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ANNUAL MONITORING REPORT

03/2004

GW039

elpaso

El Paso Natural Gas

San Juan Basin Program
San Juan River Plant

Final 2003 Annual Report

March 2004

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FINAL

SAN JUAN RIVER PLANT
2003 ANNUAL REPORT

MARCH 2004

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LIST OF ACRONYMS

AESE	A.E. Schmidt Environmental
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
cy	cubic yards
EPNG	El Paso Natural Gas Company
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
µg/L	micrograms per liter
NMOCD	New Mexico Oil Conservation Division
NMWQCC	New Mexico Water Quality Control Commission
O&M	operation and maintenance
ORC	oxygen-releasing compound
SJRP	San Juan River Plant
TDS	total dissolved solids
WGR	Western Gas Resources, Inc

EXECUTIVE SUMMARY

The San Juan River Plant is located in San Juan County, near Kirtland, New Mexico. The plant is used to process natural gas collected from production wells located in the San Juan Basin of New Mexico and southern Utah. The Plant was sold to Western Gas Resources, Inc. in June 1992. Closure of evaporation ponds, pits, and other potential source areas within the San Juan River Plant occurred in 1992 through 1995. Based on past soil and soil gas investigations, the dissolved-phase hydrocarbons are associated with limited soil contamination. Groundwater monitoring has been performed at the site since 1995.

Dissolved-phase hydrocarbons in groundwater have been observed at the site in the area near MW-8 and MW-9. El Paso Natural Gas has been aggressively pursuing active groundwater remediation (air sparging and chemical oxygen enhancement) of dissolved-phase hydrocarbons in the vicinity of MW-8 and MW-9. Historic groundwater sampling conducted at the San Juan River Plant suggests that the air sparging activities have successfully reduced dissolved-phase hydrocarbon concentrations in the vicinity of MW-9. Historic benzene concentrations in monitoring well MW-8 have also declined as a result of chemical oxygen enhancement using magnesium peroxide socks within this well. During the first two quarterly sampling events of 2003, monitoring wells MW-8 and MW-9 contained BTEX concentrations below the NMWQCC standards. The air sparging system was shut down in April 2003 pending additional closure sampling. During the third and fourth quarterly sampling events, benzene concentrations in MW-8 and MW-9 rebounded to above standards. In October 2003, the air sparging system was restarted and ORC socks were replaced in MW-8. Currently, the air sparging system is not operating and groundwater monitoring continues.

The New Mexico Oil Conservation Division requested annual monitoring of metals and inorganic parameters in all on-site monitoring wells as part of the current site-wide groundwater monitoring program. Elevated concentrations of some inorganic constituents, including total dissolved solids and sulfate, have been detected in various wells. It is possible that these elevated concentrations may be associated with past practices; however, past closure activities have addressed any site-related sources of these constituents to groundwater, and regionally this area is known to contain elevated total dissolved solids concentrations and associated inorganic parameters. There are no downgradient users of the groundwater.

Early in 2004, the decision to re-start the air sparging system will be based on the first quarter sampling event results at MW-9. In general, remediation efforts at monitoring wells MW-8 and MW-9 will continue to operate, as needed, until quarterly sampling results indicate compliance with standards. The systems will then be taken off-line (or remain off-line) and quarterly closure monitoring will be initiated.

1.0 INTRODUCTION

This annual report has been prepared on behalf of El Paso Natural Gas Company (EPNG) to present a summary of physical activities performed and analytical data collected at the San Juan River Plant (SJRP) during 2003. This site is located in San Juan County, Township 29N, Range 15W, Section 1, near Kirtland, New Mexico, as shown on Figure 1.

EPNG is aggressively conducting active groundwater remediation of dissolved-phase hydrocarbons in the vicinity of monitoring wells MW-8 and MW-9. Remedial actions currently operating at the SJRP include air sparging and in-situ oxygen enhancement of groundwater through use of oxygen-releasing compound (ORC). In addition to the active remediation activities, a site-wide groundwater sampling program is administered at this site.

Site Description. The SJRP was previously owned by EPNG, but has been owned and operated by Western Gas Resources, Inc (WGR) since June 1992. The plant is used to process natural gas collected from production wells located in the San Juan Basin of New Mexico and southern Utah. The SJRP is a 630-acre facility that has contained gas processing facilities, two raw water ponds (now closed), three wastewater evaporation ponds (now closed), a sulfur recovery plant, water and hydrocarbon tanks, a pigging station, flare pits, and several 16- to 24-inch diameter natural gas pipelines that cross the facility. Figure 2 presents a detailed site map of the SJRP. Closure of the evaporation ponds, flare pits, and other potential contaminant source areas was completed during 1992 through 1995. Groundwater has been monitored at this site since 1995.

Report Organization. This report is organized into six sections and supporting appendices. Section 2.0 provides a discussion of the SJRP project history, Section 3.0 includes summary of field activities conducted at the SJRP during 2003, and Section 4.0 provides a discussion of results. Conclusions and recommendations are provided in Section 5.0, and references are listed in Section 5.0.

2.0 PROJECT HISTORY

The SJRP was previously owned by EPNG, but was sold to the current operator, WGR, on June 19, 1992. Investigation and remediation activities conducted at the SJRP have included the following components:

- Several investigations were conducted at the SJRP between 1985 and 1995. As a result, 24 monitoring wells were installed at various locations at the plant.
- The north and south flare pits were closed in 1992 after removing 18,200 cubic yards (cy) and 3,520 cy of contaminated material, respectively.
- The former wastewater evaporation ponds were closed during 1995 and early 1996. The pit and pond closure activities included capping the ponds with compacted, low-permeability soils.
- EPNG abandoned 17 monitoring wells, upgraded two wells, installed five new monitoring wells, and conducted a soil gas investigation during the summer of 1995. Results of the soil gas investigation indicated shallow hydrocarbon contamination near monitoring wells MW-8 and MW-9.
- EPNG submitted a groundwater remediation work plan to the NMOCD in January 2001, to address elevated benzene in monitoring wells MW-8 and MW-9, and received approval to begin remedial actions on June 4, 2001. The work plan included provisions to install an air sparging system with two air sparging wells; one injection point located within 10 feet of each monitoring well.
- The air sparging system air injection wells (SW-8 and SW-9) were installed on October 30, 2001. Both wells were developed on November 12, 2001.
- A pre-pilot air sparging test was conducted at both wells on November 13, 2001. Results from this test indicated good communication between SW-9 and MW-9, but poor communication between MW-8 and SW-8.
- Because of poor communication between MW-8 and SW-8, an ORC sock consisting of magnesium peroxide and manufactured by Regenesis Inc. was recommended for remediation in this area. The ORC sock was installed in MW-8 on November 14, 2001.

- The air sparging pilot test was also initiated on November 14, 2001. With the exception of a 48-hour shut-down prior to the four-week sampling event on December 26, 2001, the air sparging system operated continuously from November 14, 2001 to January 18, 2002. The air sparging pilot test culminated with a sampling event on January 25, 2002. An additional sampling event was performed on February 21, 2002 to evaluate the potential for contaminant concentration rebound following a four-week shutdown.

- From February 2002 through December 2002 site activities included continued operation and maintenance (O&M) of the air sparging system and site-wide annual groundwater monitoring.

- Based on BTEX concentrations below New Mexico Water Quality Control Commission (NMWQCC) standards, the air sparging system was shut-down in April 2003 pending additional closure sampling. Due to rebounding benzene concentrations, the system was restarted for a period in October 2003. Currently the system is not operating.

- During 2003, site activities included periodic O&M of the air sparging system, installation of ORC socks into MW-8, quarterly sampling of MW-8 and MW-9, and site-wide annual groundwater monitoring.

3.0 SUMMARY OF 2003 ACTIVITIES

The current environmental program at the SJRP consists of dissolved-phase hydrocarbon remediation (air sparging and chemical oxygen enhancement) and site-wide groundwater monitoring, as specified by the New Mexico Oil Conservation Division (NMOCD). During 2003, as a result of groundwater concentrations below NMWQCC standards, the air sparging system was shut down in April, in anticipation of additional closure sampling. The system was restarted for a period during October 2003, due to rebounding concentrations, as described further below. Currently, the remediation system at the SJRP Site has again been turned off while groundwater monitoring continues. The following section details site activities conducted at the SJRP during 2003.

3.1 GROUNDWATER MONITORING PROGRAM

The groundwater monitoring program included the following components during 2003:

- The seven site monitoring wells (W-2, MW-4 through MW-9) were sampled annually on August 26, 2003 for benzene, toluene, ethylbenzene, and total xylenes (BTEX), NMWQCC trace metals, total dissolved solids (TDS), alkalinity, chloride, and sulfate.
- Remediation monitoring wells MW-8 and MW-9 were sampled quarterly in March, May, August, and November 2003 and analyzed for BTEX compounds to evaluate the effectiveness of hydrocarbon remediation activities.
- Groundwater elevation measurements were collected at each well quarterly and immediately prior to sampling.

All 2003 groundwater monitoring data were collected by AE Schmidt Environmental (AESE) or under direct subcontract to Martin Nee. Laboratory analyses for samples collected in March 2003 were provided by APCL Laboratories of Chino, California. Analyses performed between May and December 2003 were provided by Accutest Laboratories in Houston, Texas.

3.2 HYDROCARBON REMEDIATION

Dissolved-phase hydrocarbon remediation activities at the SJRP include air sparging at SW-9 and oxygen enhancement using ORC socks in MW-8. The following paragraphs describe activities associated with these remedial systems.

Air Sparging System. The existing air sparging system was designed to provide additional oxygen to the groundwater in the vicinity of monitoring well MW-9. Following construction in October 2001, the air sparging system was subject to a 12-week pilot test. The system continued to operate on an 8-hour per day, seven days per week schedule during 2002, with the exception of a few shut-down periods for maintenance or groundwater sampling. Between January and April 2003, the air sparging system continued to operate. During operation, bi-weekly O&M site visits to the air sparge system were conducted to monitor the pressure and flow rates at each injection point, and perform any required repairs to the system. As a result of groundwater concentrations below NMWQCC standards, the air sparging system was shut-down on April 3, 2003 in anticipation of additional closure sampling. The system was restarted on October 6, 2003 due to rebounding concentrations, as described further below. On the November 3rd site visit, the system was found without electrical power and was not operating; it is not clear how long the system was not operational. Currently, the remediation system is not operating and groundwater monitoring continues. Problems with the electrical system are being investigated to find the cause of the unplanned outage.

ORC Enhancement. ORC socks were replaced at MW-8 on October 9, 2003. Groundwater dissolved oxygen concentration of 0.67 mg/L was measured at that time, indicating that some oxygen was still available for biodegradation.

4.0 DISCUSSION OF RESULTS

This section describes the results of activities conducted at the SJRP during 2003.

4.1 SITE-WIDE GROUNDWATER MONITORING RESULTS

BTEX Sampling Results. BTEX results from samples collected during 2003 are presented in Table 4-1. Results for monitoring wells MW-8 and MW-9 are discussed in the context of hydrocarbon remediation activities in Section 4.2, below. During the annual sampling event in August 2003, BTEX concentrations in all site wells (except MW-8 and MW-9) were below analytical detection limits. This is consistent with the results from 2002. Documentation of 2003 field activities and laboratory reports are presented in Appendix A and Appendix B, respectively.

Groundwater Elevation Monitoring. Groundwater elevation monitoring was performed quarterly during 2003. Groundwater elevation maps for each quarter are presented in Figures 3 through 6. In general, groundwater flows radially outward from the rise on which the SJRP is located. Groundwater levels in the north plant area are higher and groundwater flows towards the northwest. Groundwater elevation measurements in the south area of the site indicate that the maximum groundwater elevations occur in the vicinity of MW-6 located in the east-central portion of the plant. Groundwater beneath the southern portion of the plant generally flows to the southwest. Field documentation for water level monitoring activities is presented in Appendix A.

Inorganic Sampling Results. Results for inorganic samples collected during 2003 are presented in Table 4-2. Elevated concentrations of some inorganic constituents, including TDS and sulfate, were detected in various wells. This finding is consistent with previous annual sampling events. Isoconcentration maps presenting TDS and sulfate concentrations for samples collected during August 2003 are shown on Figures 7 and 8, respectively. It is possible that these elevated concentrations may be associated with past practices; however, past closure activities have addressed any site-related sources of these parameters to groundwater, and regionally this area is known to contain elevated TDS and associated inorganic parameter concentrations. There are no downgradient users of the groundwater.

Documentation of field activities and laboratory reports are presented in Appendix A and Appendix B, respectively.

4.2 HYDROCARBON REMEDIATION RESULTS

During the first two sampling events (March and May) of 2003, BTEX concentrations in MW-8 and MW-9 (as well as all other site wells) were below New Mexico Water Quality Control Commission (NMWQCC) standards. In response to these results, the air sparging system was turned off pending additional closure sampling. Results from the August 2003 event indicated a rebound in BTEX concentrations in both wells. The benzene concentration in MW-8 was 891 µg/L, and the benzene concentration in MW-9 was 29.3 µg/L. Therefore in October 2003, the air sparging system (at MW-9) was restarted and 10 new ORC socks were placed in MW-8. In the November 2003 sampling event, benzene concentrations in the two wells decreased to 81.9 µg/L and 8.6 µg/L in MW-8 and MW-9, respectively. Also, BTEX concentrations in downgradient well MW-5 were below standards in 2003, which is consistent with historic data. Historic BTEX concentrations for monitoring wells MW-5, MW-8 and MW-9 are presented in Graphs 1, 2 and 3, respectively.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are provided based on the information presented in this report.

5.1 SITE-WIDE GROUNDWATER MONITORING PROGRAM

Groundwater sampling performed as part of the site-wide groundwater monitoring at SJRP resulted in the following conclusions and recommendations:

- Groundwater flows radially away from the rise on which SJRP is located. In the north plant area, groundwater flow is towards the northwest; in the south plant area groundwater flow is primarily towards the southwest.
- During the 2003 annual sampling event, BTEX concentrations in all site wells were below NMWQCC standards (except in wells MW-8 and MW-9).
- Inorganic constituents were measured above NMWQCC standards during the August 2003 sampling event. The elevated concentrations of TDS and sulfate may result from past site practices; however, it is likely that some elevated concentrations are naturally occurring.
- EPNG recommends continuation of the annual site-wide groundwater monitoring program.

5.2 HYDROCARBON REMEDIATION PROGRAM

The following conclusions and recommendations are provided regarding the hydrocarbon remediation performed near wells MW-8 and MW-9:

- During the first two quarterly sampling events of 2003, monitoring wells MW-8 and MW-9 contained BTEX concentrations below the NMWQCC standards. The air sparging system was shut down in April, pending additional closure sampling.

- During the third and fourth quarterly sampling events, benzene concentrations in MW-8 and MW-9 rebounded to above standards. In October, the air sparging system was restarted and ORC socks were replaced in MW-8. Benzene concentrations decreased in the November sampling event, but remained above standards in MW-8.

- The air sparging system was found without electricity during the site visit in November. The system has remained off since that time, and groundwater sampling continues while electrical problems are addressed.

- EPNG recommends continuation of quarterly monitoring at MW-8 and MW-9 for BTEX concentrations and dissolved oxygen content.

- If BTEX concentrations in MW-9 are below closure standards during the first quarter 2004 sampling event, the air sparging system will remain off and closure sampling will continue. However, if concentrations are above standards the system will be restarted and operated normally with scheduled O&M visits.

- When quarterly sampling results in MW-9 reflect compliance with NMWQCC standards, the air sparging system will be turned off.. If laboratory analyses indicate no rebound in BTEX concentrations in MW-9, the air sparging system will remain off and quarterly closure monitoring will be initiated. If rebound is experienced the sparging system will be reactivated until the following quarterly sampling event.

- ORC socks will be replaced in MW-8, as needed, based on quarterly monitoring of dissolved oxygen concentrations in this well.

- When quarterly analytical results at MW-8 indicate BTEX concentrations below NMWQCC standards, the ORC socks will be removed and quarterly closure monitoring will be initiated.

6.0 REFERENCES

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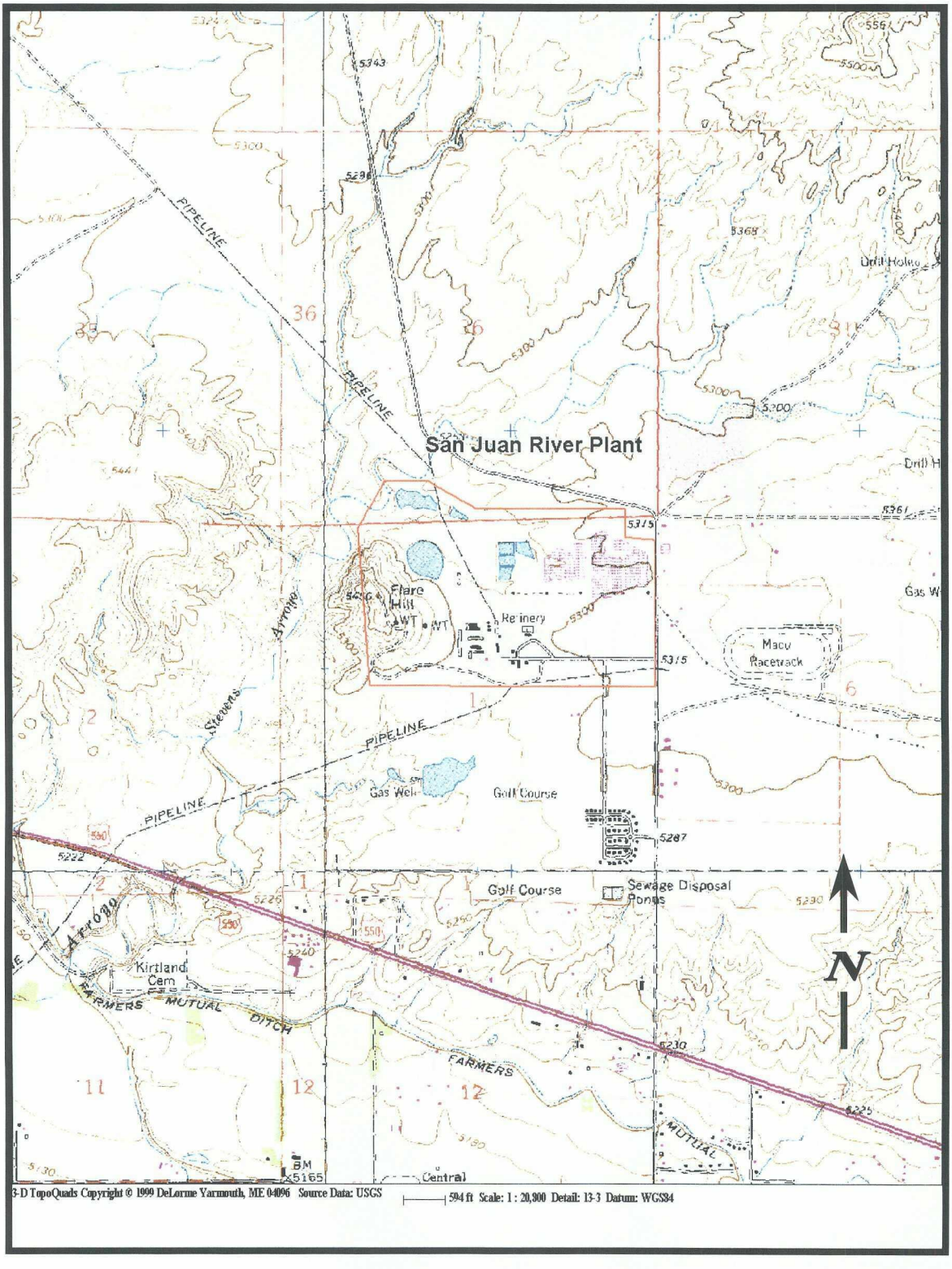
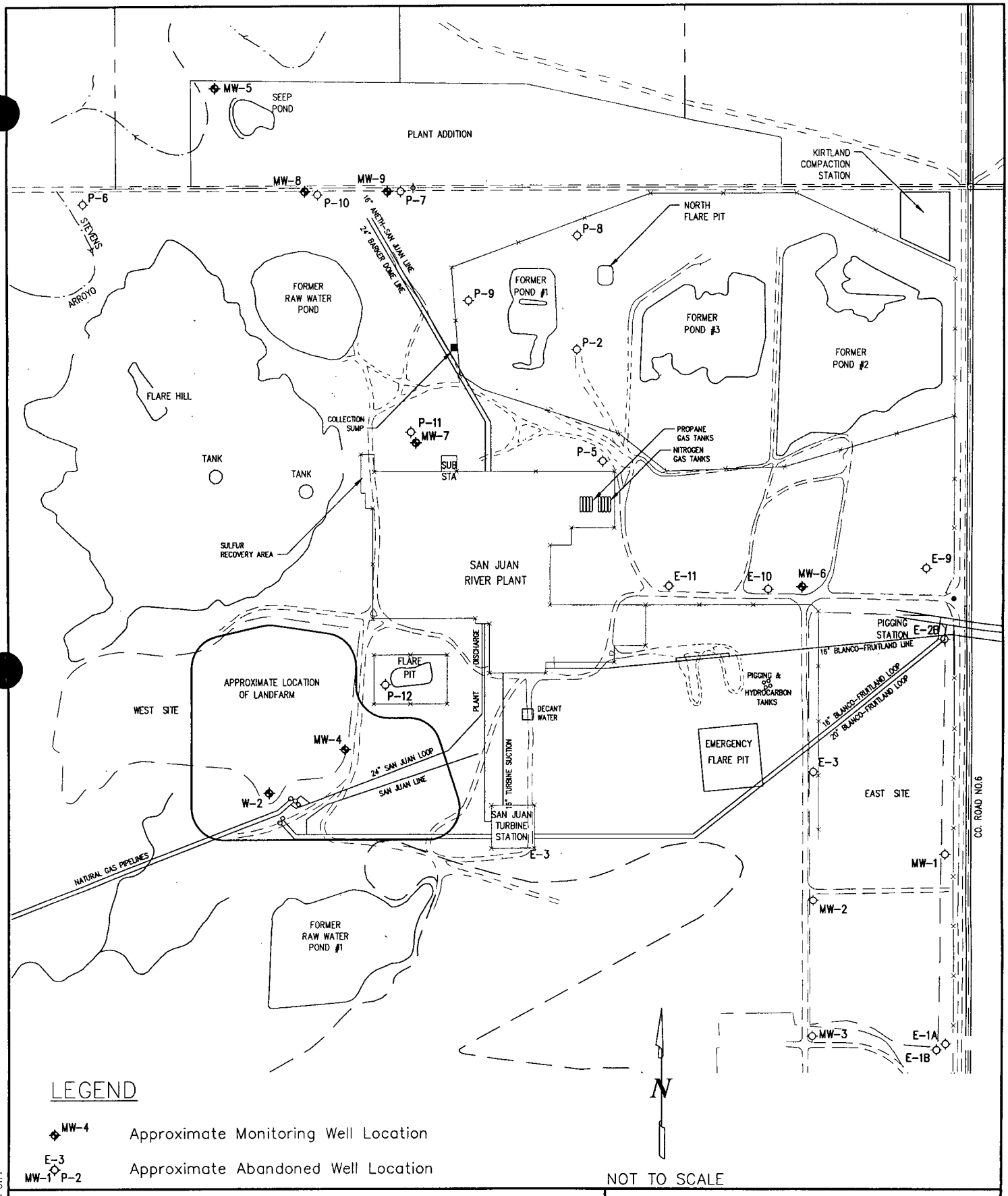


