Air SOL - Other Sold
ample # MECH Val #	Date Time Sampled Matrix # of bottles \$	N4001		LAB USE ONLY
2 Braco MW-19 112	1204 /130 MNW6 2 1204 1210 MNW6 2			
4 Blanco Mui 27 110 3 Banco Trip 221104TBOI 11	2201 1245 MN WG 2 2204 0700 MU WQ Z V			
	Commercial "A" = Results Only	abe information <u>second</u> to the second		SEE Comments / Remarks Entertainments and an and a second se
August Au	Sample Cusicity must be documented below each tir d by d by	ne samples change possession, includ Reinquisted by Reinquisted by	ding couner delivery. Source 10 Dae Tybe 10 11/24 Dae Tone	Personal Per
nguished by Date Time. Receive	d by	Custody Seal #	S Preserved where applicable	Outre Cooler Temp 3

T8855: Chain of Custody Page 1 of 1



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GC Volatiles

QC Data Summaries

Includes the following where applicable:

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





Method Job Numbe Account: Project:	Blank Sum r: T8855 MWHSLCU Blanco North		Page 1 of 1					
Sample GKK471-M	File ID B KK03059.D	DF 1	Analyzed 12/03/04	Ву ЈН	Prep E n/a	Date	Prep Batch n/a	Analytical Batch GKK471
The QC reported here applies to the following samples: T8855-1, T8855-2, T8855-3, T8855-4, T8855-5							Method: SW	/846 8021B
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 100-41-4 108-88-3	Benzene Ethylbenzene Toluene		ND ND ND	1.0 1.0 1.0	0.40 0.40 0.40	ug/l ug/l ug/l		
1330-20-7 95-47-6	Xylenes (total) o-Xylene m,p-Xylene		ND ND ND	2.0 1.0 2.0	0.80 0.40 0.80	ug/l ug/l ug/l		

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	79% ^a	71-127%
98-08-8	aaa-Trifluorotoluene	89% ^a	66-136%

(a) %Recovery adjusted for double surrogate.



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Blank Spike Summary

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Account: Project:	MWHSLC Blanco No	CUT Montg rth	omery Watson			
Sample	File ID	DF	Analyzed	By	Pren Date	

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK471-BS	KK03060.D	1	12/03/04	JH	n/a	n/a	GKK471
				-			

The QC reported here applies to the following samples:

Method: SW846 8021B

T8855-1, T8855-2, T8855-3, T8855-4, T8855-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.3	102	76-128
100-41-4	Ethylbenzene	20	19.9	100	79-129
108-88-3	Toluene	20	19.6	98	77-126
1330-20-7	Xylenes (total)	60	58.5	98	79-126
95-47-6	o-Xylene	20	19.6	98	78-125
	m,p-Xylene	40	38.9	97	79-127
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4	4-Bromofluorobenzene	86%	71	-127%	
98-08-8	aaa-Trifluorotoluene	96%	66	-136%	



4.2 Z

Matrix Spike/Matrix Spike Duplicate Summary Page 1 Job Number: T8855 Account: MWHSLCUT Montgomery Watson Project: Blanco North											age 1 of 1
Sample T8855-4MS T8855-4MS T8855-4 ^a T8855-4 ^a	File ID 5 KK03078.D 5D KK03079.D 5KK03076.D 5KK03077.D	DF 50 50 1 50	Analyzed 12/03/04 12/03/04 12/03/04 12/03/04	B Ji Ji Ji Ji Ji	By H H H H	Prep D n/a n/a n/a n/a	Date	Prep Batc n/a n/a n/a n/a	h A G G G	nalytical KK471 KK471 KK471 KK471 KK471	Batch
The QC reported here applies to the following samples: Method: SW846 8021B Example 1 Transf 2 Transf 4 Transf 5											
18855-1, 1	8855-2, 18855-3, 1	8855-4, 18	855-5								
CAS No.	Compound		T8855-4 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		ND 330 ^b ND 1520 ^b 299 ^b 1220 ^b		1000 1000 1000 3000 1000 2000	1070 1230 1040 4060 1210 2850	107 90 104 85 91 82	1090 1260 1060 4120 1220 2900	109 93 106 87 92 84	2 2 2 1 1 2	70-134/21 73-132/15 66-137/22 69-130/19 66-131/20 68-132/19
CAS No.	Surrogate Recove	ries	MS		MSD	Т8	855-4	T8855-4	L	imits	
460-00-4 98-08-8	4-Bromofluoroben aaa-Trifluorotoluer	zene ne	95% 107%		94% 107%	238 0%	3%* c ,* c	95% 109%	71 60	-127% 5-136%	

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

(b) Result is from Run #2.

(c) Outside control limits due to matrix interference. Confirmed by reanalysis.

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Groundwater Analytical Report – February 2005

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		DATA VEI	RIFICATIO (Page 1 of	N WORI 2)	KSHEET				
Analy	tical Method/Anal	ytes: SW-846	8021B (BTH	X) Sar	nple Colle	ection Date(s):	02/23/05		
	Labora	tory: <u>A</u>	Accutest			Job Number:	EPC-SJRB (Blanco NFP)		
	Batch Identifica	tion:]	T9595			Matrix:	Water		
	MS/MSD Parent	(s) ^(a) :	None			Field Replicate Parent(s): <u>None</u>			
Verification Complete: Brian Buttars – 03/08/05 (Date/Signature)									
Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Com	nents		
None	Trip Blank	230205TB01	T9595-01	N					
1,2	Blanco NFP	MW-23	T9595-02	Y	J J J UJ	Benzene @ 745 Toluene @ <1 µ Ethylbenzene @ Xylenes, total @ o-Xylene @ <1 m/n-Xylene @	0 D μg/l μg/l 2 321 D μg/l 2 1380 D μg/l 00 D μg/l 1380 D μg/l		
1,3	Blanco NFP	MW-27	T9595-03	Y	1 1 1 1 1	Benzene @ 20.7 Toluene @ 28.2 Ethylbenzene @ Xylenes, total @ o-Xylene @ 434 m/p-Xylene @	7 μg/l 2 μg/l 2 419 D μg/l 2 2210 D μg/l 4 D μg/l 1780 D μg/l		
1	Blanco NFP	MW-19	T9595-04	Y	J UJ UJ UJ UJ	Benzene @ 191 Toluene @ <10 Ethylbenzene @ Xylenes, total @ o-Xylene @ <1 m/p-Xylene @	D μg/l D μg/l 2 <10 D μg/l 2 <20 D μg/l 0 D μg/l <20 D μg/l		
1	Blanco NFP	MW-26	T9595-05	Y	1 UJ UJ UJ UJ	Benzene @ 22. Toluene @ <10 Ethylbenzene @ Xylenes, total @ o-Xylene @ 5.6 m/p-Xylene @	7 D μg/l D μg/l 2 <10 D μg/l 11 TD μg/l TD μg/l <20 D μg/l		

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DATA VERIFICATION WORKSHEET (Page 2 of 2)

Analytical Method: SW-846 8021B (BTEX)

MWH Job Number: EPC-SJRB (Blanco NFP)

Laboratory:

Accutest

Batch Identification:

T9595

Verification Criteria							
Sample ID	230205TB 01	Blanco NFP MW-23	Blanco NFP MW-27	Blanco NFP MW-19	Blanco NFP MW-26		
Lab ID	T9595-01	T9595-02	T9595-03	T9595-04	T9595-05		
Holding Time	А	A	A ¹	A ¹	A ¹		
Analyte List	A	A	А	А	А		
Reporting Limits	A	A	A	A	Α		
Surrogate Spike Recovery	A	A ²	A ³	А	А		
Trip Blank	A	А	А	А	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	А	A	А	A	А		
Laboratory Control Sample (LCS)	A	A	A	А	А		
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A		
Retention Time Window	N	N	N	N	N		
Injection Time(s)	N	N	N	N	N	1	
Hardcopy vs. Chain-of-Custody	A	А	А	А	А		
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) Sample not preserved to a pH < 2, reducing the holding time from 14 days to 7. Sample analyzed one day outside of holding time @ 8 days. 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.
- 2) Surrogate aaa-trifluorotoluene from run #1 outside acceptance criteria @ 0% (50-144), indicating a possible low bias. Qualify associated sample non-detect with "UJ" flags, indicating possible false negatives (toluene only).
- 3) 4-bromofluorobenzene from run #1 outside acceptance criteria @ 159% (56-136), indicating a possible high bias. Surrogate aaa-trifluorotoluene from run #1 outside acceptance criteria @ 0% (50-144), indicating a possible low bias. Qualify associated sample hits with "J" flags, indicating the data are estimated with an unknown bias (benzene and toluene only).

e-Hardcopy 2.0 **Automated Report**



Gulf Coast

Technical Report for

Montgomery Watson

Blanco North

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

Accutest Job Number: T9595

Sampling Date: 02/23/05

Report to:

MWH

N. 81

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pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

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

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Gulf Coast • 10165 Harwin Drive • Suite 150 • Houston, TX 77036 • tel: 713-271-4700 • fax: 713-271-4770 • http://www.accutest.com



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Sample Summary

Montgomery Watson

Job No: T9595

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

Sample Number	Collected Date	Time By	Received	Matr Code	ix Type	Client Sample ID
T9595-1	02/23/05	07:00 MJN	02/24/05	AQ	Trip Blank Water	230205TB01
T9595-2	" 02/23/05	08:20 MJN	02/24/05	AQ	Water	BLANCO NFP MW-23
T9595-3	02/23/05	11:15 MJN	02/24/05	AQ	Water	BLANCO NFP MW-27
T9595-4	02/23/05	09:00 MJN	02/24/05	AQ	Water	BLANCO NFP MW-19
T9595-5	02/23/05	10:40 MJN	02/24/05	AQ	Water	BLANCO NFP MW-26



			Ксро	rage 1 01 1				
Client Sam Lab Samp Matrix: Method: Project:	nple ID: 230203 le ID: T9595 AQ - 7 SW846 Blanco	5TB01 -1 Frip Blank 6 8021B 9 North	Water	'ater Date Sampled: 02/23/05 Date Received: 02/24/05 Percent Solids: n/a				
Run #1 ^a Run #2	File ID KK05180.D	DF 1	Analyzed 03/03/05	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch GKK537
Run #1 Run #2	Purge Volume 5.0 ml						<u>.</u>	
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total o-Xylene m,p-Xylene)	ND ND ND ND ND	1.0 1.0 2.0 1.0 2.0	0.40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	its		
460-00-4 98-08-8	4-Bromofluor aaa-Trifluorot	obenzene oluene	81% 103%		56-1 50-1	36% 44%		

(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



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		керо	ort of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	pple ID: BLANCO NFP le ID: T9595-2 AQ - Water SW846 8021B Blanco North	MW-23		Date S Date I Perce	Sampled Received nt Solids	: 02/23/05 : 02/24/05 : n/a	
Run #1 ^a Run #2 ^a	File IDDFKK05181.D1KK05185.D100	Analyzed 03/03/05 03/03/05	Ву ЈН ЈН	Prep D n/a n/a	Date	Prep Batch n/a n/a	Analytical Batch GKK537 GKK537
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml						
Purgeable	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	7450 ^b ND 321 ^b 1380 ^b ND ^b 1380 ^b	100 1.0 100 200 100 200	40 0.40 40 80 40 80	ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	110% 0% °	102% 109%	56-1 50-1	36% 44%		

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

(b) Result is from Run# 2

(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



ge 1 of 1

Report of Analysis

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Client Sam Lab Sampl Matrix: Method: Project:	pple ID: BLANCO NFP M le ID: T9595-3 AQ - Water SW846 8021B Blanco North	1W-27		Date S Date I Percer	Sampled: Received nt Solids	02/23/05 : 02/24/05 : n/a	
Run #1 ^a Run #2 ^a	File IDDFKK05183.D1KK05189.D10	Analyzed 03/03/05 03/03/05	By JH JH	Prep D n/a n/a	ate	Prep Batch n/a n/a	Analytical Batch GKK537 GKK537
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml			· · · ·			
Purgeable	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	20.7 28:2 419 ^b 2210 ^b 434 ^b 1780 ^b	1.0 1.0 10 20 10 20	0.40 0.40 4.0 8.0 4.0 8.0	ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	159% ^c 0% ^c	134% 95%	56-1 50-1	36% 44%		

Report of Analysis

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

(b) Result is from Run# 2

(c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

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



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E = Indicates value exceeds calibration range

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	Report of Analysis										
Client Sam Lab Samp Matrix: Method: Project:	nple ID: BLANCO NF le ID: T9595-4 AQ - Water SW846 8021E Blanco North	SP MW-19		Date S Date D Perce	Sampled: Received nt Solids	02/23/05 : 02/24/05 : n/a					
Run #1 ^a Run #2	File ID DF KK05190.D 10	Analyzed 03/03/05	By JH	Prep D n/a)ate	Prep Batch n/a	Analytical Batch GKK537				
Run #1 Run #2	Purge Volume 5.0 ml										
Purgeable	Aromatics		·								
CAS No.	Compound	Result	RL	MDL	Units	Q					
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	191 ND ND ND ND	10 10 10 20 10 20	4.0 4.0 4.0 8.0 4.0 8.0	ug/l ug/l ug/l ug/l ug/l ug/l						
CAS No.	Surrogate Recoverie	es Run# 1	Run# 2	Lim	iits						
460-00-4 98-08-8	4-Bromofluorobenzer aaa-Trifluorotoluene	ne 105% 109%		56-1 50-1	1 36 % 144%						

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values. Elevated reporting limits due to matrix interference. Sample foamed during purged.

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



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	Report of Analysis									
Client Sam Lab Sampl Matrix: Method: Project:	nple ID: BLANCO NFP M le ID: T9595-5 AQ - Water SW846 8021B Blanco North	IW-26		Date Sa Date Re Percent	mpled: ceived: Solids:	02/23/05 02/24/05 n/a				
Run #1 ª Run #2	File ID DF KK05191.D 10	Analyzed B 03/03/05 JI	by H	Prep Dat n/a	e	Prep Batch n/a	Analytical Batch GKK537			
Run #1 Run #2	Purge Volume 5.0 ml									
Purgeable	Aromatics									
CAS No.	Compound	Result	RL	MDL	Units	Q				
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	22.7 ND ND 11.0 5.6 ND	10 10 10 20 10 20	4.0 4.0 4.0 8.0 4.0 8.0	ug/l ug/l ug/l ug/l ug/l ug/l	1 1				
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	6					
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	95% 111%		56-136 50-144	5% 1%					

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values. Elevated reporting limits due to matrix interference. Sample foamed during purged.

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



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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody

9 of 15 **ACCUTEST** 19595

ACCUTEST	1			1010	5 Harv TEL.	vin Drin 713-271	ve, Ste -4700	. 150, FAX:	Hous 713-	ton, T 271-4	X 77 770	036	ED EX TI 34-7-		-52	5/2	$\frac{n}{n}$	lotlie Orde	er Control #		-]
Laboratories						ww	w.acc	utest.c	om			Ĺ	ccutesi Q							75	142	
Client / Reporting Informatik	n				P	oject Info	mation	i.					<u> </u>	4-			Request	ted Analys	is I	[Matrix Codes	1
EL P250		Proje		311	60	Å	100	H	2												GW - Ground Water	
ness Hart XI and		Stree	et																		WW - Water	
L NETT VEVERA	Zip	City				State															SW - Surface Water	
lorado Springs (0	<u> 90903</u>																				SO · Soi	
ject Contact	E-mait	Proje	ect #																		SL - Sludge	Í
		Fax	#		01	ia	14	<u> </u>	1												UC - Other Liquid	
120 547 44	53_		72	10	54	-7	4-	//	L				\times								AIR - Air	
MIT N-c-c			in Forchase On										VI.								SOL - Other Solid	
ccutast Field ID / Point of Collection	SUMMA	*	Collection	Come	-		N.	umber o	f prese	rved Bo	ittles T		Ŵ								WP - Wipe	4
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5 Day RUSH		-	Comme	rcial "B" ri Tier 1					1				ŀ		<u>L</u>		PI		<u>د. ع</u>	-71		1
2 Day EMERGENCY			C Full Tier	1									ŀ	_12	ny	24	25	en	\mathcal{V}	ear.		-
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T9595: Chain of Custody Page 1 of 2



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ondition/Variance (Circle "Y" for yes N Sample received in undam Sample received with prop Comple volume outline of the	and "N" for no or NA		INITIALS:	Ĥ		
N Chain of Custody matches N NA Custody seal received in	laged condition. er pH. or analysis. • sample IDs and ana ntact and tamper not • intact and tamper not •	If "N" is cits 2. 6 6. 6 evident on cont evident on bo	ed, see varia N Samples N Sample I N Sample I ainers.	A for explaining the contract of the contract on the contract	nation): in temp. rang oper containe chain of cust	ae. rrs. ody.
SAMPLE or FIELD ID BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	ΡΗ
-3	ce/e	N	NOU	-4/1	4,2,3,4,5,6	∯ <2, >12, NA
-7		1			Q2,3,4,5,6 (G<2, >12, NA
3					O-2,3,4,5,6	(),<2,>12,NA
7					D2,3,4,5,6	D2, >12, NA
2		~	2		62,3,4,5,6	₩,<2, >12, NA
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					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
		_6			1,2,3,4,5,6	U, <2, >12, NA
		6			1,2,3,4,5,6	U, <2, >12, NA
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				1	1,2,3,4,5,6	U, <2, >12, NA
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OCATION: WI: Walk-In VR: Volatile R. RESERVATIVES: 1: None 2: HCL 3: H	efrig. SUB: Subcontra INO3 4: H2SO4 5: NAO	act EF: Encor DH 6: Other Comments:	e Fræezer			
iH of waters checked excluding volatiles iH of soils N/A						
əlivery method: Courier: <u>수요</u> Tracking#: 동 4 13 <u>C</u>	<u>6 X</u> 2450 1279		COOLER TEM COOLER TEM	30	COOLER TEA COOLER TEA	ä
Method of sample disposal: (circle	: one Accutest disp	oosal Hold	Return to	Client _{Form:} S	MD12, Rev. 12/1	4/04, QAO

T9595: Chain of Custody Page 2 of 2



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GC Volatiles

QC Data Summaries

Includes the following where applicable:

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



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Method Blank Summary

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460-00-4

98-08-8

Job Number:	T9595
Account:	MWHSLCUT Montgomery Watson
Project:	Blanco North

Sample	File ID	DF 1	Analyzed	By IH	Prep Date	Prep Batch	Analytical Batch	
GKK537-MB	KK05165.D	1	03/03/05	JH	n/a	n/a	GKK537	

The QC reported here applies to the following samples:

Method: SW846 8021B

T9595-1, T9595-2, T9595-3, T9595-4, T9595-5

4-Bromofluorobenzene

aaa-Trifluorotoluene

CAS No.	Compound	Result	RL	MDL	Units Q
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 ND ND	1.0 1.0 2.0 1.0 2.0	0.40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l ug/l
CAS No.	Surrogate Recoveries		Limi	ts	

84%

106%

56-136%

50-144%



Page 1 of 1

Blank Spil Job Number: Account: Project:	xe Summa T9595 MWHSLCU Blanco Nortl	I ry T Mont _é 1	gomery Watson				Page 1 of 1
Sample GKK537-BS	File ID KK05166.D	DF 1	Analyzed 03/03/05	By JH	Prep Date n/a	Prep Batch n/a	Analytical Batch GKK537
The QC report	ted here appli	es to the	e following sam	ples:		Method: SW	/846 8021B

T9595-1, T9595-2, T9595-3, T9595-4, T9595-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	21.4	107	72-125
100-41-4	Ethylbenzene	20	20.2	101	76-125
108-88-3	Toluene	20	20.7	104	74-125
1330-20-7	Xylenes (total)	60	61.7	103	78-124
95-47-6	o-Xylene	20	20.7	104	78-124
	m,p-Xylene	40	41.0	103	78-125
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4	4-Bromofluorobenzene	98%	56	-136%	
98-08-8	aaa-Trifluorotoluene	105%	50	-144%	



