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REPORTS

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OIL CONSERVATION DIVISION

Mr. William E. Freeman
Navajo Environmental Protection Agency
P. O. Box 1999
Shiprock, New Mexico 87420

RE: Bisti Flare Pit #1 Annual Report

Dear Mr. Freeman:

El Paso Field Services (EPFS) hereby submits the annual report for the Bisti Flare Pit #1. The annual report details all work performed in 2002 and the first half of 2003.

Should you have any questions or comments regarding the enclosed report, please feel free to contact me at (505) 599-2124.

Sincerely,

Scott T. Pope, P.G.
Senior Environmental Scientist

Attachments: as stated

c.c. Mr. James Walker; USEPA, Farmington - w / enclosures; **Certified Mail # 7001 1940 0002 1371 7874**
Mr. Denny Foust; NMOCD, Aztec - w / enclosures; **Certified Mail # 7001 1940 0002 1371 7867**
Mr. Bill Olson; NMOCD, Santa Fe – w / enclosures; **Certified Mail # 7001 1940 0002 1371 7850**
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Environmental Bureau
Oil Conservation Division

ANNUAL REPORT
BISTI FLARE PIT #1
SAN JUAN COUNTY, NEW MEXICO

Prepared for:

El Paso Field Services

Prepared by:

RJS Consulting, Inc.

July 2003

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1.0 INTRODUCTION

1.1 PURPOSE OF REPORT

At the request of El Paso Field Services (EPFS) and under subcontract to Montgomery Watson Harza (MWH), RJS Consulting, Inc. (RJS) has prepared the following annual report for the Bisti Flare Pit #1 Meter Code LD-267 site. The current report will describe activities that occurred at the site from June 1, 2002 until May 31, 2003. Figure 1 shows the locations of the existing piezometers and the location of the former Bisti Flare Pit.

1.2 SUMMARY OF ACTIVITIES

Since the production of the last annual report the following activities have occurred at the site:

- Water sampling of select wells in October 2002 and April 2003
- Measurement of water levels in select wells in October 2002 and April 2003,
- Free-product recovery, and
- Abandonment of former injection points.

A description and results of each of these activities are provided in this report.

2.0 SITE INVESTIGATIONS

2.1 WATER-QUALITY SAMPLING

Based upon the analysis of water-quality trends that was presented in the 2000, 2001, and 2002 Annual Reports, several monitoring wells were selected for sampling on a semi-annual basis. These wells are located north, east, southeast, and south of the former pit for the purpose of monitoring water-quality trends away from the former pit. The goal was to monitor wells that may have relatively high concentrations of benzene, toluene, ethylbenzene, and total xylenes

(BTEX) close to the former pit and wells that are located on the edge of the estimated extent of BTEX in perched ground water. The wells selected for monitoring included: PZ-16, PZ-21, PZ-22, PZ-26, PZ-29, PZ-32, PZ-33, and PZ-36 (Figure 1). Water samples were collected from these wells on October 16, 2002. Based upon a meeting that occurred on October 17, 2002 between representatives of EPFS, the Navajo Nation Environmental Protection Agency (NNEPA), and the U.S. Environmental Protection Agency (USEPA), the list of wells to be monitored was changed. The wells that were monitored in April 2003 included PZ-9, PZ-10, PZ-11, PZ-17, PZ-21, PZ-29, PZ-30, PZ-35, and PZ-36. The samples are analyzed for BTEX. The results of the analyses are tabulated in Table 1 and the laboratory data packages are contained in Appendix A. Water-quality graphs are contained in Appendix B. In addition to water sampling, free product was removed from wells where it was encountered in January and May of 2003.

2.2 WATER-LEVEL MEASUREMENTS

Water levels were measured in October 2002 and April 2003. Figures 2 and 3 are maps that provide the elevations for perched ground water for October 2002 and April 2003, respectively. Table 2 lists the water-level measurements for the wells. Appendix C contains hydrographs for select wells.

2.3 INJECTION POINT ABANDONMENT

In early 1997 EPFS decided to pursue an in situ bioremediation program for the remediation of ground water. In May and June 1997, 155 one-inch diameter PVC treatment wells were installed. A bioremediation solution was then injected into each well. After the former flare pit was excavated in 2001, a determination was made that the injection wells would no longer be used and thus should be abandoned. A number of the injections points were abandoned when the pit was excavated in March 2001, and the remaining points were abandoned during this reporting period. Figure 4 shows the injection points that were abandoned and Appendix D provides a report that describes the points that were abandoned with the amount of

bentonite used in the abandonment. In general, the abandonment of the injection points followed procedures described in the October 18, 2002 letter from EPFS to NNEPA. A copy of the Injection Point Abandonment Report was submitted to NNEPA and USEPA on December 9, 2002.

3.0 RESULTS OF DATA COLLECTION

3.1 WATER-QUALITY ANALYSES

As discussed earlier, select wells have been sampled since 1997. Table 1 lists the wells and the analytical results for the various sampling events. Appendix B contains graphs of the BTEX concentrations measured in three wells. The other wells that have been monitored have low or non-detectable concentrations of BTEX, have been monitored only a few times (two or three times) or have elevated concentrations where trends are not obvious. The exception is well PZ-36, where total BTEX concentrations appear to have declined over the three sampling events from approximately 40,000 µg/L (May 2001) total BTEX to approximately 14,000 µg/L in April 2003. Figure 5 shows the distribution of BTEX concentrations for the sampling that occurred in October 2002, and Figure 6 shows the concentrations for April 2003. No attempt was made to contour the data, as the data points are sparse and there is an isolated area of elevated total BTEX.

Based upon a visual observation of the trends of total BTEX it appears that concentrations are decreasing in PZ-21, remaining generally low in PZ-22, and remaining elevated in PZ-29. The total BTEX concentrations for PZ-29 appear to be steady declining with time. In April 2003 product was encountered in PZ-17 (this well was bailed dry), PZ-11, and PZ-35. The water samples from wells PZ-21 and PZ-30 showed very low concentrations of total BTEX.

On January 16, 2003, approximately two gallons of free product were removed from well PZ-35. On May 5, 2003, approximately 1 gallon of free product was removed from well PZ-35. On the same date, approximately 16 ounces of free product were removed from PZ-11 and 1 ounce from well PZ-15. The data suggest that the amount of free product available for removal is decreasing with time.

The data show isolated pockets of free product that do not appear to be migrating. It is expected that concentrations will generally decline because the major source of BTEX, the former pit, has been removed. Table 1 also provides information on the analyses for nitrate and sulfate. In general, the perched water-bearing zone contains low to non-detectable concentrations of nitrate and elevated concentrations of sulfate. The nitrates that are found in several of the wells are probably due to the treatment fluids that were injected in the late 1990s. The elevated concentrations of nitrates are generally detected in wells that contain low concentrations of BTEX. Elevated concentrations (in the range of 4,000 to 5,000 mg/L) of sulfate are generally associated with low concentrations (a few parts per billion or non-detectable) of BTEX. In areas where the sulfate concentrations are low (600 mg/L or less), the BTEX concentrations are elevated. The sulfate will facilitate the degradation of the BTEX and associated hydrocarbons as the sulfate is used as an electron acceptor for anaerobic biodegradation of BTEX, and the observations noted above support this hypothesis.

3.2 WATER LEVELS AND PERCHED GROUND-WATER FLOW DIRECTIONS

Table 2 is a listing of the water levels for the monitoring wells at the site. Appendix C contains the hydrographs for the various monitoring wells. As shown in Appendix C almost all of the water levels have declined significantly since the injection of the treatment fluids ceased in 1998 and reduced recharge due to the ongoing drought.

Figures 5 and 6 are water-level maps for October 2002 and April 2003, respectively. For both measurement events, the general perched ground-water flow direction is to the east. As

noted on the figures, a "trough" appears to exist that focuses perched ground-water flow to the east from the site. The perched ground-water flow direction is away from the agricultural fields that are south of the site. In the past, when the former flare pit was in existence, a significant component of perched ground-water flow was to the south. This situation is no longer the case. Perched ground water flow is to the east in a direction where EPFS controls the property. The assumed flow direction is opposite to the general ground-water flow direction that is to the west and northwest towards the West Fork Gallegos Canyon. This difference in flow direction is reflective of the fact that the ground water monitored by the site wells is perched and is not influenced by the regional flow system. The water-level data show that the former pit is no longer acting as a source of recharge and that the perched ground-water flow direction is governed by the topography of the top of the silty clay or silty sand deposits that were observed in the excavation and boreholes. These geologic units serve as the base of the perched ground-water system. The decline in water levels also indicates that the transmissivity of the perched ground-water zone has also declined resulting in pockets of water and in some cases, free product that do not appear to be migrating even in the dissolved state. For example, well PZ-35 did not have measurable product in October 2002. The saturated thickness during this same time period was about 1.8 feet. In April 2003, the water level was not measured but on May 5, 2003 the depth to ground water was 26.59 feet below the top of casing. The estimated saturated thickness was about 0.9 feet. Thus, the saturated thickness declined by approximately 50 percent from October 2002 to May 2003. The decline is due to the continuing drought conditions. The decline in water level would also explain the presence of product in April and May 2003 but not in October 2002.

The saturated thickness also declined significantly in well PZ-36. In October 2002, this well had about 4 feet of water in it; whereas, in April 2003 the thickness was about 3 feet. The saturated thicknesses measured in the wells are reflective of saturated conditions in the perched ground-water zone as the bottoms of the wells (and the screens) are at the top of the underlying aquitard.

The above observations as well as a review of the water-level data (Table 2) lead to the conclusion that perched ground water and the residual free product are contained in isolated areas. Given that the source of hydrocarbons has been removed (the former flare pit), the remaining sporadic measurements of free product are at residual saturation and are not migrating. The dissolved phase does not appear to be migrating as well, and residual concentrations are declining due to the high sulfate concentrations in the water within the perched ground-water zone.