San Juan River Plant Site Location Map	Figure 1

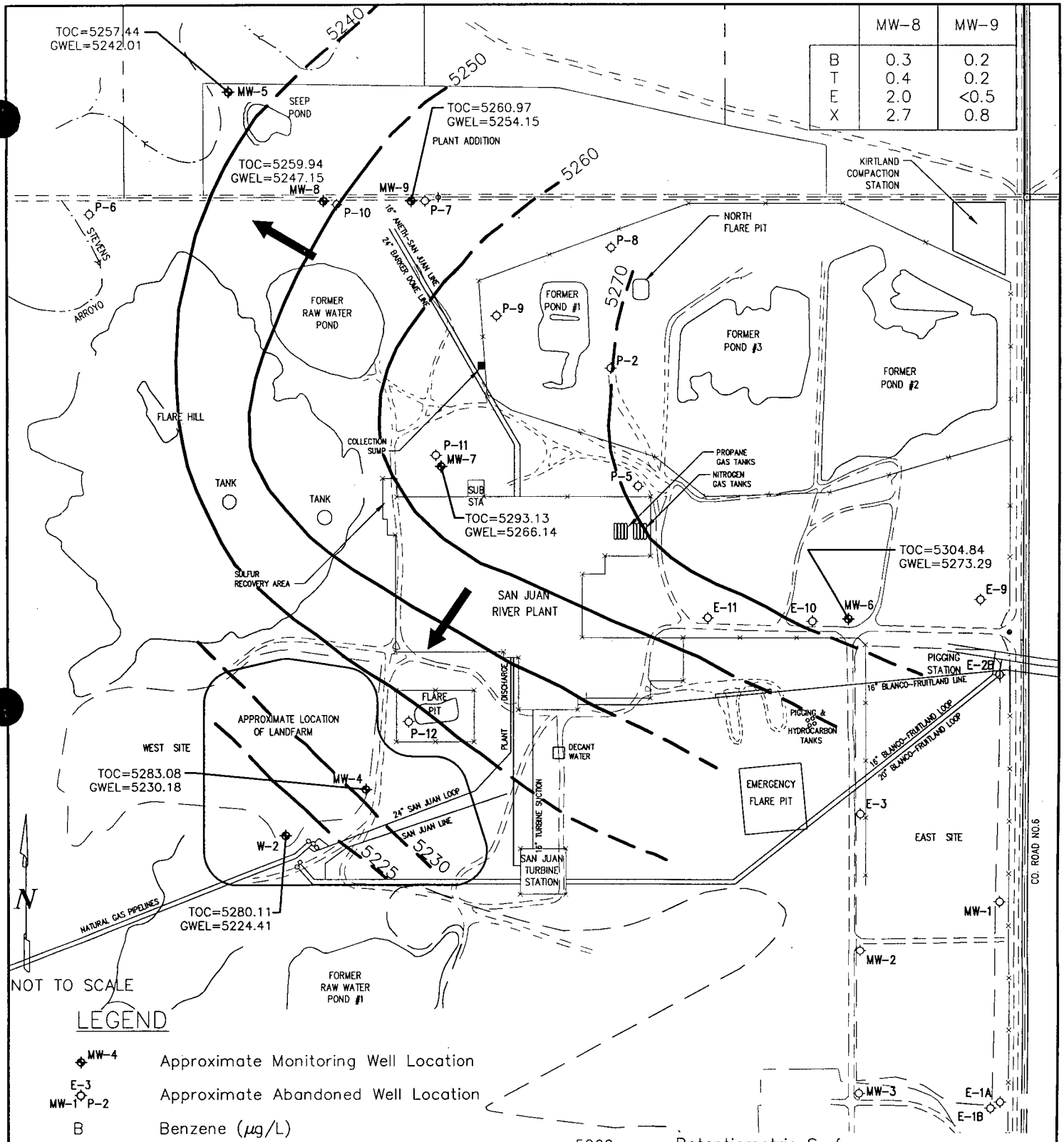


SITE LAYOUT MAP
SAN JUAN RIVER PLANT

EL PASO NATURAL GAS

FIGURE 2

SJRP REPORT



	MW-8	MW-9
B	0.3	0.2
T	0.4	0.2
E	2.0	<0.5
X	2.7	0.8

LEGEND

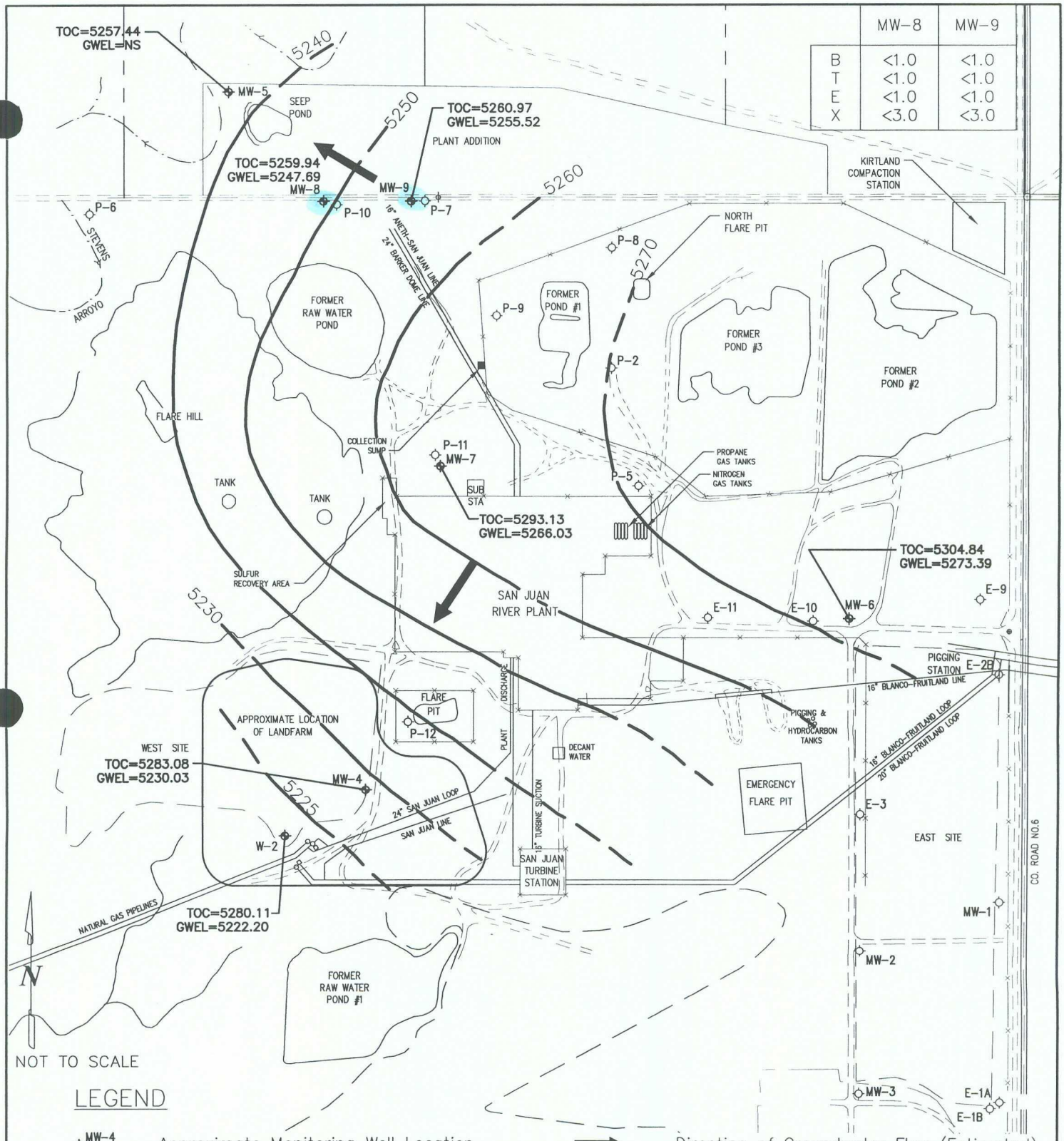
MW-4	Approximate Monitoring Well Location
E-3 MW-1 P-2	Approximate Abandoned Well Location
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
→	Direction of Groundwater Flow (Estimated)
5260	Potentiometric Surface (Approximate & Assumed Where Dashed)
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing

GROUNDWATER ELEVATION MAP
MARCH 2003
SAN JUAN RIVER PLANT

EL PASO NATURAL GAS

FIGURE 3

SJRP_REPORT



	MW-8	MW-9
B	<1.0	<1.0
T	<1.0	<1.0
E	<1.0	<1.0
X	<3.0	<3.0

LEGEND

MW-4	Approximate Monitoring Well Location	→	Direction of Groundwater Flow (Estimated)
E-3 MW-1 P-2	Approximate Abandoned Well Location	GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
5260	Potentiometric Surface (Approximate & Assumed Where Dashed)	TOC	Top of Casing
		NS	Not Sampled

GROUNDWATER ELEVATION MAP
MAY 2003
SAN JUAN RIVER PLANT

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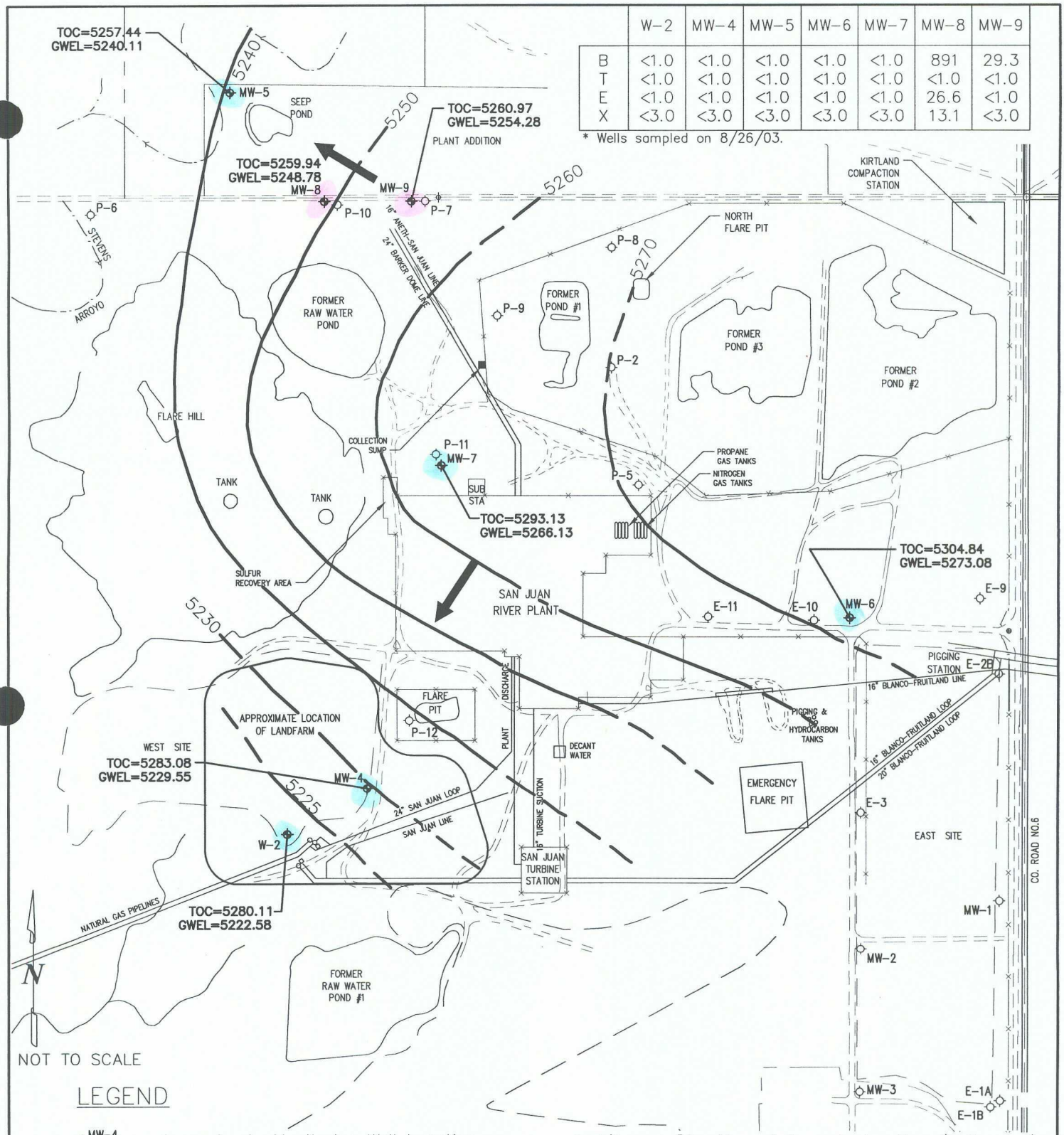
FIGURE 4

SJRP REPORT



	W-2	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9
B	<1.0	<1.0	<1.0	<1.0	<1.0	891	29.3
T	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
E	<1.0	<1.0	<1.0	<1.0	<1.0	26.6	<1.0
X	<3.0	<3.0	<3.0	<3.0	<3.0	13.1	<3.0

* Wells sampled on 8/26/03.

LEGEND

- MW-4 — Approximate Monitoring Well Location
- E-3 / MW-1 / P-2 — Approximate Abandoned Well Location
- 5260 — Potentiometric Surface (Approximate & Assumed Where Dashed)
- Direction of Groundwater Flow (Estimated)
- GWEL — Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- TOC — Top of Casing
- NS — Not Sampled

GROUNDWATER ELEVATION MAP
AUGUST 2003
SAN JUAN RIVER PLANT

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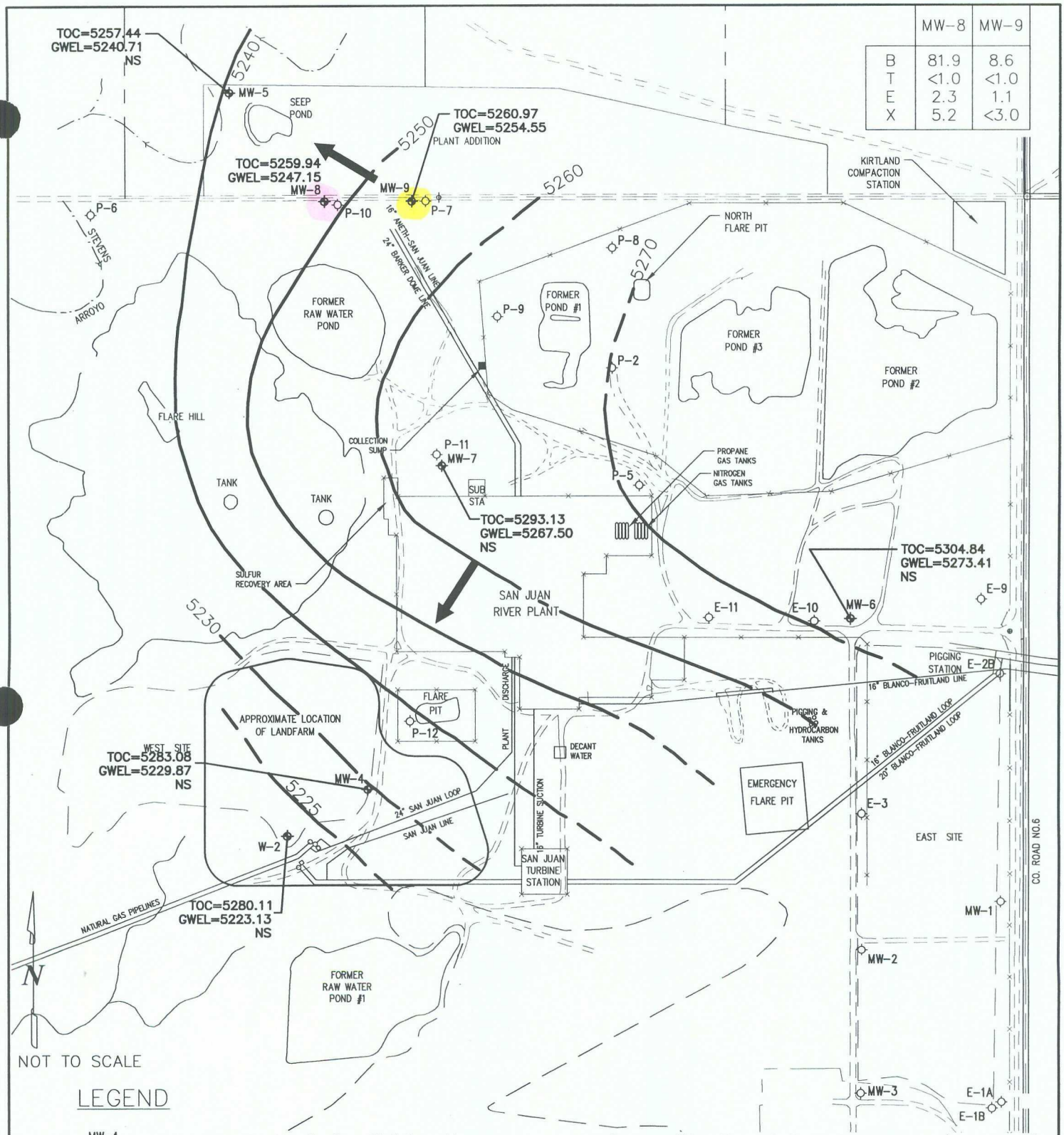
FIGURE 5