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Job Numbe Account: Project:	er: T9595 MWHSLCUT Mo Blanco North	ntgomery Watson			ur y				10	
Sample	File ID DF	Analyzed	В	By	Prep I	Date I	Prep Bat	ch Ai	nalytical	Batch
T9568-17M	IS KK05193.D 10	03/03/05	J	H	n/a	n	i/a	G	KK537	
19568-17M	ISD KK05194.D IU	03/03/05	ji T	H U	n/a	r.	i/a	GI	(K537 21/527	
The OC re	norted here applies to	the following sam	mles			N	Method:	SW/846	8021B	
T9595-1, T	9595-2, T9595-3, T959	5-4, T9595-5								
T9595-1, T CAS No.	9595-2, T9595-3, T959 Compound	5-4, T9595-5 T9568-1 ug/l	7 Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
T9595-1, T CAS No. 71-43-2	9595-2, T9595-3, T959 Compound Benzene	5-4, T9595-5 T9568-1 ug/l 375	7 Q	Spike ug/l 200	MS ug/l 549	MS % 87	MSD ug/l 515	MSD % 70	RPD	Limits Rec/RPD 45-137/21
T9595-1, T CAS No. 71-43-2 100-41-4	9595-2, T9595-3, T959 Compound Benzene Ethylbenzene	5-4, T9595-5 T9568-1 ug/l 375 150	7 Q	Spike ug/l 200 200	MS ug/l 549 331	MS % 87 91	MSD ug/l 515 325	MSD % 70 88	RPD 6 2	Limits Rec/RPD 45-137/21 68-126/15
T9595-1, T CAS No. 71-43-2 100-41-4 108-88-3	9595-2, T9595-3, T959 Compound Benzene Ethylbenzene Toluene	5-4, T9595-5 T9568-1 ug/l 375 150 10.3	7 Q	Spike ug/l 200 200 200	MS ug/l 549 331 211	MS % 87 91 100	MSD ug/l 515 325 206	MSD % 70 88 98	RPD 6 2 2	Limits Rec/RPD 45-137/21 68-126/15 63-130/22
T9595-1, T CAS No. 71-43-2 100-41-4 108-88-3 1330-20-7	9595-2, T9595-3, T959 Compound Benzene Ethylbenzene Toluene Xylenes (total)	5-4, T9595-5 T9568-1 ug/l 375 150 10.3 267	7 Q	Spike ug/l 200 200 200 600	MS ug/l 549 331 211 843	MS % 87 91 100 96	MSD ug/l 515 325 206 825	MSD % 70 88 98 93	RPD 6 2 2 2	Limits Rec/RPD 45-137/21 68-126/15 63-130/22 72-125/19
T9595-1, T CAS No. 71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	9595-2, T9595-3, T959 Compound Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene	5-4, T9595-5 T9568-1 ug/l 375 150 10.3 267 ND	7 Q	Spike ug/l 200 200 200 600 200	MS ug/l 549 331 211 843 203	MS % 87 91 100 96 102	MSD ug/l 515 325 206 825 198	MSD % 70 88 98 93 99	RPD 6 2 2 2 2	Limits Rec/RPD 45-137/21 68-126/15 63-130/22 72-125/19 70-128/20
T9595-1, T CAS No. 71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	9595-2, T9595-3, T959 Compound Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	5-4, T9595-5 T9568-1 ug/l 375 150 10.3 267 ND 266	7 Q	Spike ug/l 200 200 200 600 200 400	MS ug/l 549 331 211 843 203 640	MS % 91 100 96 102 94	MSD ug/l 515 325 206 825 198 627	MSD % 70 88 98 93 99 99 90	RPD 6 2 2 2 2 2 2 2 2	Limits Rec/RPD 45-137/21 68-126/15 63-130/22 72-125/19 70-128/20 63-136/19
T9595-1, T CAS No. 71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6 CAS No.	9595-2, T9595-3, T959 Compound Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene Surrogate Recoveries	5-4, T9595-5 T9568-1 ug/l 375 150 10.3 267 ND 266 MS	7 Q	Spike ug/l 200 200 200 600 200 400 MSD	MS ug/l 549 331 211 843 203 640	MS % 87 91 100 96 102 94	MSD ug/l 515 325 206 825 198 627 Limits	MSD % 70 88 98 93 99 99 90	RPD 6 2 2 2 2 2 2 2 2	Limits Rec/RPD 45-137/21 68-126/15 63-130/22 72-125/19 70-128/20 63-136/19

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Groundwater Analytical Report – May 2005

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Analy	tical Method/Anal	ytes: <u>SW-846</u>	8021B (BTI	EX) Sai	mple Colle	ction Date(s): _	05/23/05
	Laborat	tory: <u> </u>	ccutest		MWH	Job Number:	EPC-SJRB (Blanco No.)
	Batch Identifica	tion:T	10433			Matrix:	Water
	MS/MSD Parent((s) ^(a) :	None	Fi	eld Replic	ate Parent(s): _	None
Verifi	cation Compl	ete:	Bria	n But	<i>tars —</i> Date/Signature	06/21/05	
Foot				Hits			
Notes	Site ID	Sample ID	Lab. ID	(Y/N)	Quals.	Com	ments
None	Blanco No.	MW-26	T10433- 01	Y			
1	Blanco No.	MW-19	T10433-	Y	J	Benzene @ 140)0 µg/l
			02		UJ	Toluene @ <20	µg/l
					J	Ethylbenzene @	9 176 μg/l
					J	Xylenes, total	[@] 24.3 Τ μg/l
						o-Xylene @ 20	$\mu g/l$
2.2	Dlau es Na		T10422	V	J	m,p-Xylene @	<u>24.5 Γμg/Γ</u>
2,3	Blanco No.	MW-23	02	Y	J	Toluono @ 36 4	ομ <u>α</u> /Ι
			0.5			Fthylbenzene @	σμg/1 σ 270 μσ/1
					J	Xylenes, total (a 1650 µg/l
					UJ	o-Xylene @ <1	00 µg/l
					J	m,p-Xylene @	1650 µg/l
1	Blanco No.	MW-27	T10433-	Y	UJ	Benzene @ <1.	0 μg/l
			04		UJ	Toluene @ <1.	θμg/l
					UJ	Ethylbenzene	$p < 1.0 \mu g/l$
						Xylenes, total	$@ < 2.0 \ \mu g/l$
						u -Aylene $@ < 1 $ m n-Yylene $@$.υμg/I ~2.0.μσ/I
None	Trip Blank	230505TB01	T10433-	N			<u>~2.0 μg/1</u>
			05				
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DATA VERIFICATION WORKSHEET

(Page 2 of 2)

Analytical Method: SW-846 8021B (BTEX)

MWH Job Number:

EPC-SJRB (Blanco No.)

Laboratory:

Accutest Batch Identification:

T10433

Verification Criteria						
Sample ID	Blanco No. MW-26	Blanco No. MW-19	Blanco No. MW-23	Blanco No. MW-27	230505TB 01	
Lab ID	T10433-01	T10433-02	T10433-03	T10433-04	T10433-05	
Holding Time	А	A ¹	A ²	A^1	А	
Analyte List	А	A	А	A	А	
Reporting Limits	А	А	А	A	А	
Surrogate Spike Recovery	А	А	A ³	А	А	
Trip Blank	А	А	А	А	А	
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	А	А	А	A	А	
Laboratory Control Sample (LCS)	А	А	А	А	А	
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A	
Retention Time Window	N	N	N	N	Ν	
Injection Time(s)	N	Ν	N	N	N	
Hardcopy vs. Chain-of-Custody	A	А	А	А	A	
EDD vs. Hardcopy	N	N	N	N	N	
EDD vs. Chain of Custody	N	N	N	N	N	

(a) List OC batch identification if different than Batch ID

A indicates verification criteria were met

A/L indicates verification criteria met based upon Laboratory's QC Summary Form

X indicates verification criteria were not met

N indicates data review were not a project specific requirement

N/A indicates criteria are not applicable for the specified analytical method or sample

N/R indicates data not available for review

NOTES:

- 1) Sample analyzed outside of holding time @ 8 days (7), 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.
- 2) Sample analyzed outside of holding time @ 8 days (undiluted run toluene only) and 9 days (diluted run) (7), 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.
- 3) Surrogate recovery, for run #1, outside acceptance criteria for 4-bromofluorobenzene @ 180% (56-136), indicating a possible high bias (toluene is the only analyte reported from run #1). Qualify associated sample hit with a "J" flag, indicating the datum is estimated and possibly biased high.
e-Hardcopy 2.0 Automated Report



Gulf Coast

Technical Report for

Montgomery Watson

Blanco North

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

Accutest Job Number: T10433

Sampling Date: 05/23/05

Report to:

MWH Americas, Inc.

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 20



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

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Gulf Coast • 10165 Harwin Drive • Suite 150 • Houston, TX 77036 • tel: 713-271-4700 • fax: 713-271-4770 • http://www.accutest.com

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Sample Summary

Montgomery Watson

Job No: T10433

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

Sample Number	Collected Date	Time By	Received	Matr Code	ix Type	Client Sample ID
T10433-1	05/23/05	09:10 MN	05/24/05	AQ	Water	NFP MW-26
T10433-2	05/23/05	09:25 MN	05/24/05	AQ	Water	NFP MW-19
T10433-3	05/23/05	10:07 MN	05/24/05	AQ	Water	NFP_MW-23
T10433-4	05/23/05	10:27 MN	05/24/05	AQ	Water	NFP MW-27
T10433-5	05/23/05	07:00 MN	05/24/05	AQ	Trip Blank Water	230505TB01





SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Montgomery Watson	Job No	T10433
Site:	Blanco North	Report Date	6/2/2005 12:12:20 PM

4 Samples and 1 Trip Blank were collected on 05/23/2005 and were received at Accutest on 05/24/2005 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of T10433. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

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

Volatiles by GC By Method SW846 8021B

	*	-		
	Matrix /	AQ	Batch ID:	GEE869
NSI .	All samples were a	analyze	d within the recommended method	d holding time.
8 8	All method blanks	for thi	is batch meet method specific crite	eria.

- Sample(s) T10398-5MS, T10398-5MSD were used as the QC samples indicated.
- * All method blanks for this batch meet method specific criteria.
- T104334: Sample was not preserved to a pH < 2; reported results are considered minimum values.
- T10433-2: Sample was not preserved to a pH < 2; reported results are considered minimum values.
- T10398-5MSD: Sample was not preserved to a pH < 2.
- = T10433-3 for 4-Bromofluorobenzene: Outside control limits due to matrix interference. Confirmed by reanalysis.

Matrix AQ	Batch ID:	GEE870
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All samples were analyzed within the recommended method holding time.

- All method blanks for this batch meet method specific criteria.
- Sample(s) T10416-5MS, T10416-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- T10433-3: Sample was not preserved to a pH < 2; reported results are considered minimum values.

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

Thursday, June 02, 2005

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	Report of Analysis							Page 1 of 1
Client Sample ID:NFP MW-26Lab Sample ID:T10433-1Date Sampled:05/23/05Matrix:AQ - WaterDate Received:05/24/05Method:SW846 8021BPercent Solids:n/aProject:Blanco NorthFroject:North								
Run #1 Run #2	File ID EE018953.D	DF 1	Analyzed 06/01/05	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch GEE870
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene		38.0 6.3 62.3 173 23.6 150	1.0 1.0 2.0 1.0 2.0	0.40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l ug/l		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%		56-136%
98-08-8	aaa-Trifluorotoluene	107%		50-144%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Report of Analysis							Page 1 of 1	
Client Sam Lab Samp Matrix: Method: Project:	nple ID: NFP M le ID: T10433 AQ - V SW846 Blanco	1W-19 3-2 Vater 5 8021B North			Date S Date I Percer	Sampled: Received nt Solids	05/23/05 : 05/24/05 : n/a	
Run #1 ^a Run #2	File ID EE018928.D	DF 20	Analyzed 05/31/05	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch GEE869
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene)	1400 ND 176 24.3 ND 24.3	20 20 20 40 20 40 40	8.0 8.0 8.0 16 8.0 16	ug/l ug/l ug/l ug/l ug/l ug/l	J J	
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	its		

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

96%

78%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

460-00-4

98-08-8

E = Indicates value exceeds calibration range

4-Bromofluorobenzene

aaa-Trifluorotoluene

J = Indicates an estimated value

56-136%

50-144%

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



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Report of Analysis							Page 1 of	
Client Sam Lab Samp Matrix: Method: Project:	Client Sample ID: NFP MW-23 Lab Sample ID: T10433-3 Matrix: AQ - Water Method: SW846 8021B Project: Blanco North				Date S Date J Perce	Sampled: Received nt Solids	: 05/23/05 : 05/24/05 : n/a	
Run #1 Run #2 ^a	File ID I EE018929.D I EE018957.D I	DF I 100	Analyzed 05/31/05 06/01/05	By JH JH	Prep D n/a n/a	late	Prep Batch n/a n/a	Analytical Batch GEE869 GEE870
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene		9900 b 36.5 270 b 1650 b ND b 1650 b	100 1.0 100 200 100 200	40 0.40 40 80 40 80	ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recov	eries	Run# 1	Run# 2	Lim	its		
460-00-4 98-08-8	4-Bromofluorober aaa-Trifluorotolue	nzene ene	180% ^c 106%	100% 89%	56-1 50-1	36% 44%		

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

(b) Result is from Run# 2

(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



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	Report of Analysis							
Client San Lab Samp Matrix: Method: Project:	nple ID: NFP MW-27 le ID: T10433-4 AQ - Water SW846 8021B Blanco North			Date 1 Date 1 Perce	Sampled Received nt Solids	: 05/23/05 : 05/24/05 : n/a		
Run #1 ª Run #2	File ID DF EE018930.D 50	Analyzed 05/31/05	By JH	Prep D n/a)ate	Prep Batch n/a	Analytical Batch GEE869	
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound	Result	RL	MDL	Units	Q		
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	40.5 172 1000 5260 985 4280	50 50 50 100 50 100	20 20 20 40 20 40	ug/l ug/l ug/l ug/l ug/l ug/l	J		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	114% 112%		56-1 50-1	1 36 % 144%			

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

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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E = Indicates value exceeds calibration range

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	Report of Analysis							Page 1 of 1	
Client Sam Lab Samp Matrix: Method: Project:	nple ID: 230505 le ID: T10433 AQ - T SW846 Blanco	5TB01 3-5 Trip Blank 5 8021B North	Water		Date S Date J Percer	Sampled: Received nt Solids	: 05/23/05 : 05/24/05 : n/a		
Run #1 Run #2	File ID EE018920.D	DF 1	Analyzed 05/31/05	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch GEE869	
Run #1 Run #2	Purge Volume 5.0 ml								
Purgeable	Aromatics								
CAS No.	Compound		Result	RL	MDL	Units	Q		
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene)	ND ND ND ND ND ND	1.0 1.0 2.0 1.0 2.0	0.40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l ug/l			
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	its			

CAS NU.	Surrogate Recoveries	$\mathbf{K}\mathbf{U}\mathbf{I}\mathbf{\pi}$ \mathbf{I}	Linus
460-00-4	4-Bromofluorobenzene	94%	56-136%
98-08-8	aaa-Trifluorotoluene	97%	50-144%

MDL - Method Detection Limit ND = Not detected 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



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T10433: 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



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Method Blank Summary

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Job Number:	T10433
Account:	MWHSLCUT Montgomery Watson
Project:	Blanco North

								_
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch	
GEE869-MB	EE018907.D	1	05/31/05	JH	n/a	n/a	GEE869	

The QC reported here applies to the following samples:

Method: SW846 8021B

T10433-2, T10433-3, T10433-4, T10433-5

CAS No.	Compound	Result	RL	MDL	Units	Q
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 ND ND ND	1.0 1.0 2.0 1.0 2.0	0.40 0.40 0.40 0.80 0.40 0.80	ug/l ug/l ug/l ug/l ug/l ug/l	
CAS No.	Surrogate Recoveries		Limi	ts		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	108% 105%	56-13 50-14	86% 14%		



Method Blank Summary Page 1 of 1 Job Number: T10433 MWHSLCUT Montgomery Watson Account: **Project:** Blanco North Sample File ID DF Analyzed By Prep Date **Prep Batch** Analytical Batch GEE870-MB EE018934.D1 06/01/05 JĤ n/a n/a **GEE870** The QC reported here applies to the following samples: Method: SW846 8021B T10433-1, T10433-3

90% 50-144%

CAS No.	Compound	Result	RL	MDL	Units	Q
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 ND ND ND	1.0 1.0 2.0 1.0 2.0	$\begin{array}{c} 0.40 \\ 0.40 \\ 0.40 \\ 0.80 \\ 0.40 \\ 0.80 \end{array}$	ug/l ug/l ug/l ug/l ug/l ug/l	
CAS No.	Surrogate Recoveries		Limi	ts		
460-00-4	4-Bromofluorobenzene	91%	56-13	36%		

98-08-8

aaa-Trifluorotoluene

ALC: NO 16 of 20 JTEST. AC

T10433

ALC: NO

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Blank Spike Summary

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Job Number: Account: Project:	T10433 MWHSLCU Blanco Nort	T Montg h	gomery Watson				
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE869-BS	EE018908.I	D 1	05/31/05	JH	n/a	n/a	GEE869

The QC reported here applies to the following samples:

Method: SW846 8021B

T10433-2, T10433-3, T10433-4, T10433-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.0	95	72-125
100-41-4	Ethylbenzene	20	18.7	94	76-125
108-88-3	Toluene	20	19.0	95	74-125
1330-20-7	Xylenes (total)	60	58.0	97	78-124
95-47-6	o-Xylene	20	19.0	95	78-124
	m,p-Xylene	40	39.1	98	78-125
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4	4-Bromofluorobenzene	105%	56	-136%	
98-08-8	aaa-Trifluorotoluene	96%	50	-144%	



Page 1 of 1

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Blank S Job Numb Account: Project:	Spike Summary er: T10433 MWHSLCUT Montg Blanco North	gomery Watson	L			Page 1 of 1
Sample GEE870-B	File ID DF S EE018933.D 1	Analyzed 06/01/05	By JH	Prep Date n/a	Prep Batch n/a	Analytical Batch GEE870
The QC re T10433-1,	ported here applies to the T10433-3	e following san	nples:		Method: SW	/846 8021B
CAS No.	Compound	Spike ug/l	BSP ug/l	BSP % Limits		
71-43-2	Benzene	20	19.1	96 72-125		
100-41-4	Ethylbenzene	20	18.8	94 76-125		
108-88-3	Toluene	20	18.9	95 74-125		
1330-20-7	Xylenes (total)	60	57.1	95 78-124		
95-47-6	o-Xylene	20	19.2	96 78-124		
	m,p-Xylene	40	37.9	95 78-125		

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	104%	56-136%
98-08-8	aaa-Trifluorotoluene	99%	50-144%

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Matrix Job Numbe Account: Project:	Spike/Matrix Spike er: T10433 MWHSLCUT Montge Blanco North	e Duplicate	e Summ	ary				Р	age 1 of 1
Sample	File ID DF	Analyzed	By	Prep I	Date	Prep Bat	ch Ai	alytical	Batch
T10398-5M	IS EE018922.D 1	05/3ľ/05	JŇ	n/a		n/a	GI	EE 869	
T10398-5M	ISD ^a EE018923.D 1	05/31/05	JH	n/a		n/a	GI	EE 869	
T10398-5	EE018921.D 1	05/31/05	JH	n/a		n/a	GI	E E869	
T10433-2, T CAS No.	T10433-3, T10433-4, T104	33-5 T10398-5 ug/l (Spike	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
						0 -			
71-43-2	Benzene	ND	20	19.9	100	20.3	102	2	45-137/21
100-41-4	Ethylbenzene	ND	20	20.5	103	20.8	104	1	68-126/15
108-88-3	l'oluene	ND	20	20.2	101	20.2	101	0	63-130/22
1330-20-7	Xylenes (total)	ND	60	61.8	103	62.1	104	0	72-125/19
95-47-6	o-Xylene	ND	20	20.8	104	20.8	104	U	70-128/20
	III,p-Xylene	ND	40	41.1	103	41.3	105	U	03-130/19

	U U		
460-00-4	4-Bromofluorobenzene	104% 103% 92%	56-136% 50-144%
30-00-0	aaa- minuor otoiuche	103/0	30-14470

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



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Matrix Job Numbo Account: Project:	Spike/Matrix Spike er: T10433 MWHSLCUT Montgo Blanco North	e Duplicate mery Watson	Summ	ary				Pa	ge 1 of 1	
Sample T10416-5M T10416-5M T10416-5	File ID DF IS EE018940.D 1 ISD EE018941.D 1 EE018939.D 1	Analyzed 06/01/05 06/01/05 06/01/05	By JH JH JH	Prep Da n/a n/a n/a	ate] 1 1	Prep Bat n/a n/a n/a	ch An GE GE GE	alytical EE870 EE870 EE870 EE870	Batch	5.3
The QC re	ported here applies to the	following sampl	les:]	Method:	SW846	3021B]	হ্য
T10433-1,	T10433-3									Richard
CAS No.	Compound	T10416-5 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD	in the second
71-43-2	Benzene	ND	20	20.1	101	20.0	100	0	45-137/21	
100-41-4 108-88-3 1330-20-7	Ethylbenzene Toluene Xylenes (total)	ND ND ND	20 20 60	20.0 20.0 60.9	100 100 102	19.7 19.9 59.8	99 100 100	2 1 2	68-126/15 63-130/22 72-125/19	
95-47-6	o-Xylene m,p-Xylene	ND ND	20 40	20.4 40.5	102 101	20.2 39.6	101 99	1 2	70-128/20 63-136/19	
CAS No.	Surrogate Recoveries	MS	MSD	T10	416-5	Limits				-
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	97% 96%	100% 97%	91% 94%	ó Ó	56-1369	% %			

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DATA VERIFICATION WORKSHEET

(Page 1 of 3)

Analy	tical Method/An	alvtes: SW-8	46 8021B (BTF	(X) San	nple Colle	ction Date(s):	08/30/05	
1 2000	Labor	atory:	Accutest	<u></u>	MWH	Job Number: _	EPC-SJRB (Blanco No.)	
	Batch Identifie	cation:	T11331			Matrix:	Water	
MS/MSD Parent(s) ^(a) :		None	Field Replicate Parent(s):			None		
Verifi	cation Comp	olete:	Brian Buttars – 09/13/05					
Foot				Hits				
Notes	Site ID	Sample ID	Lab. ID	(Y/N)	Quals.	Com	ments	
1	Trip Blank	300805TB01	T11331-01	N				
1,2,3,4	Blanco No.	MW-23	T11331-02	Y	1 1 1 1 1	Benzene @ 37 Toluene @ <5 Ethylbenzene @ Xylenes, total o-Xylene @ 18	60 μg/l μg/l @ 53.2 μg/l @ 199 μg/l 3.7 μg/l	
1,5,6	Blanco No.	MW-27	T11331-03	Y	1 1 1 1 1 1 1 1	Benzene @ 16 Toluene @ 13. Ethylbenzene @ Xylenes, total o-Xylene @ 29 m,p-Xylene @	100 μ <u>g</u> /l 5 μg/l @ 383 μg/l @ 1860 μg/l @8 μg/l 1560 μg/l	
1,5	Blanco No.	MW-26	T11331-04	Y] UJ J J	Benzene @ 18 Toluene @ <5. Ethylbenzene @ Xylenes, total o-Xylene @ 2. m,p-Xylene @	.2 μg/l 0 μg/l @ 3.2 T μg/l @ 30.4 μg/l 5 T μg/l 27.9 μg/l	
1,2	Blanco No.	MW-19	T11331-05	Y	J UJ UJ UJ UJ UJ	Benzene @ 20 Toluene @ <20 Ethylbenzene @ Xylenes, total o-Xylene @ <2 m,p-Xylene @	40 μg/l) μg/l @ 117 μg/l @ <40 μg/l 20 μg/l <40 μg/l	
							<u>, </u>	
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DATA VERIFICATION WORKSHEET

(Page 2 of 3)

Analytical Method:

SW-846 8021B (BTEX)

Accutest

MWH Job Number: EPC-SJRB (Blanco No.)