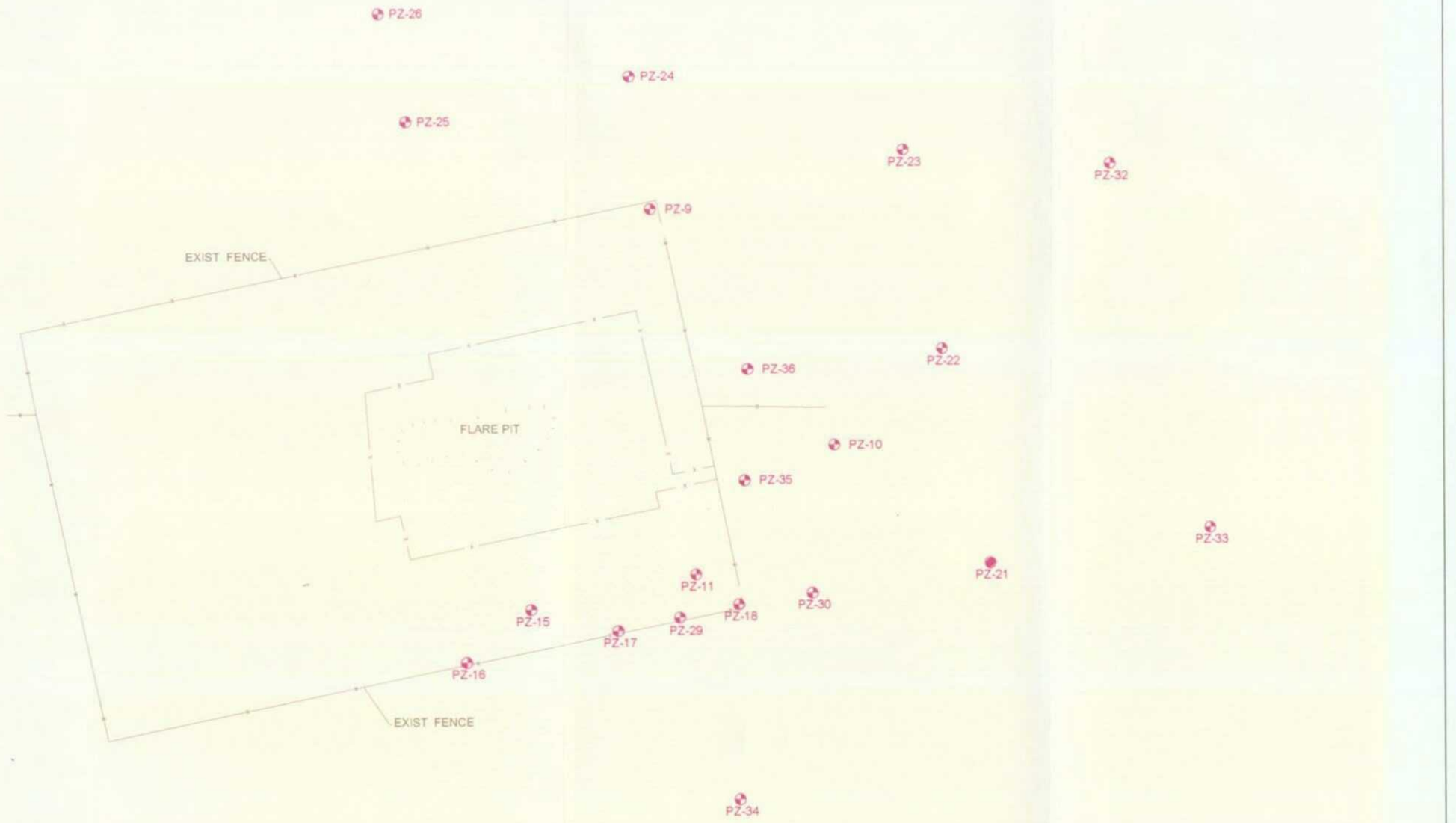
4.0 SUMMARY AND RECOMMENDATIONS

RJS Consulting, Inc. and EPFS are of the opinion that the Bisti Site should be closed without further remediation. The rationales for this opinion are summarized in the following bulleted items.

- Field observations from the excavation and boreholes show that the ground water encountered at the site is perched.
- The perched ground water is hydraulically isolated from water-bearing zones that are beneath the perched ground water. Information provided in previous annual reports indicates that there is at least 60 feet of unsaturated materials beneath the perched zone.
- The perched ground water is at least 10 feet below land surface, resulting in a very low risk for dermal or inhalation contact with the perched ground water.
- EPFS will have control of the site for the foreseeable future; thus, the perched ground water will not be contacted, as EPFS will implement de facto institutional controls on the use of the property. No well drilling or contact with the perched ground water will be allowed without EPFS' permission.
- The perched ground water is contained within geologic materials that are of low hydraulic conductivity and transmissivity. Migration of chemicals of concern is limited. Also, active remediation options are limited because of the low hydraulic conductivity and transmissivity.
- As discussed in previous Annual Reports for this site, there is a very low threat to the environment because of the amount of residual hydrocarbons remaining at the site. Previous estimates of residual total BTEX indicate that about five (5) pounds exist at the site. It is also concluded that the excavation of over 6,000 cubic yards of hydrocarbon-impacted soil was efficient in removing the vast majority of BTEX and TPH masses.

In summary, it is recommended that no additional large-scale remediation occur at the site, as it is unwarranted given the small mass and isolated nature of the remaining BTEX and TPH. In order to enhance the natural degradation of the hydrocarbons that is occurring at the site due to the elevated sulfate in the perched ground water, it is recommended that free product be removed from the wells that have shown free product over the past year. This free-product removal should occur on a monthly basis if product can be removed. If not, then product should be removed on a quarterly basis or a basis determined in the field until product recovery becomes impracticable. It is recommended that water quality continue to be monitored in select wells (PZ-9, PZ-10, PZ-11, PZ-15, PZ-17, PZ-21, PZ-29, PZ-35 and PZ-36) for two years to confirm the fact that BTEX migration is not occurring. Water levels should be measured in the wells that are sampled for water quality and all the other existing wells so that a comprehensive analysis of flow direction can be made. Given that perched ground-water conditions do not change significantly over a year, nor are the hydrocarbons migrating in the dissolved phase to any measurable extent, it is recommended that samples and water levels only be collected once per year, preferably in April; which corresponds to the low-water period.