SJRP_REPORT



	MW-8	MW-9
B	81.9	8.6
T	<1.0	<1.0
E	2.3	1.1
X	5.2	<3.0

LEGEND

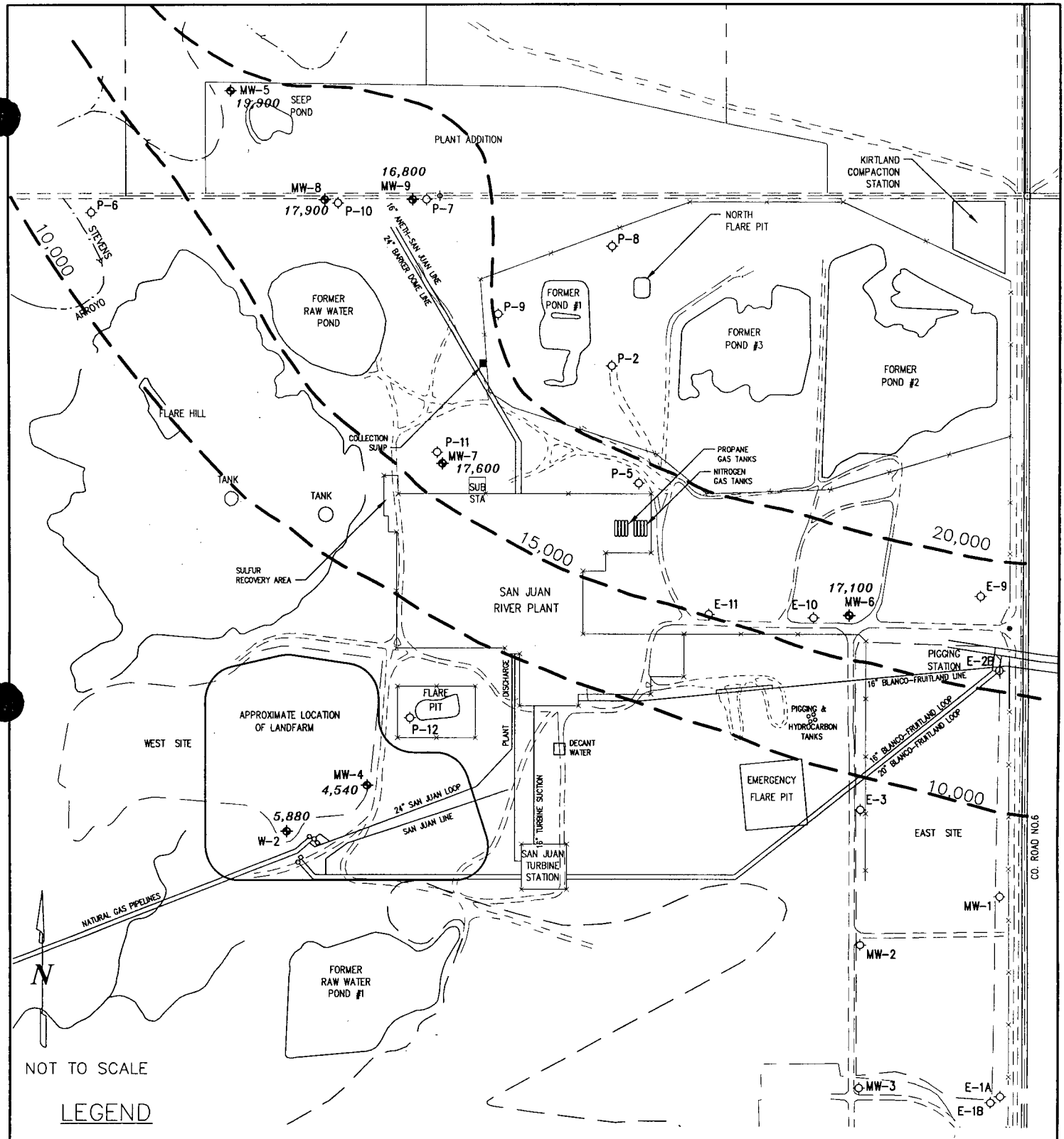
MW-4	Approximate Monitoring Well Location	→	Direction of Groundwater Flow (Estimated)
E-3 MW-1 P-2	Approximate Abandoned Well Location	GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
5260	Potentiometric Surface (Approximate & Assumed Where Dashed)	TOC	Top of Casing
		NS	Not Sampled

GROUNDWATER ELEVATION MAP
NOVEMBER 2003
SAN JUAN RIVER PLANT

EL PASO NATURAL GAS

FIGURE 6

SJRP REPORT



NOT TO SCALE

LEGEND

MW-4	Approximate Monitoring Well Location
E-3 MW-1 P-2	Approximate Abandoned Well Location
16,500	Total Dissolved Solids (mg/L)
10,000	Total Dissolved Solids Isoconcentration (mg/L) (Estimated where dashed)

TDS ISOCONCENTRATION MAP
AUGUST 2003
SAN JUAN RIVER PLANT

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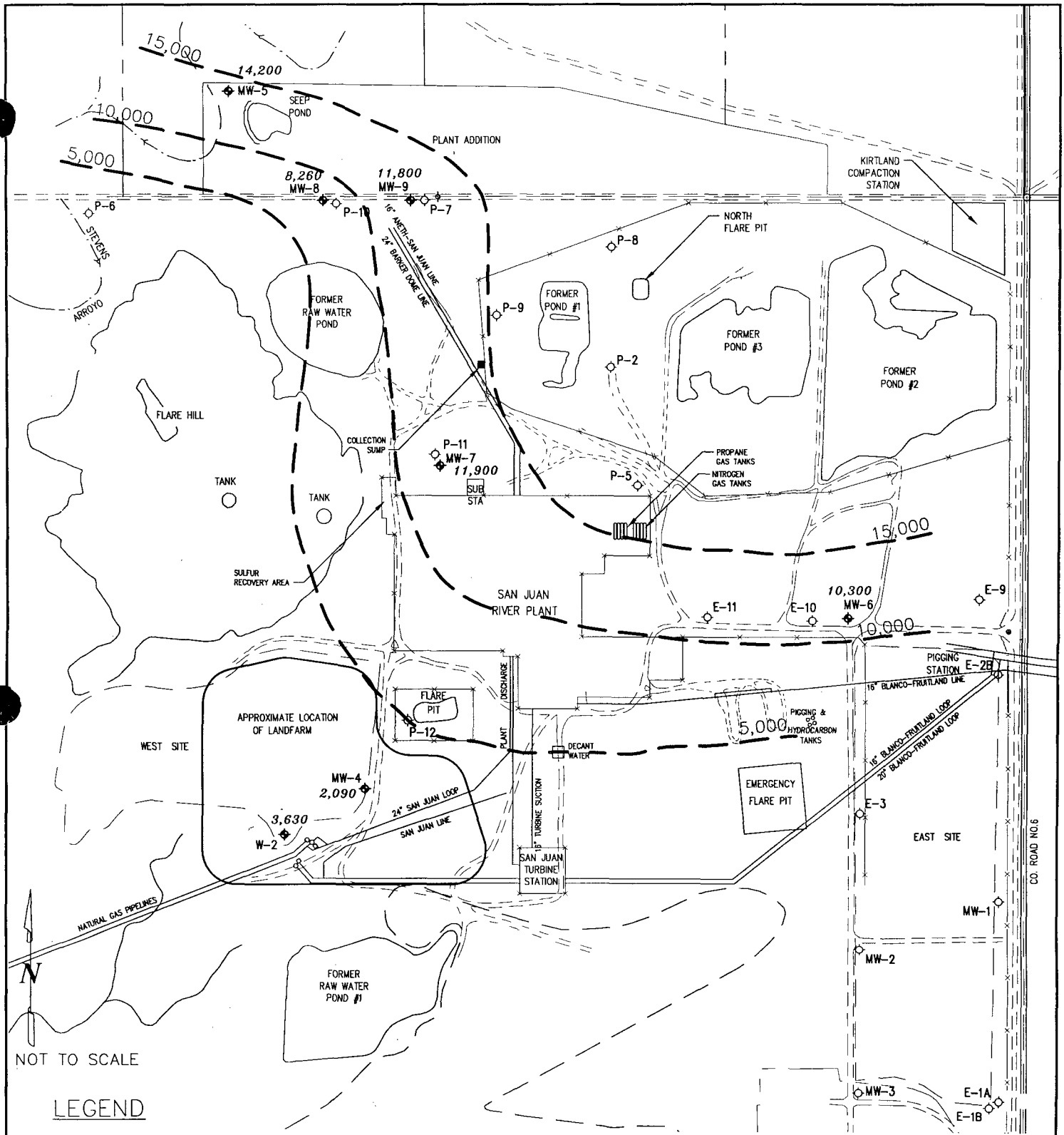
FIGURE 7

SJRP REPORT



SULFATE ISOCONCENTRATION MAP
AUGUST 2003
SAN JUAN RIVER PLANT

EL PASO NATURAL GAS

FIGURE 8

SJRP REPORT

TABLE 4-1

SUMMARY OF 2003 BTEX ANALYTICAL AND FIELD DATA

SAN JUAN RIVER PLANT SITE

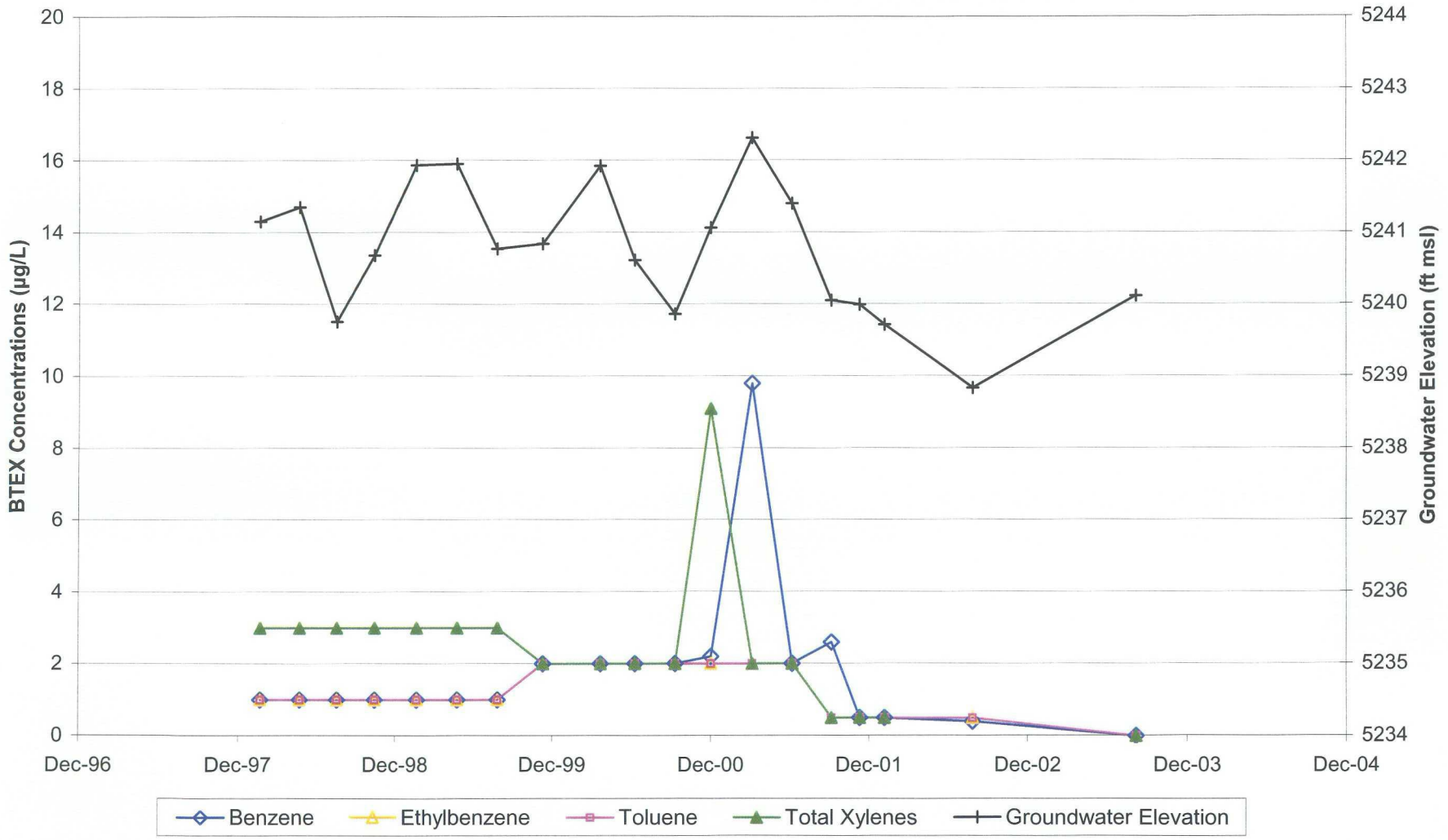
Location Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)	Field pH (su)	Temperature (C)	Conductivity (µmhos/cm)	Depth to Water (feet bgs)
W-2	8/26/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	7.42	17.2	4710	57.53
MW-4	8/26/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	6.62	17.9	3840	53.53
MW-5	8/26/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	6.16	17.8	13560	17.33
MW-6	8/26/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	3.81	18.1	11890	31.76
MW-7	8/26/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	6.22	21.1	12570	27.00
MW-8	3/6/2003	0.3	0.4	2.0	2	0.7	2.7	5.42	10.3	9450	12.79
MW-8	5/15/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	7.22	14.6	10650	12.25
MW-8	8/26/2003	891	< 1.0	26.6	13.1	< 1.0	13.1	6.73	18	13570	11.16
MW-8	11/25/2003	81.9	< 1.0	2.3	5.2	< 1.0	5.2	9.33	13	< 20,000	12.79
MW-9	3/6/2003	0.2	0.2	<0.5	0.8	<0.5	0.8	4.59	9.1	10110	6.82
MW-9	5/15/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	4.46	16	13930	5.45
MW-9	8/26/2003	29.3	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	4.72	18.3	11660	6.69
MW-9	11/25/2003	8.6	< 1.0	1.1	< 2.0	< 1.0	< 3.0	4.74	12	< 20,000	6.42

TABLE 4-2
SUMMARY OF 2003 INORGANIC ANALYTICAL DATA
SAN JUAN RIVER PLANT SITE

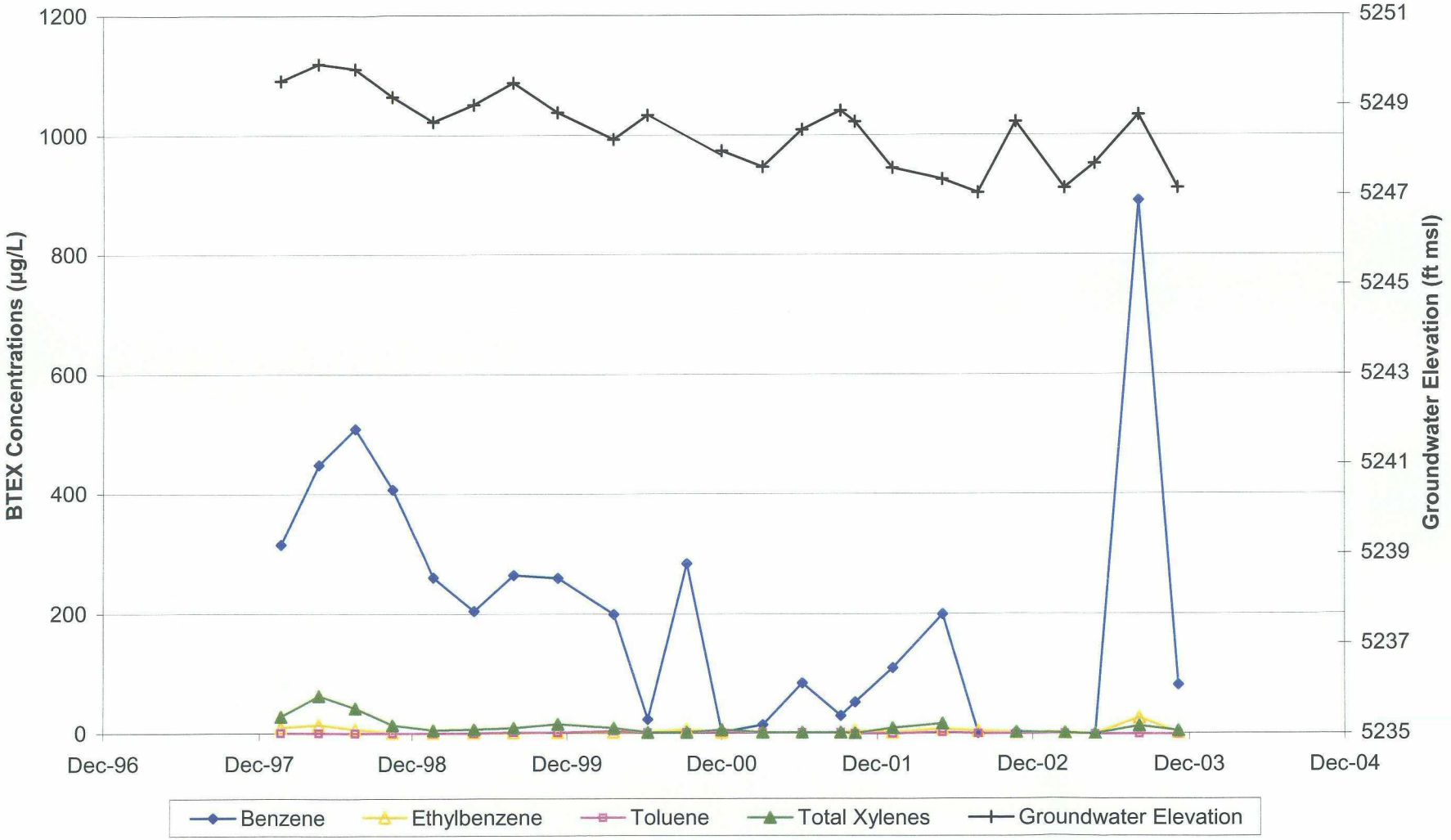
Parameter	NMWQCC Standard	W-2 8/26/2003	MW-4 8/26/2003	MW-5 8/26/2003	MW-6 8/26/2003	MW-7 8/26/2003	MW-8 8/26/2003	MW-9 8/26/2003
Metals								
Aluminum (µg/L)	5,000	2,070	5,290	12,500	24,500	35,600	1,620	43,900
Arsenic (µg/L)	100	5.5	81.8	8.9	< 5	14.4	8	6.1
Barium (µg/L)	1,000	< 200	< 200	< 200	< 200	302	< 200	< 200
Cadmium (µg/L)	10	< 4	10	< 4	13.3	< 4	< 4	9.4
Calcium (µg/L)	NE	349,000	212,000	348,000	343,000	397,000	354,000	319,000
Chromium (µg/L)	50	< 10	< 10	< 10	< 10	21.3	< 10	16.9
Cobalt (µg/L)	50	< 50	156	< 50	236	< 50	< 50	200
Copper (µg/L)	1,000	42.8	789	50.2	80.7	92.1	41.4	162
Iron (µg/L)	1,000	1,480	12,400	11,800	5,510	32,700	2,390	29,000
Lead (µg/L)	50	< 3	40.1	6.1	3.9	16.8	< 3	13.5
Magnesium (µg/L)	NE	106,000	88,100	200,000	360,000	229,000	370,000	270,000
Manganese (µg/L)	200	43.9	6,880	5,870	8,630	4,850	1,460	7,330
Mercury (µg/L)	2	< 0.2	3.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Molybdenum (µg/L)	1,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel (µg/L)	200	< 40	251	75.5	310	48.3	< 40	335
Potassium (µg/L)	NE	< 5000	9,390	32,000	29,400	25,100	45,400	23,000
Selenium (µg/L)	50	89.6	< 5	< 5	247	14.1	< 5	< 5
Silver (µg/L)	50	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Sodium (µg/L)	NE	1,030,000	802,000	4,390,000	3,830,000	4,490,000	4,390,000	3,980,000
Zinc (µg/L)	10,000	58.1	1550	109	729	199	74.8	597
Inorganics								
Alkalinity as CaCO3 (mg/L)	NE	196	446	358	12	995	5030	13
Chloride (mg/L)	250	309	303	488	1410	369	726	752
Nitrate+Nitrite (mg/L)	10	21.8	< 4	< 20	70.3	< 20	< 20	< 20
Sulfate (mg/L)	600	3,630	2,090	14,200	10,300	11,900	8,260	11,800
Total Dissolved Solids (mg/L)	1,000	5,880	4,540	19,900	17,100	17,600	17,900	16,800