Laboratory:

Batch Identification: T11331

Verification Criteria							
Sample ID	300805TB 01	Blanco No. MW-23	Blanco No. MW-27	Blanco No. MW-26	Blanco No. MW-19		
Lab ID	T11331-01	T11331-02	T11331-03	T11331-04	T11331-05		
Holding Time	A ¹	A ^{1,2,3}	A ^{1,5}	A ^{1,5}	A ^{1,2}		
Analyte List	А	А	А	А	A		
Reporting Limits	A	А	А	А	А		
Surrogate Spike Recovery	Α	A^4	A ⁶	А	А		
Trip Blank	А	А	А	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	А	А	А	А	А	-	
Laboratory Control Sample (LCS)	А	А	А	А	А		
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A		
Retention Time Window	N	N	N	N	N		
Injection Time(s)	N	N	N	N	N		
Hardcopy vs. Chain-of-Custody	А	А	А	Α	А		
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:

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1) Sample temperature at laboratory @ 1.5°C (4±2°C), data quality not affected.

- Sample analyzed outside of holding time @ 9 days (7), introducing a possible low bias. Qualify associated sample hits with "J" 2) flags, indicating the data are estimated and possibly biased low. Qualify associated sample non-detects with "UJ" flags, indicating possible false negatives.
- 3) Sample analyzed outside of holding time @ 10 days (diluted run benzene only) (7), introducing a possible low bias. Qualify associated sample hit with a "J" flag, indicating the datum is estimated and possibly biased low.
- Surrogate recovery, for run #1, outside acceptance criteria for 4-bromofluorobenzene @ 139% (56-136), indicating a possible 4) high bias (benzene is the only analyte not reported from run #1). Qualify associated sample hits with a "J" flags, indicating the data are estimated and possibly biased high.

DATA VERIFICATION WORKSHEET

(Page 3 of 3)

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- 5) Sample analyzed outside of holding time @ 10 days (7), 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 recovery, for run #1, outside acceptance criteria for aaa-trifluorotoluene @ 32% (50-144), indicating 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.

e-Hardcopy 2.0 **Automated Report**



Gulf Coast

Technical Report for

Montgomery Watson

Blanco North

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

Accutest Job Number: T11331

Sampling Date: 08/30/05

Report to:

160 . 641

MWH Americas, Inc.

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 19



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

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Gulf Coast • 10165 Harwin Drive • Suite 150 • Houston, TX 77036 • tel: 713-271-4700 • fax: 713-271-4770 • http://www.accutest.com

1 of 19 **ACCUTEST**

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Sample Summary

Montgomery Watson

Job No: T11331

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

Sample Number	Collected Date	Time By	Received	Matr Code	ix Type	Client Sample ID
T11331-1	08/30/05	00:00 MN	08/31/05	AQ	Trip Blank Water	300805TB01
T11331-2	08/30/05	08:15 MN	08/31/05	AQ	Ground Water	MW-23
T11331-3	08/30/05	09:05 MN	08/31/05	AQ	Ground Water	MW-27
T11331-4	08/30/05	09:25 MN	08/31/05	AQ	Ground Water	MW-26
T11331-5	08/30/05	10:19 MN	08/31/05	AQ	Ground Water	MW-19





SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson

Job No T11331

Report Date 9/12/2005 4:13:36 PM

Site: Blanco North

4 Samples and 1 Trip Blank were collected on 08/30/2005 and were received at Accutest on 08/31/2005 properly preserved, at 1.5 Deg. C and intact. These Samples received an Accutest job number of T11331. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

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

Volatiles by GC By Method SW846 8021B

Matrix	AQ	Batch ID:	GKK645	
 All samples wer	e analyzed	within the recommended method	holding time	

All method blanks for this batch meet method specific criteria.

Sample(s) T11363-2MS, T11363-2MSD were used as the QC samples indicated.

T11331-5: Sample was not preserved to a pH < 2; reported results are considered minimum values.

T11331-3: Sample was not preserved to a pH < 2; reported results are considered minimum values.

T11331-2: Sample was not preserved to a pH < 2; reported results are considered minimum values.

T11331-2 for 4-Bromofluorobenzene: Outside control limits due to matrix interference. Confirmed by reanalysis.

Matrix AQ Batch ID: GKK647

All samples were analyzed within the recommended method holding time.

Main All method blanks for this batch meet method specific criteria.

Sample(s) T11362-26MS, T11362-26MSD were used as the QC samples indicated.

T113314: Sample was not preserved to a pH < 2; reported results are considered minimum values.

T11331-3: Sample was not preserved to a pH < 2; reported results are considered minimum values.

T11331-2: Sample was not preserved to a pH < 2; reported results are considered minimum values.

T11331-3 for aaa-Trifluorotoluene: Outside control limits due to matrix interference. Confirmed by reanalysis.

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

4 of 19 2 ACCUTEST. T11331 Laboratoria

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	Report of Analysis								
Client Sam Lab Samp Matrix: Method: Project:	nple ID: 300805TB01 le ID: T11331-1 AQ - Trip Blank SW846 8021B Blanco North	Water		Date Sampled: 08/30/05 Date Received: 08/31/05 Percent Solids: n/a					
Run #1 Run #2	File ID DF KK08389.D 1	Analyzed 09/08/05	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch GKK645		
Run #1 Run #2	Purge Volume 5.0 ml								
Purgeable	Aromatics								
CAS No.	Compound	Result	RL	MDL	Units	Q			
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND	1.0 1.0 2.0 1.0 2.0	0.38 0.36 0.35 0.72 0.42 0.72	ug/l ug/l ug/l ug/l ug/l ug/l				
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its				
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	86% 80%		56-1 50-1	36% 44%				

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



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Client Sam Lab Sampl Matrix: Method: Project:	ple ID: MW-23 le ID: T11331-2 AQ - Ground SW846 80211 Blanco North	Water 3		Date S Date I Percei	Sampled Received nt Solids	: 08/30/05 : 08/31/05 : n/a	
Run #1 ^a Run #2 ^a	File IDDFKK08394.D5KK08455.D50	Analyzed 09/08/05 09/09/05	Ву ЈН ЈН	Prep D n/a n/a	ate	Prep Batch n/a n/a	Analytical Batch GKK645 GKK647
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml					<u></u>	
Purgeable	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	3760 ^b ND 53.2 199 18.7 180	50 5.0 5.0 10 5.0 10	19 1.8 1.8 3.6 2.1 3.6	ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoverie	es Run# 1	Run# 2	Lim	its		
460-00-4 98-08-8	4-Bromofluorobenzer aaa-Trifluorotoluene	ne 139% ^c 80%	88% 84%	56-1 50-1	36% 44%		

Report of Analysis

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

(b) Result is from Run# 2

(c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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E = Indicates value exceeds calibration range

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Report of Analysis

Client Sam Lab Sampl Matrix: Method: Project:	nple ID: MW-27 le ID: T11331-3 AQ - Ground V SW846 8021B Blanco North	Vater		Date S Date J Perce	Sampled Received nt Solids	: 08/30/05 : 08/31/05 : n/a	
	File ID DF	Analyzed	By	Prep D	Date	Prep Batch	Analytical Batch
Run #1 ^a Run #2 ^a	KK08456.D 5 KK08395.D 20	09/09/05	JH JH	n/a n/a		n/a n/a	GKK647 GKK645
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml						
Purgeable	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2	Benzene	16.6	5.0	1.9	ug/l		
108-88-3	Toluene	13.5	5.0	1.8	ug/l		
100-41-4	Ethylbenzene	383	5.0	1.8	ug/l		
1330-20-7	Xylenes (total)	1860	10	3.6	ug/l		
95-47-6	o-Xylene	298	5.0	2.1	ug/l		
	m,p-Xylene	1560	10	3.6	ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	94% 32% ^b	78% 53%	56-1 50-1	1 36% 144%		

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

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

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



Page 1 of 1

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			Repo	ort of A	Analysis		Page 1 of 1
Client Sample ID: Lab Sample ID: Matrix: Method: Project:		MW-26 F11331-4 AQ - Ground W SW846 8021B Blanco North	Vater		Date Sample Date Receiv Percent Soli		
Run #1 ^a Run #2	File ID KK08457	DF 7.D 5	Analyzed 09/09/05	By JH	Prep Date n/a	Prep Batch n/a	Analytical Batch GKK647
Run #1 Run #2	Purge Vo 5.0 ml	blume					
Purgeable	Aromatics						

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4	Benzene Toluene Ethylbenzene	18.2 ND 3.2	5.0 5.0 5.0	1.9 1.8 1.8	ug/l ug/l ug/l	J
1330-20-7 95-47-6	Xylenes (total) o-Xylene m,p-Xylene	30.4 2.5 27.9	10 5.0 10	3.6 2.1 3.6	ug/l ug/l ug/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	102% 60%		56-1 50-1	36% 44%	

(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**

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound





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E = Indicates value exceeds calibration range

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			nalysis			Page 1 of		
Client Sam Lab Samp Matrix: Method: Project:	nple ID: MW-1 le ID: T1133 AQ - 0 SW84 Blance	9 1-5 Ground Wa 6 8021B 9 North	ter		Date Sampled:08/30/05Date Received:08/31/05Percent Solids:n/a			
Run #1 ^a Run #2	File ID KK08397.D	DF 20	Analyzed 09/08/05	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch GKK645
Run #1 Run #2	Purge Volume 5.0 ml)						
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total o-Xylene m,p-Xylene)	2040 ND 117 ND ND ND	20 20 20 40 20 40	7.6 7.2 7.0 14 8.4 14	ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Re	coveries	Run# 1	Run#	2 Lim	its		

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

88%

68%

ND = Not detected MDL - Method Detection Limit

4-Bromofluorobenzene

aaa-Trifluorotoluene

RL = Reporting Limit

460-00-4

98-08-8

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value

56-136%

50-144%

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





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T11331: Chain of Custody Page 1 of 2

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LOCATION: WI: Waik-in VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer PRESERVATIVES: 1: Nona 2: HCL 3: HN03 4: H2SO4 5: NAOH 6: Other PH of waters checked excluding volatiles Ph of waters checked excluding volatiles Ph of solis N/A Delivery method: Courter: FC CoolER TEMP: CoolER TEMP: CoolER TEMP: CoolER TEMP: CoolER TEMP: Method of sample disposal: (circle one) Accutest disposal Hold Return to Client _{Form} : SN012, Rev.12/14/04,								1,2,3,4,5,6 U	, <2, >12, N
ph of waters checked excluding volatiles <u>Comments</u> <u>Cooler TEMP</u> <u>Cooler </u>	LOCATION: WI: Walk PRESERVATIVES: 1:	k-In VR: : None 2:	: Volatile Refrig HCL 3: HNO3	. SUB: Subcontra 4: H2SO4 5: NAO	ct EF: Encor H 6: Other	e Freezer			
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QC Data Summaries

Includes the following where applicable:

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



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T11331 Eabneato

Method Blank Summary

Job Number:	T11331										
Account:	MWHSLCUT Montgomery Watson										
Project:	Blanco North										
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch				
GKK645-MB	KK08376.D	1	09/08/05	JH	n/a	n/a	GKK645				
The QC repor T11331-1, T11	ted here appli 331-2, T11331	es to the -3, T11	e following sam 331-5	ples:		Method: SW	7846 8021B				

CAS No.	Compound	Result	RL	MDL	Units Q
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 ND ND ND	1.0 1.0 2.0 1.0 2.0	0.38 0.35 0.36 0.72 0.42 0.72	ug/l ug/l ug/l ug/l ug/l ug/l
CAS No.	Surrogate Recoveries		Limi	ts	

460-00-4	4-Bromofluorobenzene	95%	56-136%
98-08-8	aaa-Trifluorotoluene	88%	50-144%

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Method Blank Summary

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Job Number:	T11331
Account:	MWHSLCUT Montgomery Watson
Project:	Blanco North

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK647-MB	KK08437.D	1	09/09/05	JH	n/a	n/a	GKK647

50-144%

79%

The QC reported here applies to the following samples:

Method: SW846 8021B

T11331-2, T11331-3, T11331-4

aaa-Trifluorotoluene

98-08-8

CAS No.	Compound	Result	RL	MDL	Units Q
71-43-2 100-41-4 108-88-3 1330-20-7	Benzene Ethylbenzene Toluene Xylenes (total) o Xylene	ND ND ND ND	1.0 1.0 1.0 2.0	0.38 0.35 0.36 0.72 0.42	ug/l ug/l ug/l ug/l
55-47-0	m,p-Xylene	ND	2.0	0.42	ug/l
CAS No.	Surrogate Recoveries		Limi	ts	
460-00-4	4-Bromofluorobenzene	91%	56-13	36%	

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Blank Spil Job Number: Account: Project:	ke Summa T11331 MWHSLCU Blanco North	t ry T Montg 1	gomery Watson				Page 1 of	I
Sample GKK645-BS	File ID KK08377.D	DF 1	Analyzed 09/08/05	By JH	Prep Date n/a	Prep Batch n/a	Analytical Batch GKK645	5.2
The QC repor	ted here appli	es to the	e following sam	ples:	<u></u>	Method: SW	/846 8021B	ອ

T11331-1, T11331-2, T11331-3, T11331-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.0	100	72-125
100-41-4	Ethylbenzene	20	19.3	97	76-125
108-88-3	Toluene	20	19.9	100	74-125
1330-20-7	Xylenes (total)	60	58.6	98	78-124
95-47-6	o-Xylene	20	19.5	98	78-124
	m,p-Xylene	40	39.1	98	78-125
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4	4-Bromofluorobenzene	96%	56	-136%	
98-08-8	aaa-Trifluorotoluene	87 %	50 -	-144%	



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Blank Spike Summary

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Job Number:	T11331
Account:	MWHSLCUT Montgomery Watson
Project:	Blanco North

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK647-BS	KK08438.D	1	09/09/05	JH	n/a	n/a	GKK647

The QC reported here applies to the following samples:

Method: SW846 8021B

T11331-2, T11331-3, T11331-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
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	20 20 20 60 20 40	20.4 19.5 20.3 60.1 19.9 40.2	102 98 102 100 100 101	72-125 76-125 74-125 78-124 78-124 78-125
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	97% 88%	56 50	-136% -144%	



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Matrix Job Numb Account: Project:	Spike/Matrix Sper: T11331 MWHSLCUT Me Blanco North	Dike Duplicate	e Summ	ary			Page 1 of 1	
Sample File ID DF Г11363-2MS KK08385.D 1 Г11363-2MSD KK08386.D 1 Г11363-2 KK08384.D 1		Analyzed 09/08/05 09/08/05 09/08/05	By JH JH JH	Prep Date n/a n/a n/a	Prep Bat n/a n/a n/a	ch Ana GKI GKI GKI	Analytical Batch GKK645 GKK645 GKK645	
The QC re T11331-1,	ported here applies to T11331-2, T11331-3, T	the following sam	ples:		Method:	SW846 80	021B	
CAS No.	Compound	T11363-2 ug/l	: Spike Q ug/l	MS M ug/l %	IS MSD 5 ug/l	MSD %	Limits RPD 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 ND ND	20 20 20 60 20 40	$\begin{array}{cccc} 20.2 & 10 \\ 19.4 & 97 \\ 20.1 & 10 \\ 59.1 & 99 \\ 19.5 & 98 \\ 39.6 & 90 \end{array}$	D1 19.9 7 19.3 D1 19.9 9 58.4 8 19.2 9 39.2	100 97 100 97 96 98	1 45-137/21 1 68-126/15 1 63-130/22 1 72-125/19 2 70-128/20 1 63-136/19	; ;))
CAS No.	Surrogate Recoveries	s MS	40 MSD	59.0 99 T11363	3-2 Limits	20	03-130/19	,

460-00-4	4-Bromofluorobenzene	95% 93% 101%	56-136%
98-08-8	aaa-Trifluorotoluene	90% 88% 95%	50-144%



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Job Number Account: Project:	T11331 MWHSLCU Blanco North	T Montgo 1	omery Watson			U					-
Sample	File ID	DF	Analyzed	By	ý	Prep I	Date	Prep Bat	ch A	Analytical	Batch
T11362-26M	S KK08445.D	1	09/09/05	JF	I	n/a		n/a	(GKK647	
T11362-26M	SD KK08446.D	1	09/09/05	JH	I	n/a		n/a	(GKK647	
T11362-26	KK08444.D	1	09/09/05	JH	I	.n/a		n/a	(GKK647	
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T11331-2, T CAS No.	11331-3, T11331 Compound	-4	T11362- ug/l	26 Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RP1
T11331-2, T CAS No. 71-43-2	11331-3, T11331 Compound Benzene	-4	T11362- ug/l ND	26 Q	Spike ug/l 20	MS ug/l 18.7	MS % 94	MSD ug/l 18.4	MSD % 92	RPD	Limits Rec/RPI 45-137/2
T11331-2, T CAS No. 71-43-2 100-41-4	11331-3, T11331 Compound Benzene Ethylbenzene	-4	T11362- ug/l ND ND	26 Q	Spike ug/l 20 20	MS ug/l 18.7 18.5	MS % 94 93	MSD ug/l 18.4 18.3	MSD % 92 92	RPD 2 1	Limits Rec/RP 45-137/2 68-126/1
T11331-2, T CAS No. 71-43-2 100-41-4 108-88-3	11331-3, T11331 Compound Benzene Ethylbenzene Toluene	1-4	T11362- ug/l ND ND ND	26 Q	Spike ug/l 20 20 20	MS ug/l 18.7 18.5 18.7	MS % 94 93 94	MSD ug/l 18.4 18.3 18.6	MSD % 92 92 93	RPD 2 1 1	Limits Rec/RP 45-137/2 68-126/1 63-130/2
T11331-2, T CAS No. 71-43-2 100-41-4 108-88-3 1330-20-7	11331-3, T11331 Compound Benzene Ethylbenzene Toluene Xylenes (total)	-4	T11362- ug/l ND ND ND ND ND	26 Q	Spike ug/l 20 20 20 60	MS ug/1 18.7 18.5 18.7 57.1	MS % 94 93 94 95	MSD ug/l 18.4 18.3 18.6 56.6	MSD % 92 92 93 94	RPD 2 1 1	Limits Rec/RP 45-137/2 68-126/1 63-130/2 72-125/1
T11331-2, T CAS No. 71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	11331-3, T11331 Compound Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene	-4	T11362- ug/l ND ND ND ND ND ND	26 Q	Spike ug/l 20 20 20 60 20	MS ug/l 18.7 18.5 18.7 57.1 19.2	MS % 94 93 94 95 96	MSD ug/l 18.4 18.3 18.6 56.6 19.1	MSD % 92 93 94 96	RPD 2 1 1 1 1 1	Limits Rec/RP 45-137/ 68-126/ 63-130/ 72-125/ 70-128/
T11331-2, T CAS No. 71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	11331-3, T11331 Compound Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	1-4	T11362- ug/l ND ND ND ND ND ND	26 Q	Spike ug/l 20 20 20 60 20 40	MS ug/l 18.7 18.5 18.7 57.1 19.2 37.9	MS % 94 93 94 95 96 95	MSD ug/l 18.4 18.3 18.6 56.6 19.1 37.5	MSD % 92 92 93 94 96 94	RPD 2 1 1 1 1 1	Limits Rec/R 45-137 68-126 63-130 72-125 70-128 63-136

	-	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	81% 87% 82% 56-136% 78% 85% 74% 50-144%

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VIA FEDERAL EXPRESS

August 9, 2005

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

RE: 2005 Annual Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas

Dear Mr. Von Gonten

El Paso Natural Gas Company (EPNG) hereby submits the 2005 Annual Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas. The enclosed report details results of the annual groundwater sampling event, conducted in 2005 for monitoring of the South Flare Pit and D Plant areas.