FIGURES



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Legend

PZ-16 Well Location

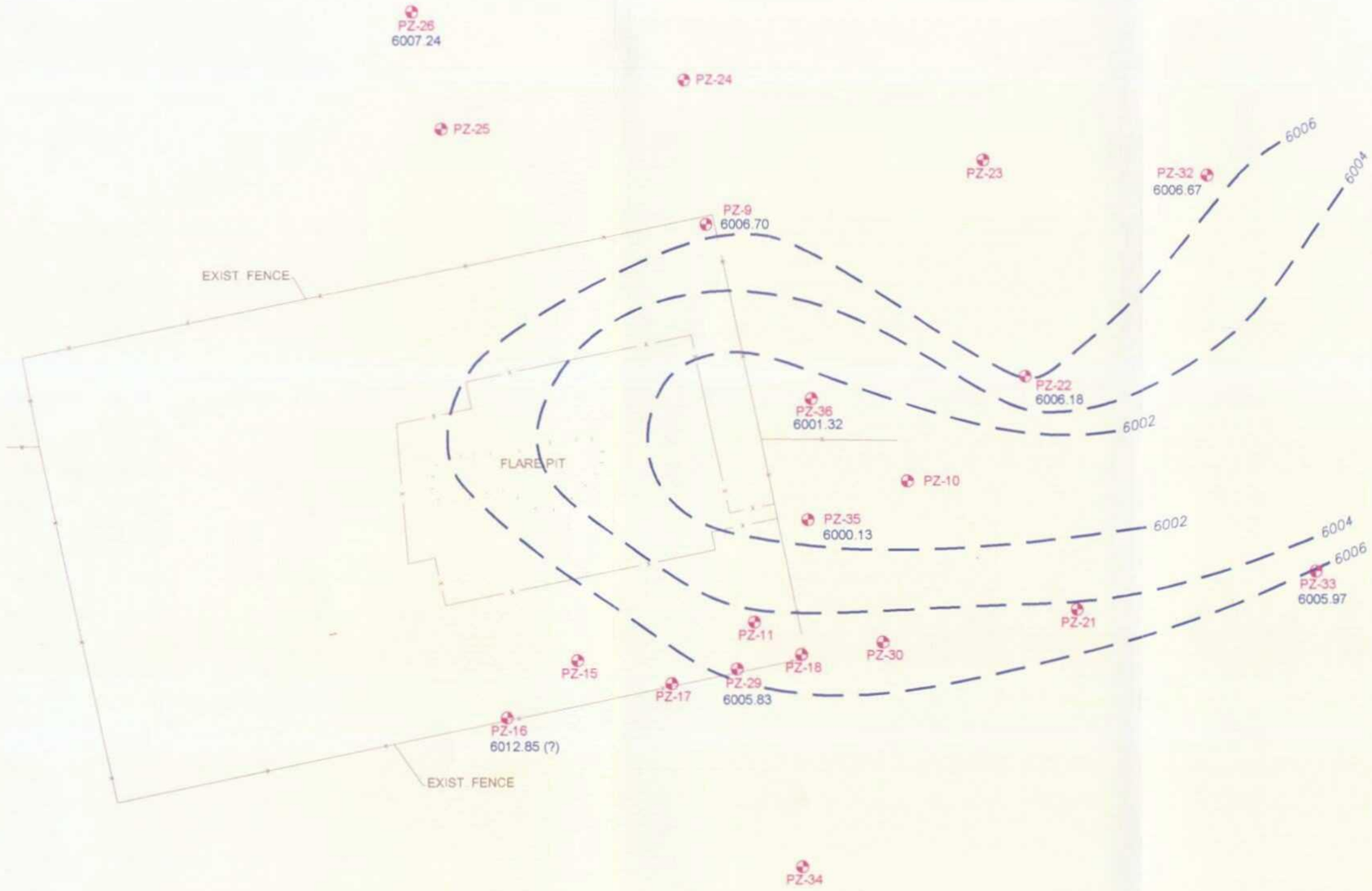
0 40 ft 80 ft

1 inch is approximately equal to 40 feet

Bisti Gathering System
San Juan County, New Mexico

Drawing Name: Fig1	Locations of Piezometers	Figure 1
Drawn By: RJV		
Date: 6/16		

EMS\Bisti\Fig1



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N

0 40 ft 80 ft

1 inch is approximately equal to 40 feet

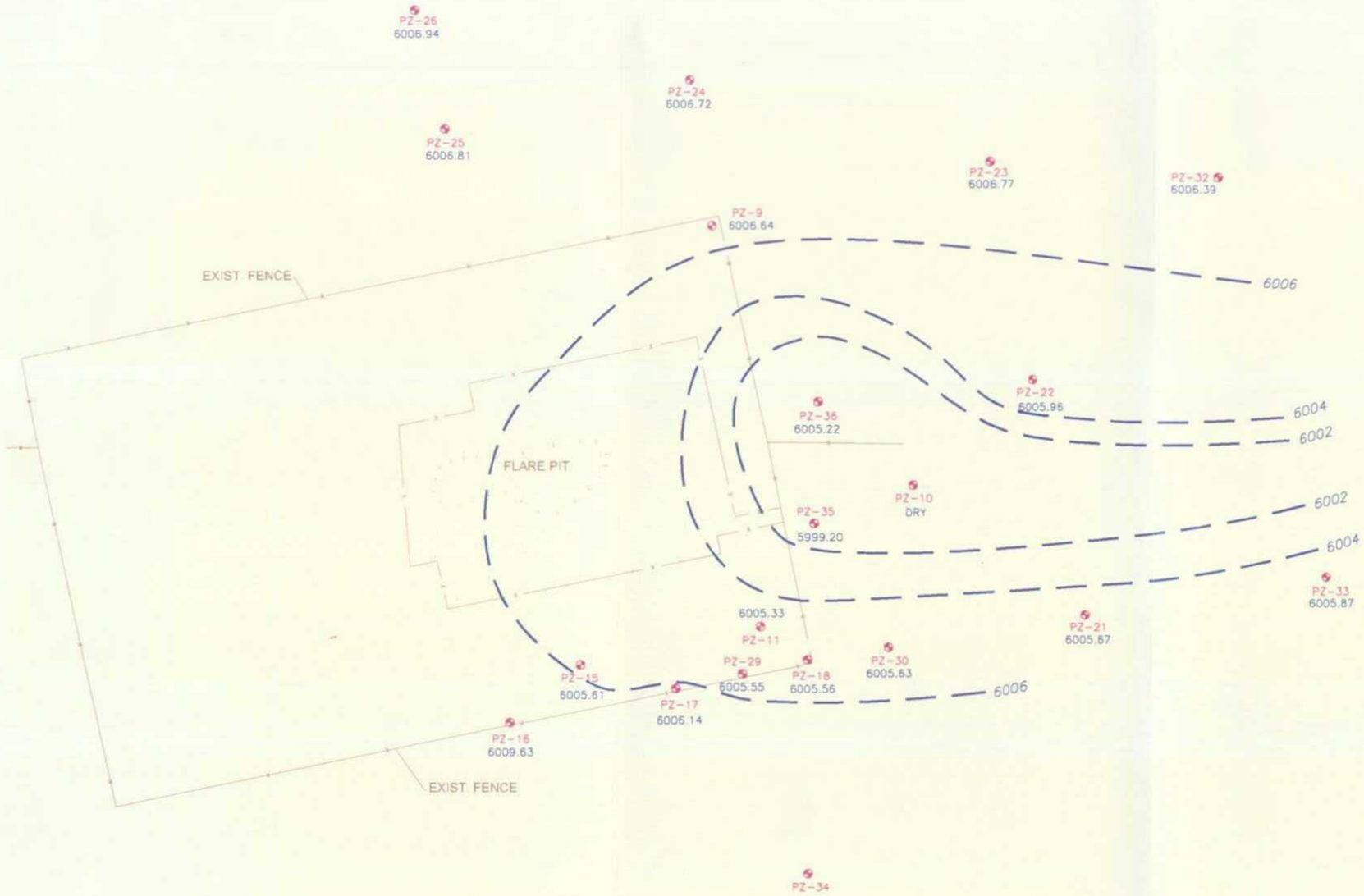
Legend

MW-16	Well Location
6012.85	Water Elevation (MSL)
	Water Elevation Contour Dashed Where Inferred

Bisti Gathering System
San Juan County, New Mexico

Drawing Name: Fig2	Perched Ground-Water Elevations October 2002	Figure 2
Drawn By: RJV		
Date: 6/16		

EMS//Bisti/Fig1



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N

0 40 ft 80 ft

1 inch is approximately equal to 40 feet

Legend

PZ-16 Well Location

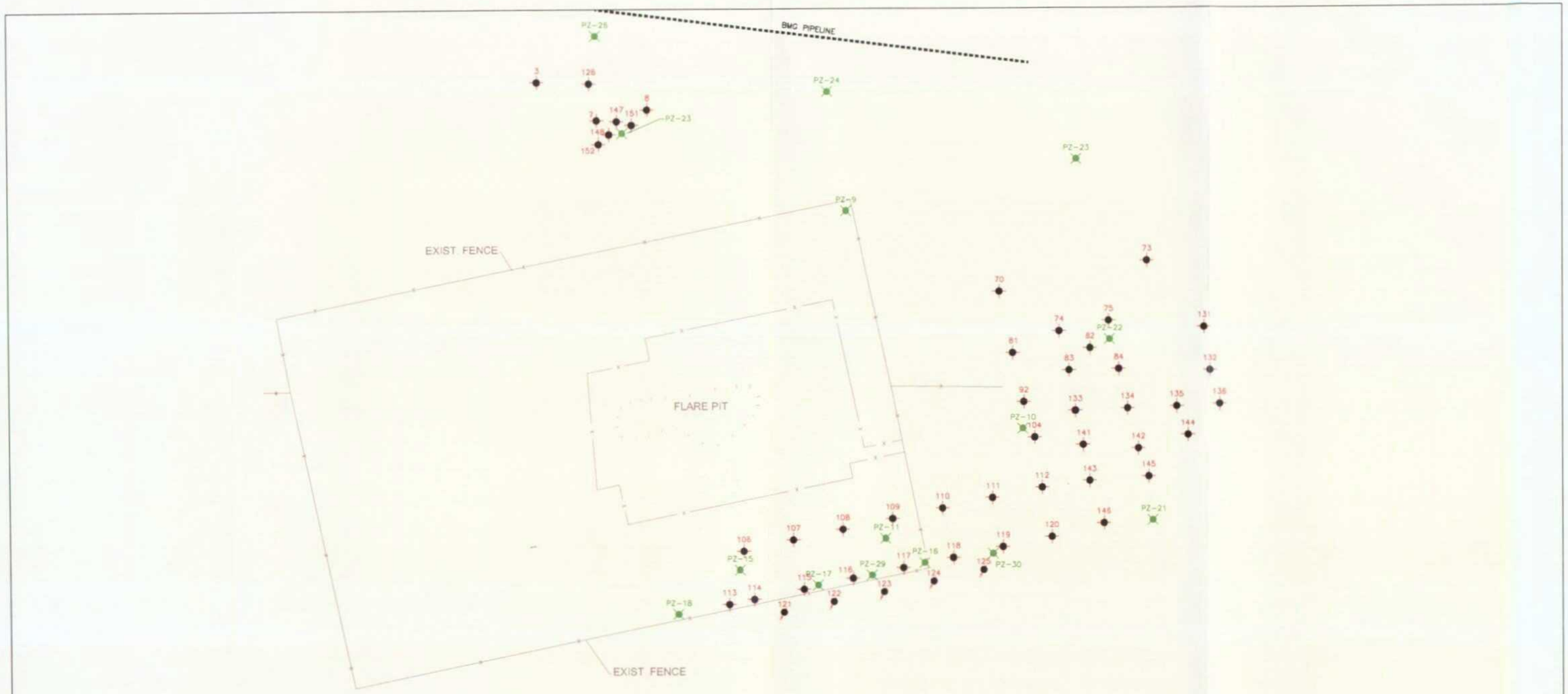
6006.11 Water Elevation (MSL)

Water Elevation Contour
Dashed Where Inferred

Bisti Gathering System
San Juan County, New Mexico

Drawing Name: Fig3	Perched Ground-Water Elevations April 29, 2003	Figure 3
Drawn By: RJV		
Date: 6/16		

EMSI/Bisti/Fig1



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N

0 40 ft 80 ft

1 inch is approximately equal to 40 feet

Legend

PZ-12 Test Hole Completed As a Piezometer Well

22 Abandoned Injection Point

121 November 2002

Bisti Gathering System
San Juan County, New Mexico

Drawing Name: Fig4	Abandoned Injection Points	Figure 4
Drawn By: RJV		
Date: 6/16		

EMSI/Bisti/Fig1

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N

0 40 ft 80 ft

1 inch is approximately equal to 40 feet

Legend

MW-16 Well Location

1,000 Total BTEX Concentration (µg/L)

Bisti Gathering System
San Juan County, New Mexico

Drawing Name: Fig4	Results of October 2002 Perched Ground-Water Sampling	Figure 5
Drawn By: RJV		
Date: 6/16		

EMSI/Bisti/Fig1

elpaso | Field Services

N

0 40 ft 80 ft

1 inch is approximately equal to 40 feet

Legend

MW-16 Well Location

1,000 Total BTEX Concentration (µg/L)

Bisti Gathering System
San Juan County, New Mexico

Drawing Name: Fig4	Results of April 2003 Perched Ground-Water Sampling	Figure 6
Drawn By: RJV		
Date: 6/16		

EMSV/Bisti/Fig1

TABLES

Table 1. Water Quality Analyses

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
10/7/1996	PZ-9	11900	15700	400	5500	33500	ND	32
6/16/1997	PZ-9	8610	10500	193	5310	24613	NM	NM
7/16/1997	PZ-9	8620	11000	250	5900	25770	ND	ND
8/18/1997	PZ-9	9710	11000	183	4980	25873	NM	NM
9/19/1997	PZ-9	8580	9420	1	5570	23571	ND	ND
10/16/1997	PZ-9	9970	11700	156	6220	28046	NM	NM
11/17/1997	PZ-9	8960	10100	41	3740	22841	NM	NM
12/16/1997	PZ-9	7890	8100	33.6	2520	18544	NM	NM
1/19/1998	PZ-9	4170	6490	22.1	2240	12922	ND	0.7
3/3/1998	PZ-9	8200	8760	103	3020	20083	NM	NM
4/1/1998	PZ-9	9860	11600	160	4150	25770	NM	NM
5/7/1998	PZ-9	10800	13600	185	4340	28925	NM	NM
6/2/1998	PZ-9	10200	12500	224	4290	27214	NM	NM
7/6/1998	PZ-9	9710	11400	188	4080	25378	ND	ND
10/9/1998	PZ-9	8980	9740	120	4170	23010	NM	NM
3/23/1999	PZ-9	4530	4940	42.6	2340	11853	NM	NM
10/19/1999	PZ-9	3200	4300	310	2900	10710	NM	NM
3/15/2000	PZ-9	8300	7300	330	3400	19330	ND	ND
10/25/2000	PZ-9	2500	3300	150	2000	7950	ND	17
4/9/2001	PZ-9	6000	4700	150	1800	12650	0.34	ND