NE = Not established

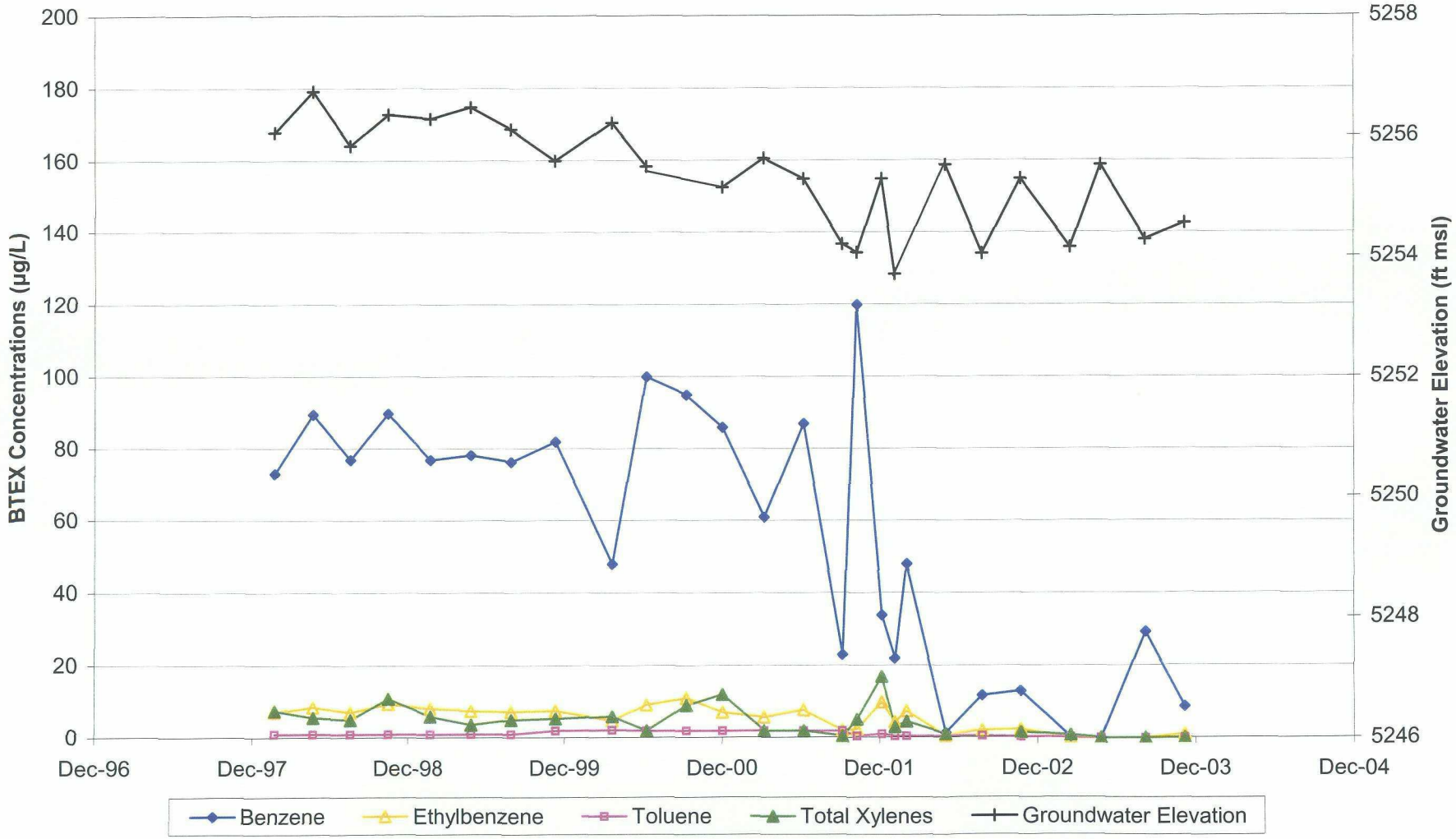
GRAPH 1
Historic BTEX Concentrations and Groundwater Elevations
MW-5, San Juan River Plant Site



GRAPH 2
Historic BTEX Concentrations and Groundwater Elevations
MW-8, San Juan River Plant Site



GRAPH 3
Historic BTEX Concentrations and Groundwater Elevations
MW-9, San Juan River Plant Site



APPENDIX A

2003 DOCUMENTATION OF FIELD ACTIVITIES

WATER LEVEL DATA

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

Project Name San Juan Basin Ground Water **Project No.** 30001.0
Project Manager MJN
Client Company MWH **Date** 11/25/03
Site Name San Juan River Plant

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Total Depth	Comments
MW-4	0730	-	53.21		
W-2		-	56.98		
MW-6		-	31.43		
MW-7		-	25.63		
MW-8		-	12.79		
MW-9		-	6.42		
MW-5		-	16.73		

Comments

Signature: *Martin J. Nee* Date: November 25, 2003

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso

Location: SJRP Well No: MW-8 Development **Sampling**

Project Manager MJN Date 11/25/03 Start Time 0937 Weather Snowing 30s

Depth to Water 12.79 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 9.41 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
9.41 x 0.65	6.14 x 3		18.43

Time (military)	pH (su)	SC (umhos/cm)	Temp (°f)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0932	**8.60**	**>20,000**	**55.9**				**2**	**water has yellow tinge**
	8.88	**>20,000**	**56.9**				**5**	**water has yellow tinge**
	9.41	**>20,000**	**56.9**				**10**	**water has yellow tinge**
	9.58	**>20,000**	**56.9**				**12**	**water has yellow tinge**
	9.67	**>20,000**	**56.5**				**15**	**water has yellow tinge**
1010	**9.33**	**>20,000**	**56.5**				**20**	**water has yellow tinge**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1010	**9.33**	**>20,000**	**56.5**					**20**	**water has yellow tinge**

COMMENTS:

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

DO Monitor **X** _____ Other _____

Conductivity Meter **X** _____

Water Disposal Kutz Sample ID SJRP MW-8 Sample Time 1015

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

MS/MSD _____ BD _____ BD Name/Time _____ TB 251103TB01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso
Location: SJRP Well No: MW-9 Development **Sampling**
Project Manager MJN Date 11/25/03 Start Time 0820 Weather snowing 30s
Depth to Water 6.42 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 15.50 Well Dia. 4"

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
15.50 x 0.65	10.075 x 3		30.36

Time (military)	pH (su)	SC (umhos/cm)	Temp (°f)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
0825	**4.84**	**>20,000**	**58.9**				**2**	**water has yellow tinge**
	4.64	**>20,000**	**58.9**				**5**	**water has yellow tinge**
	4.78	**>20,000**	**58.1**				**10**	**water has yellow tinge**
	4.75	**>20,000**	**57.9**				**15**	**water has yellow tinge**
	4.58	**>20,000**	**56.8**				**20**	**water has yellow tinge**
	4.79	**>20,000**	**55.4**				**25**	**water has yellow tinge**
	4.70	**>20,000**	**55.7**				**30**	**water has yellow tinge**
0920	**4.74**	**>20,000**	**55.8**				**35**	**water has yellow tinge**

Final: Time	pH	SC	Temp	Eh-ORP	D.O	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
0920	**4.74**	**>20,000**	**55.8**					**35**	**water has yellow tinge**

COMMENTS:

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

Water Disposal Kutz Sample ID SJRP MW-9 Sample Time 0925
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB 251103TB01

O&M SJRP

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

Project Name_	**San Juan Basin Ground Water**	**Project No.**	**30001.0**
Project Manager	**MJN**		
Client Company	**MWH**	**Date**	**11-3-03**
Site Name	**San Juan River Plant**		

Well	Time	DTW BTOC (feet)	Pressure (inches water)	DO Mg/L	Comments
MW-9	**1107**				**The system is off. There is no electricity.**

Comments

There is no electricity to the system. Examined the conduit back to the power pole by the gate. It appears someone has been working on the wiring. Could not see any apparent reason for the lack of power.

Signature: *Martin J. Nee* Date: November 3, 2003

O&M SJRP

Martin J. Nee
PO Box 3861
Farmington, NM 87499-3861
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Project Name_ San Juan Basin Ground Water **Project No.** 30001.0
Project Manager MJN
Client Company MWH **Date** 10-09-03
Site Name San Juan River Plant

Well	Time	DTW BTOC (feet)	Pressure (inches water)	DO Mg/L	Comments
MW-8	1538	12.27		0.67	

Comments
Installed 10 ORC socks in MW-8

Signature: Martin J. Nee Date: October 9, 2003

O&M SJRP

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

Project Name_	**San Juan Basin Ground Water**	**Project No.**	**30001.0**
Project Manager	**MJN**		
Client Company	**MWH**	**Date**	**10-06-03**
Site Name	**San Juan River Plant**		

Well	Time	DTW BTOC (feet)	Pressure (inches water)	DO Mg/L	Comments
MW-9	**1054**	**6.23**	**0.41**	**7.24**	**well is boiling**

Comments

Traveled to site, connected the air hose to the well and turned on the compressor. Pressure buildup while pushing the water within the sparge well into the formation caused the coupling on the sparge well to fail. Traveled to hardware store and purchased new coupling and air hose. Reconnected compressor to sparge well and started system. Timer is set to operate system from 6 am to 2 pm.

Signature: Martin J. Nee Date: October 6, 2003

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso

Location: San Juan River Plant Well No: W-2 Development **Sampling**

Project Manager MJN Date 8/26/03 Start Time 0743 Weather Sunny 80s

Depth to Water 57.53 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 6.84 Well Dia. 2"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
6.84 x .16	1.09 x 3		3.28

Time (military)	pH (su)	SC (umhos/cm)	Temp °C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0759	**7.26**	**4420**	**18.5**				**0.25**	**clear**
	7.38	**4500**	**17.5**				**0.5**	**"**
	7.36	**4550**	**17.2**				**0.6875**	**well is bailing down**
0810	**7.37**	**4600**	**17.1**				**0.9375**	
0820	**7.42**	**4710**	**17.2**				**1.09375**	**well is dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
0820	**7.42**	**4710**	**17.2**					**1.09375**	**well is dry**

COMMENTS: Well bailed dry, returned to sample 6 hrs later.

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

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Kutz

Sample ID SJRP W-2 Sample Time 1440 BTEX **x** VOCs ☐ Alkalinity **x**

TDS **x** Cations **x** Anions **x** Nitrate **x** Nitrite **x** Ammonia ☐ TKN ☐ NMWQCC Metals **x**

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 260803tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso
Location: San Juan River Plant Well No: MW-4 Development **Sampling**
Project Manager MJN Date 8/26/03 Start Time 0830 Weather Sunny 80s
Depth to Water 53.53 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 3.38 Well Dia. 2"

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

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

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
3.38 x .16	.54 x 3		1.62

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0842	**6.57**	**3690**	**18.2**				**.25**	**tan**
	6.52	**3700**	**18.0**				**.4843**	**well is bailing down**
0846	**6.52**	**3760**	**17.7**				**.6093**	**Still tan**
	6.56	**4130**	**17.8**				**.818**	
0853	**6.62**	**3840**	**17.9**				**.946**	**well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
0853	**6.62**	**3840**	**17.9**					**.946**	**well has bailed down**

COMMENTS: Well bailed dry, returned to sample 6 hrs later.

INSTRUMENTATION: pH Meter X _____ Temperature Meter x
DO Monitor _____ Other _____
Conductivity Meter X _____
Water Disposal Kutz

Sample ID SJRP MW-4 Sample Time 1520 BTEX x VOCs ☐ Alkalinity x

TDS x Cations x Anions x Nitrate x Nitrite x Ammonia ☐ TKN ☐ NMWQCC Metals x

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 260803tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso

Location: San Juan River Plant Well No: MW-5 Development **Sampling**

Project Manager MJN Date 8/26/03 Start Time 1019 Weather Sunny 80s

Depth to Water 17.33 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 14.56 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
14.56 x .65	9.46 x 3		28.4

Time (military)	pH (su)	SC (umhos/cm)	Temp °C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
10.33	**5.90**	**13220**	**19.9**				**0.5**	**clear w/roots**
	5.56	**14650**	**18.8**				**5**	
	5.77	**13530**	**19.1**				**10**	**milky**
	5.96	**13420**	**19.1**				**15**	
1105	**6.14**	**14050**	**18.4**				**20**	
	6.15	**13730**	**17.8**				**21.5**	**well is bailing down**
1110	**6.16**	**13560**	**17.8**				**22.25**	**well has bailed dry**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1110	**6.16**	**13560**	**17.8**					**22.25**	**well has bailed dry**

COMMENTS:

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

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Kutz

Sample ID SJRP mw-5 Sample Time 1110 BTEX **x** VOCs ☐ Alkalinity **x**

TDS **x** Cations **x** Anions **x** Nitrate **x** Nitrite **x** Ammonia ☐ TKN ☐ NMWQCC Metals **x**

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 260803tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso
Location: San Juan River Plant Well No: MW-6 Development **Sampling**
Project Manager MJN Date 8/26/03 Start Time 0906 Weather Sunny 80s
Depth to Water 31.76 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 10.37 Well Dia. 4"

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
10.37 x .65	6.74 x 3		20.27

Time (military)	pH (su)	SC (umhos/cm)	Temp °C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0911	**6.28**	**10520**	**19.6**				**1**	**Tan**
0922	**4.91**	**11880**	**18.4**				**5**	"
	4.36	**13120**	**18.2**				**10**	"
	4.16	**11710**	**18.6**				**15**	"
	3.95	**11910**	**18.1**				**19**	"
	3.77	**12140**	**18.1**				**20**	"
0951	**3.81**	**11890**	**18.1**				**21**	"

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
0951	**3.81**	**11890**	**18.1**					**21**	**Tan**

COMMENTS:

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

Sample ID SJRP mw-6 Sample Time 1011 BTEX **x** VOCs ☐ Alkalinity **x**

TDS **x** Cations **x** Anions **x** Nitrate **x** Nitrite **x** Ammonia ☐ TKN ☐ NMWQCC Metals **x**

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD_____ BD_____ BD Name/Time_____ TB 260803tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso

Location: San Juan River Plant Well No: MW-7 Development **Sampling**

Project Manager MJN Date 8/26/03 Start Time 1354 Weather Sunny 80s

Depth to Water 27.00 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 5.80 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
5.80 x .65	3.77 x 3		11.31

Time (military)	pH (su)	SC (umhos/cm)	Temp °C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1402	**6.19**	**13370**	**23.4**				**3**	**Yellow tinge**
	5.98	**13150**	**21.2**				**6**	**well is bailing down**
1410	**6.20**	**12740**	**21.4**				**6.375**	**light brown**
	6.22	**12810**	**21.3**				**6.68**	
1418	**6.22**	**12570**	**21.1**				**6.87**	**well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1418	**6.22**	**12570**	**21.1**					**6.87**	**well has bailed down**

COMMENTS:

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

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Kutz

Sample ID SJRP MW-7 Sample Time 1430 BTEX **x** VOCs ☐ Alkalinity **x**

TDS **x** Cations **x** Anions **x** Nitrate **x** Nitrite **x** Ammonia ☐ TKN ☐ NMWQCC Metals **x**

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD_____ BD_____ BD Name/Time_____ TB 260803tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso

Location: San Juan River Plant Well No: MW-8 Development **Sampling**

Project Manager MJN Date 8/26/03 Start Time 1137 Weather Sunny 80s

Depth to Water 11.16 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 11.04 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
11.04 x .65	7.18 x 3		21.53

Time (military)	pH (su)	SC (umhos/cm)	Temp °C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1144	**6.73**	**14960**	**21.7**				**0.3**	**has yellow tinge**
	6.67	**14190**	**18.8**				**5**	
1154	**6.70**	**13820**	**18.3**				**10**	
	6.71	**14050**	**18.2**				**13**	**well is bailing down**
	6.70	**14070**	**17.9**				**13.5**	
1204	**6.73**	**13570**	**18.0**				**14**	**well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1204	**6.73**	**13570**	**18.0**					**14**	**well has bailed down**

COMMENTS:

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

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Kutz

Sample ID SJRP mw-8 Sample Time 1210 BTEX **x** VOCs ☐ Alkalinity **x**

TDS **x** Cations **x** Anions **x** Nitrate **x** Nitrite **x** Ammonia ☐ TKN ☐ NMWQCC Metals **x**

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 260803tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: San Juan River Plant Client: MWH/EL Paso

Location: San Juan River Plant Well No: MW-9 Development **Sampling**

Project Manager MJN Date 8/26/03 Start Time 1231 Weather Sunny 80s

Depth to Water 6.69 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 15.23 Well Dia. 4"

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

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

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

Gal/ft x ft of water	Water Volume in Well		**Gal**/oz to be removed
	Gallons	Ounces	
15.23 x .65	9.90 x 3		29.69

Time (military)	pH (su)	SC (umhos/cm)	Temp °C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1244	**4.80**	**13290**	**22.8**				**5**	**Clear**
	4.22	**12370**	**19.8**				**10**	
	3.97	**12480**	**19.9**				**15**	
1301	**5.35**	**12810**	**18.4**				**21**	
	5.19	**12680**	**18.2**				**25.5**	**Well is bailing down**
1313	**4.98**	**11930**	**18.2**				**27.5**	
1317	**4.72**	**11660**	**18.3**				**30**	**Well has bailed down**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1317	**4.72**	**11660**	**18.3**					**30**	**Well has bailed down**

COMMENTS:

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

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Kutz

Sample ID SJRP mw-9 Sample Time 1320 BTEX **x** VOCs ☐ Alkalinity **x**

TDS **x** Cations **x** Anions **x** Nitrate **x** Nitrite **x** Ammonia ☐ TKN ☐ NMWQCC Metals **x**

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 260803tb01

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001-0 Project Name: San Juan Basin Client: MWH / El paso

Location: SJRP Well No: MW-8 Development ☐ Sampling ☑

Project Manager MNa Date 5-15-03 Start Time 0800 Weather Stormy / lightening 50s

Depth to Water 12.25 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 9.95 Well Dia. 4"

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

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

Criteria: 3 to 5 Casing Volumes of Water Removal ☐ Sabilization of Indicator Parameters ☐ Other mbal dry

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
.65 x 9.95	6.47 x 3		19.40

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0817	7.52	10480	16.7				1	Slightly cloudy
	7.31	10470	15.6				2	No odor
	7.19	11130	15.3				3	
0828	7.17	11310	14.6				4	
	7.15	11250	14.6				5	
	7.12	11160	14.6				7	
	7.09	10170	14.6				9	clean w/ yellow tint
	7.10	10010	14.5				11	
	7.39	10980	14.6				12	well has bailed dry
	7.31	10670	14.6				13	Very slow producing
0838	7.22	10650	14.6				135	will sample

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
0838	7.22	10650	14.6					135	well bailed dry

COMMENTS: Rinsed Vial due to HCL/CaCO3 Rxn causing bubbles - No present in the

INSTRUMENTATION: pH Meter ☑ _____ Temperature Meter ☑ _____

DO Monitor ☐ _____ Other ☐ _____

Conductivity Meter ☑ _____

Water Disposal Kutz

Sample ID SJRP MW-8 Sample Time 0838 BTEX ☒ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 150503@1

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001-0 Project Name: San Juan Basin Client: MWH / SLPSCO

Location: SJRP Well No: MW-9 Development ☐ Sampling ☑

Project Manager MJN Date 5-15-03 Start Time 0855 Weather Stormy lightning 50's

Depth to Water 5.45 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 16.48 Well Dia. 4"

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

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

Criteria: 3 to 5 Casing Volumes of Water Removal ☐ Sabilization of Indicator Parameters ☐ Other ok bailey

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
16.48 x .65	10.71 x 3		32.14

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0859	5.20	12020	14.6				1	clear w/ yllw tinge
	5.10	12050	14.2				2	
	4.55	11950	14				3	
	4.73	11966	14.0				5	
	4.61	11990	14.0				7	
	4.45	12410	14.0				9	
	4.44	12440	14.9				11	
	4.38	12550	14.9				13	
	4.31	12690	15.1				15	
	4.24	13260	16				17	
	4.22	13370	15.9				19	
	4.20	13270	16.1				21	
	4.14	13450	16.0				23	well has bailed down
	4.50	14140	16.0				24.4	
0924	4.50	14030	15.8				26	

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
926	4.46	13930	16.0					27	well bailed dry

COMMENTS: No preservative - rinsed out vials due to bubbling from HCl/$CaCO_3$ rxn

INSTRUMENTATION: pH Meter ☑ _____ Temperature Meter ☑ _____

DO Monitor ☑ _____ Other ☐ _____

Conductivity Meter ☑ _____

Water Disposal Kutz

Sample ID SJRP MW-9 Sample Time 0926 BTEX ☒ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 150503@1

CHAIN OF CUSTODY # 150503@1MN

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

FED-EX Tracking # 836557901614 | Bottle Order Control #
Accutest Quote # | Accutest Job #

Client / Reporting Information

Company Name: Montgomery Watson c/o El Paso
Address: 6014 Reilly Ave
City: Farmington State: NM Zip: 87401
Project Contact: Lynn Benally E-mail:
Phone #: 505 599 2178
Sampler's Name: M Nea

Project Information

Project Name: San Juan River Plant
Street:
City: Kirtland State: NM
Project #: 300001.0
Fax #: 505 599 2119
Client Purchase Order #:

Requested Analysis

BTEX

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	BTEX	LAB USE ONLY
	SJRP MW-8		5-15-03	0850	MN	WG	2									X	
	SJRP MW-9		5-15-03	0920	MN	WG	2									X	
	150503TB-01		5-15-03	0700	MN	WQ	2									X	

Turnaround Time (Business Days)

- ☐ 10 Day *STANDARD*
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- ☐ Other

Approved By: / Date:

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ Reduced Tier 1
- ☐ Full Tier 1
- ☐ TRRP13
- ☐ EDD Format _____

Commercial "A" = Results Only

Comments / Remarks

Rinsed HCl out of via/s due to rxn w/ CaCO3 - No Preservative

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

Relinquished by Sampler:	Date Time:	Received by:	Relinquished by	Date Time:	Received by:
1	5-15-03	1	2		2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3			4
Relinquished by:	Date Time:	Received by:	Custody Seal #	Preserved where applicable ☐	On Ice ☐
5		5			

WATER LEVEL DATA

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

Project Name_	**San Juan Basin Ground Water**	**Project No.**	**30001.0**
Project Manager	**MJN**		
Client Company	**MWH**	**Date**	**5-15-03**
Site Name	**San Juan River Plant**		

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Total Depth	Comments
MW-4	0725	-	53.05		
W-2		-	57.91		
MW-6		-	31.45		
MW-7		-	27.10		
MW-8	0800	-	12.25		
MW-9	0855	-	5.45		

Comments
The meter house at MW-9 appears to have blown over. I up-righted and secured it.