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

Sincerely,

Famelufarden for lan Janagisaura

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

Enclosures: as stated

cc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; via Federal Express

El Paso Corporation

1001 Louisiana Street

Houston, Texas

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EL PASO NATURAL GAS COMPANY



614 Reilly Avenue Farmington, New Mexico 87401 AUG 1 0 2005

Oil Conservation Division Environmental Bureau

2005 ANNUAL GROUNDWATER REPORT FOR THE BLANCO PLANT SOUTH FLARE PIT AND D PLANT AREAS

San Juan County, New Mexico

August 2005

Prepared by:

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

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LIST OF ACRONYMS

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

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

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1.0 INTRODUCTION

This 2005 Annual Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas (Report) has been prepared on behalf of El Paso Natural Gas Company (EPNG) to report the results of the 2005 annual groundwater sampling event at the Blanco Plant site, located near Bloomfield, New Mexico. This work has been performed according to the proposed actions outlined in the 2004 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas (MWH, 2004), which was submitted to New Mexico Oil Conservation Division (NMOCD) in August 2004. Proposed actions are as follows:

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

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

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

Section 2.0 of this report summarizes historic information related to groundwater nitrate concentrations at the site, including a description of previous investigations and a description of the geology/hydrogeology of the area. Section 3.0 presents the results of the groundwater sampling event in 2005, and Section 4.0 discusses continued activities at the site.

2.0 SITE BACKGROUND

2.1 PREVIOUS INVESTIGATIONS OF GROUNDWATER NITRATE

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

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

Historic and recent groundwater nitrate+nitrite data from several rounds of groundwater sampling (1991 – 2005) at the site (including North Flare Pit wells) are presented in Table 2.1, *Groundwater Nitrate Analytical Data (1991 – 2005)*.

2.2 SITE GEOLOGY/HYDROGEOLOGY

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

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

A potentiometric surface map for the site has been prepared based on water level measurements collected in May 2005, and is presented in Figure 2.1, *Groundwater Potentiometric Surface Map – May 2005*. Based on these data, groundwater is flowing to the southeast with a hydraulic gradient of 0.032 ft/ft in the Blanco D Plant site area and 0.057 ft/ft in the North Flare Pit area. Based on previous years data, at the southern

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

3.0 2005 ANNUAL GROUNDWATER SAMPLING EVENT

Monitoring wells at the Blanco Plant and North Flare Pit area were sampled on May 31, 2005, and analyzed for nitrate+nitrite concentrations and/or CHCs, as described further below. Monitoring well MW-20 was damaged in 2000 and abandoned in 2002. In accordance with the approval letter from NMOCD, EPC plugged and abandoned monitoring wells MW-10, MW-16, MW-17 and MW-18 in December 2003.

3.1 GROUNDWATER NITRATE+NITRITE DATA

Groundwater samples were collected on May 30 and 31, 2005 from wells MW-8, MW-12, MW-13, MW-14, MW-15, MW-19, MW-23, MW-28, MW-29, and MW-30 using standard purging and sampling techniques and analyzed for nitrate+nitrite concentrations. Groundwater sampling was attempted at wells MW-2, MW-5, MW-6, MW-7, MW-24, and MW-26 at this time; however, these wells were either dry (MW-2, MW-5), did not contain enough water to sample (MW-6, MW-24), or did not recover enough to sample (MW-26). Field data and sampling information are presented on field sampling forms, included in Appendix A.

Analytical data are listed in Table 2.1, *Groundwater Nitrate Analytical Data (1991-2005)*, and laboratory analytical reports are included in Appendix B. Nitrate+nitrite concentrations were consistent with historic data for these wells. These data indicate that nitrate+nitrite concentrations have consistently exceeded NMWQCC standards in monitoring wells MW-14, MW-15, MW-28, MW-29 and MW-30. Monitoring well MW-2 has not been sampled since 1994 because the well has been dry (although data collected from 1991 through 1994 indicated elevated nitrate+nitrite concentrations at that location).

Groundwater nitrate+nitrite concentrations from the May 2005 sampling event are presented on Figure 3.1, *Groundwater Nitrate Data – May 2005*. The 10 mg/L isoconcentration contour is also presented on this figure to indicate areas in exceedance of the NMWQCC standard. Since 1994 through 2005, nitrate+nitrite concentrations in all of the wells in the North Flare Pit area have consistently been low and well below the NMWQCC standard. As shown in this figure, there is no obvious source or apparent trend in the nitrate+nitrite data. Instead, there appear to be two confined areas or "hot spots" of high nitrate+nitrite concentrations that are adjacent to wells with nitrate+nitrite concentrations that high nitrate+nitrite groundwater is migrating off-site. These results are consistent with the past several years of data.

3.2 GROUNDWATER CHLORINATED HYDROCARBON DATA

Samples from the four wells in the D Plant area were also analyzed for a suite of selected CHCs, in accordance with the site monitoring requirements The CHCs include tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethane (DCA), 1,2-dichlorobenzene (DCB), 1,1-dichloroethene (DCE), trans 1,2-DCE and cis 1,2-DCE. These compounds were targeted because they had been detected previously at the site. Annual sampling data from 2002 through 2005 are presented in Table 3.1, *Groundwater Chlorinated Hydrocarbon Analytical Data (2002 - 2005)*. As shown in this table, in 2005 the groundwater sample from MW-12 exceeded the U.S. Environmental Protection

Part Alt

Agency (USEPA) maximum contaminant level (MCL) for TCE of 5.0 μ g/L (but did not exceed the NMWQCC TCE standard of 100 μ g/L); and the groundwater sample from MW-13 exceeded the USEPA MCL for TCE and the NMWQCC standard for 1,1-DCA.

In the 2005 groundwater samples, PCE, the most highly-chlorinated solvent of the analyte group, was detected only in well MW-14 (at a concentration near the detection limit), and TCE was present in wells MW-12 and MW-13. The TCE concentration in MW-13 continued to decrease over time; however, the TCE concentration in upgradient well MW-12 is higher than previous years. Daughter products of these two compounds (DCE and DCA) have been detected in MW-12, MW-13, and MW-14, indicating that degradation of the CHC compounds is naturally occurring in the groundwater. There were no CHCs detected in well MW-15.

4.0 CONCLUSIONS

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

Nitrate+Nitrite Concentrations

- Nitrate+nitrite concentrations in the North Flare Pit area wells (MW-19, MW-23, MW24, MW26 and MW-27) have consistently been below NMWQCC standards during annual sampling events from 2000-2005.
- Nitrate+nitrite concentrations in the Blanco Plant area are generally stable, displaying neither increasing or decreasing trends. Specifically, concentrations have remained stable in two hot spots located near the D Plant and the South Flare Pit areas.
- Groundwater with elevated nitrate+nitrite concentrations does not appear to be migrating, based on 2000 through 2005 sample data.

Chlorinated Hydrocarbons

- Similar to previous years, 2005 groundwater samples from MW-12 and MW-13 exceeded Federal or NMWQCC standards for CHCs.
- Concentrations of TCE in MW-13 continue to decrease over time; however, the concentration of TCE in MW-12 is elevated compared to previous years. Several daughter products of TCE are present in the groundwater samples.
- CHCs appear to be degrading naturally and are expected to fall below NMWQCC standards over time.

August 2005

5.0 **RECOMMENDATIONS**

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

- All groundwater monitoring wells in the South Flare Pit and D Plant areas of the Blanco Plant, including MW-2, will be sampled annually and analyzed for nitrate+nitrite concentrations.
- Nitrate+nitrite concentrations in the monitoring wells in the North Flare Pit area (MW-19, MW-23, MW-24, MW-26, and MW-27) have consistently been below standards for the past six annual sampling events (2000-2005); therefore, these wells will be removed from the annual monitoring program.
- Groundwater samples from monitoring wells in the D Plant Area (MW-12, MW-13, MW-14 and MW-15) will continue to be analyzed annually for CHC concentrations, as listed in Table 4.1.
- The results of the nitrate+nitrite and CHC groundwater sampling will be reported to NMOCD in annual groundwater monitoring reports (typically submitted in August of each year).

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

6.0 REFERENCES

- Bechtel Environmental, 1989. Groundwater Investigation Report, El Paso Natural Gas Company's Blanco Plant, San Juan County, New Mexico. January 1989.
- K.W. Brown and Associates, Inc, 1990. Site Investigation of the Blanco Plant, San Juan County, New Mexico. Prepared for El Paso Natural Gas Company. February 1990.
- MWH, 2002. Groundwater Nitrate Work Plan for Blanco South Flare Pit and D Plant Areas. July 2002.
- MWH, 2003. Groundwater Nitrate Report for the Blanco Plant South Flare Pit and D Plant Areas. April, 2003
- MWH, 2003. 2003 Groundwater Report for the Blanco Plant south Flare Pit and D Plant Areas. August 2003.
- MWH, 2004. 2004 Groundwater Report for the Blanco Plant South Flare Pit and D Plant Areas. August 2004.

TABLES

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TABLE 2.1 GROUNDWATER NITRATE+NITRITE ANALYTICAL DATA (1991 - 2005) BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO

Sample Date	Nitrate+Nitrite (mg/l)
NMOCI) Standard: 10 mg/L
6/18/91	180
2/23/93	256
6/8/93	
2/10/94	249
5/29/02	dry
6/3/03	dry
5/17/04	dry
5/30/05	dry
2/19/93	<1.0
6/7/93	<1.0
1/27/94	<1.0
8/8/00	4.6
11/10/00	4.0
9/24/02	dry
6/3/03	dry
5/17/04	dry
5/30/05	dry 10
2/19/93	633
6/7/93	764 Sta
9/28/93	65.9 AS
10/7/93	94.5
8/20/94	17
12/20/94	94.
2/16/95	90.6
11/10/00	10.00
9/24/02	95.1
5/17/04	drv
5/30/05	not sampled
6/18/91	0.28
6/7/93	3
9/27/93	<2.8
9/24/02	dry
6/3/03	dry
5/17/04	dry
5/30/05	dry
2/10/03	<0.06 2 n
6/7/93	<1.0
9/27/93	<1.0
1/27/94	<1.0
11/10/00	<0.1
3/23/01	0.21
3/23/01	0.21
8/28/01	0.33
5/28/02	0.26
5/17/03	
5/31/05	0.30
6/18/91	0.74
2/19/93	1.2
6/7/93	2.2
9/27/93	2.1
5/28/02	
9/24/02	dry
6/3/03	NS
12/1/03	abandoned
2/25/03	7.8
6/7/93	8.5
9/28/93	9.1
1/27/94	7.3
8/8/00	<10
3/22/01	5./ R.4
8/28/01	8.0
5/28/02	2.0
6/3/03	6.7
5/17/04	7.6
5/31/05	8.6
2/24/93	0.5 100
6/8/93	8.1
9/28/93	4.1
1/27/94	5.4
8/8/00	<12.5
3/22/01	9.8
8/28/01	7.9
5/28/02	6.0
6/3/03	5.8
	Sample Date NMOCI 6/18/91 2/23/93 6/18/91 2/23/93 6/18/91 2/10/94 5/29/92 6/3/03 5/17/04 5/30/05 6/18/91 2/19/93 6/7/93 1/27/94 8/8/00 1/1/10/00 9/24/02 6/3/03 5/17/04 5/30/05 6/19/91 2/19/93 10/7/93 9/28/93 10/7/93 9/28/93 10/7/93 9/28/93 10/7/93 9/28/93 10/7/93 9/28/93 10/7/93 9/27/93 11/10/00 9/24/02 6/3/03 5/17/04 5/30/05 6/18/91 2/19/93 1/27/93 9/27/93 9/27/93 <td< td=""></td<>

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD	Standard: 10 mg/L
	2/25/93	22 19.2
MW-14	6/8/93	17.5 com
	1/27/94	15.4
	8/8/00	() ()
	11/13/00	0.24
	8/28/01	43
	5/28/02	15
	6/3/03	states in 15 days and s
	5/17/04	161
	6/19/91	A CONTRACTOR OF A CONTRACTOR A
MW-15	2/24/93	5
	6/8/93	.48.1
	9/28/93	G State
	8/8/00	35
	11/9/00	38
	3/22/01	25
	8/28/01	30
	6/3/03	21
	5/17/04	20
	5/31/05	35
MW-16	2/25/93	3.7
111 11 - 10	6/8/93	<1.0
	6/3/03	NS
	12/1/03	abandoned
MW-17	9/24/02	dry
	6/3/03	NS
	12/1/03	abandoned
	2/25/93	8.19
MW-18	9/28/93	<1.0
	9/24/02	3.1
	6/3/03	NS
	6/19/91	abandoned
MW-19	2/25/93	
	6/10/93	• NA
	11/13/00	<0.1
	5/30/02	0.13
	6/3/03	<0.10
	5/17/04	0.19
	9/26/92	3.3 NA
MW-20	2/24/93	<1.0
	6/10/93	<1.0
	9/29/93	<1.0
	5/13/94	NA NA
	8/22/94	ŇÄ
	11/13/00	damaged
	6/3/03	abandoned
MW-23	2/1/93	NA
	2/25/93	0.56
	6/8/93	<1.0
	2/10/94	<1.0
	5/13/94	NA
	8/22/94	NA 0.12
	3/26/01	0.12
	5/30/02	0.23
	6/3/03	<0.10
	5/17/04	0.29
	9/26/92	1.42
MW-24	2/23/93	<1.0
	6/10/93	<1.0
	2/10/94	<1.0
	5/13/94	NA
	8/22/94	NA
	11/13/00	0.1
	5/26/01	0.15
	6/3/03	dry
	6/3/03 5/17/04	dry dry

Monitoring Well	Sample Date	Nitrate+Nitrite (mg/l)
	NMOCD	Standard: 10 mg/L
	2/25/93	ARRING THE CONTROL
MW-26	6/10/93	8.2
1	3/26/01	0.24
	. 5/30/02	0.26
	6/3/03	NS
	5/17/04	0.53
	5/30/05	not sampled
	2/26/93	<1.0
™•27	6/10/93	<1.0
	9/30/93	<1.0
	2/2/94	<1.0
	3/14/94	NA 0.10
	11/13/00	0.28
	5/20/01	10.0
	3/30/02	0.010
	<u>6/17/03</u>	N 64
	5/21/04	0.50
	10/103	21
MW 2P	201193	4.1 · · · · · · · · · · · · · · · · · · ·
1*1 ** - 20	8/20/94	2.0
	12/20/94	0.33
	2/16/95	1.6
	8/10/00	25
	11/10/00	53 6 6 6
	3/23/01	34
	8/28/01	63
	5/28/02	83
	6/3/03	87
	5/17/04	82
	5/31/05	Constant A state of the
	10/7/93	8.3
MW-29	2/2/94	196
	8/20/94	23.4
	12/20/94	41 25 41
l	2/16/95	30.0
ļ	8/10/00	59
ļ	11/10/00	66
ļ	3/26/01	The Alexander of the State
ļ	8/28/01	Contraction of the second second
ļ	3/28/02	10
ł	5/17/03	A CONTRACTOR OF A CONTRACTOR A CONTRACT
ł	5/31/04	100 CT
	10/7/93	79.1
MW.30	2/2/94	57 ST
	8/20/94	6741-0
	2/16/95	913
ł	8/10/00	
ł	11/10/00	70 20 20
ł	3/26/01	n star
	8/28/01	1. A. S.
ł	5/28/02	66-2-4 B
	6/3/03	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ł	5/17/04	26 (Price 5) (Sec. 4.)
ł	5/31/05	

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

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GROUNDWATER CHLORINATED HYDROCARBON ANALYTICAL DATA (2002 - 2005) **BLANCO PLANT - SAN JUAN COUNTY, NEW MEXICO** TABLE 3.1

					Chlorinated H	[ydrocarbons by]	EPA M 8260 (u	g/L)	
Montoring	Sample Date	Static Water Level (ft btoc)	1,1-DCA	1,2-DCB	1,1-DCE	trans 1,2-DCE	cis 1,2-DCE	TCE	PCE
NWW	Ce Werer-On	ality/Standard:	25	, SN	5,0	NS.	NS.	100	20
		USERAMCLA	NS	NS	7.0	100	04	5.0	5.0
MW-12	5/28/2002	20.95	21.0	5.2	<1.0	1.7	20.0	8.0	3.0
	6/3/2003	16.99	8.2	3.4	<2.0	<2.0	8.2	4.5	3.2
	5/17/2004	16.59	4.6	3.4	<2.0	<2.0	5.1	4.0	2.3
	5/31/2005	15.65	22.3	<2.0	<2.0	<2.0	18.8	20.7	<2.0
MW-13	5/28/2002	16.76	61.0	79.0	1.3	8.2	45:0	39.0	1.6
	6/3/2003	14.44	53.8	50.5	1.4	8.2	33.0	35.1	1.4
	5/17/2004	14.12	41.2	29.2	<2.0	4.0	21.2	22.5	<2.0
	5/31/2005	. 13.43	50.7	<2.0	<2.0	5.7	26.6	21.3	<2.0
MW-14	5/28/2002	21.57	8.7	<1.0	<1.0	<1.0	2.9	1.9	<1.0
	6/3/2003	19.85	9.5	<2.0	<2.0	<2.0	3.3	2.4	<2.0
	5/17/2004	19.78	5.7	<2.0	<2.0	<2.0	2.1	1.6	<2.0
	5/31/2005	18.81	4.7	<2.0	<2.0	<2.0	<2.0	<2.0	1.2
MW-15	5/28/2002	20.33	5.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/3/2003	18.85	6.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	5/17/2004	18.475	6.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	5/31/2005	17.8	<2.0	<2.0	.<2.0	<2.0	<2.0	<2.0	<2.0

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

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

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

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

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

PCE: Tetrachloroethene

TCE: Trichloroethene

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DCE: Dichloroethene

DCB: Dichlorobenzene

DCA: Dichloroethane

FIGURES

No.4499 Contraction

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APPENDIX A

P25-3752-4

MARY MARY

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FIELD SAMPLING FORMS

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Project No.:	30001.0_		Projec	t Name: <u>Blan</u>	co NFP	(Client:_ <u>MWH</u>	/EL Paso	4.	
Location: BI	anco NFI	P Wel	INo: M	N-23		`	Development	Sampli	ing	
Project Man	aner	M.IN		Date 5/3	0/05	- Start Tim	ne 1202	Weathe	er sunn	v 80s
Denth to Wa	ter 57	7 22 Den	 th to Produ	ict na	<u>eroduct</u> Th	nickness r	na Meas	uring Poir	t TOC	<u>,</u>
Water Colun	n Hoight	• 0.625 Wol	l Dia	лот <u>— па </u>			<u>iu </u>	anng i on		·
Water Colum	Innegn	<u></u> wei	i Dia	_4						
Sampling M	ethod: Su	ubmersible Pun	пр 🗌	Centrifugal	Pump 🗖	Peristalti	ic Pump	Other		
Criteria: 3 t	Bo to 5 Casir	ng Volumes of V	iler x Water Rem	Double Che	ization of	Indicator Pa	arameters X	ei Kemme Other	or bail o	lr∨
				Water Volum	ne in Well					
Gal/ft x	ft of wate	er	Gallons			Ounces	•	Gal/oz to l	be remo	ved
9.62	25 x .65		6.63 x 3	3				18.7	77 gal	
Time	pH	SC		ORP	D.O.		Vol Evac.		Comment	s/
(military)	(su)	(umnos/cm)	(*+)	(millivoits)	(mg/L)		(galions)		Flow rate	
1215	6.67	6940	67.9				1	yellow sheen	tinge,	sudsy
	6.76	7570	65.4				2	yellow sheen	tinge,	sudsy
	6.67	8250	65.2				3	yellow sheen	tinge,	sudsy
	6.61	8740	65.2	-	r r	······	5	grey, su	ıdsy, sh	een
<u> </u>	6.74	9060	65.2	· · · · · · · · · · · · · · · · · · ·			7.5	well is arev	bailing	down
1234	6.79	9170	65.5				7.25	well has	s bailed	dry
						<u></u>				
						Forrous				
Fime p	- S	C Temp	Eh-ORP	D.O. Tu	irbidity	Iron	Vol Evac.	omments/	Flow Ra	te
234	6.79 9	170 65.5					7.25 w	ell has ba	iled dry	
COMMENT	S:							• •		
										