NM - Not Measured
ND - Not Detected

BTEX constituent concentrations reported in micrograms per liter (ppb)
Sulfate and nitrate concentrations reported in milligrams per liter (ppm)

Table 1. Water Quality Analyses

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
6/18/1997	PZ-16	1	1	1	3	6	52.7	450
7/16/1997	PZ-16	1	1	1	3	6	37.6	437
8/18/1997	PZ-16	1	1	1	3	6	NM	NM
9/19/1997	PZ-16	1	1	1	3	6	42.6	456
10/16/1997	PZ-16	1	1	1	3	6	NM	NM
11/17/1997	PZ-16	1	1	1	3	6	NM	NM
12/16/1997	PZ-16	1	1	1	3	6	NM	NM
1/19/1998	PZ-16	1	1	1	3	6	52	440
3/3/1998	PZ-16	1	1	1	3	6	NM	NM
4/1/1998	PZ-16	1	1	1	3	6	NM	NM
5/7/1998	PZ-16	1	1	1	3	6	NM	NM
6/2/1998	PZ-16	1	1	1	3	6	NM	NM
7/6/1998	PZ-16	1	1	1	3	6	52.9	449
10/9/1998	PZ-16	1	1	1	3	6	NM	NM
3/23/1999	PZ-16	1	1	1	3	6	NM	NM
10/19/1999	PZ-16	0.5	0.5	0.5	0.5	2	NM	NM
3/15/2000	PZ-16	ND	ND	ND	ND	ND	57	550
10/25/2000	PZ-16	0.8	0.7	ND	0.7	ND	2	1960
4/9/2001	PZ-16	ND	ND	ND	ND	ND	57	430
10/9/2001	PZ-16	<0.5	<0.5	<0.5	<0.5	<2.0	57	640
4/17/2002	PZ-16	<0.5	<0.5	<0.5	<0.5	<2.0	54	1900
10/16/2002	PZ-16	<0.5	0.7	1.2	2.4	4.8	47.7	16.6

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
4/21/1997	PZ-21	1	1	1	3	6	22.3	3780
6/16/1997	PZ-21	1	1	1	3	6	NM	NM
7/15/1997	PZ-21	1	1	1	3	6	27.5	4420
8/18/1997	PZ-21	1	1	1	3	6	NM	NM
9/19/1997	PZ-21	1	1	1	3	6	25.3	4270
10/16/1997	PZ-21	1	1	1	3	6	NM	NM
11/17/1997	PZ-21	1.34	1	1	3	6	NM	NM
12/16/1997	PZ-21	3.39	1	1	3	8	NM	NM
1/19/1998	PZ-21	5.04	1	1	3	10	21.2	4332
3/3/1998	PZ-21	9.06	1	1	3	14	NM	NM
4/1/1998	PZ-21	11.3	1	1	3	16	NM	NM
5/7/1998	PZ-21	15.4	1	1	3	20	NM	NM
6/2/1998	PZ-21	21	1	1	3	26	NM	NM
7/6/1998	PZ-21	20.7	1	1	3	26	15.9	4674
10/9/1998	PZ-21	49.4	1	1	3	54	NM	NM
3/23/1999	PZ-21	34.1	1	1	3	39	NM	NM
10/19/1999	PZ-21	48	1.9	0.5	2.6	53	NM	NM
3/15/2000	PZ-21	39	ND	ND	ND	39	0.6	5400
10/25/2000	PZ-21	55	0.7	ND	0.6	56	0.2	76.7
4/9/2001	PZ-21	49	ND	ND	1.4	50	0.68	5160
10/9/2001	PZ-21	19	0.5	0.5	0.5	20.5	0.27	5700
10/16/2002	PZ-21	13.1	1.8	0.7	11.9	27.5	14.9	5330
4/29/2003	PZ-21	1.3	ND	ND	ND	1.3	NM	NM

NM - Not Measured
ND - Not Detected

BTEX constituent concentrations reported in micrograms per liter (ppb)
Sulfate and nitrate concentrations reported in milligrams per liter (ppm)

Table 1. Water Quality Analyses

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
4/23/1997	PZ-22	361	1	4.11	28.4	408	ND	4040
5/20/1997	PZ-22	156	1	1.12	13.1	171	NM	NM
5/30/1997	PZ-22	180	1	3.05	27.7	212	NM	NM
6/15/1997	PZ-22	374	1.34	4.25	26.1	406	NM	NM
7/15/1997	PZ-22	299	2	3.24	33.9	338	ND	4570
8/18/1997	PZ-22	152	1	1.82	30.9	186	NM	NM
9/19/1997	PZ-22	105	1.19	2.66	56	165	ND	4780
10/16/1997	PZ-22	80.3	0.62	6.03	54	141	NM	NM
11/17/1997	PZ-22	120	1	1.88	12.5	135	NM	NM
12/16/1997	PZ-22	168	1	1.71	10.6	181	NM	NM
1/19/1998	PZ-22	79.7	1	1	7.96	90	ND	4410
3/3/1998	PZ-22	65.8	1	1	3.9	72	NM	NM
4/1/1998	PZ-22	56	1	1	3	61	NM	NM
5/7/1998	PZ-22	35.4	1	1	3	40	NM	NM
6/2/1998	PZ-22	24.1	1	1	3	29	NM	NM
7/6/1998	PZ-22	61.5	1	1	3	67	2.4	4396
10/9/1998	PZ-22	1	1	1	3	6	NM	NM
3/23/1999	PZ-22	1	1	1	3	6	NM	NM
10/19/1999	PZ-22	1.9	0.5	0.5	4.2	7	NM	NM
3/15/2000	PZ-22	ND	ND	ND	ND	ND	20	3800
10/25/2000	PZ-22	0.6	0.7	ND	0.5	1.8	1.2	67
4/9/2001	PZ-22	0.7	ND	ND	ND	0.7	5.4	3840
10/9/2001	PZ-22	0.9	0.5	0.5	0.5	2.4	9.1	5200
4/17/2002	PZ-22	5	5	5	5	20	7.4	5800
10/16/2002	PZ-22	<0.5	0.5	<0.5	2.8	4.3	16.3	4200

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
4/23/1997	PZ-23	1	1	1	3	6	1.2	167
5/20/1997	PZ-23	1	1	1	3	6	37.4	4740
6/15/1997	PZ-23	1	1	1	3	6	NM	NM
7/15/1997	PZ-23	1	1	1	3	6	37.3	4450
8/18/1997	PZ-23	1	1	1	3	6	NM	NM
9/19/1997	PZ-23	1	1	1	3	6	42.6	4080
10/16/1997	PZ-23	1	1	1	3	6	NM	NM
11/17/1997	PZ-23	1	1	1	3	6	NM	NM
12/16/1997	PZ-23	1	1	1	3	6	NM	NM
1/19/1998	PZ-23	1	1	1	3	6	41	3888
3/3/1998	PZ-23	1	1	1	3	6	NM	NM
4/1/1998	PZ-23	1	1	1	3	6	NM	NM
5/7/1998	PZ-23	1	1	1	3	6	NM	NM
6/2/1998	PZ-23	1	1	1	3.29	6	NM	NM
7/6/1998	PZ-23	1	1	1	3	6	44.9	3640
10/9/1998	PZ-23	1	1	1	3	6	NM	NM
3/23/1999	PZ-23	1	1	1	3	6	NM	NM
10/19/1999	PZ-23	0.9	0.5	0.5	2.6	5	NM	NM
3/15/2000	PZ-23	ND	ND	ND	ND	ND	34	3700
10/25/2000	PZ-23	ND	ND	ND	ND	ND	8.4	162
4/9/2001	PZ-23	ND	ND	ND	ND	ND	38	3220

NM - Not Measured
ND - Not Detected

BTEX constituent concentrations reported in micrograms per liter (ppb)
Sulfate and nitrate concentrations reported in milligrams per liter (ppm)

Table 1. Water Quality Analyses

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
4/21/1997	PZ-26	1	1	1	3	6	55.8	5190
6/15/1997	PZ-26	1	1	1	3	6	NM	NM
7/15/1997	PZ-26	1	1	1	3	6	127	4690
8/18/1997	PZ-26	1	1	1	3	6	NM	NM
9/19/1997	PZ-26	1	1	1	3	6	137	4770
10/16/1997	PZ-26	1	1	1	3	6	NM	NM
11/17/1997	PZ-26	1	1	1	3	6	NM	NM
12/16/1997	PZ-26	1	1	1	3	6	NM	NM
1/19/1998	PZ-26	1	1	1	3	6	160	4804
3/3/1998	PZ-26	1	1	1	3	6	NM	NM
4/1/1998	PZ-26	1	1	1	3	6	NM	NM
5/7/1998	PZ-26	1	1	1	3	6	NM	NM
6/2/1998	PZ-26	1	1	1	3	6	NM	NM
7/6/1998	PZ-26	1	1	1	3	6	228	4629
10/9/1998	PZ-26	1	1	1	3	6	NM	NM
3/23/1999	PZ-26	1	1	1	3	6	NM	NM
10/19/1999	PZ-26	<0.5	<0.5	<0.5	<0.5	<2.0	NM	NM
3/15/2000	PZ-26	1.6	2.8	ND	3.1	7.5	120	5200
10/25/2000	PZ-26	ND	ND	ND	ND	ND	2.2	124
4/9/2001	PZ-26	ND	ND	ND	ND	ND	62	4400
10/9/2001	PZ-26	0.6	0.6	0.5	0.5	2.2	62	5700
4/17/2002	PZ-26	0.5	0.5	0.5	1	2.5	57	1700
10/16/2002	PZ-26	<0.5	<0.5	<0.5	1.3	2.8	60.5	3950