Signature: *Martin J. Nee* Date: May 15, 2003

AESE
906 San Juan Blvd.Ste.D
Farmington, NM 87401
505.566.9116(9120fax)

San Juan River Plant O & M MW-9

Project Name San Juan Basin Project No. 220013

Project Manager MJN Date 3-26-03

Client Company MWH

Site Name San Juan River Plant

Location	Pressure (psi)	Dissolved Oxygen (Mg/L)	Water Level (feet)	Flow (scfm)	Comments
MW-9	1-5	10.33		N2	Flow meter out

Comments The flow meter is off due to high temperatures exceeding the specified causing the threads to separate.

Signature [signature] Date 3-26-03

Product Recovery and Well Observation Data

San Juan Basin

Project Name: O&M SJRP

Project No: 220013

Project Manager: MJN

Date: 3-12-03

Client Company: MWH

Site Name: SJRP

Well	Time	Depth to Water (ft)	~~Depth to~~ Product (ft)	~~Total~~ Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-9	0937	6-35	No				
			DO =	5.97 mg/L			
			Flow	7 scfm			
			@ MW-9	0.3 psi			

COMMENTS: Sys had come apart. Bought 2"x 2" boot and repaired. started sys. Threads on flow meter inspected. Took flow meter off and piped system w/out flow meter. Reset clock - started sys

Signature: [signature]

Date: 3-13-03

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 22003 Project Name: San Juan Basin Client: NMTH
Location: San Juan River Plant Well No: MW-8 Development ☐ Sampling ☑
Project Manager MJN Date 3-6-08 Start Time 0802 Weather clear 20s
Depth to Water 12.79 Depth to Product No Product Thickness No Measuring Point TOC
Water Column Height 9.41 Well Dia. 4

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer ☑ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐
Criteria: 3 to 5 Casing Volumes of Water Removal ☒ Sabilization of Indicator Parameters ☑ Other on bail dry

Gal/ft x ft of water	Water Volume In Well			Gal/oz to be removed
	Gallons		Ounces	
9.41 x .65	6.11 x 3	=		18.34

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0802	7.19	7890	9.2				1	clear
	7.17	8150	10.3				2	
	7.34	8030	10.4				3	
	7.35	8530	10.7				5	
	7.53	8750	11.1				7	
	8.04	9030	11.1				9	slight yellow tinge
	8.03	9340	11.0				11	
	8.14	8980	11.2				12.5	bailer not full
	8.58	9570	11.0				13	
	5.71	9010	10.6				13.5	
	5.52	8900	11.0				13.75	
0830	5.42	9450	10.3		9.41		14	bailed dry

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
0830	5.42	9450	10.3		9.41				

COMMENTS: * appears to be a problem w/ pH sensor
Rinsed VOAs due to bubbling No pres.

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____
DO Monitor ☒ _____ Other ☐ _____
Conductivity Meter ☒ _____

Water Disposal Kutz
Sample ID MW-8 Sample Time 0833 BTEX ☑ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐
Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐
MS/MSD _____ BD _____ BD Name/Time _____ TB 060308-1

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 220013 Project Name: San Juan Basin Client: MWH

Location: SJRP Well No: MW-9 Development ☐ Sampling ☒

Project Manager MJN Date 3-6-03 Start Time 0650 Weather 20s

Depth to Water 6.82 Depth to Product No Product Thickness No Measuring Point TOC

Water Column Height 15.1 Well Dia. 4

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

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

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

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
.65 x 15.1	9.8 x 3		29.44

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0854	4.71	10500	16.7				1	
	4.72	10150	13.6				2	
	4.75	10680	12.2				3	
	4.74	9830	10.5				5	
	4.73	9700	10.5				7	
	4.72	9870	9.8				11	
	4.70	9800	9.8				15	
0923	4.63	12620	10.4				19	1st bail did not fill
0925	4.59	10110	9.1				23	bailed dry

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
0925	4.59	10110	9.1		3.55				

COMMENTS: pH meter appears to have a problem
Rinsed VOA due to bubbling No pres

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☒ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kutz

Sample ID SJRP MW-9 Sample Time 0931 BTEX ☑ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 060303-1

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY _____

Contract El Paso Corp., San Jaun River Basin

MWH

Phone (801) 617-3200 FAX (801) 617-4200

MWH Contact Brian Buttars

Project San Juan Basin

Project Number 22003

Date Due Standard

Sampler's Name M J Nee
(print clearly)

Chain of Custody ID CB0303MN

Page 1 of 1

Air Bill No. 836381674345

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix[a]	Sampling Technique[b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0				
SJRP MW-8	MW-8		3-6-03	0833	GW	B	X											
SJRP MW-9	MW-9		3-6-03	0931	GW	B	X											
TB060303-01	TB		3-6-03	0700	WQ		X											

[a] **Matrix:** SO – Soil; WS – Surface Water; WG – Ground Water; AA – Air; WQ – Trip Blank/ Equipment Blanks; WW – Wastewater

[b] **Sampling Technique:** Composite=C; Grab=G; Hand Auger=HA; Submersible Pump=SP; Bladder Pump=BP; Bailer=B; Wellhead Faucet=WF; Hydropunch=HP

Location IDs: Groundwater Sites=GW; Bisti=BI; Jaquez=JA; North Flare Pit=NF; South Flare Pit=SF; San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
		3-6-03	1400

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
Notes:

2 Ambient or Chilled
Notes:

3 Temperature _____

4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:

5 Properly Preserved
Y N
Notes:

6 Received Within Holding Times
Y N
Notes:

COC Tape Was:

1 Present on Outer Package
Y N NA

2 Unbroken on Outer Package
Y N NA

3 Present on Sample
Y N NA

4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

Product Recovery and Well Observation Data

Project Name: San Juan Basin
Project No: 220013
Project Manager: MJN
Date: 3-6-03
Client Company: MWH
Site Name: San Juan River Plant

Well	Time	Depth to Water (ft)	Temp °C	Cond umhos/cm	pH *	Volume gallons	
MW-8	0830	12.79	10.3	9450	5.42	14	DO=9.31
MW-9	0923	6.82	9.1	10110	4.59	23	DO=3.55
MW-4		52.90	10.8	3350	4.72	1	Orange Brown Water
MW-5	0750	15.43	11.9	10230	6.24	11	Clear
W-2	1039	57.7	13.3	4470	5.65	1	Clear
MW-7	1103	26.995	16.9	11760	3.85	4	Clear
MW-6	1130	31.55	15.3	11210	4.23	7	Clear

COMMENTS: * Glass bulb on pH meter broken
These pH readings are relative, NOT accurate

pH readings were not entered into database as readings are relative
Spray per Karl Gurley

Signature: [signature] Date: 3-6-03

AESE
906 San Juan Blvd.Ste.D
Farmington, NM 87401
505.566.9116(9120fax)

~~PRODUCT RECOVERY~~
O&M

Project Name San Juan Basin Project No. 220013

Project Manager MSV Date 2-28-03

Client Company MWH

Site Name San Juan River Plant MW-9

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed
MW-9	0935				

Comments System Running. Construction and mud have made site inaccessible had to walk in.

Flow Rate 7 scfm
DO 10.61 mg/L
Pressure @ wellhead MW-9 = 0.08 psi

Signature [signature] Date 2-28-03

San Juan River Plant O&M

AESE

WELL OBSERVATION DATA

906 San Juan Blvd.Ste.D
Farmington, NM 87401
505.566.9116(9120fax)

Project Name San Juan Basin Project No. 220013

Project Manager MJN Date 2-12-03

Client Company MWH

Site Name San Juan River Plant

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Comments
MW-9	1045	6.57				See below

Comments Flow meter sep from spray well. Compressor air & the warm causes differential expansion of ~~meter~~ flow meter housing and coupling pvc vs acrylic. put back together.

MW-9 flow from compressor 7 Scfm
pressure @ mw-9 ≈ 1.0 psi
dissolved oxygen 8.01 mg/L

Signature [signature] Date 2-12-03

Product Recovery and Well Observation Data

Project Name: San Juan Basin
Project Manager: Nee
Client Company: MWH
Site Name: San Juan River Plant

Project No: 220013
Date: 1-29-03

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-9	1226	6.59	NA		NA	NA	DO 7.28

COMMENTS: Power switch was in off position. Reset clock started pump. Pump set to run 6AM - 2PM

Flow: 7 scfm
Pressure @ MW-9 - 25 psi

Well bubbles over from sparge air and fills space between protective casing & well casing. a weep hole needs to be drilled in bottom of protective casing. Siphoned with this time

Signature: [signature]

Date: 1-29-03

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project Manager: Delbert Bekis
Client Company: MWH
Site Name: San Juan River Plant

Project No: 220013
Date: 1/15/03

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-9	1115						D.O. 7.20 mg/l
							12.8°C

COMMENTS:

MW-9 - power was off, checked with Const. Company working in area. power was turned off 1-9-03, from 830-1130. for pipeline replacement, contacted rep from company on why power is still off. tried calling back but no answer.

Signature: Delbert Bekis

Date: 1/18/03

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project Manager: Delhart Belás
Client Company: MWH
Site Name: San Juan River Plant

Project No: 220013
Date: January 07, 2003

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
mw-9	1120	6.75	—	21.92	—	—	*see below.

COMMENTS:
* MW-9, compressor running and all pvc connections are good. flow meter at 8 scfm.
Pressure from well at 3.0 psi.
D.O. at 10.50
Temp at 13.6°C

Signature: Delhart Belás
Date: January 07, 2003

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan River Basin
Project Number 226013
Date Due 21 days
Sampler's Name Delbert Belin
(print clearly)

Chain of Custody ID 010803 DBJ2
Page 1 of 1
Air Bill No. 836381676749

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0				
JA	FIELD AIR		01/08/03	1340	AA	G	✓											
JA - UP GRADIENT DITCH			01/08/03	1325	WS	B	✓											
JA - DOWN GRADIENT	DITCH		01/08/03	1330	WS	B	✓											

ANALYSES REQUESTED

[a] Matrix:
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] Sampling Technique:
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
Delbert Belin / MESE		01/08/03	1445

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
Notes:

2 Ambient or Chilled
Notes:

3 Temperature _____

4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:

5 Properly Preserved
Y N
Notes:

6 Received Within Holding Times
Y N
Notes:

COC Tape Was:

1 Present on Outer Packag
Y N NA

2 Unbroken on Outer Package
Y N NA

3 Present on Sample
Y N NA

4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

APPENDIX B

2003 LABORATORY REPORTS

NOVEMBER 2003
ANALYTICAL DATA REPORT

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 11/24/03

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

Batch Identification: T6173 **Matrix:** Water

MS/MSD Parent(s)[a]: T6173-08 **Field Replicate Parent(s):** None

Validation Complete: Bryan Bittas 12-11-03 (Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
1	SJRP	MW-8	T6173-01	Y	J	Benzene @ 81.9 µg/l
					UJ	Toluene @ <1 µg/l
					J	Ethylbenzene @ 2.3 µg/l
					J	Xylenes (total) @ 5.2 µg/l
					UJ	o-Xylene @ <1 µg/l
					J	m,p-Xylene @ 5.2 µg/l
None	SJRP	MW-9	T6173-02	Y		Benzene @ 8.6 µg/l
						Ethylbenzene @ 1.1 µg/l
2	Trip Blank	112503TB01	T6173-03	N		

DATA VALIDATION WORKSHEET

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

Laboratory: Accutest **Batch Identification:** T6173

Validation Criteria								
Sample ID	**SJRP MW-8**	**SJRP MW-9**	**112503TB 01**					
Lab ID	**T6173-01**	**T6173-02**	**T6173-03**					
Holding Time	A[1]	A	A					
Analyte List	A	A	A					
Reporting Limits	A	A	A					
Surrogate Spike Recovery	A	A	A					
Trip Blank	A	A	A					
Equipment Rinseate Blanks	N/A	N/A	N/A					
Field Duplicate/Replicate	N/A	N/A	N/A					
Initial Calibration	N	N	N					
Initial Calibration Verification (ICV)	N	N	N					
Continuing Calibration Verification (CCV)	N	N	N					
Method Blank	A	A	A					
Laboratory Control Sample (LCS)	A	A	A[2]					
Laboratory Control Sample Duplicate (LCSD)	N	N	N					
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A					
Retention Time Window	N	N	N					
Injection Time(s)	N	N	N					
Hardcopy vs. Chain-of-Custody	A	A	A					
EDD vs. Hardcopy	N	N	N					
EDD vs. Chain of Custody	N	N	N					

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

NOTES:

1) Sample pH at time of analysis was greater than 2 which reduces the holding time from 14 days to 7. Sample analyzed 9 days after sample collection, exceeding holding time by 2 days, introducing a possible low bias. Qualify associated sample hits with "J" flags, indicating the data are estimated and possibly biased low. Qualify associated sample non-detects with "UJ" flags, indicating possible false negatives.

2) Surrogate percent recovery for 4-Bromofluorobenzene outside acceptance criteria @ 138% (64-121) and aaa-Trifluorotoluene @ 130% (71-121) indicating a possible high bias. All spiked compounds of interest within acceptance criteria, no data qualified.

Gulf Coast
ACCUTEST.
Laboratories

12/11/03

Technical Report for

Montgomery Watson

San Juan River Plant (SJRP)

D-MWH-05-07-03-MSG-02

Accutest Job Number: T6173

Report to:

Montgomery Watson

brian.buttars@us.mwhglobal.com

ATTN: Brian Buttars

Total number of pages in report: **16**

ACCREDITED IN ACCORDANCE WITH nelac

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

Ron Martino
Laboratory Manager

Sections: 1 2 3 4

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Sample Summary

Montgomery Watson

Job No: T6173

San Juan River Plant (SJRP)
Project No: D-MWH-05-07-03-MSG-02

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T6173-1	11/25/03	10:15		11/26/03	AQ	Water	SJRP MW-8
T6173-2	11/25/03	09:25		11/26/03	AQ	Water	SJRP MW-9
T6173-3	11/25/03	07:00		11/26/03	AQ	Water	112503TB01

Report of Analysis

Client Sample ID:	SJRP MW-8		
Lab Sample ID:	T6173-1	Date Sampled:	11/25/03
Matrix:	AQ - Water	Date Received:	11/26/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	KK006228.D	1	12/04/03	BC	n/a	n/a	GKK333
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	81.9	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	2.3	1.0	ug/l	
1330-20-7	Xylenes (total)	5.2	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	5.2	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		64-121%
98-08-8	aaa-Trifluorotoluene	103%		71-121%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	SJRP MW-9		
Lab Sample ID:	T6173-2	Date Sampled:	11/25/03
Matrix:	AQ - Water	Date Received:	11/26/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK006230.D	1	12/04/03	BC	n/a	n/a	GKK333
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	8.6	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	1.1	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	90%		64-121%
98-08-8	aaa-Trifluorotoluene	90%		71-121%

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

Report of Analysis

Client Sample ID:	112503TB01		
Lab Sample ID:	T6173-3	Date Sampled:	11/25/03
Matrix:	AQ - Water	Date Received:	11/26/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK006254.D	1	12/08/03	BC	n/a	n/a	GKK335
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		64-121%
98-08-8	aaa-Trifluorotoluene	96%		71-121%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY #251103MN01

ACCUTEST Laboratories

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

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job #

Client / Reporting Information

Company Name: MWH / EL PASO
Address: 614 REILLY
City: FARMINGTON State: NM Zip: 87401
Project Contact: SCOTT POPE E-mail:
Phone #: 505 599 2124
Sampler's Name:

Project Information

Project Name: SAN JUAN RIVER PLANT
Street:
City: State:
Project #:
Fax #: 505 599 2124
Client Purchase Order #:

Requested Analysis

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles	BTEX
1	SJRP MW-8		11/25/03	1015	MN		2		✓
2	SJRP MW-9		11/25/03	0925	MN		2		✓
3	112503TB01		11/25/03	0700	MN		1		✓

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

LAB USE ONLY

Turnaround Time (Business Days)

- ☐ 10 Day *STANDARD* — Approved By: / Date:
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- ☐ Other

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ Reduced Tier 1
- ☐ Full Tier 1
- ☐ TRRP13
- ☐ EDD Format _____

Commercial "A" = Results Only

Comments / Remarks

T6173

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

Relinquished by Sampler:	Date Time:	Received by:	Relinquished by	Date Time:	Received by:
1	11/25/03 1630	1	2		2
Relinquished by: 3	Date Time: 11/26 0800	Received by: 3	Relinquished by: 4	Date Time:	Received by: 4
Relinquished by: 5	Date Time:	Received by: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp 3.0°C

T6173: Chain of Custody
Page 1 of 2

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T6173 DATE/TIME RECEIVED: 11/26/03 0900

CLIENT: MWH / EL PASO INITIALS: 10

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

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

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1-2	11/25/03	WW	VOA	VREF	1,2,3,4,5,6	U, <2, >12, NA
2	1-2	↓	↓	↓	↓	1,2,3,4,5,6	U, <2, >12, NA
3	1	↓	↓	↓	↓	1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

11/26/03 10

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

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

Comments:

~~pH of waters checked excluding volatiles~~

pH of soils N/A

Delivery method: Courier: FED EX

Tracking#:

COOLER TEMP: 3.0°C COOLER TEMP:

COOLER TEMP: COOLER TEMP:

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

Form: SM012

3.1

T6173: Chain of Custody

Page 2 of 2

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T6173
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK333-MB	KK006207.D	1	12/03/03	BC	n/a	n/a	GKK333

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

T6173-1, T6173-2

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	84%	64-121%
98-08-8	aaa-Trifluorotoluene	85%	71-121%