NSTRUME	NIATION	I: pH Meter	X			i emp	perature iviete	rx		
		DO Mo	nitor			Other	r			
	C	onductivity Met	ter X							
Vater Dispo VO	sal <u>Ri</u> Cs Alkal	<u>o Vista</u> Sam inity TDS Cati	ple ID <u>Bla</u> ons Anior	nco NFP MW ns Nitrate I	<u>-23</u> Samp Nitrite Am	le Time <u>1</u> monia TKN	<u>2335 5/30/05</u> N NMWQCC	Metals To	tal Phos	ohorus
					NI 77'				0505450	1
MS/MSD		RD		RD	Name/IIm	e		16 31	USUSIDU	•

	Project No 13	30001.0		Project	t Name [,] Blan	nco NFP	ſ	lient: MWF	H/FL Paso
11.90	Location: Bl	anco NF	P Wel	No:M\	N-26		C	evelopmen	t Sampling
	Project Mana	ager	_MJN		Date <u>5/3</u>	0/05	 Start Tim	e <u>1356</u>	Weather <u>Sunny 80s</u>
	Depth to Wat	ter <u>6</u>	7.16 Dep	th to Produ	uct <u>na</u>	Product T	hickness <u>n</u>	a Mea	suring Point <u>TOC</u>
	Water Colum	nn Height	t <u>0.47</u> Wel	l Dia	_4"				
Ĺ	-						<u> </u>		
A State	Sampling Me	ethod: Si	ubmersible Purr	1p 🗌	Centrifugal	Pump 🛛	Peristaltic	Pump 🔲	Other
	í	В	ottom Valve Bai	ler x	Double Che	ck Valve	Bailer 🗆 🛛 S	tainless-Ste	eel Kemmerer
	Critoria: 2 t	o E Coci	ng Volumos of)	Notor Dom	oval V stabi	lization of	Indicator Da	romotore X	Other or bail dry
and the second	ontena. St	0 5 Cash	ng volumes or	Maler nem	iuvai 🔨 Sladi	iization oi	indicator Fa		
					Water Volum	ne in Well			
1.044	$\frac{\text{Gal/ft x}}{0.4}$	tt of wat	er	Gallons			Ounces		Gal/oz to be removed
15	0.4	/ ^ .05		.000 × 0					117 02
197					0.00		T 4. 1. Pr		
	(militarv)	pH (su)	(umhos/cm)	iemp (°F)	(millivolts)	D.O. (ma/L)	i urbidity (NTU)	vol Evac.	Flow rate
व्यक्ष	1408	6.59	7890	70.2		·····		18	well has not fully
an artes									recovered from
									previous weeks BTEX
- 6		6.73	7920	67.9				27	grey, HC odor, sheen
		6.76	8010	68.1				31	arev. HC odor. sheen
	1429	6 70	9070	69.0	· · · · · · · · · · · · · · · · · · ·			20	grov HC oder sheep
Assisten	1438	0.78	8070	68.2				39	grey, no odor, sneen
7									
1							····		
				- <u> </u>					
				· · · · · · · · · · · · · · · · · · ·	· · · · ·				
24.72									
				19	L	l[L	
16	Final:						Ferrous		
	Timep⊦	l ::::::::::::::::::::::::::::::::::::	C Temp	Eh-ORP	D.O. Tu	rbidity	Iron V	ol Evac.	Comments/Flow Rate
	<u>1438</u> 6	.78 8	68.2					39 (grey, HC odor, sheen
L mes	<u>i en la company</u> de la company	· 1999年1月18日日 著語的	NARTHER & AND INCOME.				and the first of the second		
2.7 m 2.	COMMENTS	: Well ba	ailed dry on 5/30	0/05 not en	ough water to	sample c	on 5/31/05 or	6/1/05. Wa	ater level had not recovered
	tully following	<u>3 5/23/05</u>	sampling wher	purged or	n 5/31/05	<u>.</u>			
Am			- nH Motor			<u></u>	Tomo	araturo Mot	
1.0				nitor			Other		
		С	onductivity Met	er X			Culo		
	Water Dispos	sal <u>R</u> i	<u>o Vista</u> Sam	ple ID_Blar	nco NFP MW	<u>26</u> Samp	le Time	none collec	ted
	VOC	Cs Alkal	inity TDS Catio	ons Anion	s Nitrate N	Nitrite An	monia TKN	NMWQCO	C Metals Total Phosphorus
1									
394	MS/MSD		BD_		BD I	Name/Tim	e		TB
	<u> </u>								
Ame 1									

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Project	No.: <u>3(</u>	0001.0		Projec	t Name: <u>Blar</u>	co NFP	C	lient: <u>MWH</u>	/EL Pa <u>so</u>		
Location:_Blanco NFP				No:M\	N-27		_ D	evelopment	Sampling		
Project	Mana	ger	MJN	Date <u>5/30/05</u> Start Time <u>1258</u> Weather <u>sunny 80s</u>							
Depth to	o Wate	er <u>67</u>	<u>7.58</u> Dep	th to Produ	uct <u>na</u>	Product T	hickness <u>na</u>	a Meas	suring Point <u>TOC</u>		
Water C	Columi	n Height	t <u>1.7</u> Wel	Dia	_2"						
Τ											
Sampling Method: Submersible Pump 🗌 🦷 Centrifugal Pump 🔲 Peristaltic Pump 🔲 C									Other		
988. 19	Bottom Valve Bailer x Double Check Valve Bailer 🗖 Stainless-Steel Kemmerer 🗖										
Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other <u>or bail dry</u>											
									·····		
	⊐l/ft v f	t of wat	or	Gallons	vater volun	ie in vveil	Ounces		Gal/ oz to be removed		
	1.7	x.16		0.27 x 3			34.81 x 3		104.45		
		_	_								
5											
Time	¥ آ	pН	SC	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/		
(militai	ry)	(su)	(umhos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	(ounces)	Flow rate		
1313		6.22	8870	71.0				22	grey, product, HC odor		
§		6.60	8880	69.7	· · · · · ·			32	grey, product, HC odor		
		6.55	9370	70.3				36	grey, product, HC odor		
1323		6 91	10470	69 7				38	well has bailed dry		
5.7 8											
				_							
 		- <u></u> :									
64 87											
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	13826 -	See A Maria				Alan () an ()	- State of the	a			
	- - -		Tome			rhidity	renous Iron		Sommonto/Elouy Doto		
1323	່ອງ ເຊິ່ງ 6. 9	91 10	0470 69.7					38 v	vell has bailed drv		
1.6 ⁴⁶ 7											
	ENTS:	Well ba	ailed dry, return	ed to samp	le 5/31/05 an	d had to re	eturn on 6/1/(05 to finish o	due to lack of water.		
ð		•		·				<u></u>			
	IMEN	TATION	: pH Meter	X			Tempe	erature Mete	er x		
N			DO Mor	nitor			Other	<u></u>			
		С	onductivity Met	er X		······					
Water D)ispos	al <u>Ri</u>	<u>o Vista</u> Sam	ple ID <u>Blar</u>	nco NFP MW-	<u>27</u> Samp	ole Time <u>08</u>	03 5/31/05			
	VOC	s Alkali	inity TDS Catio	ons Anion	is Nitrate I	Vitrite An	nmonia TKN	NMWQCC	Metals Total Phosphorus		
Ţ											
MS/MSI	D		BD_		BD	Name/Tim	ie		TB_ <u>310505tb01</u>		

ALL A

	Project No.::	30001.0			Proiect	t Name: F	3lan	co NFP		Client: MV	VH/EL	Paso	
- Come	Location:_B	lanco NI	-P	 Wel	No: M\	<u>N-19</u>				Developm	ent S	ampling	
S	Project Man	ager	MJN			Date	5-3	1-05_	Start Ti	me0700	v	Veathersunny 8	0s
1	Depth to Wa	ater	VA	Dep	oth to Produ	ictna_	F	Product T	hickness_	naM	easurin	g Point <u>TOC</u>	
Sec. Sec.	Water Colur	nn Heigl	nt <u>N</u> A	Vel	ll Dia	2"						-	
Ī													
20.00	Sampling M	ethod: S	Submer	sible Pun	np 🗌	Centrifu	gal l	Pump 🗆] Perista	ltic Pump [_ C	Other	
Sec.		-	·		:	Davilala	0 h a			Ctainlaga	Cta al 14		
1		E E	sottom	valve Ba	lier x	Double	Cne	ck valve		Stamess-	Steering		
S. 2. 2. 2.	Criteria: 3	to 5 Cas	ing Vol	umes of V	Water Rem	oval X s	tabil	lization of	Indicator I	Parameters	X C	other <u>or bail dry</u>	
	 					10/-1-1/1		- :- \\/-!!					,
1	∣ Gal/fts	tt of wa	tor		Gallons	water vo		ie in wei	Ounces		Gal/	oz to be removed	
1 1 1 A	n	a x .16			na x 3				x 3		Giuli	na oz	
* A. W	Time			<u> </u>	Tama				Turbidit			Commonto/	
	(military)	pH (su)	(uml	SC hos/cm)	l lemp	(millivol	ts)	(mg/L)			ac. (s)	Flow rate	
ļ	((((((((((((((((((((((((((((((((((((((((4111		(.)		,	(((-/		
Sec. Sec.		<u> </u>		<u></u>		<u>`</u>			1				
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		<u> </u>				<u> </u>							
Sec. in													
R		+	+				-					<u> </u>	
12.2													
I													
1.32 3		L			1	J		L	1		I		
Š,	Final:								Ferrous				
	Time	H	SC	Temp	Eh-ORP	D.O.	Tu	rbidity	Iron	Vol Evac.	Com	ments/Flow Rate	
18 M 14													
Ĺ			sarah (ng diri)	1.1%2%19%2%3	<u>大师的</u> 的情绪。 	國作為國际外	- 연감	4 法律师支援					
- The same	COMMENT	S: a grat	sampl	e was co	llected due	to access	s pro	oblems, v	vater levels	are not av	ailable.	no pH, conductivi	ty, or
ť.	temperature	measur	ements	were co	llected.		•	-			,	- · · ·	
San 2	INSTRUME	NTATIO	N: p	oH Meter	X				Ten	nperature M	leter x		
T			_	DO Mo	nitor				_ Oth	er			
			Conduc	tivity Met	er X			,	 				
100	Water Dispo	sal	San	nple ID_B	llanco NFP	<u>MW-19</u>	San	nple Time	e <u>0745 5/</u> 3	31/05		- ·	
	VO	Cs Alka	linity 7	IDS Cati	ons Anion	s Nitrat	e l	Nitrite Ar	nmonia TK	ln nmwq	CC Me	tals Total Phosphor	rus
10 M											-		
1	MS/MSD	<u> </u>		BD ⁻			RD I	Name/Tir	ne		T	B310505tb01	-
L									····				
1. C. M.													

h.,					·							· · · · · · · · · · · · · · · · ·	
	Project No :3	30001.0			Project	Name [,]	Blar	nco D Plai	nt	Client [.] M	WH/	EL Paso	
Y CLANE	Location: Bl	anco D F	Plant Ar	rea Wel	I No:M	N-12	-12 Development Sampling						
	Project Mana	ager	MJN			Date	5/3	1/05 Start	Time08	52 V	/eath	nersunny 80s	
	Depth to Wa	ter <u>1</u>	5.65	_ Dep	th to Produ	ict <u>na</u>	<u>~</u> —	Product T	hickness	naN	leasi	uring Point <u>TOC</u>	
	Water Colum	nn Height	t <u>10.</u>	54	Well D	ia	2"						
Sampling Method: Submersible Pump Centrifugal Pump Peristaltic Pump Other Image: Centrifugal Pump Bottom Valve Bailer x Double Check Valve Bailer Stainless-Steel Kemmerer Image: Centrifugal Pump								Other					
								el Kemmerer					
5 + 10 + 10 - 10	Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other <u>or bail dry</u>								Other or bail dry				
			Ľ			Water V	olun	ne in Well					
	Gal/ft x	ft of wat	er		Gallons	-			Ounces		(Gal/oz to be removed	
	10.5	04 X .16			1.68 X 3						<u>-</u>	5.06	
X	Time	nU			Tomp				Turbidity			Commontal	
	(military)	p⊓ (su)	(umh	os/cm)	(°F)	(millivo	ts)	(mg/L)	(NTU)	(galloi	ns)	Flow rate	
\$2.43°	0900	7.96	6	270	61.6			-		.25		clear	
100		7.77	6	590	61.3					.5		clear	
12.46		7.81	6	590	61.1		-			1		clear	
8		7.54	7	000	61.3					2		clear	
(B.S. F.)		7.29	7:	240	61.8					3		clear	
		7.34	7:	340	62.3					4		clear	
AYLERA		7.15	74	490	62.5					4.5		clear	
	·	7.30	7	500	62.3					4.7	5	clear	
		7.35	7	550	62.2					5.0		clear	
20	<u>0925</u>	7.29	7	590	62.1					5.25	5	clear	
89.00 m	si na 116 Januari ang katalan sa		manaza di sabili y	e Marine Marine	an a	. I - F. Marthard Mark 12	and was	- The antimeter the last to		11. an indexes without former	alat (2005-au)	Prostant and the state of the	
122	Final:	4 9	<u>, i</u>	Temn	Eh-OBP		Ť	urbidity	Iron			omments/Flow/Bate	
1. 1. E.	<u>0925</u> 7	.29 7	590	62.1		<u> </u>			<u></u>	5.25	cl	ear	
				an ar an			a de A						
1. 3. Sec. 4.	COMMENTS	S:											
	INSTRUMEN		· p	H Meter	X				Tem	perature N	/etei	r x	
1.4			- P	DO Mor	nitor				Othe	er			
		С	onduct	ivity Met	er X								
	Water Dispos	sal <u>Ri</u>	o Vista	Sam	ple ID <u>Blar</u>	nco D pla	nt M	W-12	Sample	Time <u>09</u>	27		
10. AN	BTEX VOC	Cs Alkali	inity T	DS Catio	ons Anion	s <u>Nitrat</u>	<u>e</u>]	<u>Nitrite</u> Ar	nmonia TK	N NMWÇ	QCC	Metals Total Phosphorus	
-144 	<u>CHCs</u>												
199 M	MS/MSD		<u>.</u>	BD_			BD	Name/Tin	ne			TB_ <u>310505tb01</u>	

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Project No.: <u>3</u> Location: <u>Bl</u> Project Mana Depth to Wa Water Colum	30001.0 anco D F ager ter13 nn Height ethod: Su	<u>Plant Area</u> Wel MJN 3.43 Dep 9.62 Wel ubmersible Pun	Project I No: <u>MV</u> th to Produ I Dia I Dia I P []	Name: <u>Bla</u> <u>V-13</u> Date <u>5</u> oct <u>na</u> 2" Centrifuga Double Ch	Anco D Pla /31/05_ Product T Al Pump neck Valve	nt C Start Time Thickness] Peristaltic Bailer [S	lient: <u>MWH</u> evelopment e <u>0920</u> a Meas Pump []	/EL Paso Sampling Weathersunny 80s uring PointTOC Other el Kemmerer			
Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other or bail dry Gal/ft x ft of water Gallons Ounces Gal/oz to be removed 9.62 x .16 1.54 x 3 x 3 4.62											
Time	pH (su)	SC (umbos/cm)	Temp (°E)	ORP (millivolts)	D.O.	Turbidity	Vol Evac.	Comments/			
0946	6.7	<u>6570</u>	63.8		, (.25	clear			
	6.67	7890	62.9				.5	clear			
	6.68	6010	62.5				.75	clear			
	6.77	6620	62.0				3	clear			
	6.75	6810	61.5				4	clear			
·	6.73	6850	62.2	•			4.5	clear			
<u>1018</u>	6.71	6780	62.1				4.75	clear			
Final: Time pr 1018 6	4 8.71 6	C Temp 780 62:1	Eh-ORP	D.O. 7	<u>furbidity</u>	Ferrous Iron V	ol Evac. C 4.75 c	omments/Flow Rate lear			
COMMENTS	S: unpres	erved due to rx	n of hcl w/ g	gw							
INSTRUMEN Water Dispo	INSTRUMENTATION: pH Meter X Temperature Meter x DO Monitor Other Other										
BTEX VOO CHCs MS/MSD	Cs Alkal	inity TDS Cati	ons Anion	s <u>Nitrate</u> BI	Nitrite An D Name/Tir	mmonia TKN me	NMWQCC	Metals Total Phosphorus TB_310505tb01			

Project No.:30001.0 Project Name: Blanco D Plant Client: MWH/EL Paso Location: Blanco D Plant Area Well No: MW-14 Development Sampling Project Manager MJN Date 5/31/05 Start Time 1442 Weather sunny 80s Depth to Water 18.81 Depth to Product na Product Thickness na Measuring Point TOC Water Column Height 8.62 Well Dia. 2" 2" Sampling Method: Submersible Pump Centrifugal Pump Peristaltic Pump Other D Bottom Valve Bailer x Double Check Valve Bailer Stainless-Steel Kemmerer C Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other or bail dry									/EL Paso Sampling Weathersunny 80s uring Point _ TOC Other Other Other Other Other Other	
and Party	Gal/ft x 8.6	ft of wat 2 x .16	er	Water Volume in WellGallonsOunces1.38 x 3x 3				Gal/oz to be removed 4.14		
	Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate	
	1446	6.50	6000	67.4		(3)	(.25	clear	
		6.57	6600	66.8				.5	clear	
	·····	6.58	6040	66.7				.75	clear	
		6.51	7110	66.5				2.25	well is bailing down	
	<u>1502</u>	6.47	7150	66.4				2.375	well has bailed dry	
S.	·		· · · · ·				•			
		· ·								
			· 					· · · · · ·		
語の読録										
	Final: Time pl- 1502 6	1. S .47 7	C Temp 150 66.4	Eh-ORP	D.O. Tu	rbidity	Ferrous V	ol Evac. C 2:375 w	omments/Flow Rate rell has bailed dry	
13. Sec. 1	COMMENTS	S:								
	INSTRUMEN	ITATION C sal Ri	I: pH Meter DO Mo conductivity Met o Vista Sam	X nitor er X ple ID Blar			Tempe Other Sample Ti	erature Mete	r x	
a state	BTEX VOC	Cs Alkal	inity TDS Cati	ons Anion	s <u>Nitrate</u> N	Vitrite An	nmonia TKN	NMWQCC	Metals Total Phosphorus	
「読み」で	<u>unus</u> MS/MSD		BD_		BD I	Name/Tim	1e		_ TB_ <u>310505tb01</u>	