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
5/20/1997	PZ-29	8790	4600	318	2560	16268	ND	188
6/16/1997	PZ-29	11900	6630	335	2820	21685	NM	NM
7/16/1997	PZ-29	9630	7620	210	2940	20400	ND	34
8/18/1997	PZ-29	15300	14600	429	4780	35109	NM	NM
9/19/1997	PZ-29	13500	13100	396	4760	31756	ND	9.8
10/16/1997	PZ-29	14800	14800	554	5040	35194	NM	NM
11/17/1997	PZ-29	14700	14800	497	4680	34677	NM	NM
12/16/1997	PZ-29	16100	15400	550	5170	37220	NM	NM
1/19/1998	PZ-29	14700	13800	515	4670	33685	ND	ND
3/3/1998	PZ-29	15200	14000	468	5020	34688	NM	NM
4/1/1998	PZ-29	15100	13300	485	4930	33815	NM	NM
5/7/1998	PZ-29	15600	13500	460	4820	34380	NM	NM
6/2/1998	PZ-29	14900	14100	484	4780	34264	NM	NM
7/6/1998	PZ-29	14900	12700	484	4830	32914	ND	ND
10/9/1998	PZ-29	13300	10800	508	4530	29138	NM	NM
3/23/1999	PZ-29	11000	6980	454	4000	22434	NM	NM
10/19/1999	PZ-29	7500	2400	440	2600	12940	NM	NM
3/15/2000	PZ-29	15000	9200	700	5700	30600	ND	15
10/25/2000	PZ-29	5000	2300	350	1800	9450	0.05	322
4/9/2001	PZ-29	8200	2300	330	2200	13030	ND	6.3
10/9/2001	PZ-29	Had Product No Sample Taken						
10/9/2002	PZ-29	10100	3650	929	5440	20119	<4	88.9
4/29/2003	PZ-29	8460	2010	546	4110	15126	NM	NM

NM - Not Measured
ND - Not Detected

BTEX constituent concentrations reported in micrograms per liter (ppb)
Sulfate and nitrate concentrations reported in milligrams per liter (ppm)

Table 1. Water Quality Analyses

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
4/29/2003	PZ-30	ND	2.4	ND	3.9	6	NM	NM

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
12/7/2000	PZ-32	2	1.1	1.4	3.5	8	10	4000
4/9/2001	PZ-32	1.3	0.5	0.5	2.4	5	12	3020
10/9/2001	PZ-32	2.5	2.5	2.5	2.5	10	11	4300
12/6/2001	PZ-32	2	1.1	1.4	3.5	8	4.6	4000
4/17/2002	PZ-32	2	0.5	0.5	1	4	9.7	3400
10/16/2002	PZ-32	2.9	1.4	2.6	9.8	16.7	12.7	2280

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
12/7/2000	PZ-33	ND	ND	ND	ND	ND	18	4200
4/9/2001	PZ-33	ND	ND	ND	ND	ND	13	5510
10/9/2001	PZ-33	5	5	5	5	20	5.7	5400
12/7/2001	PZ-33	0.5	0.5	0.5	0.5	2	18	4200
4/17/2002	PZ-33	1.7	0.5	0.5	1	3.7	2	5600
10/16/2002	PZ-33	2.5	7.1	10	54.5	74.1	9.8	4200

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
12/7/2000	PZ-34	7.6	ND	ND	ND	8	NM	NM

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
5/1/2001	PZ-35	19000	12000	800	6500	38300	0.34	100
4/17/2002	PZ-35	21000	11000	670	4600	37270	0.31	23

Date Sampled	Well #	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	Total Nitrate	Sulfate
5/1/2001	PZ-36	18000	16000	630	5300	39930	0.23	540
10/9/2001	PZ-36	14000	2200	590	4100	20890	0.18	56
4/17/2002	PZ-36	14000	150	440	2400	16990	0.19	140
10/16/2002	PZ-36	14400	420	810	1700	17330	5.4	118
4/29/2003	PZ-36	12900	100	671	10.6	13682	5.4	118

Notes: BTEX concentrations in µg/L. Nitrate and sulfate concentrations in mg/L

NM - Not Measured
ND - Not Detected

BTEX constituent concentrations reported in micrograms per liter (ppb)
Sulfate and nitrate concentrations reported in milligrams per liter (ppm)

Table 2. Ground-Water Elevation Data

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-09	05/03/97	11:13	6021.51	13.88	13.88	0.00	6007.63
PZ-09	06/15/97	NM	6021.51	13.66	13.66	0.00	6007.85
PZ-09	07/15/97	1126	6021.51	13.61	13.61	0.00	6007.90
PZ-09	08/18/97	NM	6021.51	13.43	13.43	0.00	6008.08
PZ-09	09/19/97	1802	6021.51	13.29	13.29	0.00	6008.22
PZ-09	10/16/97	1445	6021.51	13.38	13.38	0.00	6008.13
PZ-09	11/17/97	1405	6021.51	13.34	13.34	0.00	6008.17
PZ-09	12/16/97	1427	6021.51	13.37	13.37	0.00	6008.14
PZ-09	01/19/98	1625	6021.51	13.23	13.23	0.00	6008.28
PZ-09	03/03/98	1610	6021.51	13.25	13.25	0.00	6008.26
PZ-09	04/01/98	1420	6021.51	13.27	13.27	0.00	6008.24
PZ-09	05/07/98	1453	6021.51	13.37	13.37	0.00	6008.14
PZ-09	06/02/98	1521	6021.51	13.45	13.45	NM	6008.06
PZ-09	07/06/98	1232	6021.51	13.50	13.50	NM	6008.01
PZ-09	10/09/98	NM	6021.51	NM	NM	NM	NM
PZ-09	03/23/99	NM	6021.51	13.72	13.72	NM	6007.79
PZ-09	10/19/99	NM	6021.51	13.81	13.81	NM	6007.70
PZ-09	03/14/00	NM	6021.51	13.98	13.98	NM	6007.53
PZ-09	10/25/00	1311	6021.51	13.9	13.9	NM	6007.61
PZ-09	12/07/00	NM	6021.51	14.00	14.00	NM	6007.51
PZ-09	03/16/01	NM	6021.51	14.14	14.14	NM	6007.37
PZ-09	10/16/02	NM	6021.51	14.81	14.81	NM	6006.70
PZ-09	04/29/03	NM	6021.51	14.87	14.87	NM	6006.64

NM - Not Measured

Table 2. Ground-Water Elevation Data

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-10	05/03/97	NM	NM	DRY	DRY	NM	DRY
PZ-10	06/15/97	NM	6025.40	18.19	18.19	0.00	6007.21
PZ-10	07/15/97	1049	6025.40	18.20	18.20	0.00	6007.20
PZ-10	08/18/97	NM	6025.40	18.02	18.02	0.00	6007.38
PZ-10	09/19/97	1657	6025.40	17.90	17.90	0.00	6007.50
PZ-10	10/16/97	1331	6025.40	18.50	18.50	0.00	6006.90
PZ-10	11/17/97	1245	6025.40	18.05	18.05	0.00	6007.35
PZ-10	12/16/97	1340	6025.40	18.07	18.07	0.00	6007.33
PZ-10	01/19/98	1520	6025.40	17.97	17.97	0.00	6007.43
PZ-10	03/03/98	1505	6025.40	17.98	17.98	0.00	6007.42
PZ-10	04/01/98	1330	6025.40	18.01	18.01	0.00	6007.39
PZ-10	05/07/98	1402	6025.40	18.16	18.16	0.00	6007.24
PZ-10	06/02/98	1445	6025.40	18.21	18.21	NM	6007.19
PZ-10	07/06/98	1125	6025.40	18.30	18.30	NM	6007.10
PZ-10	10/09/98	NM	6025.40	NM	NM	NM	NM
PZ-10	03/23/99	NM	6025.40	18.45	18.45	NM	6006.95
PZ-10	12/07/00	NM	6025.40	18.59	18.59	NM	6006.81
PZ-10	03/16/01	NM	6025.40	18.62	18.62	NM	6006.78
PZ-10	04/29/03	NM	6025.40	DRY	DRY	NM	NM

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-11	05/03/97	11:28	6023.94	16.84	16.84	0.00	6007.10
PZ-11	06/15/97	NM	6023.94	16.74	16.74	0.00	6007.20
PZ-11	07/15/97	1106	6023.94	16.69	16.69	0.00	6007.25
PZ-11	08/18/97	NM	6023.94	16.51	16.51	0.00	6007.43
PZ-11	09/19/97	1810	6023.94	16.39	16.39	0.00	6007.55
PZ-11	10/16/97	1455	6023.94	16.43	16.43	0.00	6007.51
PZ-11	11/17/97	1415	6023.94	16.48	16.48	0.00	6007.46
PZ-11	12/16/97	1435	6023.94	16.58	16.58	0.00	6007.36
PZ-11	01/19/98	1650	6023.94	16.53	16.53	0.00	6007.41
PZ-11	03/03/98	1615	6023.94	16.54	16.54	0.00	6007.40
PZ-11	04/01/98	1425	6023.94	16.51	16.51	0.00	6007.43
PZ-11	05/07/98	1500	6023.94	16.57	16.57	0.00	6007.37
PZ-11	06/02/98	1525	6023.94	16.65	16.65	NM	6007.29
PZ-11	07/06/98	1255	6023.94	16.75	16.75	NM	6007.19
PZ-11	10/09/98	NM	6023.94	NM	NM	NM	NM
PZ-11	03/23/99	NM	6023.94	17.03	17.03	NM	6006.91
PZ-11	03/16/01	NM	6023.94	17.54	17.54	NM	6006.4
PZ-11	04/29/03	NM	6023.94	18.38	19.09	0.71	6005.33

NM - Not Measured

Table 2. Ground-Water Elevation Data

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO (feet)	WATER DEPTH TO (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF (feet)
PZ-15	05/03/97	11:40	6024.87	17.54	17.54	0.00	6007.33
PZ-15	06/15/97	NM	6024.87	17.27	17.27	0.00	6007.60
PZ-15	07/15/97	1058	6024.87	17.14	17.14	0.00	6007.73
PZ-15	08/18/97	NM	6024.87	16.82	16.82	0.00	6008.05
PZ-15	09/19/97	1817	6024.87	16.62	16.63	0.01	6008.24
PZ-15	10/16/97	1504	6024.87	16.70	16.71	0.01	6008.16
PZ-15	11/17/97	1454	6024.87	16.80	16.81	0.01	6008.06
PZ-15	12/16/97	1520	6024.87	16.92	16.92	0.00	6007.95
PZ-15	01/19/98	1720	6024.87	16.89	16.89	0.00	6007.98
PZ-15	03/03/98	1717	6024.87	16.89	16.89	0.00	6007.98
PZ-15	04/01/98	1502	6024.87	16.82	16.82	0.00	6008.05
PZ-15	05/07/98	1537	6024.87	16.83	16.83	0.00	6008.04
PZ-15	06/02/98	1548	6024.87	16.95	16.95	NM	6007.92
PZ-15	07/0698	1310	6024.87	17.10	17.10	NM	6007.77
PZ-15	10/09/98	NM	6024.87	NM	NM	NM	NM
PZ-15	03/23/99	NM	6024.87	17.52	17.52	NM	6007.35
PZ-15	03/16/01	NM	6024.87	18.17	18.17	NM	6006.70
PZ-15	4/29/2003	NM	6024.87	19.23	19.26	0.03	6005.61