Method Blank Summary

Job Number: T6173
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK335-MB	KK006253.D	1	12/08/03	BC	n/a	n/a	GKK335

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

T6173-3

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	96%	64-121%
98-08-8	aaa-Trifluorotoluene	94%	71-121%

Blank Spike Summary

Job Number: T6173
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK333-BS	KK006206.D	1	12/03/03	BC	n/a	n/a	GKK333

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

T6173-1, T6173-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.6	98	74-119
100-41-4	Ethylbenzene	20	19.6	98	82-115
108-88-3	Toluene	20	19.4	97	77-116
1330-20-7	Xylenes (total)	60	58.8	98	79-115
95-47-6	o-Xylene	20	19.6	98	78-114
	m,p-Xylene	40	39.1	98	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	90%	64-121%
98-08-8	aaa-Trifluorotoluene	89%	71-121%

Blank Spike Summary

Job Number: T6173
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK335-BS	KK006252.D	1	12/08/03	BC	n/a	n/a	GKK335

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

T6173-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.2	91	74-119
100-41-4	Ethylbenzene	20	18.8	94	82-115
108-88-3	Toluene	20	18.5	93	77-116
1330-20-7	Xylenes (total)	60	56.8	95	79-115
95-47-6	o-Xylene	20	18.9	95	78-114
	m,p-Xylene	40	37.9	95	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	138%* [a]	64-121%
98-08-8	aaa-Trifluorotoluene	130%* [a]	71-121%

(a) High bias spike.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T6173
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T6172-8MS	KK006224.D	1	12/04/03	BC	n/a	n/a	GKK333
T6172-8MSD	KK006227.D	1	12/04/03	BC	n/a	n/a	GKK333
T6172-8	KK006223.D	1	12/04/03	BC	n/a	n/a	GKK333

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

T6173-1, T6173-2

CAS No.	Compound	T6172-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	21.6	108	20.8	104	4	64-124/16
100-41-4	Ethylbenzene	ND		20	21.2	106	20.7	104	2	64-123/14
108-88-3	Toluene	ND		20	21.0	105	20.6	103	2	64-120/13
1330-20-7	Xylenes (total)	ND		60	63.8	106	62.3	104	2	66-118/18
95-47-6	o-Xylene	ND		20	21.2	106	20.6	103	3	65-119/20
	m,p-Xylene	ND		40	42.6	107	41.7	104	2	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T6172-8	Limits
460-00-4	4-Bromofluorobenzene	106%	101%	86%	64-121%
98-08-8	aaa-Trifluorotoluene	105%	103%	87%	71-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T6173
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T6172-5MS	KK006257.D	5	12/08/03	BC	n/a	n/a	GKK335
T6172-5MSD	KK006258.D	5	12/08/03	BC	n/a	n/a	GKK335
T6172-5	KK006256.D	5	12/08/03	BC	n/a	n/a	GKK335

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

T6173-3

CAS No.	Compound	T6172-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		100	92.5	93	91.7	92	1	64-124/16
100-41-4	Ethylbenzene	ND		100	92.9	93	90.7	91	2	64-123/14
108-88-3	Toluene	ND		100	92.9	93	90.7	91	2	64-120/13
1330-20-7	Xylenes (total)	ND		300	279	93	273	91	2	66-118/18
95-47-6	o-Xylene	ND		100	92.8	93	90.8	91	2	65-119/20
	m,p-Xylene	ND		200	186	93	182	91	2	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T6172-5	Limits
460-00-4	4-Bromofluorobenzene	100%	98%	100%	64-121%
98-08-8	aaa-Trifluorotoluene	100%	96%	100%	71-121%

AUGUST 2003
ANALYTICAL DATA REPORT

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: Wet Chemistry | **Sample Collection Date(s):** 08/26/03

Laboratory: Accutest | **MWH Job Number:** EPC-SJRB (SJRP)

Batch Identification: T5209 | **Matrix:** Water

MS/MSD Parent(s)[a]: T5209-01 | **Lab Replicate Parent(s):** T5209-01 & 06

Validation Complete: Ryan Byttow 9-18-03
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Data Qualifiers	Comments
1	SJRP	MW-5	T5209-01	Y	J	TDS @ 19900 mg/l
1	SJRP	W-2	T5209-02	Y	J	TDS @ 5880 mg/l
1	SJRP	MW-7	T5209-03	Y	J	TDS @ 17600 mg/l
1	SJRP	MW-6	T5209-04	Y	J	TDS @ 17100 mg/l
1	SJRP	MW-8	T5209-05	Y	J	TDS @ 17900 mg/l
1	SJRP	MW-9	T5209-06	Y	J	TDS @ 16800 mg/l
1	SJRP	MW-4	T5209-07	Y	J	TDS @ 4540 mg/l

DATA VALIDATION WORKSHEET

Analytical Method: Wet Chemistry **MWH Job Number:** EPC-SJRB (SJRP)

Laboratory: Accutest **Batch Identification:** T5209

Validation Criteria								
Analytical Method & Analytes	Alkalinity by U.S. EPA 310.1 & TDS by U.S. EPA 160.1							
Sample ID	**SJRP MW-5**	**SJRP W-2**	**SJRP MW-7**	**SJRP MW-6**	**SJRP MW-8**	**SJRP MW-9**	**SJRP MW-4**	
Lab ID	**T5209-01**	**T5209-02**	**T5209-03**	**T5209-04**	**T5209-05**	**T5209-06**	**T5209-07**	
Holding Time	A[1]	A[1]	A[1]	A[1]	A[1]	A[1]	A[1]	
Analysis Time(s)	A	A	A	A	A	A	A	
Analyte List	A	A	A	A	A	A	A	
Reporting Limits	A	A	A	A	A	A	A	
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Method Blank (all methods)	A	A	A	A	A	A	A	
Matrix Spike/Matrix Spike Dup. (MS/MSD)	A	N/A	N/A	N/A	N/A	N/A	N/A	
Matrix Duplicate	A	N/A	N/A	N/A	N/A	A	N/A	
Laboratory Control Sample (LCS)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	N	N	
Initial Check Verification (ICV)	N	N	N	N	N	N	N	
Continuing Calibration Verification (CCV)	N	N	N	N	N	N	N	
Initial Calibration	N	N	N	N	N	N	N	
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A	A	
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 validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method
N/R indicates data not available for review

NOTES:

1) Analytical holding time for TDS exceeded by one day, indicating a possible low bias. Qualify associated sample hits with "J" flags to indicate the data are estimated and potentially biased low.

DATA VALIDATION WORKSHEET

Analytical Method/Analytes:	SW-846 6010B & 7470A (Metals & Hg)	**Sample Collection Date(s):**	08/26/03
Laboratory:	Accutest	**MWH Job Number:**	EPC-SJRB (SJRP)
Batch Identification:	T5209	**Matrix:**	Water
MS/MSD Parent(s)[a]:	T5209-02	**Field Replicate Parent(s):**	None

Validation Complete: Brian Buttars 9-18-03
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Data Qualifiers	Comments
None	SJRP	MW-5	T5209-01	Y		
1,2,3,4	SJRP	W-2	T5209-02	Y		
None	SJRP	MW-7	T5209-03	Y		
None	SJRP	MW-6	T5209-04	Y		
None	SJRP	MW-8	T5209-05	Y		
None	SJRP	MW-9	T5209-06	Y		
None	SJRP	MW-4	T5209-07	Y		

DATA VALIDATION WORKSHEET

Analytical Method: SW-846 6010B & 7470A (Metals & Hg) **MWH Job Number:** EPC-SJRB (SJRP)

Laboratory: Accutest **Batch Identification:** T5209

Validation Criteria								
Sample ID	**SJRP MW-5**	**SJRP W-2**	**SJRP MW-7**	**SJRP MW-6**	**SJRP MW-8**	**SJRP MW-9**	**SJRP MW-4**	
Lab ID	**T5209-01**	**T5209-02**	**T5209-03**	**T5209-04**	**T5209-05**	**T5209-06**	**T5209-07**	
Holding Time	A	A	A	A	A	A	A	
Analyte List	A	A	A	A	A	A	A	
Reporting Limits	A	A	A	A	A	A	A	
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Method Blank (all methods)	A	A	A	A	A	A	A	
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	A[1]	N/A	N/A	N/A	N/A	N/A	
Matrix Duplicate	N/A	A[2]	N/A	N/A	N/A	N/A	N/A	
Post Digest Spike	N	N	N	N	N	N	N	
Serial Dilution (ICP Method)	N/A	A[3,4]	N/A	N/A	N/A	N/A	N/A	
Laboratory Control Sample (LCS)	A	A	A	A	A	A	A	
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	N	N	
Initial Calibration	N	N	N	N	N	N	N	
Initial Calibration Verification (ICV)	N	N	N	N	N	N	N	
Continuing Calibration Verification (CCV)	N	N	N	N	N	N	N	
Initial Check Blank (ICB)	N	N	N	N	N	N	N	
Continuing Check Blank (CCB)	N	N	N	N	N	N	N	
CRDL Standard	N	N	N	N	N	N	N	
Interference Check Standard (ICP Method)	N	N	N	N	N	N	N	
Analysis Time(s)	N	N	N	N	N	N	N	
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A	A	
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 validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method
N/R indicates data not available for review

NOTES:

1) The following analytes have matrix spike/matrix spike duplicate (MS/MSD) percent recoveries outside acceptance criteria:
   a) Sodium @ 288% and 168% (67-131), analyte concentration in the parent sample is greater than four times the spike amount, recovery not expected, no data qualified.

2) If analyte concentration is less than four times the reporting limit (RL), precision is assessed using ±RL instead of the relative percent difference (RPD). All matrix duplicate analytes meet the appropriate criteria.

3) The following analytes have serial dilution percent differences (%Ds) outside acceptance criteria:
   a) Sodium @ 10.2% (10), datum is estimated, bias unknown. Qualify the associated parent result with a "J" flag to indicate that the data are estimated with an unknown bias.

4) If the analyte concentration is less than the RL, a serial dilution %D is not calculated.

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 08/26/03

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

Batch Identification: T5209 **Matrix:** Water

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

Validation Complete: Brian Buttars 9-18-03
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Data Qualifiers	Comments
None	SJRP	MW-5	T5209-01	N		
None	SJRP	W-2	T5209-02	N		
None	SJRP	MW-7	T5209-03	N		
None	SJRP	MW-6	T5209-04	N		
None	SJRP	MW-8	T5209-05	Y		Benzene @ 891 µg/l Ethylbenzene @ 26.6 µg/l Xylenes (total) @ 13.1 T µg/l m,p-Xylene @ 13.1 T µg/l
None	SJRP	MW-9	T5209-06	Y		Benzene @ 29.3 µg/l
None	SJRP	MW-4	T5209-07	N		
None	Trip Blank	260803TB01	T5209-08	N		

DATA VALIDATION WORKSHEET

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

Laboratory: Accutest **Batch Identification:** T5209

Validation Criteria								
Sample ID	**SJRP MW-5**	**SJRP W-2**	**SJRP MW-7**	**SJRP MW-6**	**SJRP MW-8**	**SJRP MW-9**	**SJRP MW-4**	**260803TB 01**
Lab ID	**T5209-01**	**T5209-02**	**T5209-03**	**T5209-04**	**T5209-05**	**T5209-06**	**T5209-07**	**T5209-08**
Holding Time	A	A	A	A	A	A	A	A
Analyte List	A	A	A	A	A	A	A	A
Reporting Limits	A	A	A	A	A	A	A	A
Trip Blank	A	A	A	A	A	A	A	A
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Surrogate Spike Recovery	A	A	A	A	A	A	A	A
Initial Calibration	N	N	N	N	N	N	N	N
Initial Calibration Verification (ICV)	N	N	N	N	N	N	N	N
Continuing Calibration Verification (CCV)	N	N	N	N	N	N	N	N
Laboratory Control Sample (LCS)	A	A	A	A	A	A	A	A
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N	N	N	N
Method Blank	A	A	A	A	A	A	A	A
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Retention Time Window	N	N	N	N	N	N	N	N
Injection Time(s)	N	N	N	N	N	N	N	N
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A	A	A
EDD vs. Hardcopy	N	N	N	N	N	N	N	N
EDD vs. Chain of Custody	N	N	N	N	N	N	N	N

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
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X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

Gulf Coast
ACCUTEST
Laboratories

09/16/03

Technical Report for

Montgomery Watson

San Juan River Plant (SJRP)

SJR Plant Aug 03

Accutest Job Number: T5209

Report to:

MWH

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 43

ACCREDITED IN ACCORDANCE WITH nelac

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

Ron Martino
Laboratory Manager

Sample Summary

Montgomery Watson

Job No: T5209

San Juan River Plant (SJRP)

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T5209-1	08/26/03	11:10	MN	08/27/03	AQ	Ground Water	MW-5
T5209-2	08/26/03	14:40	MN	08/27/03	AQ	Ground Water	W-2
T5209-3	08/26/03	14:30	MN	08/27/03	AQ	Ground Water	MW-7
T5209-4	08/26/03	10:00	MN	08/27/03	AQ	Ground Water	MW-6
T5209-5	08/26/03	12:10	MN	08/27/03	AQ	Ground Water	MW-8
T5209-6	08/26/03	13:20	MN	08/27/03	AQ	Ground Water	MW-9
T5209-7	08/26/03	15:20	MN	08/27/03	AQ	Ground Water	MW-4
T5209-8	08/26/03	00:00	MN	08/27/03	AQ	Ground Water	260803TB01

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	T5209-1	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF029502.D	1	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	80%		74-127%
98-08-8	aaa-Trifluorotoluene	87%		73-135%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	T5209-1	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	12500	200	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Arsenic	8.9	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Barium	< 200	200	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cadmium	< 4.0	4.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Calcium	348000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Chromium	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cobalt	< 50	50	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Copper	50.2	25	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Iron	11800	100	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Lead	6.1	3.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Magnesium	200000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Manganese	5870	15	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Mercury	< 0.20	0.20	ug/l	1	09/02/03	09/03/03	ANJ	EPA 245.1	EPA 245.1
Molybdenum	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Nickel	75.5	40	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Potassium	32000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Selenium	< 5.0	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Silver	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Sodium	4390000	25000	ug/l	5	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Zinc	109	20	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	T5209-1	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	358	2.0	mg/l	2	09/09/03 11:00	LC	EPA 310.1
Solids, Total Dissolved [a]	19900	50	mg/l	5	09/03/03 11:30	LC	EPA 160.1

(a) Analysis initially run within hold time, but re-analyzed out of hold time upon verification of QC requirements.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	W-2		
Lab Sample ID:	T5209-2	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF029501.D	1	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	81%		74-127%
98-08-8	aaa-Trifluorotoluene	88%		73-135%

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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Report of Analysis

Client Sample ID:	W-2		
Lab Sample ID:	T5209-2	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	2070	200	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Arsenic	5.5	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Barium	< 200	200	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cadmium	< 4.0	4.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Calcium	349000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Chromium	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cobalt	< 50	50	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Copper	42.8	25	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Iron	1480	100	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Lead	< 3.0	3.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Magnesium	106000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Manganese	43.9	15	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Mercury	< 0.20	0.20	ug/l	1	09/02/03	09/03/03	ANJ	EPA 245.1	EPA 245.1
Molybdenum	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Nickel	< 40	40	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Potassium	< 5000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Selenium	89.6	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Silver	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Sodium	1030000	10000	ug/l	2	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Zinc	58.1	20	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	W-2		
Lab Sample ID:	T5209-2	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	196	1.0	mg/l	1	09/09/03 11:00	LC	EPA 310.1
Solids, Total Dissolved [a]	5880	20	mg/l	2	09/03/03 11:30	LC	EPA 160.1

(a) Analysis initially run within hold time, but re-analyzed out of hold time upon verification of QC requirements.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	T5209-3	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF029499.D	1	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	77%		74-127%
98-08-8	aaa-Trifluorotoluene	83%		73-135%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	T5209-3	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	35600	200	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Arsenic	14.4	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Barium	302	200	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cadmium	< 4.0	4.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Calcium	397000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Chromium	21.3	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cobalt	< 50	50	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Copper	92.1	25	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Iron	32700	100	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Lead	16.8	3.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Magnesium	229000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Manganese	4850	15	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Mercury	< 0.20	0.20	ug/l	1	09/02/03	09/03/03	ANJ	EPA 245.1	EPA 245.1
Molybdenum	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Nickel	48.3	40	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Potassium	25100	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Selenium	14.1	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Silver	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Sodium	4490000	50000	ug/l	10	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Zinc	199	20	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	T5209-3	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	995	5.0	mg/l	5	09/09/03 11:00	LC	EPA 310.1
Solids, Total Dissolved [a]	17600	50	mg/l	5	09/03/03 11:30	LC	EPA 160.1

(a) Analysis initially run within hold time, but re-analyzed out of hold time upon verification of QC requirements.

RL = *Reporting Limit*

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	T5209-4	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF029498.D	1	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	81%		74-127%
98-08-8	aaa-Trifluorotoluene	87%		73-135%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	T5209-4	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	24500	200	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Arsenic	< 5.0	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Barium	< 200	200	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cadmium	13.3	4.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Calcium	343000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Chromium	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cobalt	236	50	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Copper	80.7	25	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Iron	5510	100	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Lead	3.9	3.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Magnesium	360000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Manganese	8630	15	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Mercury	< 0.20	0.20	ug/l	1	09/02/03	09/03/03	ANJ	EPA 245.1	EPA 245.1
Molybdenum	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Nickel	310	40	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Potassium	29400	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Selenium	247	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Silver	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Sodium	3830000	50000	ug/l	10	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Zinc	729	20	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	T5209-4	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	12.0	1.0	mg/l	1	09/09/03 11:00	LC	EPA 310.1
Solids, Total Dissolved [a]	17100	50	mg/l	5	09/03/03 11:30	LC	EPA 160.1

(a) Analysis initially run within hold time, but re-analyzed out of hold time upon verification of QC requirements.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	T5209-5	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EF029497.D	10	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	891	10	ug/l	
108-88-3	Toluene	ND	10	ug/l	
100-41-4	Ethylbenzene	26.6	10	ug/l	
1330-20-7	Xylenes (total)	13.1	30	ug/l	J
95-47-6	o-Xylene	ND	10	ug/l	
	m,p-Xylene	13.1	20	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	88%		74-127%
98-08-8	aaa-Trifluorotoluene	92%		73-135%

(a) All hits confirmed by dual column analysis.

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

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	T5209-5	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	1620	200	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Arsenic	8.0	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Barium	< 200	200	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cadmium	< 4.0	4.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Calcium	354000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Chromium	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cobalt	< 50	50	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Copper	41.4	25	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Iron	2390	100	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Lead	< 3.0	3.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Magnesium	370000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Manganese	1460	15	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Mercury	< 0.20	0.20	ug/l	1	09/02/03	09/03/03	ANJ	EPA 245.1	EPA 245.1
Molybdenum	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Nickel	< 40	40	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Potassium	45400	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Selenium	< 5.0	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Silver	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Sodium	4390000	100000	ug/l	20	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Zinc	74.8	20	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	T5209-5	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	5030	25	mg/l	25	09/09/03 11:00	LC	EPA 310.1
Solids, Total Dissolved [a]	17900	50	mg/l	5	09/03/03 11:30	LC	EPA 160.1

(a) Analysis initially run within hold time, but re-analyzed out of hold time upon verification of QC requirements.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-9		
Lab Sample ID:	T5209-6	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EF029496.D	10	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	29.3	10	ug/l	
108-88-3	Toluene	ND	10	ug/l	
100-41-4	Ethylbenzene	ND	10	ug/l	
1330-20-7	Xylenes (total)	ND	30	ug/l	
95-47-6	o-Xylene	ND	10	ug/l	
	m,p-Xylene	ND	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	82%		74-127%
98-08-8	aaa-Trifluorotoluene	87%		73-135%

(a) Dilution required due to matrix interference (sample foamed).