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Pro Lo Pro De Wa Sa	Project No.:30001.0 Project Name: Blanco D plant Client: MWH/EL Paso Location: Blanco D Plant Area Well No: MW-15 Development Sampling Project Manager MJN Date 5/31/05 Start Time 1030 Weather sunny 80s Depth to Water 17.80 Depth to Product na Product Thickness na Measuring Point TOC Water Column Height 8.98 Well Dia. 2" Sampling Method: Submersible Pump Centrifugal Pump Peristaltic Pump Other Image: Other Stainless-Steel Kemmerer Bottom Valve Bailer X Double Check Valve Bailer Stainless-Steel Kemmerer Image: Other or bail dry_										
	Gal/ft x	ft of wate	ər İ	Gallons	Water Volum	ne in Well	Ounces		Gal/oz to be removed		
	8.9	8 x .16		1.44 x 3	3		x 3		4.31		
) (I	Time military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate		
10	39	4.35	8970	64.3				.25	yellow		
		4.02	9070	64.0				.5	yellow		
		3.87	9060	64.0				.75	yellow		
£.,		3.30	8860	64.7				3	yellow		
		3.43	8760	64.6				4	yellow		
8		3.28	8850	64.5			· · · · · · · · · · · · · · · · · · ·	4.25	yellow		
11	<u>04</u>	3.39	8780	64.3				4.56	yellow		
			•	_				·			
S Seller with	·										
]											
Fi	nal	a an					Ferrous				
_Ti 11	me pH 04 3	l <u>S(</u> .39 8	C Temp 780 64.3	Eh-ORP	D.O: TU	<u>irbidity</u>	lron V	ol Evac. C 4.56 y	comments/Flow Rate		
	OMMENTS	8:	<u> </u>					<u> </u>	· · · · · · · · · · · · · · · · · · ·		
IN	STRUMEN		: pH Mete DO M onductivity M	er X Ionitor eter X			Tempo Other	erature Mete	ir x		
W В1 СН	ater Dispo TEX_VOC	sal <u>Rio</u> Cs Alkali	<u>o Vista</u> Sa inity TDS Ca	mple ID <u>Bla</u> ations Anior	nco D plant M ns <u>Nitrate 1</u>	IW-15 Nitrite An	Sample T nmonia TKN	ime <u>1105</u> NMWQCC	Metals Total Phosphorus		
MS	S/MSD		B[)	BD	Name/Tim	1e		_ TB_ <u>310505tb01</u>		

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<u> </u>	Project No.:	<u>30001.0</u>		Projec	t Name: <u>Blan</u>	co SFP	Client:_M	WH/EL Pas	0
-14A	Location: <u>BI</u>	anco SF	<u>P</u> Wel	I No:	<u>N-8</u>		D	evelopment	<u>Sampling</u>
	Project Mana	ager	<u>_MJN</u>		Date <u>5/3</u>	<u>1/05</u>	Start Time	e_ <u>1413_</u>	Weather <u>sunny 80s</u>
1.6	Depth to Wa	ter <u>3</u>	<u>4.66</u> Dep	th to Produ	uct <u>na</u> I	Product T	hickness <u>n</u>	a Meas	suring Point <u>TOC</u>
E	Water Colum	nn Heigh	t <u>1.94</u> Wel	I Dia	4"				
	Courselling Ma				Construite on a l		Deviataltia	Dump 1	
1.8.1	Sampling Me	einoa: S	ubmersible Pur	ıрП	Centrilugar	Pump 🗋	Pensiallic	Fump []	Other []
		В	ottom Valve Bai	iler x	Double Che	ck Valve I	Bailer 🗆 🛛 S	tainless-Ste	el Kemmerer
					1 X 1 1		ta alla a ta u Dav	V	
Para 8	Criteria: 3 t	o 5 Casi	ng Volumes of	Water Rem	ioval X stabi	lization of	Indicator Pai	rameters X	Other or ball dry
				· · · · · · · · · · · · · · · · · · ·	Water Volum	ne in Well		<u> </u>	
and the	Gal/ft x	ft of wat	er	Gallons			Ounces		Gal/oz to be removed
4	1.9	4 x .65		1.26 x 3			х З		3.78
Sec. 34	Time	Ηα	SC	Temp	ORP	D.O.	Turbiditv	Vol Evac.	Comments/
X	(military)	(su)	(umhos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	(ounces)	Flow rate
193	1417	6.7	3720	64.5				0.5	clear
d 44. 34		7.02	4190	63.7				0.75	clear
		1.02	+100						
		7.13	4170	63.3				1	well is bailing down,
1.000		7.05	4180	63.3				1.25	clear
	4400		4450		· · ·				
A21, 721	<u>1426</u>	7.14	4150	63.5		.		1.5	clear, well has bailed
- 24				<u></u>			· · · · · · ·	·	
					· · · · · · · · · · · · · · · · · · ·				·····
10. A.									
透え								L	
2.0					an and the second second	ana ina ana ana ana ana ana ana ana ana		nas secolar	
			C			rbidity			Comments/Flow Pate
1. C. A.	1426 7	.14 4	150 63.5		D.O10			1.5 c	lear, well has bailed
- 328								V d	lown
ð,									
No.	COMMENTS	5: Well Ł	bailed dry, colle finish Sample	ected partia	ai sample an shalf full	id returne	ea 6/1/05 to	complete s	sampling but well had not
۱ 		iougn to	Innon. Gample						
1.1	INSTRUMEN	TATION	: pH Meter	X			Tempe	erature Mete	er x
			DO Mor	nitor			Other		
3		С	onductivity Met	er X					
1073	Water Dispos	salRi	o Vista_ Sam	ple ID <u>Bl</u> ar	nco SFP MW-	8 Samp	ole Time14	28 5/31/05	
	BTEX VOC	Cs Alkal	inity TDS Cati	ons Anion	s Nitrate N	 Nitrite An	nmonia TKN	NMWQCC	Metals Total Phosphorus
			,						· · · · · · · · · · · · · · · · · · ·
. Kil	MS/MSD		BD_		BD I	Name/Tim	ne	·	TB_ <u>310505TB01</u>
					· · · · · · · · · · · · · · · · · · ·		······································	+ <u></u>	

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	Project No.:3 Location:_Bla Project Mana Depth to Wa Water Colum Sampling Me	anco SFI ager ter3(nn Height ethod: Su Bo o 5 Casir	2 Wel MJN 0.22 Dep 3.5 Wel ubmersible Pun ottom Valve Ba	Project II No:M oth to Produ II Dia np iler x Water Rem	t Name: <u>Blan</u> <u>N-28</u> Date <u>5/3</u> Ict <u>na</u> 4" Centrifugal I Double Che oval X stabil Water Volum	co SFP <u>1/05</u> Product T Pump □ ck Valve ization of the in Well	Client:_M C Start Tim hicknessn Peristaltic Bailer [] S Indicator Pa	WH/EL Pase Development e1129 a Meas Pump [] tainless-Stee rameters X	Sampling Weather_ <u>sunny 80s</u> uring Point <u>TOC</u> Other Other Other Other_ <u>or bail dry</u>
	<u> </u>	i oi wate 5 x .65		2.28 x 3		<u>.</u>			6.83
N.C. STA	Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
201	1137	6.20	3880	64.4		-		.75	clear
345		6.26	3850	63.7				1.5	clear
ŝ		6.27	3860	63.5				2.25	clear
393 1		6.29	3860	63.3				3.0	clear
14.20		6.29	3880	63.7				4.5	clear
鬡		6.37	3850	63.7				6.0	clear
19.83 M		6.31	3860	63.0				6.75	clear
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	<u>1157</u>	6.30	3870	63.2				7.5	clear
X	1				<u> </u>				
			C Temp	Eh-OBP		rbidity	Ferrous		omments/Flow Bate
	<u>1157</u> 6	.30 3	870 63.2			<u>Dioty</u>		7.5 C	ear
- 200 L	COMMENTS	i:			· · · · · · · · · · · · · · · · · · ·				
14 144 B	INSTRUMENTATION: pH Meter X Temperature Meter x DO Monitor Other Other								
があるとう	Water Dispos BTEX VOC	sal <u>Rio</u> Cs Alkali	<u>o Vista</u> Sam inity TDS Cati	ple ID <u>Blar</u> ons Anion	nco SFP MW- is <u>Nitrate N</u>	<u>28</u> Samp Nitrite An	ole Time <u>12</u> nmonia TKN	200 NMWQCC	_ Metals Total Phosphorus
AL BARE &	MS/MSD		BD		BD I	Name/Tin	ne		TB_ <u>310505tb01</u>

Project No :	20001 0		Project	Name: Blan		Client: M		•
Location: BI	anco SEI	 > \//el		M-29		0//ent <u>M</u> 	evelopment	Sampling
T Project Man	anco <u>or i</u> aner			Date 5/3	1/05	Start Tim	- 1208	Weather suppy 80s
Dopth to Wa	ayei		th to Produ	$Dale_{3/3}$	<u>1/05</u> Product Tl	hicknose n	a Maa	weather <u>suring ous</u>
Wotor Colum	nel <u> </u>	<u>2.31</u> Dep		ист <u></u> _ г		110KHE35 <u>1</u>		
i vvaler Colum	III neigin	. <u>4.01</u> Wei	i Dia					
Sampling Me	ethod: Su	ubmersible Pur	ם קו	Centrifugal I	Pump 🛛	Peristaltic	Pump 🔲	Other
	Вс	ottom Valve Bai	ler x	Double Che	ck Valve I	Bailer 🗆 🛛 S	tainless-Ste	el Kemmerer
Criteria: 31	to 5 Casir	ng Volumes of V	Water Rem	oval X stabil	lization of	Indicator Pa	rameters X	Other <u>or bail dry</u>
· [Water Volum	ne in Well			· · · · · · · · · · · · · · · · · · ·
Gal/ft x	ft of wate	er	Gallons			Ounces		Gal/oz to be removed
4.8	1 x .65		3.13 x 3					9.38
L								
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1219	6.28	4120	65.2	, , , , , , , , , , , , , , , , , , ,			.75	clear
	6.21	4120	65 1				1.5	oloar
	0.31	4120	05.1				1.5	
	6.36	4100	64.9				2.25	clear
	6.42	4100	64.6				2.75	well is bailing down
ž.	6.44	4100	64.6				3.25	clear
	6.45	4100	64.2				3.5	clear
1226	6.49	4090	64.2				3.75	well has bailed dry
14 14		····				· · · · · · · · · · · · · · · · · · ·		
						· · · · · · · · · · · · · · · · · · ·		
						· <u> </u>		
s.		L						· · · · · · · · · · · · · · · · · · ·
Einel	tiget in a		a an			Ferrolis	3. <u>20</u> 7. 6 3.	
Time of	4 SI	C	Eh-ORP	D.O. Tu	rbiditv	Iron V	ol Evac	Comments/Flow Rate
1516 6	6.57 4	620 68.7					3.5 V	Vell has bailed dry
	S: Wall ba			· .				
						·····		
INSTRUMEN	NTATION	: pH Meter	X			Temp	erature Mete	er x
		DO Mo	nitor			Other		
	C	onductivity Met	er X					
Water Dispo	sal Ri	o Vista Sam	ple ID Blar	nco SFP MW-	29 Sam	ole Time 12	28	
BTEX VO	Cs Alkal	inity TDS Cati	ons Anion	s Nitrate N	Nitrite An	nmonia TKN	NMWOCC	Metals Total Phosphorus
		120 Old					X00	
MS/MSD_		BD		BD	Name/Tim	ne		ТВ

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1									
	Project No.:3	0001.0		Project	Name: Blan	co SFP	Client:_M	WH/EL Paso) .
1750 10	Location:_Bla	anco SFI	2 We	No: <u></u> MV	V-30		D	evelopment	Sampling
	Project Mana	ager	MJN		Date5/3	1/05_	Start Time	e1246	Weather sunny 80s
	Depth to Wa	ter <u>32</u>	2.28 Dep	oth to Produ	ct <u>na</u> F	Product T	hickness <u>na</u>	a Meas	uring Point <u>TOC</u>
100 V.	Water Colum	n Height	4 <u>4.62</u> We	ll Dia	_4"				
A	Sampling Me	ethod: Su	ubmersible Pun	n p 🗍	Centrifugal I	Pump 🗌	Peristaltic	Pump 🛛	Other 🔲
		Bo	ottom Valve Ba	iler x	Double Che	ck Valve	Bailer 🛛 🛛 St	tainless-Stee	el Kemmerer
Sec. Oak	Criteria: 3 t	o 5 Casii	ng Volumes of	Water Rem	oval X stabil	ization of	Indicator Par	rameters X	Other <u>or bail dry</u>
					Water Volum	ie in Well			
ARCIN	Gal/ft x	ft of wat	er	Gallons			Ounces		Gal/oz to be removed
	4.6	2 X .05		3.0 X 3	<u>. </u>				9.0
A State	Time	pН	SC	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/
ľ	(military)	(su)	(umhos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	(gallons)	Flow rate
1	1252	6.34	3810	66.8				0.5	clear
		6.38	3800	66.4				1.0	clear
1.88 A		6.38	3790	66.0				1.5	clear
943." -		6.41	3750	66.7				3.5	clear
N. 34		6.44	3800	66.0				4.25	well is bailing down
18. 1	ч.	6.50	3800	66.0				5.00	clear
1000	<u>1318</u>	6.57	3780	66.0	· · · · · · · · · · · · · · · · · · ·			5.25	well has bailed dry
								· · · ·	
1. 1. A. A.									
8				<u> </u>				· · · · · · · · · · · · · · · · · · ·	
「新聞				L	1	I	· · · · ·	I	J
	Final:						Ferrous		
19.19 19.19	1318 pH	1 S	C lemp 3780 66.0	En-ORP	<u>D.O.</u> Iu	rbidity	<u>Iron V</u>	ol Evac. C	omments/Flow Rate
No.					Surday 2				
*	COMMENTS	S: Well ba	ailed drv		· · · · · · · · · · · · · · · · · · ·			<u> </u>	
1887 - A									
	INSTRUMEN	NTATION	I: pH Meter	X			Tempe	erature Mete	r x
3			DO Mo	onitor			Other		· · ·
C	144 ·	C	Conductivity Me	ter X					
1. State 1.	Water Dispo BTEX VOC	sal <u>Ri</u> Cs Alkal	<u>o Vista</u> Samp linity TDS Cat	ie ID <u>Blanc</u> ions Anion	<u>o SFP MW-30</u> as <u>Nitrate N</u>	U Sam Nitrite Ar	pie Time <u>13</u> nmonia TKN	NMWQCC	Metals Total Phosphorus
50						· <u> </u>			-
A 4. S.M.	MS/MSD		BD_	<u> </u>	BD	Name/Tin	ne		_ TB <u>310505tb01</u>

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APPENDIX B

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Destruction of

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DATA VERIFICATION WORKSHEET

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(Page 1 of 2)

		·	·····				·		
Analy	tical Method/Anal	ytes: SW-846	8260B (VO	<u>CS)</u> San	nple Colle	ction Date(s): _	05/31/05		
	Laborat	tory: <u>Ac</u>	cutest		MWH	Job Number:	EPC-SJRB		
	Batch Identifica	tion: T	T10516			 Matrix:	Water		
	MS/MSD Parent((s) ^(a) :T1	T10516-04 Field Replicate Parent(s):						
Verifi	cation Comple	ete:	Bria	n But	tars —	06/21/05			
			<u> </u>	(1)	ate/Signature)			
Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Com	nents		
None	Blanco So.	MW-12	T10516- 01	Y					
None	Blanco So.	MW-13	T10516- 02	Y					
None	Blanco So.	MW-15	T10516- 03	N					
None	Blanco So.	MW-14	T10516- 04	Y			1		
None	Trip Blank	310505TB01	T10516- 05	N					
	· · · · · · · · · · · · · · · · · · ·								
		· · · · · · · · · · · · · · · · · · ·							
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DATA VERIFICATION WORKSHEET

(Page 2 of 2)

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Analytical Method: SW-846 8260B (VOCS)

MWH Job Number: EPC-SJRB (Blanco So.)

Laboratory: Accutest

Batch Identification:

T10516

Verification Criteria							
Sample ID	Blanco So. MW-12	Blanco So. MW-13	Blanco So. MW-15	Blanco So. MW-14	310505TB 01		
Lab ID	T10516-01	T10516-02	T10516-03	T10516-04	T10516-05		
Holding Time	Α	А	A	Α	A		
Analyte List	A	А	А	A	А		
Reporting Limits	А	А	А	A	А		
Surrogate Spike Recovery	А	A	А	А	А		
Trip Blank	А	А	А	А	А		
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	А	. A	А	А	А		
Laboratory Control Sample (LCS)	A	А	Α	А	A		
Laboratory Control Sample Duplicate (LCSD)	N	N .	N	N	N		
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	A	N/A		
Retention Time Window	N -	N	N	N	N		
Injection Time(s)	N	N	N	N	N		
Hardcopy vs. Chain-of-Custody	A	A	A	А	А		
EDD vs. Hardcopy	N	N	N	N	N		
EDD vs. Chain of Custody	N	N	N	N	N		

(a) List QC batch identification if different than Batch ID

A indicates verification criteria were met

A/L indicates verification criteria met based upon Laboratory's QC Summary Form

X indicates verification criteria were not met

N indicates data review were not a project specific requirement

N/A indicates criteria are not applicable for the specified analytical method or sample

N/R indicates data not available for review

NOTES:

		DATA VEI	RIFICATIO (Page 1 o	N WORF f 2)	KSHEET		
Analy	tical Method/Anal	ytes: <u>SW-846 35</u>	3.2 (NO ₃ +N	O ₂) San	nple Collee	ction Date(s):	05/31/05
	Laborat	tory: <u> </u>	ccutest		MWH	Job Number:	EPC-SJRB (Blanco So.)
	Batch Identifica	tion:T	10516			Matrix:	Water
	MS/MSD Parent($(s)^{(a)}$: T1	0516-04	Fi	eld Replica	ate Parent(s):	None
Verifi	cation Comple	ete:	Bria	n But	tars —	06/21/05	
		· · · · · · · · · · · · · · · · · · ·		()	ate/Signature)	
Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Com	ments
None	Blanco So.	MW-12	T10516- 01	Y			
None	Blanco So.	MW-13	T10516- 02	Y			
None	Blanco So.	MW-15	T10516- 03	Y			
None	Blanco So.	MW-14	T10516- 04	Y			
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	DATA	VERIFICA (Pa	ATION V age 2 of 2)	VORKSH	EET			
Analytical Method:SW-8	346 353.2 (N	NO ₃ +NO ₂)	MV	VH Job Nu	umber: _	EPC-	SJRB (Bla	nco So.)
Laboratory:	Accutes	st	Bato	h Identifi	cation: _		T10516	
Verification Criteria							<u>.</u>	
Sample ID	Blanco So. MW-12	Blanco So. MW-13	Blanco So. MW-15	Blanco So. MW-14				
Lab ID	T10516-01	T10516-02	T10516-03	T10516-04				
Holding Time	А	A	А	A ·				
Analyte List	A	A	А	A				
Reporting Limits	А	A	A	А				
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A				
Field Duplicate/Replicate	N/A	N/A	N/A	N/A				
Initial Calibration	N	N	N	N				
Initial Calibration Verification (ICV)	N	N	N	N				
Continuing Calibration Verification (CCV)	N .	N	N	N.				
Method Blank	А	A	Α	A				

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(a) List QC batch identification if different than Batch ID

A indicates verification criteria were met

Laboratory Control Sample (LCS)

Hardcopy vs. Chain-of-Custody

EDD vs. Chain of Custody

Laboratory Control Sample Duplicate (LCSD)

Matrix Spike/Matrix Spike Dup. (MS/MSD)

A/L indicates verification criteria met based upon Laboratory's QC Summary Form

Α

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N/A

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N/A

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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:

Analysis Time(s)

EDD vs. Hardcopy

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DATA VERIFICATION WORKSHEET (Page 1 of 2)

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Analy	tical Method/Analy	tes: SW-846 35	53.2 (NO ₃ +N	O ₂) Sar	nple Colle	ction Date(s): _	05/30-31/0
	Laborat	orv• A	centest		MWH	Iob Number:	EPC-SIRF
	Laborat		ccutor				(Blanco So.
	Batch Identificat	ion• T	10515			- Matrix:	Water
	Duten Iuentineut						
	MS/MSD Parent(s	$S^{(a)}$:T1	0515-07	Fi	eld Replica	ate Parent(s): _	None
				I	ab Replica	ate Parent(s): _	T10515-07
Verifi	ication Comple	ete:	Bria	n But	tars –	07/13/05	5
				(Ľ	ate/Signature)	·
Foot				Hits		<u> </u>	
Notes None	Blanco So	Sample ID MW-23	T10515-	(Y/N)	Quals.	Com	ments
None	Dianco So.	141 44 - 2.5	01	1			
None	Blanco So.	MW-19	T10515-	Y			
None	Blanco So.	MW-27	02 T10515- 03	Y		·	<u> </u>
None	Blanco So.	MW-28	T10515- 04	Y			
None	Blanco So.	MW-29	T10515- 05	Y			
None	Blanco So.	MW-30	T10515- 06	Y			
None	Blanco So.	MW-08	T10515- 07	Y			
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DATA VERIFICATION WORKSHEET

(Page 2 of 2)

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Analytical Method: SW-846 353.2 (NO₃+NO₂)

MWH Job Number:

EPC-SJRB (Blanco So.)