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-16	08/18/97	NM	6024.59	14.24	14.24	0.00	6010.35
PZ-16	09/19/97	1826	6024.59	14.22	14.22	0.00	6010.37
PZ-16	10/16/97	1257	6024.59	14.60	14.60	0.00	6009.99
PZ-16	11/17/97	1215	6024.59	14.84	14.84	0.00	6009.75
PZ-16	12/16/97	1315	6024.59	15.18	15.18	0.00	6009.41
PZ-16	01/19/98	1455	6024.59	15.43	15.43	0.00	6009.16
PZ-16	03/03/98	1435	6024.59	15.80	15.80	0.00	6008.79
PZ-16	04/01/98	1302	6024.59	15.90	15.90	0.00	6008.69
PZ-16	05/07/98	1335	6024.59	15.99	15.99	0.00	6008.60
PZ-16	06/02/98	1312	6024.59	16.01	16.01	0.00	6008.58
PZ-16	07/06/98	1055	6024.59	15.98	15.98	0.00	6008.61
PZ-16	10/09/98	NM	6024.59	NM	NM	NM	NM
PZ-16	03/23/99	NM	6024.59	15.46	15.46	NM	6009.13
PZ-16	10/19/99	NM	6024.59	14.85	14.85	NM	6009.74
PZ-16	3/14/2000	NM	6024.59	15.89	15.89	NM	6008.7
PZ-16	10/25/00	NM	6024.59	15.62	15.62	NM	6008.97
PZ-16	12/7/2000	NM	6024.59	15.95	15.95	NM	6008.64
PZ-16	3/16/2001	NM	6024.59	16.07	16.07	NM	6008.52
PZ-16	4/17/2002	NM	6024.59	16.37	16.37	NM	6008.22
PZ-16	10/16/2002	NM	6024.59	11.74	11.74	NM	6012.85
PZ-16	4/29/2003	NM	6024.59	14.96	14.96	NM	6009.63

NM - Not Measured

Table 2. Ground-Water Elevation Data[1]

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-17	06/15/97	NM	6023.72	16.47	16.47	0.00	6007.25
PZ-17	07/15/97	1100	6023.72	16.37	16.37	0.00	6007.35
PZ-17	08/18/97	NM	6023.72	16.18	16.18	0.00	6007.54
PZ-17	09/19/97	1725	6023.72	16.08	16.08	0.00	6007.64
PZ-17	10/16/97	1512	6023.72	16.10	16.10	0.00	6007.62
PZ-17	11/17/97	1420	6023.72	16.15	16.15	0.00	6007.57
PZ-17	12/16/97	1440	6023.72	16.23	16.23	0.00	6007.49
PZ-17	01/19/98	1635	6023.72	16.32	16.32	0.00	6007.40
PZ-17	03/03/98	1620	6023.72	16.30	16.30	0.00	6007.42
PZ-17	04/01/98	1430	6023.72	16.25	16.25	0.00	6007.47
PZ-17	05/07/98	1505	6023.72	16.24	16.24	0.00	6007.48
PZ-17	06/02/98	1530	6023.72	16.34	16.34	NM	6007.38
PZ-17	07/06/98	1237	6023.72	16.43	16.43	NM	6007.29
PZ-17	10/09/98	NM	6023.72	NM	NM	NM	NM
PZ-17	03/23/99	NM	6023.72	16.74	16.74	NM	6006.98
PZ-17	12/07/00	NM	6023.72	17.20	17.20	NM	6006.52
PZ-17	03/16/01	NM	6023.72	17.28	17.28	NM	6006.44
PZ-17	04/29/03	NM	6023.72	17.58	17.58	NM	6006.14

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-18	06/15/97	NM	6024.33	17.29	17.29	0.00	6007.04
PZ-18	07/15/97	1104	6024.33	17.28	17.28	0.00	6007.05
PZ-18	08/18/97	NM	6024.33	17.14	17.14	0.00	6007.19
PZ-18	09/19/97	1832	6024.33	17.07	17.07	0.00	6007.26
PZ-18	10/16/97	1520	6024.33	17.13	17.13	0.00	6007.20
PZ-18	11/17/97	1425	6024.33	17.15	17.15	0.00	6007.18
PZ-18	12/16/97	1446	6024.33	17.22	17.22	0.00	6007.11
PZ-18	01/19/98	1645	6024.33	17.19	17.19	0.00	6007.14
PZ-18	03/03/98	1625	6024.33	17.19	17.19	0.00	6007.14
PZ-18	04/01/98	1437	6024.33	17.17	17.17	0.00	6007.16
PZ-18	05/07/98	1515	6024.33	17.27	17.27	0.00	6007.06
PZ-18	06/02/98	1540	6024.33	17.32	17.32	NM	6007.01
PZ-18	07/06/98	1250	6024.33	17.40	17.40	NM	6006.93
PZ-18	10/09/98	NM	6024.33	NM	NM	NM	NM
PZ-18	03/23/99	NM	6024.33	17.65	17.65	NM	6006.68
PZ-18	12/07/00	NM	6024.33	18.14	18.14	NM	6006.19
PZ-18	03/16/01	NM	6024.33	18.17	18.17	NM	6006.16
PZ-18	04/29/03	NM	6024.33	18.77	18.77	NM	6005.56

NM - Not Measured

Table 2. Ground-Water Elevation Data

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-21	06/15/97	NM	6028.60	21.55	21.55	0.00	6007.05
PZ-21	07/15/97	1043	6028.60	21.68	21.68	0.00	6006.92
PZ-21	08/18/97	NM	6028.60	21.55	21.55	0.00	6007.05
PZ-21	09/19/97	1652	6028.60	21.44	21.44	0.00	6007.16
PZ-21	10/16/97	1337	6028.60	21.59	21.59	0.00	6007.01
PZ-21	11/17/97	1250	6028.60	21.58	21.58	0.00	6007.02
PZ-21	12/16/97	1352	6028.60	21.60	21.60	0.00	6007.00
PZ-21	01/19/98	1553	6028.60	21.40	21.40	0.00	6007.20
PZ-21	03/03/98	1515	6028.60	21.50	21.50	0.00	6007.10
PZ-21	04/01/98	1342	6028.60	21.57	21.57	0.00	6007.03
PZ-21	05/07/98	1415	6028.60	21.71	21.71	0.00	6006.89
PZ-21	06/02/98	1455	6028.60	21.72	21.72	0.00	6006.88
PZ-21	07/06/98	1135	6028.60	21.82	21.82	0.00	6006.78
PZ-21	10/09/98	NM	6028.60	NM	NM	NM	NM
PZ-21	03/23/99	NM	6028.60	21.89	21.89	0.00	6006.71
PZ-21	10/19/99	NM	6028.60	22.09	22.09	0.00	6006.51
PZ-21	03/14/00	NM	6028.60	22.12	22.12	0.00	6006.48
PZ-21	10/25/00	1019	6028.60	22.31	22.31	0.00	6006.29
PZ-21	12/07/00	NM	6028.60	22.41	22.41	0.00	6006.19
PZ-21	03/16/01	NM	6028.60	22.37	22.37	0.00	6006.23
PZ-21	10/16/02	NM	6028.60	22.87	22.87	0.00	6005.73
PZ-21	04/29/03	1035	6028.60	22.93	22.93	0.00	6005.67

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-22	07/15/97	1320	6027.13	19.78	19.78	0.00	6007.35
PZ-22	08/18/97	NM	6027.13	19.72	19.72	0.00	6007.41
PZ-22	09/19/97	1713	6027.13	19.57	19.57	0.00	6007.56
PZ-22	10/16/97	1355	6027.13	19.74	19.74	0.00	6007.39
PZ-22	11/17/97	1301	6027.13	19.71	19.71	0.00	6007.42
PZ-22	12/16/97	1358	6027.13	19.73	19.73	0.00	6007.40
PZ-22	01/19/98	1540	6027.13	19.48	19.48	0.00	6007.65
PZ-22	03/03/98	1544	6027.13	19.58	19.58	0.00	6007.55
PZ-22	04/01/98	1348	6027.13	19.68	19.68	0.00	6007.45
PZ-22	05/07/98	1420	6027.13	19.83	19.83	0.00	6007.30
PZ-22	06/02/98	1458	6027.13	19.84	19.84	0.00	6007.29
PZ-22	07/06/98	1140	6027.13	19.97	19.97	0.00	6007.16
PZ-22	10/09/98	NM	6027.13	NM	NM	NM	NM
PZ-22	03/23/99	NM	6027.13	19.98	19.98	0.00	6007.15
PZ-22	10/19/99	NM	6027.13	20.18	20.18	0.00	6006.95
PZ-22	03/14/00	NM	6027.13	20.22	20.22	0.00	6006.91
PZ-22	10/25/00	NM	6027.13	20.29	20.29	0.00	6006.84
PZ-22	12/07/00	NM	6027.13	20.75	20.75	0.00	6006.38
PZ-22	03/16/01	NM	6027.13	24.02	24.02	0.00	6003.11
PZ-22	04/17/02	NM	6027.13	20.97	20.97	0.00	6006.16
PZ-22	10/16/02	NM	6027.13	20.96	20.96	0.00	6006.18
PZ-22	04/29/03	NM	6027.13	21.17	21.17	0.00	6005.96