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

Report of Analysis

Client Sample ID:	MW-9		
Lab Sample ID:	T5209-6	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	43900	200	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Arsenic	6.1	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Barium	< 200	200	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cadmium	9.4	4.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Calcium	319000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Chromium	16.9	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cobalt	200	50	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Copper	162	25	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Iron	29000	100	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Lead	13.5	3.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Magnesium	270000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Manganese	7330	15	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Mercury	< 0.20	0.20	ug/l	1	09/02/03	09/03/03	ANJ	EPA 245.1	EPA 245.1
Molybdenum	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Nickel	335	40	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Potassium	23000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Selenium	< 5.0	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Silver	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Sodium	3980000	50000	ug/l	10	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Zinc	597	20	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-9		
Lab Sample ID:	T5209-6	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	13.0	1.0	mg/l	1	09/09/03 11:00	LC	EPA 310.1
Solids, Total Dissolved [a]	16800	50	mg/l	5	09/03/03 11:30	LC	EPA 160.1

(a) Analysis initially run within hold time, but re-analyzed out of hold time upon verification of QC requirements.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	T5209-7	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF029495.D	1	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	81%		74-127%
98-08-8	aaa-Trifluorotoluene	88%		73-135%

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

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	T5209-7	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	5290	200	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7
Arsenic	81.8	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Barium	< 200	200	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cadmium	10.0	4.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Calcium	212000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Chromium	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Cobalt	156	50	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Copper	789	25	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Iron	12400	100	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Lead	40.1	3.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Magnesium	88100	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Manganese	6880	15	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Mercury	3.5	0.20	ug/l	1	09/02/03	09/03/03	ANJ	EPA 245.1	EPA 245.1
Molybdenum	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Nickel	251	40	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Potassium	9390	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Selenium	< 5.0	5.0	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Silver	< 10	10	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Sodium	802000	5000	ug/l	1	08/29/03	09/08/03	ANJ	EPA 200.7	EPA 200.7
Zinc	1550	20	ug/l	1	08/29/03	09/09/03	ANJ	EPA 200.7	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	T5209-7	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	446	2.0	mg/l	2	09/09/03 11:00	LC	EPA 310.1
Solids, Total Dissolved [a]	4540	20	mg/l	2	09/03/03 11:30	LC	EPA 160.1

(a) Analysis initially run within hold time, but re-analyzed out of hold time upon verification of QC requirements.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	260803TB01		
Lab Sample ID:	T5209-8	Date Sampled:	08/26/03
Matrix:	AQ - Ground Water	Date Received:	08/27/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan River Plant (SJRP)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF029494.D	1	08/29/03	AFL	n/a	n/a	F:GEF1070
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	80%		74-127%
98-08-8	aaa-Trifluorotoluene	87%		73-135%

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

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T5209
Account: MWHSLCUT - Montgomery Watson
Project: San Juan River Plant (SJRP)

Analyte	Batch ID	RL	MB Result	Units	BSP %Recov	QC Limits
Solids, Total Dissolved	GN4926	10	<10	mg/l		

Associated Samples:
Batch GN4926: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T5209
Account: MWHSLCUT - Montgomery Watson
Project: San Juan River Plant (SJRP)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN4948	T5209-1	mg/l	358	356	0.5	0-6%
Solids, Total Dissolved	GN4926	T5237-1	mg/l	936	852	9.4	0-20%
Solids, Total Dissolved	GN4926	T5209-6	mg/l	16800	17000	1.2	0-20%

Associated Samples:
Batch GN4926: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7
Batch GN4948: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T5209
Account: MWHSLCUT - Montgomery Watson
Project: San Juan River Plant (SJRP)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN4948	T5209-1	mg/l	358	50	404	92.0	76-121%

Associated Samples:
Batch GN4948: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

GC Volatiles

QC Data Summaries

(Accutest Laboratories Southeast)

Includes the following where applicable:

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

Blank Spike Summary

Job Number: T5209
Account: ALGC Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEF1070-BS	EF029490.D	1	08/29/03	CV	n/a	n/a	GEF1070

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

T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7, T5209-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.4	97	88-121
100-41-4	Ethylbenzene	20	18.6	93	86-125
108-88-3	Toluene	20	18.5	93	89-123
95-47-6	o-Xylene	20	19.0	95	89-124
	m,p-Xylene	40	38.2	96	89-124

CAS No.	Surrogate Recoveries	BSP	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%	74-127%
98-08-8	aaa-Trifluorotoluene	93%	73-135%

Method Blank Summary

Job Number: T5209
Account: ALGC Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEF1070-MB	EF029491.D	1	08/29/03	CV	n/a	n/a	GEF1070

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

T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7, T5209-8

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

CAS No.	Surrogate Recoveries		Limits
352-33-0	1-Chloro-4-fluorobenzene	79%	74-127%
98-08-8	aaa-Trifluorotoluene	86%	73-135%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T5209
Account: ALGC Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F19258-2MS	EF029504.D	1	08/29/03	CV	n/a	n/a	GEF1070
F19258-2MSD	EF029505.D	1	08/29/03	CV	n/a	n/a	GEF1070
F19258-2	EF029503.D	1	08/29/03	CV	n/a	n/a	GEF1070

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

T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7, T5209-8

CAS No.	Compound	F19258-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	17.4		20	36.6	96	36.4	95	1	77-127/9
100-41-4	Ethylbenzene	ND		20	18.6	93	18.5	93	1	68-136/11
108-88-3	Toluene	ND		20	18.8	94	18.8	94	0	78-128/9
95-47-6	o-Xylene	ND		20	18.8	94	18.8	94	0	76-131/10
	m,p-Xylene	ND		40	37.1	93	37.0	93	0	70-136/12

CAS No.	Surrogate Recoveries	MS	MSD	F19258-2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%	92%	84%	74-127%
98-08-8	aaa-Trifluorotoluene	101%	102%	98%	73-135%

Metals Analysis

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23114
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 08/29/03

Metal	RL	IDL	MB raw	final
Aluminum	200	47	-1.2	<200
Antimony	5.0	3.8		
Arsenic	5.0	4.1	-4.1	<5.0
Barium	200	2.5	0.68	<200
Beryllium	5.0	.2		
Boron	100	1.5		
Cadmium	4.0	.4	-0.25	<4.0
Calcium	5000	27	-1.1	<5000
Chromium	10	.8	0.58	<10
Cobalt	50	.6	0.36	<50
Copper	25	1	-0.86	<25
Iron	100	15	-8.5	<100
Lead	3.0	1.6	-0.68	<3.0
Magnesium	5000	15	3.8	<5000
Manganese	15	.3	0.0	<15
Molybdenum	10	.8	-0.20	<10
Nickel	40	1.4	-0.010	<40
Palladium	50	2.5		
Potassium	5000	15	1.2	<5000
Selenium	5.0	4.4	-1.2	<5.0
Silicon	200	14		
Silver	10	.6	0.31	<10
Sodium	5000	120	226	<5000
Strontium	10	.3		
Thallium	10	5.7		
Tin	10	2.7		
Titanium	10	.3		
Vanadium	50	.5		
Zinc	20	10	2.1	<20

Associated samples MP23114: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23114
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date:			08/29/03				08/29/03		
Metal	T5209-2 Original	DUP	RPD	QC Limits	T5209-2 Original	MS	Spikelot MPIOW4	% Rec	QC Limits
Aluminum	2070	1570	27.5	0-33	2070	4500	2000	121.5	77-134
Antimony									
Arsenic	5.5	9.3	51.4 (a)	0-28	5.5	1830	2000	91.2	82-112
Barium	25.4	21.3	17.6 (a)	0-16	25.4	1810	2000	89.2	80-118
Beryllium									
Boron									
Cadmium	0.0	0.0	NC	0-13	0.0	45.9	50	91.8	82-112
Calcium	349000	345000	1.2	0-15	349000	375000	25000	104.0	71-129
Chromium	0.0	2.3	200.0(a)	0-23	0.0	182	200	91.0	84-113
Cobalt	0.0	2.0	200.0(a)	0-23	0.0	447	500	89.4	83-112
Copper	42.8	39.9	7.0	0-34	42.8	316	250	109.3	83-119
Iron	1480	1240	17.6	0-24	1480	2350	1000	87.0	58-137
Lead	0.0	0.0	NC	0-33	0.0	449	500	89.8	84-111
Magnesium	106000	104000	1.9	0-13	106000	130000	25000	96.0	77-118
Manganese	43.9	41.9	4.7	0-19	43.9	499	500	91.0	77-120
Molybdenum	3.6	3.3	8.7	0-19	3.6	1860	2000	92.8	88-116
Nickel	3.6	7.4	69.1 (a)	0-31	3.6	463	500	91.9	82-112
Palladium									
Potassium	4550	4340	4.7	0-11	4550	34600	25000	120.2	76-132
Selenium	89.6	89.0	0.7	0-16	89.6	1900	2000	90.5	76-112
Silicon									
Silver	0.0	0.85	200.0(a)	0-10	0.0	48.0	50	96.0	76-123
Sodium	1030000	1040000	1.0	0-16	1030000	1070000	25000	288.0(b)	67-131
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	58.1	65.4	11.8	0-28	58.1	666	500	121.6N(c	79-119

Associated samples MP23114: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23114
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date:

Metal

information.
(c) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23114
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 08/29/03

Metal	T5209-2 Original	MSD	Spikelot MPIOW4	% Rec	MSD RPD	QC Limit
Aluminum	2070	4260	2000	109.5	3.8	
Antimony						
Arsenic	5.5	1830	2000	91.2	0.0	
Barium	25.4	1810	2000	89.2	0.0	
Beryllium						
Boron						
Cadmium	0.0	46.0	50	92.0	0.2	
Calcium	349000	371000	25000	88.0	1.1	
Chromium	0.0	181	200	90.5	0.6	
Cobalt	0.0	448	500	89.6	0.2	
Copper	42.8	285	250	96.9	10.3	
Iron	1480	2310	1000	83.0	1.7	
Lead	0.0	448	500	89.6	0.2	
Magnesium	106000	128000	25000	88.0	1.6	
Manganese	43.9	499	500	91.0	0.0	
Molybdenum	3.6	1790	2000	89.3	3.8	
Nickel	3.6	460	500	91.3	0.7	
Palladium						
Potassium	4550	34000	25000	117.8	1.7	
Selenium	89.6	1900	2000	90.5	0.0	
Silicon						
Silver	0.0	47.1	50	94.2	1.9	
Sodium	1030000	1040000	25000	168.0(a)	2.8	
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	58.1	538	500	96.0	28.9	

Associated samples MP23114: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23114
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date:		08/29/03				08/29/03		
Metal	LCS Result	Spikelot MPLCW2	% Rec	QC Limits	BSP Result	Spikelot MPIOW4	% Rec	QC Limits
Aluminum	5150	5000	103.0	80-120	2170	2000	108.5	80-120
Antimony								
Arsenic	473	500	94.6	80-120	1990	2000	99.5	80-120
Barium	495	500	99.0	80-120	2010	2000	100.5	80-120
Beryllium								
Boron								
Cadmium	498	500	99.6	80-120	51.5	50	103.0	80-120
Calcium	5560	5500	101.1	80-120	25600	25000	102.4	80-120
Chromium	497	500	99.4	80-120	203	200	101.5	80-120
Cobalt	487	500	97.4	80-120	504	500	100.8	80-120
Copper	506	500	101.2	80-120	264	250	105.6	80-120
Iron	5610	5500	102.0	80-120	964	1000	96.4	80-120
Lead	490	500	98.0	80-120	504	500	100.8	80-120
Magnesium	5640	5500	102.5	80-120	25200	25000	100.8	80-120
Manganese	497	500	99.4	80-120	511	500	102.2	80-120
Molybdenum	502	500	100.4	80-120	2100	2000	105.0	80-120
Nickel	492	500	98.4	80-120	506	500	101.2	80-120
Palladium								
Potassium	4420	5000	88.4	80-120	23800	25000	95.2	80-120
Selenium	470	500	94.0	80-120	1950	2000	97.5	80-120
Silicon								
Silver	194	200	97.0	80-120	50.8	50	101.6	80-120
Sodium	5440	5000	108.8	80-120	26400	25000	105.6	80-120
Strontium								
Thallium								
Tin								
Titanium								
Vanadium								
Zinc	506	500	101.2	80-120	510	500	102.0	80-120

Associated samples MP23114: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23114
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 08/29/03

Metal	T5209-2 Original	SDL 1:5	RPD	QC Limits
Aluminum	2070	2060	0.4	0-10
Antimony				
Arsenic	5.52	0.00	100.0(a)	0-10
Barium	25.4	53.3	110.2(a)	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	349000	355000	1.7	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	4.68		0-10
Copper	42.8	38.3	10.4 (a)	0-10
Iron	1480	1510	2.3	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	106000	109000	2.8	0-10
Manganese	43.9	46.9	6.9	0-10
Molybdenum	3.58	0.00	100.0(a)	0-10
Nickel	3.55	0.00	100.0(a)	0-10
Palladium				
Potassium	4550	3500	23.0*(b)	0-10
Selenium	89.6	99.7	11.3 (a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	1030000	1140000	10.2*(b)	0-10
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	58.1	65.1	11.9 (a)	0-10

Associated samples MP23114: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference. Results confirmed with analysis of second dilution.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23147
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 09/02/03

Metal	RL	IDL	MB raw	final
Mercury	0.20	.1	-0.045	<0.20

Associated samples MP23147: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23147
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 09/02/03

Metal	N46379-1 Original	MS	Spikelot HGPW2	% Rec	QC Limits
Mercury	0.0	1.8	2	90.0	69-124

Associated samples MP23147: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23147
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 09/02/03

Metal	N46379-1 Original	MSD	Spikelot HGPW2	% Rec	MSD RPD	QC Limit
Mercury	0.0	1.8	2	90.0	0.0	

Associated samples MP23147: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T5209
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

QC Batch ID: MP23147
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 09/02/03

Metal	LCS Result	Spikelot HGPW2	% Rec	QC Limits
Mercury	2.0	2	100.0	80-120

Associated samples MP23147: T5209-1, T5209-2, T5209-3, T5209-4, T5209-5, T5209-6, T5209-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Southeast
ACCUTEST.
Laboratories

09/03/03

Technical Report for

MWH

San Juan River Plant

Accutest Job Number: F19233

SJFR AK-01

Report to:

MWH
Steamboat Springs, CO

ATTN: Pamela Anderson

Total number of pages in report: 9

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

Sample Summary

MWH

Job No: F19233

San Juan River Plant

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F19233-1	08/26/03	11:10 MN	08/27/03	AQ	Ground Water	MW-5
F19233-2	08/26/03	14:40 MN	08/27/03	AQ	Ground Water	MW-2
F19233-3	08/26/03	14:30 MN	08/27/03	AQ	Ground Water	MW-7
F19233-4	08/26/03	10:00 MN	08/27/03	AQ	Ground Water	MW-6
F19233-5	08/26/03	12:10 MN	08/27/03	AQ	Ground Water	MW-8
F19233-6	08/26/03	13:20 MN	08/27/03	AQ	Ground Water	MW-9
F19233-7	08/26/03	15:20 MN	08/27/03	AQ	Ground Water	MW-4

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	F19233-1	**Date Sampled:**	08/26/03
Matrix:	AQ - Ground Water	**Date Received:**	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	488	100	mg/l	5	08/27/03 16:01	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/27/03 13:03	LL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<20	20	mg/l	1	08/28/03 12:37	LL	SM18 4500NO3E
Nitrogen, Nitrite	<0.50	0.50	mg/l	5	08/27/03 16:01	LL	EPA 300/SW846 9056
Sulfate	14200	2000	mg/l	100	08/28/03 12:37	LL	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F19233-2	**Date Sampled:**	08/26/03
Matrix:	AQ - Ground Water	**Date Received:**	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	309	200	mg/l	10	08/27/03 16:16	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	22.3	1.0	mg/l	10	08/27/03 16:16	LL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	21.8	4.0	mg/l	1	08/28/03 12:52	LL	SM18 4500NO3E
Nitrogen, Nitrite	<1.0	1.0	mg/l	10	08/27/03 16:16	LL	EPA 300/SW846 9056
Sulfate	3630	400	mg/l	20	08/28/03 12:52	LL	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	*F19233-3*	***Date Sampled:***	08/26/03
Matrix:	AQ - Ground Water	**Date Received:**	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	369	100	mg/l	5	08/27/03 16:30	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	14.8	0.50	mg/l	5	08/27/03 16:30	LL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<20	20	mg/l	1	08/28/03 13:06	LL	SM18 4500NO3E
Nitrogen, Nitrite	<0.50	0.50	mg/l	5	08/27/03 16:30	LL	EPA 300/SW846 9056
Sulfate	11900	2000	mg/l	100	08/28/03 13:06	LL	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	F19233-4	**Date Sampled:**	08/26/03
Matrix:	AQ - Ground Water	**Date Received:**	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	1410	500	mg/l	25	08/27/03 16:45	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	73.8	2.5	mg/l	25	08/27/03 16:45	LL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	70.3	20	mg/l	1	08/28/03 13:21	LL	SM18 4500NO3E
Nitrogen, Nitrite	<2.5	2.5	mg/l	25	08/27/03 16:45	LL	EPA 300/SW846 9056
Sulfate	10300	2000	mg/l	100	08/28/03 13:21	LL	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	F19233-5	**Date Sampled:**	08/26/03
Matrix:	AQ - Ground Water	**Date Received:**	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	726	100	mg/l	5	08/27/03 17:00	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/27/03 14:04	LL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<20	20	mg/l	1	08/28/03 13:35	LL	SM18 4500NO3E
Nitrogen, Nitrite	<0.50	0.50	mg/l	5	08/27/03 17:00	LL	EPA 300/SW846 9056
Sulfate	8260	2000	mg/l	100	08/28/03 13:35	LL	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-9		
Lab Sample ID:	F19233-6	**Date Sampled:**	08/26/03
Matrix:	AQ - Ground Water	**Date Received:**	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	752	200	mg/l	10	08/27/03 17:15	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/27/03 14:18	LL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<20	20	mg/l	1	08/28/03 13:50	LL	SM18 4500NO3E
Nitrogen, Nitrite	<1.0	1.0	mg/l	10	08/27/03 17:15	LL	EPA 300/SW846 9056
Sulfate	11800	2000	mg/l	100	08/28/03 13:50	LL	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F19233-7	**Date Sampled:**	08/26/03
Matrix:	AQ - Ground Water	**Date Received:**	08/27/03
		Percent Solids:	n/a
Project:	San Juan River Plant		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	303	40	mg/l	2	08/27/03 17:30	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.25	0.20	mg/l	2	08/27/03 17:30	LL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<4.0	4.0	mg/l	1	08/28/03 14:05	LL	SM18 4500NO3E
Nitrogen, Nitrite	0.25	0.20	mg/l	2	08/27/03 17:30	LL	EPA 300/SW846 9056
Sulfate	2090	400	mg/l	20	08/28/03 14:05	LL	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

CHAIN OF CUSTODY

ACCUTEST Laboratories
10165 Harwin Dr. [illegible] 150, Houston, TX 77036
TEL. 713-271-[illegible]00 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 8371 5991 3693
Bottle Order Control #
Accutest Quote #
Accutest Job # F19233

Client / Reporting Information

Company Name: MWH/El Paso
Address: 614 Reilly
City: Farmington State: NM Zip: 87401
Project Contact: Scott Pope E-mail:
Phone #: 505 599 2124
Fax #: 505 599 2119
Sampler's Name: MJNee

Project Information

Project Name: San Juan River Plant
Street:
City: State:
Project #:
Client Purchase Order #:

Requested Analysis

Nitrate & Nitrite as N
Temperature

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	Nitrate & Nitrite as N	Temperature	LAB USE ONLY
1	MW-5		8/26/03	1110	MN	WG	1					1				X		
2	~~MW~~ MW-2	1440	8/26/03	1440	MN	WG	1					1				X		
3	MW-7	1430	8/26/03	1430	MN	WG	1					1				X		
4	MW-6		8/26/03	1000	MN	WG	1					1				X		
5	MW-8		8/26/03	1210	MN	WG	1					1				X		
6	MW-9		8/26/03	1320	MN	WG	1					1				X		
7	MW-4		8/26/03	1520	MN	WG	1					1				X		
	~~200803MW02~~ MN																	
	200803TB02		8/26/03	0700	MN	WQ	1					1					X	

Turnaround Time (Business Days)

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

Approved By: / Date:

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

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

Commercial "A" = Results Only

Comments / Remarks

USEPA method 300.0
* Nitrate + Nitrite as N

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

	Relinquished by Sampler:	Date Time:	Received by:	Relinquished by	Date Time:	Received by:
1	[signature] 8/26/03	1630	FEDEX	2	8/27/03	0930 [signature] Muna Mona
3	Relinquished by:	Date Time:	Received by:	Relinquished by: 4	Date Time:	Received by: 4
5	Relinquished by:	Date Time:	Received by: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☐