Laboratory: Accutest

Batch Identification:

T10515

Verification Criteria								·
Sample ID	Blanco So. MW-23	Blanco So. MW-19	Blanco So. MW-27	Blanco So. MW-28	Blanco So. MW-29	Blanco So. MW-30	Blanco So. MW-08	
Lab ID	T10515-01	T10515-02	T10515-03	T10515-04	T10515-05	T10515-06	T10515-07	
Holding Time	А	А	A	A	А	A	А	
Analyte List	A	А	A	А	А	А	A	
Reporting Limits	А	А	A	А	A	A	A	
Equipment Rinseate Blanks	N/A							
Field Duplicate/Replicate	N/A							
Initial Calibration	N	N	N	N	Ν	N	N	
Initial Calibration Verification (ICV)	N	N	N	N	N	N	N	
Continuing Calibration Verification (CCV)	N .	N	N	N	N	N	N	
Method Blank	А	А	А	А	А	А	А	
Laboratory Control Sample (LCS)	A	А	А	А	А	А	A	
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	N	N	
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A	N/A	А	
Laboratory Replicate	N/A	N/A	N/A	N/A	N/A	N/A	A	
Analysis Time(s)	N	N	N	N	N	N	N	
Hardcopy vs. Chain-of-Custody	A	А	А	Α	А	А	А	
EDD vs. Hardcopy	N	N	N	N	N	N	N	
EDD vs. Chain of Custody	N	N	N	N	N	N	N	

(a) List QC batch identification if different than Batch ID

A indicates verification criteria were met

A/L indicates verification criteria met based upon Laboratory's QC Summary Form

X indicates verification criteria were not met

N indicates data review were not a project specific requirement

N/A indicates criteria are not applicable for the specified analytical method or sample N/R indicates data not available for review

NOTES:

07/13/05

Gulf Coast

Technical Report for

Montgomery Watson

Blanco South Flare Pit

310505MN02

Accutest Job Number: T10515

Sampling Dates: 05/30/05 - 05/31/05

Report to:

MWH Americas, Inc.

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 19



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

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Gulf Coast • 10165 Harwin Drive • Suite 150 • Houston, TX 77036 • tel: 713-271-4700 • fax: 713-271-4770 • http://www.accutest.com



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Sample Summary

Montgomery Watson

Job No: T

T10515

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Blanco South Flare Pit Project No: 310505MN02

Sample Number	Collected Date	Time By	Received	Matr Code	ix Type	Client Sample ID		
T10515-1	05/30/05	12:35 MN	06/02/05	AQ	Ground Water	MW-23	41 ¹ 4 1	a tang ting tang tang tang tang tang tang tang ta
T10515-2	05/31/05	07:45 MN	06/02/05	AQ	Ground Water	MW-19		
T10515-3	05/31/05	08:03 MN	06/02/05	AQ	Ground Water	MW-27		
T10515-4	05/31/05	12:00 MN	06/02/05	AQ	Ground Water	MW-28		
T10515-5	05/31/05	12:28 MN	06/02/05	AQ	Ground Water	MW-29		
T10515-6	05/31/05	13:20 MN	06/02/05	AQ.	Ground Water	MW-30		
T10515-7	05/31/05	14:28 MN	06/02/05	AQ	Ground Water	MW-8		





SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson

Job No T10515

Report Date

6/8/2005 5:18:33 PM

Site: Blanco South Flare Pit

7 Samples were collected on between 05/30/2005 and 05/31/2005 and were received at Accutest on 06/02/2005 properly preserved, at 5.6 Deg. C and intact. These Samples received an Accutest job number of T10515. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

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

Wet Chemistry By Method EPA 353.2

Matrix AQ	Batch ID:	GN8266	· · · · · · · · · ·	
		· · · · · · · · · · · · · · · · · · ·	 	

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

All method blanks for this batch meet method specific criteria.

Sample(s) T10515-7DUP, T10515-7MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

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

Page 1 of 1



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			Repo	rt of Ar	nalysis			Page 1 of
Client Sample ID: Lab Sample ID: Matrix	MW-23 T10515-3	l ound Water			Date S	Sampled: 05/30/0 Received: 06/02/0)5)5	
Project:	Blanco S	outh Flare Pit			Perce	nt Solids: n/a		
General Chemistry	r							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate +	Nitrite	0.40	0.050	mg/l	1	06/08/05 12:07	LN	EPA 353.2





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Client Sample ID: Lab Sample ID: Matrix:	MW-19 T10515-2 AO - Gro	2 ound Water			Date S Date I	Sampled: 05/31/0 Received: 06/02/0)5)5		
Project:	Blanco S	outh Flare Pi	t		Percer	nt Solids: n/a			
General Chemistry	,					, <u>_</u> , <u>_</u> ,			
Analyte		Result	RĹ	Units	DF	Analyzed	By	Method	
Nitrogen, Nitrate +	Nitrite	3.5	0.50	mg/l	10	06/08/05 12:07	LN	EPA 353.2	

Report of Analysis

RL = Reporting Limit



Page 1 of 1





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Client Sample ID: M Lab Sample ID: M Matrix: A	MW-27 Г10515-3 AQ - Ground Water			Date S Date J Perce	Sampled: 05/31/0 Received: 06/02/0 nt Solids: n/a)5)5		
Project: I	Blanco South Flare	Pit						
General Chemistry								
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Nitrogen, Nitrate + N	Nitrite 0.60	0.050	mg/l	1	06/08/05 12:07	LN	EPA 353.2	

Report of Analysis





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Report of Analysis

Client Sample ID: Lab Sample ID: Matrix: Project:	MW-28 T10515-4 AQ - Gro Blanco Se	l ound Water outh Flare Pit			Date Sa Date Re Percent	mpled: 05/31/0 eceived: 06/02/0 Solids: n/a)5)5		
General Chemistry	,		<u></u>						
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Nitrogen, Nitrate +	Nitrite	85.0	5.0	mg/l	100	06/08/05 12:07	LN	EPA 353.2	





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			Repo	Report of Analysis									
Client Sample ID: Lab Sample ID: Matrix:	MW-29 T10515-5	5 ound Wate	r		Date S	Sampled: 05/31/(Received: 06/02/()5						
	AQ - OI		1		Percer	nt Solids: n/a	,0						
Project:	Blanco S	outh Flare	Pit										
General Chemistry													
Analyte		Result	RL	Units	DF	Analyzed	By	Method					
Nitrogen, Nitrate +	Nitrite	97.0	5.0	mg/l	100	06/08/05 12:07	LN	EPA 353.2					

RL = Reporting Limit



Page 1 of 1

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Report of Analysis

Client Sample ID: Lab Sample ID: Matrix:	MW-30 T10515-6 AQ - Ground Wate	r		Date Sampled: 05/31/05 Date Received: 06/02/05 Percent Solids: n/a						
Project:	Blanco South Flare	Pit		I CICC.	nt Sonus. In a					
General Chemistry		<u>,</u>								
Analyte	Result	RL	Units	DF	Analyzed	By	Method			
Nitrogen, Nitrate + I	Nitrite 58.0	5.0	mg/l	100	06/08/05 12:02	7 LN	EPA 353.2			





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Client Sample ID: Lab Sample ID:	MW-8 T10515-7				Date S	Sampled: 05/31/0)5		
Matrix:	AQ - Ground	Water			Date I	Received: 06/02/0 nt Solids: n/a)5		
Project:	Blanco South	Flare Pit			Teree				
General Chemistry									
Analyte	Res	ult	RL	Units	DF	Analyzed	By	Method	·
Nitrogen Nitrate +	Nitrite 0.3	n	0.050	mø/l	1	06/08/05 12:07	LN	EPA 353.2	2





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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody





	•			1016	5 Harv TEL. 7	vin Driv 13-271	c, Ste. -4700	150, Н Гах: 7	ouste 13-2	on, TX 71-477	77036 10	FED-EX	Tracking #	686	365	Bottle	e Order Cor	strol #	0	
Laboratorie	s					WW	W.8CCU	tesi.co	n			Acclines	st Quote #			ACU	1851 JOD #	ΤK)51	5
Client / Reporting informat	ion in the second second				Pr	oject Infor	mation								F	Requested /	Analysis			Matrix Codes
ompany Name		Project	l Name	A	1.		Ĺ	15.		L									T	DW - Drinking Water
Bel rezo		Streat	· · · · · · · · · · · · · · · · · · ·	EN.	Cri	(D		in	21											GW - Ground Water
2 North Nevedz		00000										1								WW - Water
bredo Spring State 10	8090	City				State						1								SW - Surface Water SO - Soi
cott Pope	E-mail	Project	#									\$								St Sludge Oi - Oil
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MNee		Lillent		161 #								2					.			SOL - Other Solid
Accutest Field ID / Point of Collection	SUMM	A#	Collection	1			Nu	mber of p	reserve	ed Bottle	× 7	15							1	WP - Wipe
iample #	меон у	ial# Date	Time	Sampled By	Matrix	# of bottles	ç Š	SON A	¥9	101 H	NCOR	ス							· ·	LAB USE ONLY
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2 mw - 19		53105	0745	m	Wb	1	7		╀	\square	+	X		1 1		+	††		+	<u> </u>
BMW-27		05305	0803	mu	NG	1		\vdash	\uparrow	1 †		X					+		+	
4 mw - 28		63105	1200	m	NG				+	\vdash		X	····		-+-	+	+		+	
5 mw-29		57105	1228	m	WG	1	~		+	\vdash		X		+			+		+	
10 mw - 30		53105	1320	mu	- ماننا	1	7		\uparrow	┢┼		X							+	ł
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									+	┝╌┠╴	+-1			╀─┤					+	
Turnaround Time (Business Days)			1.			Data Deli	verable In	formation	1					I		Comme	nis / Rema	nks		
10 Day STANDARD Approved By:	/ Date:		Commer	cial "A"			C EDD	Format					li	111	L			10	Th	C.11
5 Day RUSH				cial "B"									1001	<u>7 M</u>	70	<u> </u>	$\frac{10}{10}$	8		TUI
3 Day EMERGENCY			CI Reduced	Tier 1									An	aly	21	:'1	- pe	32	5161	Le_
2 Day EMERGENCY		;		1																
J 1 Day EMERGENCY		`																		
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T10515: Chain of Custody Page 1 of 3



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AMPLE RECEIPT LOG SAMPLE RECEIVED: UNITALS SAMPLE RECEIVED: UNITALS SAMPLE RECEIVED: UNITALS Sample received with proper pH. Sample received with proper pH. Sample received inudanged condition. Sample received indamaged condition. Sample received indam
CUTEST. SAMPLE RECEIP SAMPLE RECEIP Sample volume sufficient for analysis. Sample received with proper pH. Sample volume sufficient for analysis. Sample volume sufficient for analysis. Subscritter for an analysis.
CUTEST. SAMPL TIDE PASO Animarce Circle "Y for yes and "W" for no of N Sample received with proper pH. Sample received intact and tamper no Custody seal received intact and tamper no Sample yes the search of th
CUTEST. T10515 T10555 T105555 T1055555 T1055555555 T105555555555
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T10515: Chain of Custody Page 2 of 3

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General Chemistry

QC Data Summaries

Includes the following where applicable:

• Method Blank and Blank Spike Summaries

• Duplicate Summaries

• Matrix Spike Summaries





METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

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Login Number: T10515 Account: MWHSLCUT - Montgomery Watson Project: Blanco South Flare Pit

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits	
Nitrogen, Nitrate + Nitrite	GN8266	0.050	<0.050	mg/l	0.500	0.49	96.0	89-112%	сл
Associated Samples: Batch GN8266: T10515-1, T105	15-2, T10515-3,	T10515-4, T1C	9515-5, T105	15-6, T1051	15-7				তা
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DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

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Login Number: T10515 Account: MWHSLCUT - Montgomery Watson Project: Blanco South Flare Pit

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits	
Nitrogen, Nitrate + Nitrite	GN8266	T10515-7	mg/l	0.30	0.30	0.0	0-10%	
Associated Samples: Batch GN8266: T10515-1, T1051	5-2, T10515-3, 1	[10515-4, T1051	5-5, T10515	-6, T10515-7				

Page 1



MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

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Login Number: T10515 Account: MWHSLCUT - Montgomery Watson Project: Blanco South Flare Pit

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount 0.100	MS Result 0.40	%Rec 100.0	QC Limits 80-119%	
Nitrogen, Nitrate + Nitrite	GN8266	T10515-7	mg/l	0.30					, ; ;
Associated Samples: Batch GN8266: T10515-1, T1051	5-2, T10515-3,	T10515-4, T1051	5-5, T1051	5-6, T10515-7					C

19 of 19 ACCUTEST.

T10515 Laboratories



06/09/05

Technical Report for

Montgomery Watson

Blanco South Flare Pit

310505MN01

Accutest Job Number: T10516

Sampling Date: 05/31/05

Report to:

MWH Americas, Inc.

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 28



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

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Gulf Coast • 10165 Harwin Drive • Suite 150 • Houston, TX 77036 • tel: 713-271-4700 • fax: 713-271-4770 • http://www.accutest.com



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Sample Summary

Montgomery Watson

Job No: T10516

Blanco South Flare Pit Project No: 310505MN01

Sample Number	Collected Date	Time By	Received	Matri Code	ix Type	Client Sample ID	
T10516-1	05/31/05	09:27 MN	06/02/05	AQ	Ground Water	MW-12	
T10516-2	05/31/05	10:20 MN	06/02/05	AQ	Ground Water	MW-13	·
T10516-3	05/31/05	11:05 MN	06/02/05	AQ	Ground Water	MW-15	
T10516-4	05/31/05	15:05 MN	06/02/05	AQ	Ground Water	MW-14	.•
T10516-5	05/31/05	07:00 MN	06/02/05	AQ	Trip Blank Water	310505TB01	





SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson

Job No T10516

6/9/2005 4:31:37 PM

Report Date

Site: Blanco South Flare Pit

4 Samples and I Trip Blank were collected on 05/31/2005 and were received at Accutest on 06/02/2005 properly preserved, at 5.2 Deg. C and intact. These Samples received an Accutest job number of T10516. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

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

Volatiles by GCMS By Method SW846 8260B

	Matrix AQ	Batch ID:	VY456	
9	All samples were analyzed within	the recommended method	d holding time.	
St.	All method blanks for this batch	meet method specific criter	eria.	
9	Sample(s) T10464-7MS, T1046	4-7MSD were used as the	QC samples indicated.	
2	All method blanks for this batch	meet method specific crite	eria.	

 Matrix
 AQ
 Batch ID:
 VY458

 All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) T10516-4MS, T10516-4MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method EPA 353.2

Matrix	AQ	Batch ID:	GN8266

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

All method blanks for this batch meet method specific criteria.

Sample(s) T10515-7DUP, T10515-7MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

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



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		Repor	Page 1 of 2				
Client Sam Lab Sampl Matrix: Method: Project:	aple ID: MW-12 le ID: T10516-1 AQ - Ground Water SW846 8260B Blanco South Flare	Pit		Date S Date I Percer	Sampled Received nt Solids	: 05/31/05 : 06/02/05 : n/a	
Run #1 Run #2	File ID DF Y0064330.D 10	Analyzed 06/07/05	By RR	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VY456
Run #1 Run #2	Purge Volume 5.0 ml						
Volatile sp	ecial list.						
CAS No.	Compound	Result	RL	MDL	Units	Q	
75-34-3 75-35-4	1,1-Dichloroethane	22.3 ND	20 20	10 10	ug/l ug/l		
156-59-2 95-50-1	cis-1,2-Dichloroethylene o-Dichlorobenzene	18.8 ND	20 20	10 10	ug/l ug/l	J	
156-60-5 127-18-4	trans-1,2-Dichloroethylene Tetrachloroethylene	ND ND	20 20	10 10	ug/l ug/l		
79-01-6 CAS No	Trichloroethylene	20.7 Run# 1	20 Run# 2	10 Lim	ug/l		
1868-53-7 17060-07-0 2037-26-5	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8	101% 100% 105%		73-1 66-1 77-1	39% 39% 48%		

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



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Client Sample ID: MW-12 Lab Sample ID: T10516-1 Matrix: AQ - Ground Water						Date Sampled: 05/31/05 Date Received: 06/02/05 Percent Solids: n/a					
Project:	Blanco S	outh Flar	e Pit								
General Chemistry	,										
Analyte		Result		RL	Units	DF	Analyzed	By	Method		
Nitrogen, Nitrate +	Nitrite	8.6		1.3	mg/l	25	06/08/05 12:07	LN	EPA 353.2		


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Client Sam Lab Sample Matrix: Method: Project:	ple ID: MW-13 e ID: T10516-2 AQ - Ground Water SW846 8260B Blanco South Flare	Pit		Date S Date I Perce	Sampled: Received nt Solids	: 05/31/05 : 06/02/05 : n/a	
Run #1 Run #2	File ID DF Y0064343.D 1	Analyzed 06/08/05	By RR	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VY458
Run #1 Run #2	Purge Volume 5.0 ml						
Volatile spe	cial list.						
CAS No.	Compound	Result	RL	MDL	Units	Q	
75-34-3 75-35-4 156-59-2	1,1-Dichloroethane 1,1-Dichloroethylene cis.1,2-Dichloroethylene	50.7 ND 26.6	2.0	1.0 1.0 1.0	ug/l ug/l ug/l		
95-50-1 156-60-5	o-Dichlorobenzene trans-1,2-Dichloroethylene	ND 5.7	2.0 2.0	1.0 1.0	ug/l ug/l		
127-18-4 79-01-6	Tetrachloroethylene Trichloroethylene	ND 21.3	2.0 2.0	1.0 1.0	ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	97% 108% 99% 107%		73-1 66-1 77-1 84-1	39% 39% 48% 50%		

Report of Analysis

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = 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



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			Repo	rt of Ar	nalysis			Page 1	of
Client Sample ID: Lab Sample ID: Matrix:	MW-13 T10516- AQ - Gi	2 round Water			Date S Date F Percer	Sampled: 05/31/ Réceived: 06/02/ at Solids: n/a	'05 '05		
Project: Blanco South Flare Pit									
General Chemistry	1								
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Nitrogen, Nitrate +	Nitrite	8.2	1.3	mg/l	25	06/08/05 12:07	/ LN	EPA 353.2	

RL = Reporting Limit





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		Repor	t of An	alysis			Page 1 of 1
Client Sam Lab Sample Matrix: Method: Project:	ple ID: MW-15 e ID: T10516-3 AQ - Ground Water SW846 8260B Blanco South Flare	Pit		Date S Date R Percen	ampled eceived it Solids	: 05/31/05 : 06/02/05 : n/a	
Run #1 Run #2	File ID DF Y0064344.D 10	Analyzed 06/08/05	By RR	Prep Da n/a	ate	Prep Batch n/a	Analytical Batch VY458
Run #1 Run #2	Purge Volume 5.0 ml					· · · · · · · · · · · · · · · · · · ·	
Volatile spe	ecial list.						
CAS No.	Compound	Result	RL	MDL	Units	Q	
75-34-3 75-35-4 156-59-2 95-50-1 156-60-5 127-18-4 79-01-6	1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene o-Dichlorobenzene trans-1,2-Dichloroethylene Tetrachloroethylene Trichloroethylene	ND ND ND ND ND ND	20 20 20 20 20 20 20 20 20	10 10 10 10 10 10 10	ug/l ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	98% 108% 101% 105%		73-13 66-13 77-14 84-13	39% 39% 18% 50%		

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



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			Repo	rt of Ar	nalysis			Page 1	of
Client Sample ID: Lab Sample ID:	MW-15 T10516-3	3			Date S	Sampled: 05/31	/05		
Matrix:	AQ - Gro	ound water			Perce	Received: 06/02 nt Solids: n/a	/05		
Project:	Blanco S	outh Flare Pi	it			,			
General Chemistry	1					1 1 1		- <u> </u>	
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Nitrogen Nitrate +	Nitrite	35.0	0 25	mg/l	50	06/08/05 12:0	7 LN	EPA 353 2	

RL = Reporting Limit



Page 1 of 1



10 of 28 T10516 Lab

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		Report	of An	alysis			Page 1 of
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: MW-14 e ID: T10516-4 AQ - Ground Water SW846 8260B Blanco South Flare	Pit		Date S Date F Percer	ampled: Received It Solids	05/31/05 : 06/02/05 : n/a	
Run #1 Run #2	File ID DF Y0064346.D 1	Analyzed 1 06/08/05 1	By RR	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VY458
Run #1 Run #2	Purge Volume 5.0 ml						
Volatile spe	ecial list.						
CAS No.	Compound	Result	RL	MDL	Units	Q	
75-34-3 75-35-4 156-59-2 95-50-1 156-60-5 127-18-4 79-01-6	1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene o-Dichlorobenzene trans-1,2-Dichloroethylene Tetrachloroethylene Trichloroethylene	4.7 ND ND ND ND 1.2	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0	ug/l ug/l ug/l ug/l ug/l ug/l	J	·
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	99% 106% 104% 101%		73-13 66-13 77-14 84-13	39% 39% 48% 50%		