NM - Not Measured

Table 2. Ground-Water Elevation Data

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-25	08/18/97	NM	6021.35	12.92	12.92	0.00	6008.43
PZ-25	09/19/97	1548	6021.35	12.79	12.79	0.00	6008.56
PZ-25	10/16/97	1411	6021.35	12.85	12.85	0.00	6008.50
PZ-25	11/17/97	1345	6021.35	12.82	12.82	0.00	6008.53
PZ-25	12/16/97	1410	6021.35	12.86	12.86	0.00	6008.49
PZ-25	01/19/98	1557	6021.35	12.70	12.70	0.00	6008.65
PZ-25	03/03/98	1554	6021.35	12.73	12.73	0.00	6008.62
PZ-25	04/01/98	1400	6021.35	12.76	12.76	0.00	6008.59
PZ-25	05/07/98	1431	6021.35	12.86	12.86	0.00	6008.49
PZ-25	06/02/98	1505	6021.35	12.91	12.91	NM	6008.44
PZ-25	07/06/98	1152	6021.35	13.02	13.02	NM	6008.33
PZ-25	10/09/98	NM	6021.35	NM	NM	NM	NM
PZ-25	03/23/99	NM	6021.35	13.11	13.11	NM	6008.24
PZ-25	03/16/01	NM	6021.35	13.5	13.5	NM	6007.85
PZ-25	04/29/03	NM	6021.35	14.54	14.54	NM	6006.81

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-26	06/15/97	NM	6021.00	12.57	12.57	0.00	6008.43
PZ-26	07/15/97	1028	6021.00	12.56	12.56	0.00	6008.44
PZ-26	08/18/97	NM	6021.00	12.48	12.48	0.00	6008.52
PZ-26	09/19/97	1535	6021.00	12.38	12.38	0.00	6008.62
PZ-26	10/16/97	1311	6021.00	12.40	12.40	0.00	6008.60
PZ-26	11/17/97	1225	6021.00	12.36	12.36	0.00	6008.64
PZ-26	12/16/97	1322	6021.00	12.37	12.37	0.00	6008.63
PZ-26	01/19/98	1500	6021.00	12.33	12.33	0.00	6008.67
PZ-26	03/03/98	1442	6021.00	12.40	12.40	0.00	6008.60
PZ-26	04/01/98	1310	6021.00	12.42	12.42	0.00	6008.58
PZ-26	05/07/98	1342	6021.00	12.50	12.50	0.00	6008.50
PZ-26	6/2/1998	1315	6021.00	12.55	12.55	0.00	6008.45
PZ-26	07/06/98	1104	6021.00	12.62	12.62	0.00	6008.38
PZ-26	10/09/98	NM	6021.00	NM	NM	NM	NM
PZ-26	03/23/99	NM	6021.00	12.67	12.67	0.00	6008.33
PZ-26	10/19/99	NM	6021.00	12.71	12.71	0.00	6008.29
PZ-26	10/25/00	10:53	6021.00	12.8	12.8	0.00	6008.20
PZ-26	12/07/00	NM	6021.00	12.85	12.85	0.00	6008.15
PZ-26	03/16/01	NM	6021.00	13.08	13.08	0.00	6007.92
PZ-26	04/17/02	NM	6021.00	13.63	13.63	0.00	6007.37
PZ-26	10/16/02	NM	6021.00	13.76	13.76	0.00	6007.24
PZ-26	04/29/03	NM	6021.00	14.06	14.06	0.00	6006.94

NM - Not Measured

Table 2. Ground-Water Elevation Data

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-29	08/18/97	NM	6023.85	16.54	16.54	0.00	6007.31
PZ-29	09/19/97	1852	6023.85	16.45	16.45	0.00	6007.40
PZ-29	10/16/97	1544	6023.85	16.49	16.49	0.00	6007.36
PZ-29	11/17/97	1444	6023.85	16.53	16.53	0.00	6007.32
PZ-29	12/16/97	1509	6023.85	16.60	16.60	0.00	6007.25
PZ-29	01/19/98	1705	6023.85	16.64	16.64	0.00	6007.21
PZ-29	03/03/98	1643	6023.85	16.62	16.62	0.00	6007.23
PZ-29	04/01/98	1453	6023.85	16.58	16.58	0.00	6007.27
PZ-29	05/07/98	1510	6023.85	16.62	16.62	0.00	6007.23
PZ-29	06/02/98	1535	6023.85	16.70	16.70	0.00	6007.15
PZ-29	07/06/98	1244	6023.85	16.79	16.79	0.00	6007.06
PZ-29	10/09/98	NM	6023.85	NM	NM	NM	NM
PZ-29	03/23/99	NM	6023.85	17.09	17.09	0.00	6006.76
PZ-29	10/19/99	NM	6023.85	17.24	17.24	0.00	6006.61
PZ-29	03/14/00	NM	6023.85	17.37	17.37	0.00	6006.48
PZ-29	10/25/00	12:40	6023.85	17.54	17.54	0.00	6006.31
PZ-29	12/07/00	NM	6023.85	17.58	17.58	0.00	6006.27
PZ-29	03/16/01	NM	6023.85	17.66	17.66	0.00	6006.19
PZ-29	10/16/02	NM	6023.85	18.02	18.02	0.00	6005.83
PZ-29	04/29/03	NM	6023.85	18.31	18.31	0.00	6005.55

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-30	08/18/97	NM	6027.24	20.11	20.11	0.00	6007.13
PZ-30	09/19/97	1707	6027.24	20.03	20.03	0.00	6007.21
PZ-30	10/16/97	1344	6027.24	20.12	20.12	0.00	6007.12
PZ-30	11/17/97	1255	6027.24	20.13	20.13	0.00	6007.11
PZ-30	12/16/97	1345	6027.24	20.18	20.18	0.00	6007.06
PZ-30	01/19/98	1527	6027.24	20.15	20.15	0.00	6007.09
PZ-30	03/03/98	1510	6027.24	20.15	20.15	0.00	6007.09
PZ-30	04/01/98	1335	6027.24	20.13	20.13	0.00	6007.11
PZ-30	05/07/98	1407	6027.24	20.27	20.27	0.00	6006.97
PZ-30	06/02/98	1450	6027.24	20.31	20.31	0.00	6006.93
PZ-30	07/06/98	1130	6027.24	20.37	20.37	0.00	6006.87
PZ-30	10/09/98	NM	6027.24	NM	NM	NM	NM
PZ-30	03/23/99	NM	6027.24	20.58	20.58	0.00	6006.66
PZ-30	12/07/00	NM	6027.24	21.05	21.05	0.00	6006.19
PZ-30	03/16/01	NM	6027.24	21.1	21.1	0.00	6006.14
PZ-30	04/29/03	1013	6027.24	21.61	21.61	0.00	6005.63
PZ-32	12/07/00	NM	6025.42	18.5	18.5	NM	6006.92
PZ-32	03/16/01	NM	6025.42	18.29	18.29	NM	6007.13
PZ-32	04/17/02	NM	6025.42	18.81	18.81	NM	6006.61
PZ-32	10/16/02	NM	6025.42	18.76	18.76	NM	6006.67
PZ-32	04/29/03	NM	6025.42	19.03	19.03	NM	6006.39

NM - Not Measured

Table 2. Ground-Water Elevation Data

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL DEPTH TO TOP OF GW OR FREE PRODUCT (feet)	WATER DEPTH TO GROUND WATER (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION OF GROUND WATER (feet)
PZ-33	12/07/00	NM	6030.38	23.9	23.9	NM	6006.48
PZ-33	03/16/01	NM	6030.38	23.95	23.95	NM	6006.43
PZ-33	04/17/02	NM	6030.38	24.41	24.41	NM	6005.97
PZ-33	10/16/02	NM	6030.38	24.42	24.42	NM	6005.97
PZ-33	04/29/03	NM	6030.38	24.51	24.51	NM	6005.87
PZ-34	12/07/00	NM	6025.19	19.4	19.4	NM	6005.79
PZ-35	05/01/01	9:55	6025.79	25.17	25.17	NM	6000.62
PZ-35	04/17/02	NM	6025.79	25.27	25.27	NM	6000.52
PZ-35	10/16/02	NM	6025.79	25.67	25.67	NM	6000.13
PZ-35	04/29/03	NM	6025.79	26.59	26.59	NM	5999.20
PZ-36	5/1/2001	9:20	6025.78	24.71	24.71	NM	6001.07
PZ-36	4/17/2002	NM	6025.78	24.89	24.89	NM	6000.89
PZ-36	10/16/2002	NM	6025.78	24.47	24.47	NM	6001.32
PZ-36	4/29/2003	NM	6025.78	25.56	25.56	NM	6000.22
MW-6	05/03/97	10:41	6020.67	9.88	9.88	0.00	6010.79
MW-6	08/18/97	NM	6020.67	9.62	9.62	0.00	6011.05
MW-6	09/19/97	NM	6020.67	9.49	9.49	0.00	6011.18
MW-6	10/16/97	NM	6020.67	9.35	9.35	0.00	6011.32
MW-6	11/17/97	NM	6020.67	9.76	9.76	0.00	6010.91
MW-6	12/16/97	NM	6020.67	10.20	10.20	0.00	6010.47
MW-6	01/19/98	NM	6020.67	10.38	10.38	0.00	6010.29
MW-6	03/03/98	NM	6020.67	10.80	10.80	0.00	6009.87
MW-6	04/01/98	NM	6020.67	11.02	11.02	0.00	6009.65
MW-6	05/07/98	NM	6020.67	11.23	11.23	0.00	6009.44

NM - Not Measured

APPENDIX A

Laboratory Chemical Analyses Reports

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 10/16/02

Laboratory: APCL **MWH Job Number:** EPC-SJRB (Bisti)

Batch Identification: 02-05520 **Matrix:** Water

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

Validation Complete: Brian Buttars 11-4-02
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
1	Bisti	PZ-16	02-05520-01	Y	UB UB UB	Ethylbenzene @ 1.2 µg/l o-Xylene @ 0.4T µg/l m/p-Xylene @ 2 µg/l
1	Bisti	PZ-21	02-05520-02	Y	UB B UB	Ethylbenzene @ 0.7 µg/l o-Xylene @ 10.9 µg/l m/p-Xylene @ 1 µg/l
1	Bisti	PZ-22	02-05520-03	Y	B UB	o-Xylene @ 2.1 µg/l m/p-Xylene @ 0.7T µg/l
1	Bisti	PZ-26	02-05520-04	Y	UB	m/p-Xylene @ 0.8T µg/l
1	Bisti	PZ-29	02-05520-05	Y	B B B	Ethylbenzene @ 929 µg/l o-Xylene @ 1,070 µg/l m/p-Xylene @ 4,370 µg/l
1	Bisti	PZ-32	02-05520-06	Y	UB B UB	Ethylbenzene @ 2.6 µg/l o-Xylene @ 7.8 µg/l m/p-Xylene @ 2 µg/l
1	Bisti	PZ-33	02-05520-07	Y	B B B	Ethylbenzene @ 10.0 µg/l o-Xylene @ 45.8 µg/l m/p-Xylene @ 8.7 µg/l
1	Bisti	PZ-36	02-05520-08	Y	B B B	Ethylbenzene @ 810 µg/l o-Xylene @ 200 µg/l m/p-Xylene @ 1,500 µg/l
1	QC	TB02101601	02-05520-17	Y		Ethylbenzene @ 1.0 µg/l o-Xylene @ 0.3T µg/l m/p-Xylene @ 1 µg/l