Cooler Temp. 4.0

MAY 2003
ANALYTICAL DATA REPORT

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 05/15/03

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

Batch Identification: T4330 **Matrix:** Water

MS/MSD Parent(s)[a]: T4330-01 **Field Replicate Parent(s):** None

Validation Complete: Bryan Bittner 5-30-03
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	SJRP	MW-8	T4330-01	N		
None	SJRP	MW-9	T4330-02	N		
None	Trip Blank	150503TB-01	T4330-03	N		

DATA VALIDATION WORKSHEET

Analytical Method:	SW-846 8021B (BTEX)	**MWH Job Number:**	EPC-SJRB (SJRP)
Laboratory:	Accutest	**Batch Identification:**	T4330

Validation Criteria								
Sample ID	**SJRP MW-8**	**SJRP MW-9**	**150503TB -01**					
Lab ID	**T4330-01**	**T4330-02**	**T4330-03**					
Holding Time	A	A	A					
Analyte List	A	A	A					
Reporting Limits	A	A	A					
Trip Blank	A	A	A					
Equipment Rinseate Blanks	N/A	N/A	N/A					
Field Duplicate/Replicate	N/A	N/A	N/A					
Surrogate Spike Recovery	A	A	A					
Initial Calibration	N	N	N					
Initial Calibration Verification (ICV)	N	N	N					
Continuing Calibration Verification (CCV)	N	N	N					
Laboratory Control Sample (LCS)	A	A	A					
Laboratory Control Sample Duplicate (LCSD)	N	N	N					
Method Blank	A	A	A					
Matrix Spike/Matrix Spike Dup. (MS/MSD)	A	N/A	N/A					
Retention Time Window	N	N	N					
Injection Time(s)	N	N	N					
Hardcopy vs. Chain-of-Custody	A	A	A					
EDD vs. Hardcopy	N	N	N					
EDD vs. Chain of Custody	N	N	N					

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

NOTES:

Gulf Coast
ACCUTEST.
Laboratories

05/27/03

Technical Report for

Montgomery Watson

EPFS San Juan Basin GS

San Juan River Plant / Proj #30001.0

Accutest Job Number: T4330

Report to:

lynn.benally@elpaso.com

Total number of pages in report: 9

ACCREDITED IN ACCORDANCE WITH nelac

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

Ron Martino
Laboratory Manager

Sample Summary

Montgomery Watson

Job No: T4330

EPFS San Juan Basin GS
Project No: San Juan River Plant / Proj #30001.0

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T4330-1	05/15/03	08:30	MN	05/16/03	AQ	Ground Water	SJRP MW-8
T4330-2	05/15/03	09:26	MN	05/16/03	AQ	Ground Water	SJRP MW-9
T4330-3	05/15/03	07:00	MN	05/16/03	AQ	Trip Blank Water	150503TB-01

Accutest Laboratories

Report of Analysis

Client Sample ID:	SJRP MW-8		
Lab Sample ID:	T4330-1	Date Sampled:	05/15/03
Matrix:	AQ - Ground Water	Date Received:	05/16/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	EPFS San Juan Basin GS		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK005161.D	1	05/21/03	BC	n/a	n/a	GKK270
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	86%		64-121%
98-08-8	aaa-Trifluorotoluene	86%		71-121%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	SJRP MW-9		
Lab Sample ID:	T4330-2	Date Sampled:	05/15/03
Matrix:	AQ - Ground Water	Date Received:	05/16/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	EPFS San Juan Basin GS		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK005160.D	1	05/21/03	BC	n/a	n/a	GKK270
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	83%		64-121%
98-08-8	aaa-Trifluorotoluene	86%		71-121%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	150503TB-01		
Lab Sample ID:	T4330-3	Date Sampled:	05/15/03
Matrix:	AQ - Trip Blank Water	Date Received:	05/16/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	EPFS San Juan Basin GS		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK005172.D	1	05/21/03	BC	n/a	n/a	GKK270
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		64-121%
98-08-8	aaa-Trifluorotoluene	92%		71-121%

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

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: T4330
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK270-BS	KK005157.D	1	05/21/03	BC	n/a	n/a	GKK270

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

T4330-1, T4330-2, T4330-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.4	92	74-119
100-41-4	Ethylbenzene	20	18.8	94	82-115
108-88-3	Toluene	20	18.5	93	77-116
1330-20-7	Xylenes (total)	60	57.3	96	79-115
95-47-6	o-Xylene	20	18.7	94	78-114
	m,p-Xylene	40	38.6	97	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	64-121%
98-08-8	aaa-Trifluorotoluene	94%	71-121%

Method Blank Summary

Job Number: T4330
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK270-MB	KK005158.D	1	05/21/03	BC	n/a	n/a	GKK270

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

T4330-1, T4330-2, T4330-3

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	87%	64-121%
98-08-8	aaa-Trifluorotoluene	86%	71-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T4330
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T4330-1MS	KK005162.D	1	05/21/03	BC	n/a	n/a	GKK270
T4330-1MSD	KK005163.D	1	05/21/03	BC	n/a	n/a	GKK270
T4330-1	KK005161.D	1	05/21/03	BC	n/a	n/a	GKK270

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

T4330-1, T4330-2, T4330-3

CAS No.	Compound	T4330-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	15.9	80	14.8	74	7	64-124/16
100-41-4	Ethylbenzene	ND		20	16.9	85	16.2	81	4	64-123/14
108-88-3	Toluene	ND		20	17.1	86	16.1	81	6	64-120/13
1330-20-7	Xylenes (total)	ND		60	51.1	85	48.8	81	5	66-118/18
95-47-6	o-Xylene	ND		20	16.8	84	16.1	81	4	65-119/20
	m,p-Xylene	ND		40	34.3	86	32.7	82	5	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T4330-1	Limits
460-00-4	4-Bromofluorobenzene	90%	88%	86%	64-121%
98-08-8	aaa-Trifluorotoluene	90%	87%	86%	71-121%

CHAIN OF CUSTODY

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

FED-EX Tracking # 836557901614 | Bottle Order Control #
Accutest Quote # | Accutest Job #

Client / Reporting Information

Company Name: Montgomery Watson c/o El Paso
Address: 614 Reilly Ave
City: Farmington State: NM Zip: 87401
Project Contact: Lynn Benally E-mail:
Phone #: 505 599 2178
Sampler's Name: M Nee

Project Information

Project Name: San Juan River Plant
Street:
City: Kirtland State: NM
Project #: 300001.0
Fax #: 505 599 2119
Client Purchase Order #:

Requested Analysis

BTEX

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	BISULFATE	BTEX	LAB USE ONLY
1	SIRP MW-8		5-15-03		MN	WG	2									X	VOEF
2	SIRP MW-9		5-15-03		MN	WG	2									X	
3	150503TB-01		5-15-03		MN	WQ	2									X	

T4330

Turnaround Time (Business Days)

- ☐ 10 Day *STANDARD* — Approved By: / Date:
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- ☐ Other

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ Reduced Tier 1
- ☐ Full Tier 1
- ☐ TRRP13
- ☐ EDD Format _____

Commercial "A" = Results Only

Comments / Remarks

Rinsed HCL out of vials due to rxn w/ CaCO3 - No Preservative

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

Relinquished by Sampler:	Date Time:	Received by:	Relinquished by	Date Time:	Received by:
1	5-15-03	1	2	5-16-03 0845	2
Relinquished by: 3	Date Time:	Received by: 3	Relinquished by: 4	Date Time:	Received by: 4
Relinquished by: 5	Date Time:	Received by: 5	Custody Seal #	Preserved where applicable ☐	On Ice X Cooler Temp. 3.8°C

MARCH 2003
ANALYTICAL DATA REPORT

DATA VALIDATION WORKSHEET

Analytical Method/Analytes:	SW-846 8021B (BTEX)	Sample Collection Date(s):	03/06/03
Laboratory:	APCL	MWH Job Number:	EPC-SJRB (SJRP)
Batch Identification:	03-02053	Matrix:	Water
MS/MSD Parent(s)[a]:	None	Field Replicate Parent(s):	None

Validation Complete: [signature] 3-31-03
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab ID	Hits (Y/N)	Quals	Comments
1	SJRP	MW-8	03-02053-01	Y	UB UB	Benzene @ 0.3 T µg/l Toluene @ 0.4 T µg/l
1	SJRP	MW-9	03-02053-02	Y	UB UB	Benzene @ 0.2 T µg/l Toluene @ 0.2 T µg/l
1	SJRP	TB 060303-01	03-02053-03			Benzene @ 0.09 T µg/l Toluene @ 0.3 T µg/l

DATA VALIDATION WORKSHEET

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

Laboratory: APCL **Batch Identification:** 03-02053

Validation Criteria								
Sample ID	**MW-8**	**MW-9**	**TB 060303-01**					
Lab ID	**03-02053-01**	**03-02053-02**	**03-02053-03**					
Holding Time	A	A	A					
Analyte List	A	A	A					
Reporting Limits	A	A	A					
Trip Blank	A[1]	A[1]	A[1]					
Equipment Rinseate Blanks	N/A	N/A	N/A					
Field Duplicate/Replicate	N/A	N/A	N/A					
Initial Calibration	N	N	N					
Initial Calibration Verification (ICV)	N	N	N					
Continuing Calibration Verification (CCV)	A	A	A					
Method Blank	A	A	A					
Laboratory Control Sample (LCS)	A	A	A					
Laboratory Control Sample Duplicate (LCSD)	N	N	N					
Matrix Spike/Matrix Spike Dup (MS/MSD)	N/A	N/A	N/A					
Surrogate Spike Recovery	A	A	A					
Retention Time Window	N	N	N					
Injection Time(s)	N	N	N					
Hardcopy vs Chain-of-Custody	A	A	A					
EDD vs Hardcopy	N	N	N					
EDD vs Chain of Custody	N	N	N					

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

NOTES:

1) The following compounds were detected in the trip blank (TB 270203-1):
   a) Benzene @ 0.09 T µg/l, qualify associated sample concentrations greater than 0.45 T µg/l with "B" flags and associated sample concentrations less than 0.45 T µg/l with "UB" flags
   b) Toluene @ 0.3 T µg/l, qualify associated sample concentrations greater than 1.5 µg/l with "B" flags and associated sample concentrations less than 1.5 µg/l with "UB" flags

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-032053
Collected by: M.J. Nee
Collected on: 03/06/03

Received: 03/07/03
Extracted: N/A
Tested: 03/10-11/03
Reported: 03/14/03

Sample Description: Water
Project Description: 220013 San Juan Basin

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-8 03-02053-1	MW-9 03-02053-2	TB 03-02053-3
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	µg/L	0.5	0.3J	0.2J	0.09J
ETHYLBENZENE	8021B	µg/L	0.5	2.0	<0.5	<0.5
TOLUENE	8021B	µg/L	0.5	0.4J	0.2J	0.3J
O-XYLENE	8021B	µg/L	0.5	0.7	<0.5	<0.5
M,P-XYLENE	8021B	µg/L	1	2	0.8J	<1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY _____
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 060303MN
Page 1 of 1
Air Bill No. 936381674345

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan Basin
Project Number 222013
Date Due Standard
Sampler's Name M J Nee
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0				
SJRP MW-8	MW-8		3-6-03	0833	GW	B	X											
SJRP MW-9	MW-9		3-6-03	0931	GW	B	X											
TB060303-01	TB		3-6-03	0700	WQ		X											

2053

[a] **Matrix:**
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] **Sampling Technique:**
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
	3/7/03 1000	3-6-3	1400

LABORATORY USE ONLY

SAMPLES WERE:
1 Shipped or hand delivered
Notes:
2 Ambient or Chilled
Notes:
3 Temperature _____
4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:
5 Properly Preserved
Y N
Notes:
6 Received Within Holding Times
Y N
Notes:

COC Tape Was:
1 Present on Outer Package
Y N NA
2 Unbroken on Outer Package
Y N NA
3 Present on Sample
Y N NA
4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City, UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-032053
Collected by: M.J. Nee
Collected on: 03/06/03
Sample description:
Water
Project: San Juan Basin /220013

Received: 03/07/03
Tested: 03/10-11/03
Reported: 03/26/03

Analysis of Water

801-032053QC

Component Name	Analysis Batch #	CCV (μg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
BTXE												
Benzene	03G1668	100	92	N.D.	μg/L	18.0	94	95	98	3	71-126	28
Toluene	03G1668	100	96	N.D.	μg/L	70.0	95	93	97	4	70-117	24
Ethylbenzene	03G1668	100	98	N.D.	μg/L	18.0	104	99	97	1	65-131	33
m/p-Xylene	03G1668	200	92	N.D.	μg/L	70.0	97	92	91	1	66-122	28
o-Xylene	03G1668	100	92	N.D.	μg/L	25.0	94	92	89	3	65-130	33

Notation:
ICV – Initial Calibration Verification
CCV – Continuation Calibration Verification
LCS – Lab Control Spike
MS – Matrix Spike
MSD – Matrix Spike Duplicate
ICS – Interference Check Standard
MD – Matrix Duplicate
N.D. – Not detected or less than PQL
CCB – Continuation Calibration Blank
M-blank – Method Blank
SP Level – Spike Level
%Rec – Recovery Percent
%RPD – Relative Percent Differences
%Diff – Control Limit for %RPD
ICP-SD – ICP Serial Dilution
N.A. – Not Applicable

Respectfully submitted,

Regina Kirakozova,
Associate QA/QC Director
Applied P & Ch Laboratory

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8021B

Client Name:	Montgomery Watson Harza	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	032053
Project ID:	San Juan Basin	Project No:	220013	Sample Matrix:	Water
		Batch No:	03G1668		

#	Client Sample No	Lab Sample ID	S1 %	#	TOT OUT
1		03G1668-LCS-01	92		0
2		03G1668-LSD-01	92		0
3		03G1668-MB-01	98		0
4	TB	03-2053-3	99		0
5	MW-8	03-2053-1	101		0
6	MW-9	03-2053-2	101		0
7	1111-MW-2-0303	03-2079-2MS	92		0
8	1111-MW-2-0303	03-2079-2MSD	92		0
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

	QC Control Limit
S1 = 4-BROMO-FLUOROBENZENE (PID)	66-133

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909)590-1828 Fax: (909)590-1498

APCL INVOICE 03-02053

Samples from
Montgomery Watson Harza
10619 South Jordan Gateway
Salt Lake City, UT 84095

Invoice to
Montgomery Watson Harza
10619 South Jordan Gateway
Salt Lake City, UT 84095
Tel: (801)617-3200
Fax (801)617-4200

Project Manager:
Technical Contact: Brian Buttars
Purchase Order No:
Prime Contract No:

Subcontract No:
Project No: 220013
Project Name: San Juan Basin

SDG Number: 03-02053
SDG Receive Date: 03/07/03

Remit Payment to
Applied P & Ch Laboratory
13760 Magnolia Ave.
Chino CA 91710

Invoice No. 03-02053
Invoice Date: 03/28/2003
Due Date: 04/27/2003
Printed Date: 03/28/2003
Past Due Interest:
1.5% per month

Catalog No.	Test Description	Method Code	Sample Matrix	Unit Price, $	Sample Quant.	Subtotal $
002316	BTXE	8021B	Water	40.00	3	120.00
Analytical Service Subtotal						120.00
Total Service Charge:						120.00
Please Remit This Amount:						**120.00**

ACCOUNTS PAYABLE
Job # 4270097
C/Code 011803 C/Type
CC: Acct #
Approved by Brian Buttars
Date 4-1-03
PO/Sub #

Copy A: ORIGINAL INVOICE

***** APCL Invoice Control ID 1999_0746 APCL_00284 0984_0001 APCL Invoice Control ID*****

APCL

APCL Financial Department

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY _____
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 060303MN
Page 1 of 1
Air Bill No. 836381674345

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan Basin
Project Number 220013
Date Due Standard
Sampler's Name MJ Nee
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0				
STRP MW-8	MW-8		3-6-03	0833	GW	B	X											
STRP MW-9	MW9		3-6-03	0931	GW	B	X											
TB060303-01	TB		3-6-03	0700	WQ		X											

2053

[a] **Matrix:**
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] **Sampling Technique:**
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
	3/7/03 1000	3-6-3	1400

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
Notes:

2 Ambient or Chilled
Notes:

3 Temperature _____

4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:

5 Properly Preserved
Y N
Notes:

6 Received Within Holding Times
Y N
Notes:

COC Tape Was:

1 Present on Outer Package
Y N NA

2 Unbroken on Outer Package
Y N NA

3 Present on Sample
Y N NA

4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2053 Client Name/Project: San Juan

1. Sample Arrival

Date/Time Received 3/7/03 1000 Date/Time Opened 3/7/03 1000 By (name): _____

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☒ FedEx ☐ APCL Empl: _____

2. Chain-of-Custody (CoC)

☒ With Samples? ☐ Faxed? ☐ Client has Copy? ☒ Signed, dated? By: MJ
☒ Project ID? ☒ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received _____
☒ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☒ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☒ Cooler Used? # of 1 Cooled by: ☒ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
Temp °C 3.4 _____ _____ _____ _____ _____
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ pH <2 ☐ pH >12
If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☒ Intact? ☐ Broken? ☐ Documented? Number: ____
Type: ☐ plastic ☒ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☒ Quantity OK? ☐ Leaking? ☐ Anomaly?
☒ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☒ Unique ID? ☐ Date/Time ☐ Preserved?

7. Turn Around Time

☒ RUSH TAT: 7 ☐ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☒ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☒ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: _____ Date: 7 Mar 2003 Time: 7:32 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-02053 (0984_1033) (2721900_1033)

03/07/03

Part 1: General Information

☐ Company Information	Name:	*Montgomery Watson Harza*
	Address:	*10619 South Jordan Gateway ,Salt Lake City ,UT 84095*
☐ Project Information	Project Description:	*San Juan Basin*
		Hill AFB
	Project #:	*220013*
☐ Billing Information	P.O. #:	
	Bill Address:	*10619 South Jordan Gateway ,Salt Lake City ,UT 84095*
	Lab Project ID:	*1999_0746*
	Client Database #:	*04*
☐ Receiving Information	Who Received Sample?	*Eric Wendland*
	Receiving Date/Time:	*03/07/03 1000*
	COC No.	
☐ Shipping Information	Shipping Company	*Express*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*3.4 °C*
☐ Container Information	Container Provider:	*Client*
☐ Sampling Information	Sampling Person:	
	Sampling Company:	*Client*
☐ Turn-Around-Time Option:		*Rush 5 working day(s)*
☐ QC Option:		*QC and Surro. Rep.*
☐ Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Container	Preservative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-8	VOA	03-02053-1	W	V	C	40	2	G	030603	N	0	7	☐
2	MW-9	VOA	03-02053-2	W	V	C	40	2	G	030603	N	0	7	☐
3	TB	VOA	03-02053-3	W	V	C	40	1	G	030603	N	0	7	☐

Part 3: Analysis Information

Test Items: ☒ *8021B* BTXE

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	BTXE	
1	MW-8	VOA	03-02053-1	W	X	☐
2	MW-9	VOA	03-02053-2	W	X	☐
3	TB	VOA	03-02053-3	W	X	☐

Login By En-Yu Paul Kou

Check By BY

elpaso

LABORATORY SERVICE REPORT

REQUESTOR: Pope, Scott

REPORT DATE: 2/18/2003
REQUEST NO: 2003010059
APPROVED BY: Darrell Campbell

DISTRIBUTION: Padilla, Chuck

PERFORMED BY:

Request Description: San Juan River Plant - Split sample with Praxair on Monitor Well #7
Date Received: 1/15/2003
Date Completed: 1/31/2003

Sample No: 1 Lab ID: 43331 Sampled By: Chuck Padilla Sample Date: 1/14/2003
Description: Monitor Well #7 split sample with Praxair
Analysis: WP Pending Analysis Type
Purpose: Disposal/Environmental Concerns
Matrix: Water
Location: EPNG - Albuquerque - San Juan - San Juan River Plant - 0+0 - Monitor Well #7 - Split Sample with Praxair

Data: See attached sheet(s).

Comments:

Sample:		1
General Analyses		
Total Dissolved Solids	mg/l	17000
Total Metals		
Copper	mg/l	0.055
Nickel	mg/l	0.042
Zinc	mg/l	0.20

ORIGINAL