ND = Not detectedMDL - 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

			Repo	ort of Ar	nalysis			Page 1 of	
Client Sample ID: Lab Sample ID: Matrix: Project:	MW-14 T10516 AQ - Gr Blanco S	-4 round Water South Flare Pi	it	Date Sampled: 05/31/05 Date Received: 06/02/05 Percent Solids: n/a					
General Chemistry	/	·····	-44						
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Nitrogen, Nitrate +	Nitrite	24.0	1.3	mg/l	25	06/08/05 12:0	7 ln	EPA 353.2	



Page 1 of 1

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		Repor	t of An	alysis			Page 1 of 1
Client Sam Lab Sample Matrix: Method: Project:	ple ID: 310505TB01 e ID: T10516-5 AQ - Trip Blank Wa SW846 8260B Blanco South Flare J	ater Pit		Date S Date J Perce	Sampled Received nt Solids	: 05/31/05 : 06/02/05 : n/a	
Run #1 Run #2	File ID DF Y0064345.D 1	Analyzed 06/08/05	By RR	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VY458
Run #1 Run #2	Purge Volume 5.0 ml						
Volatile spe	ecial list.						
CAS No.	Compound	Result	RL	MDL	Units	Q	
75-34-3 75-35-4 156-59-2 95-50-1 156-60-5 127-18-4 79-01-6	1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene o-Dichlorobenzene trans-1,2-Dichloroethylene Tetrachloroethylene Trichloroethylene	ND ND ND ND ND ND ND	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0	ug/l ug/l ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	100% 103% 108% 111%		73-1 66-1 77-1 84-1	39% 39% 48% 50%		

 $\begin{array}{ll} ND = Not \ detected & MDL - Method \ Detection \ Limit \\ RL = Reporting \ Limit \\ E = \ Indicates \ value \ exceeds \ calibration \ range \end{array}$

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Report of Analysis

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

Chain of Custody





Laboratories www.acculest.com Laboratories Project Internation Project Internation Project Name Blanco DP/2004 Barbarrings City State State State City State Project # Project # Project #	ved Bottles		XXXX//////////////////////////////////			Reg					D Mattin Color DW - Drinking 1 GW - Scound V WW - Wate SW - Surface V SU - Solid SU - Studge OI - OB LIG - Other SL WP - Wpon LAB USE ON
Client / Recording Information Project Inform			XXXX/1/1/2/1/2/1/2/2/	X 7 7cm 0							Matin: Cod DW - Drekeng 1 GW - Ground 1 WW - Wate SU - State SU - State OI - OI LIO - Other Lic AIR - Ak SOL - Other Sic WP - Wipe LAB USE DN
Project Name Blanco DP/ent Blanco DP/ent both Neusda State State do Springs CO 80903 do Springs CO 80000 do Springs CO 80000000 do Springs CO 800000000000000000000000000000000000	ved Bottles		XXXXX/1/12+CM/1/2-1/-	X Teme							DW - Driveng 1 GW - Ground 1 WW - Wate SW - Surface V SU - Sold SL - Skudge OI - OB LLO - Other SL AIR - Ak SOL - Other SL WP - Wipe LAB USE ON
SizeUnarried of two to the productSizeSizeSizeClaySizeClaySizeClaySizeProject #Field ID / Point of CollectionSUMMA #CollectionSUMMA #CollectionNumber of preserveMW - 12Size O 927 mm WG 4 V VMW - 12Size O 927 mm WG 4 V VMW - 12Size O 927 mm WG 4 V VMW - 12Size O 927 mm WG 4 V VMW - 12Size O 927 mm WG 4 V VMW - 12Size O 927 mm WG 4 V VMW - 12Size O 927 mm WG 4 V VMW - 14Size O 927 mm WG 4 V VMW - 14Size O 700 mm WG 2VMW - 14Size O 700 mm WG 2VSize O 700 mm WG 2VDial O CollectionSize O 700 mm WG 2VSize O 700 mm WG 2VDial O 700 mm WG 2VDial O 10	ved Bottles		XXXX///rate///trite	X Teme							GW - Gourd 1 WW - Wate SW - Surface V SD - Soil SL - Studge OI - OM LIG - Other SL AIR - Ak SOL - Other SL WP - Wipa LAB USE ON
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	ved Bottles		XXXX///trate///trit	XTEme							WY HAR SW - Surface W SD - Sell SL - Skudge OI - OH LIG - Other LI AIR - Ar SOL - Other S WP - Wipu LAB USE ON
State State State act E-mail Project # At Project # Project # Project # Prove Prove At Prove Prove Prove P	ved Bottles		XXXXX///1-+CAU/F	X Temo							SO - Soil SL - Sludge OI - Oit LIG - Other LI AIR - Ar SOL - Other S WP - Wpa LAB USE ON
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Image: Problem of Collection Fax # 7/9 5/20 4/4716 ame Mem Cellection Cellection Summer of Collection Summer of Cellection Field ID / Point of Collection SUMMA # Cellection Summer of Cellection Number of preserver MW - 1/2 53/05 0.927 mm Web 4 V V MW - 1/3 53/05 0.927 mm Web 4 V V MW - 1/3 53/05 0.927 mm Web 4 V V MW - 1/3 53/05 0.927 mm Web 4 V V MW - 1/3 53/05 10.50 mm Web 4 V V MW - 1/4 53/05 10.50 mm Web 4 V V 31/05/05/57 53/05 150.50 mm Web 2 V V 31/05/05/57 53/05 1.50.50 mm Web 2 V V 31/05/05/57 53/05 1.50.50 mm Web 2 V V 31/05/05/57 53/05 1.50.50 mm Web 2 V V 31/05/05/57 53/05 1.50.5	ved Bottles		XXXXX/////////////////////////////////	X Teme		· ·					OI - OJ LIC - Other Li AIR - Air SOL - Other S WP - Wipe LAB USE ON
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Image: Normal Summary Celescion Summary Celescion Number of preser Field ID / Point of Collection SUMMA # Celescion Summary Bate Time Summary Bate Bate <td>ved Bottles</td> <td></td> <td>XXXXXVVV</td> <td>X Tem</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>AIR - Air SOL - Other S WP - Wipe LAB USE ON</td>	ved Bottles		XXXXXVVV	X Tem							AIR - Air SOL - Other S WP - Wipe LAB USE ON
Field ID / Point of Collection SUMMA # Collection Number of preserved MECH Vid # Date Time Spreed Matrix Matrix Multiple of preserved MW - 1/2 53(05 CP37 MW Web 4 V V MW - 1/3 53(05 CP37 MW Web 4 V V MW - 1/3 53(05 CP37 MW Web 4 V V MW - 1/5 53(05 1020 MW Web 4 V V MW - 1/4 53(05 1505 MW Web 4 V V 310550557801 53(05 020 mu Web 2 V V 31055057801 53(05 020 mu V6 2 V V 310505 1000 mu V6 2 V V V 310505 780 0 0 0 0 0 0 0 31050 7000 mu V6 2 V 0 0 0 0			V X X X X X X X X X X X X X X X X X X X								SUL-UDR'S WP-Wpa LAB USE ON
MECH Val # Date Time Samed By Matrix Bit Bit <td></td> <td></td> <td>$\begin{array}{c} & \\ &$</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>LAB USE ON</td>			$\begin{array}{c} & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & $								LAB USE ON
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MW ~14 531051103 m/ w6 4 / v 3105057801 5310500 m/ w6 2 / v 3105057801 530507 m/ w6 2 / v											
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3/03057691 53/05 0.00 mv PG 2 V			- -×	1×							l
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8 Rush T/A data available VIA LabLink											
Sample Custody must be documented below each time samples change pr	ossession, i	including a	courier dei	ivery 🙊				karimi P		a sector	y (
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T10516: Chain of Custody Page 1 of 3



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Ame of control and control and the control an	7. N Chain of Cu 8. V N NA Custody	seal received intaction	mple IDs and ana st and tamper not	atysis on cont evident on con	ainers. oler.			2	
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12.3,4,5,6 U, -2, -72, NA PESERVATIVES: 1, 12,3,4,5,6 Percentation 2, 0,6,6,7 Percentation 2, 0,6,7,1,0,4,7,10,7 Percentatidisposal Hof netunit							1,2,3,4,5,6	U, <2, >12, NA	
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Image: Subsection of sample disposal: (circle one) 1,2,3,4,5,6 U, c2, >12, NA Image: Subsection of sample disposal: (circle one) 1,2,3,4,5,6 U, c2, >12, NA Image: Subsection of sample disposal: (circle one) 1,2,3,4,5,6 U, c2, >12, NA							1,2,3,4,5,6	U. <2, >12, NA	
Preservarives: 1,2,3,4,5,6 U, <2, >12, NA Locartion: Wi: Wark-in VR: Volatile Refrig. SUB: Subcontract. EF: Encore Freezer PRESERVATIVES: 1,1,2,3,4,5,6 U, <2, >12, NA Preservarives: 1,1,2,1,4,04 OAO Preservarives: 1,1,2,1,4,04,0AO OAO							1,2,3,4,5,6	U, <2, >12, NA	
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LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other PR of selis NIA PH of varies checked excluding volatiles PH of varies in NA Delivery method: Courter: FE Cooter TEMP: SA COOLER TEMP: C							1,2,3,4,5,6	U, <2, >12, NA	
pH of waters chacked excluding volatiles pH of soils NIA Delivery method: Courier: <u>F</u> Tracking#: <u>CooLER TEMP: JP</u> CooLER TEMP: <u>CooLER TEMP: CooLER TEMP</u> Method of sample disposal: (circle one) Accutest disposal Hold Return to Client Form: SM012, Rev. 12114/04, OAD	LOCATION: WI: Walk-I. PRESERVATIVES: 1: N	n VR: Volatile Refri Ione 2: HCL 3: HNO	g. SUB: Subcontr 3 4: H2SO4 5: NAI	act EF: Encol OH 6: Other Comments:	ra Freezer		-		L
Delivery method: Courter: <u>FE</u> Tracking#: CooLER TEMP: <u>CooLER TEMP</u> COOLER TEMP: <u>CooLER TEMP</u> : <u>CooLER TEMP</u> Method of sample disposal: (circle one) Accutest disposal Hold Return to Client _{Form: SM012, Rev.12714,04, OAO}	pH of waters checked ex pH of soils N/A	ccluding volatiles	·						
Method of sample disposal: (circle one) Accutest disposal Hold Return to Client _{Form} : SM012, Rev.12/14/04, QAO	Delivery method: Col Trackir	urler.			COOLER TEA	ин: <u>5</u> Э	COOLER TE COOLER TE	MP: MP:	
	Method of sample c	disposal: (circle or	ie) Accutest dis	posal Hold	Return to	o Client _{Form: S}	SM012, Rev.12/	14/04, QAO	

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T10516: Chain of Custody Page 2 of 3



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QC Data Summaries

Includes the following where applicable:

Method Blank Summaries

• Blank Spike Summaries

Matrix Spike and Duplicate Summaries



Method Blank Summary

Job Numbe Account: Project:	r: T10516 MWHSLCUT Montgom Blanco South Flare Pit	nery Watson					
Sample VY456-MB	File ID DF Y0064312.D 1	Analyzed 06/07/05	By RR	Prep 1 n/a	Date	Prep Batch n/a	Analytical Batch VY456
The QC rep	ported here applies to the fo	llowing samp	les:			Method: SW	846 8260B
Г10516-1						·	
CAS No.	Compound	Result	RL	MDL	Units	Q	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l		
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l		
56-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.0	ug/l		
10-00-1 56-60-5	trans-1 2-Dichloroethylene	ND	2.0	1.0	ug/1 110/1		
127-18-4	Tetrachloroethylene	ND	2.0	1.0	ug/l		
79-01-6	Trichloroethylene	ND	2.0	1.0	ug/l		
CAS No.	Surrogate Recoveries		Limi	ts			
1868-53-7	Dibromofluoromethane	101%	73-13	9%			
7060-07-0	1,2-Dichloroethane-D4	97%	66-13	9%			
2037-26-5	Toluene-D8	104%	77-14	8%			
160-00-4	4-Bromofluorobenzene	104%	84-15	0%			



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Method Blank Summary Job Number: T10516

Project:	MWHSLCUT Blanco South	F Montgomer Flare Pit	ry Watson					
Sample VY458-Ml	File ID B Y0064334.D	DF /	Analyzed 06/08/05	By RR	Prep I n/a	Date	Prep Batch n/a	Analytical Batch VY458
The QC re	eported here applie	s to the follo	owing samp	les:			Method: SW8	846 8260B
T10516-2,	T10516-3, T10516-	4, T10516-5						
CAS No.	Compound		Result	RL	MDL	Units	Q	
75-34-3	1,1-Dichloroethan	ie	ND	2.0	1.0	ug/l		
75-35-4	1,1-Dichloroethyl	ene	ND	2.0	1.0	ug/l		
1 / / / / / / / /	cis-1,2-Dichloroe	thylene		2.0	1.0	ug/l		
156-59-2	o Dichlorobonzon	Δ			1.11	02/1		
156-59-2 95-50-1 156-60-5	o-Dichlorobenzen trans-1 2-Dichloro	e pethvlene	ND	2.0	1.0	ug/l		· · ·
156-59-2 95-50-1 156-60-5 127-18-4	o-Dichlorobenzen trans-1,2-Dichloro Tetrachloroethyle	e oethylene ne	ND ND	2.0 2.0 2.0	1.0 1.0	ug/l ug/l		

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	73-139%
17060-07-0	1,2-Dichloroethane-D4	97%	66-139%
2037-26-5	Toluene-D8	104%	77-148%
460-00-4	4-Bromofluorobenzene	108%	84-150%



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Account: Project:	MWHSLCUT Montgon Blanco South Flare Pit	nery Watson					
Sample VY456-BS	File ID DF Y0064311.D 1	Analyzed 06/07/05	By RR	P n/	rep Date 'a	Prep Batch n/a	Analytical Batch VY456
The QC rep	ported here applies to the fo	llowing san	nples:			Method: SW	846 8260B
T10516-1							
CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits		
75-34-3	1,1-Dichloroethane	25	25.9	104	63-125		
75-35-4	1,1-Dichloroethylene	25	24.7	99	52-143		
156-59-2	cis-1,2-Dichloroethylene	25	25.4	102	65-116		
95-50-1	o-Dichlorobenzene	25	27.3	109	72-118		
156-60-5	trans-1,2-Dichloroethylene	25	23.3 22.7	102	00-128		
127-18-4 79-01-6	Trichloroethylene	25 25	23.1	95 94	69-120		
CAS No.	Surrogate Recoveries	BSP	Liı	mits			
1868-53-7	Dibromofluoromethane	1 02 %	73	-139%			
17060-07-0	1,2-Dichloroethane-D4	96%	66	-139%			
2037-26-5	Toluene-D8	108%	77-	-148%			
460-00-4	4-Bromofluorobenzene	99%	84	-150%			

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Blank Spike Summary Job Number: T10516

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Account: Project:	MWHSLCU Blanco South	Г Montg Flare P	gomery Watson lit				
Sample VY458-BS	File ID Y0064333.D	DF 1	Analyzed 06/08/05	By RR	Prep Date n/a	Prep Batch n/a	Analytical Batch VY458
The QC repor	rted here appli	es to the	e following sam	ples:		Method: SW	7846 8260B
T10516-2, T10)516-3, T10516	-4, T10	516-5				

		Spike	BSP	BSP	
CAS No.	Compound	ug/l	ug/l	%	Limits
75-34-3	1,1-Dichloroethane	25	25.0	100	63-125
75-35-4	1,1-Dichloroethylene	25	24.0	96	52-143
156-59-2	cis-1,2-Dichloroethylene	25	24.3	97	65-116
95-50-1	o-Dichlorobenzene	25	26.0	104	72-118
156-60-5	trans-1,2-Dichloroethylene	25	25.1	100	66-128
127-18-4	Tetrachloroethylene	25	22.3	89	72-128
79-01-6	Trichloroethylene	25	22.9	92	69-120
CAS No.	Surrogate Recoveries	BSP	Li	mits	
1868-53-7	Dibromofluoromethane	101%	73	-139%	
17060-07-0	1,2-Dichloroethane-D4	98%	66	139%	
2037-26-5	Toluene-D8	104%	77	148%	
460-00-4	4-Bromofluorobenzene	100%	· 84·	-150%	



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Page 1 of 1

Matrix Sp Job Number: Account: Project:	ike/Matrix T10516 MWHSLCU Blanco South	x Spil T Monta I Flare I	ke Duplicate gomery Watson Pit	e Sum	mary
Sample	File ID	DF	Analyzed	By	Prep Date
T10464-7MS	Y0064319.D	1	06/07/05	RR	n/a

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T10464-7MS	Y0064319.D	1	06/07/05	RR	n/a	n/a	VY456
T10464-7MSD	Y0064320.D	1	06/07/05	RR	n/a	n/a	VY456
T10464-7	Y0064318.D	1	06/07/05	RR	n/a	n/a	VY456

The QC reported here applies to the following samples:

Method: SW846 8260B

T10516-1

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CAS No.	Compound	T10464-7 ug/l Q	2	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3 75-35-4 156-59-2 95-50-1 156-60-5 127-18-4 79-01-6	1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene o-Dichlorobenzene trans-1,2-Dichloroethylene Tetrachloroethylene Trichloroethylene	1.7 J ND 13.4 ND 9.6 7.8		25 25 25 25 25 25 25 25 25	27.5 24.3 40.7 26.5 24.2 33.0 32.9	103 97 109 106 97 94 100	28.1 24.4 42.0 26.1 25.3 33.2 33.0	106 98 114 104 101 94 101	2 0 3 2 4 1 0	65-126/21 55-140/25 62-120/24 68-120/20 64-130/22 69-132/21 70-120/19
CAS No.	Surrogate Recoveries	MS		MSD	T	10464-7	Limits			
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	102% 100% 106% 95%		102% 99% 109% 97%	10 10 10 99	13% 10% 15%	73-139% 66-139% 77-148% 84-150%)))		



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Matrix Spike/Matrix Spike Duplicate Summary Job Number: T10516

Account: Project:	MWHSLCUT Montgomery Watson Blanco South Flare Pit										
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch				
T10516-4MS	Y0064347.D	1	06/08/05	RŘ	n/a	n/a	VY458				
T10516-4MSD	Y0064348.D	1	06/08/05	RR	n/a	n/a	VY458				
T10516-4	Y0064346 D	1	06/08/05	RR	n/a	n/a	VY458				

The QC reported here applies to the following samples:

Method: SW846 8260B

T10516-2, T10516-3, T10516-4, T10516-5

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CAS No.	Compound	T10516- ug/l	4 Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3 75-35-4 156-59-2 95-50-1 156-60-5 127-18-4 79-01-6	1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene o-Dichlorobenzene trans-1,2-Dichloroethylene Tetrachloroethylene Trichloroethylene	4.7 ND ND ND ND 1.2	J	25 25 25 25 25 25 25 25	31.2 25.9 24.4 27.7 27.0 24.3 24.4	106 104 98 111 108 97 93	29.7 25.2 24.1 26.9 26.5 23.4 24.6	100 101 96 108 106 94 94	5 3 1 3 2 4 1	65-126/21 55-140/25 62-120/24 68-120/20 64-130/22 69-132/21 70-120/19
CAS No.	Surrogate Recoveries	MS		MSD	T1	0516-4	Limits			
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	95% 93% 108% 104%		95% 100% 107% 102%	999 106 104 101	% }% !%	73-139% 66-139% 77-148% 84-150%			



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General Chemistry QC Data Summaries Includes the following where applicable: • Method Blank and Blank Spike Summaries • Duplicate Summaries • Matrix Spike Summaries



METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

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Login Number: T10516 Account: MWHSLCUT - Montgomery Watson Project: Blanco South Flare Pit

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GN8266	0.050	<0.050	mg/1	0.500	0.49	96.0	89-112%
Associated Samples: Batch GN8266: T10516-1, T1051	6-2, T10516-3,	T10516-4						

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DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

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Login Number: T10516 Account: MWHSLCUT - Montgomery Watson Project: Blanco South Flare Pit

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GN8266	T10515-7	mg/l	0.30	0.30	0.0	0-10%
Associated Samples: Batch GN8266: T10516-1, T1051	6-2, T10516-3, T	10516-4				. 1	
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MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

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Login Number: T10516 Account: MWHSLCUT - Montgomery Watson Project: Blanco South Flare Pit

	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limíts
Nitrogen, Nitrate + Nitrite	GN8266	T10515-7	mg/1	0.30	0.100	0.40	100.0	80-119%
Associated Samples: Batch GN8266: T10516-1, T1051	6-2, T10516-3, ⁻	T10516-4						
								6.3
								9