DATA VALIDATION WORKSHEET

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

Laboratory: APCL **Batch Identification:** 02-05520

Validation Criteria								
Sample ID	**PZ-16**	**PZ-21**	**PZ-22**	**PZ-26**	**PZ-29**	**PZ-32**	**PZ-33**	**PZ-36**
Lab ID	**02-05520-01**	**02-05520-02**	**02-05520-03**	**02-05520-04**	**02-05520-05**	**02-05520-06**	**02-05520-07**	**02-05520-08**
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A	A	A
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
Method Blank	A	A	A	A	A	A	A	A
Trip Blank	A[1]	A[1]	A[1]	A[1]	A[1]	A[1]	A[1]	A[1]
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
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)	A	A	A	A	A	A	A	A
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
Matrix Spike/Matrix Spike Dup. (MS/MSD)	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
Retention Time Window	N	N	N	N	N	N	N	N
Injection Time(s)	N	N	N	N	N	N	N	N
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
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

DATA VALIDATION WORKSHEET

Analytical Method:	**SW-846 8021B (BTEX)**	**MWH Job Number:**	**EPC-SJRB (Bisti)**
Laboratory:	**APCL**	**Batch Identification:**	**02-05520**

Validation Criteria								
Sample ID	**TB021016 01**							
Lab ID	**02-05520-17**							
Hardcopy vs. Chain-of-Custody	A							
Holding Time	A							
Analyte List	A							
Reporting Limits	A							
Method Blank	A							
Trip Blank	A[1]							
Equipment Rinseate Blanks	N/A							
Field Duplicate/Replicate	N/A							
Initial Calibration	N							
Initial Calibration Verification (ICV)	N							
Continuing Calibration Verification (CCV)	A							
Laboratory Control Sample (LCS)	A							
Laboratory Control Sample Duplicate (LCSD)	N							
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A							
Surrogate Spike Recovery	A							
Retention Time Window	N							
Injection Time(s)	N							
EDD vs. Hardcopy	N							
EDD vs. Chain of Custody	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 analytes were detected in the trip blank:
   a) Ethylbenzene @ 1.0 µg/L, qualify all sample concentrations less than or equal to 5.0 µg/L with a "UB" flag and all sample concentrations greater than 5.0 µg/l with a "B" flag.
   b) o-Xylene @ 0.3T µg/L, qualify all sample concentrations less than or equal to 1.5 µg/L with a "UB" flag and all sample concentrations greater than 1.5 µg/l with a "B" flag.
   c) m/p-Xylene @ 1 µg/L, qualify all sample concentrations less than or equal to 5.0 µg/L with a "UB" flag and all sample concentrations greater than 5.0 µg/l with a "B" flag.

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: Wet Chemistry

Sample Collection Date(s): 10/16/02

Laboratory: APCL

MWH Job Number: EPC-SJRB (Bisti)

Batch Identification: 02-05520

Matrix: Water

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

Field Replicate Parent(s): None

Validation Complete: Bijan Bytttara 11-6-02
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Bisti	PZ-16A	02-05520-09	Y		
None	Bisti	PZ-21A	02-05520-10	Y		
None	Bisti	PZ-22A	02-05520-11	Y		
None	Bisti	PZ-26A	02-05520-12	Y		
None	Bisti	PZ-29A	02-05520-13	Y		
None	Bisti	PZ-32A	02-05520-14	Y		
None	Bisti	PZ-33A	02-05520-15	Y		
None	Bisti	PZ-36A	02-05520-16	Y		

DATA VALIDATION WORKSHEET
(Page 2 of 2)

Analytical Method:	Wet Chemistry	**MWH Job Number:**	EPC-SJRB (Bisti)
Laboratory:	APCL	**Batch Identification:**	02-05520

Validation Criteria								
Analytes	Nitrate & Sulfate							
Analytical Method	U.S. EPA 300.0							
Sample ID	PZ-16A	PZ-21A	PZ-22A	PZ-26A	PZ-29A	PZ-32A	PZ-33A	PZ-36A
Lab ID	02-05520-09	02-05520-10	02-05520-11	02-05520-12	02-05520-13	02-05520-14	02-05520-15	02-05520-16
Hardcopy vs. Chain-of-Custody	A	A	A	A	A	A	A	A
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
Method Blank (all methods)	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
Initial Check Verification (ICV)	N	N	N	N	N	N	N	N
Continuing Calibration Verification (CCV)	A	A	A	A	A	A	A	A
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
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Duplicate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Initial Calibration	N	N	N	N	N	N	N	N
Analysis Time(s)	N	N	N	N	N	N	N	N
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
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:

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 #: 801-025520
Collected by: Ashley Lowe
Collected on: 10/16/02

Received: 10/17/02
Extracted: N/A
Tested: 10/17-21/02
Reported: 10/24/02

Sample Description: Water
Project Description: 220013 San Juan River Basin

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result PZ-16A 02-05520-9	PZ-21A 02-05520-10	PZ-22A 02-05520-11	PZ-26A 02-05520-12
Dilution Factor				100	200	200	200
NITRATE	EPA300.0	mg/L	0.04	47.7	14.9	16.3	60.5
SULFATE	EPA300.0	mg/L	0.25	1,660	5,330	4,200	3,950

Component Analyzed	Method	Unit	PQL	Analysis Result PZ-29A 02-05520-13	PZ-32A 02-05520-14	PZ-33A 02-05520-15	PZ-36A 02-05520-16
Dilution Factor				100	100	200	100
NITRATE	EPA300.0	mg/L	0.04	<4	12.7	9.8	5.4
SULFATE	EPA300.0	mg/L	0.25	88.9	2,280	4,200	118

Component Analyzed	Method	Unit	PQL	Analysis Result PZ-16 02-05520-1	PZ-21 02-05520-2	PZ-22 02-05520-3
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	µg/L	0.5	<0.5	13.1	<0.5
ETHYLBENZENE	8021B	µg/L	0.5	1.2	0.7	<0.5
TOLUENE	8021B	µg/L	0.5	0.7	1.8	0.5J
O-XYLENE	8021B	µg/L	0.5	0.4J	10.9	2.1
M,P-XYLENE	8021B	µg/L	1	2	1	0.7J

Component Analyzed	Method	Unit	PQL	Analysis Result PZ-26 02-05520-4	PZ-29 02-05520-5	PZ-32 02-05520-6
BTXE						
Dilution Factor				1	50	1
BENZENE	8021B	µg/L	0.5	<0.5	10,100	2.9
ETHYLBENZENE	8021B	µg/L	0.5	<0.5	929	2.6
TOLUENE	8021B	µg/L	0.5	<0.5	3,650	1.4
O-XYLENE	8021B	µg/L	0.5	<0.5	1,070	7.8
M,P-XYLENE	8021B	µg/L	1	0.8J	4,370	2

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

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result PZ-33 02-05520-7	PZ-36 02-05520-8	TB02101601 02-05520-17
BTXE						
Dilution Factor				1	100	1
BENZENE	8021B	µg/L	0.5	2.5	14,400	<0.5
ETHYLBENZENE	8021B	µg/L	0.5	10.0	810	1.0
TOLUENE	8021B	µg/L	0.5	7.1	420	<0.5
O-XYLENE	8021B	µg/L	0.5	45.8	200	0.3J
M,P-XYLENE	8021B	µg/L	1	8.7	1,500	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

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 #: 801-025520
Collected by: Ashley Lowe
Collected on: 10/16/02
Sample description:
Water
Project: San Juan River Basin /220013

Received: 10/17/02
Tested: 10/17-21/02
Reported: 10/25/02

Analysis of Water

801-025520QC

Component Name	Analysis Batch #	CCV (mg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
WET Analysis in Water												
Nitrate as $N\text{-}NO_3^-$, by IC	02W4831	1.50	95	N.D.	mg/L	24.0	97	95	92	4	75-125	25
Sulfate SO_4^{--}, by IC	02W4831	15.0	93	N.D.	mg/L	240	95	99	98	2	75-125	25
Nitrate as $N\text{-}NO_3^-$, by IC	02W4854	1.50	94	N.D.	mg/L	1500	106	103	100	3	75-125	25
Sulfate SO_4^{--}, by IC	02W4854	15.0	94	N.D.	mg/L	15000	103	102	102	0	75-125	25

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	02G4302	100	93	N.D.	μg/L	18.0	88	86	88	2	68-130	31
Toluene	02G4302	100	94	N.D.	μg/L	70.0	92	98	100	2	66-133	33
Ethylbenzene	02G4302	100	95	N.D.	μg/L	18.0	99	105	108	2	65-134	35
m/p-Xylene	02G4302	200	88	N.D.	μg/L	70.0	94	100	102	2	65-134	35
o-Xylene	02G4302	100	90	N.D.	μg/L	25.0	94	101	103	2	65-134	35

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	02G4308	100	94	N.D.	μg/L	18.0	92	94	92	3	68-130	31
Toluene	02G4308	100	94	N.D.	μg/L	70.0	90	96	93	3	66-133	33
Ethylbenzene	02G4308	100	96	N.D.	μg/L	18.0	93	97	93	3	65-134	35
m/p-Xylene	02G4308	200	89	N.D.	μg/L	70.0	90	95	92	4	65-134	35
o-Xylene	02G4308	100	91	N.D.	μg/L	25.0	89	97	93	4	65-134	35

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

*: LCS/LCSD is used.

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:	025520
Project ID:	San Juan River Basin	Project No:	220013	Sample Matrix:	Water
		Batch No:	02G4302		

#	Client Sample No	Lab Sample ID	S1 %	#	TOT OUT
1		02G4302-LCS-01	85		0
2		02G4302-LSD-01	81		0
3		02G4302-MB-02	87		0
4	TB02101601	02-5520-17	85		0
5	MW-21-WG	02-5531-3MS	87		0
6	MW-21-WG	02-5531-3MSD	86		0
7	PZ-16	02-5520-1	87		0
8	PZ-21	02-5520-2	89		0
9	PZ-22	02-5520-3	89		0
10	PZ-26	02-5520-4	88		0
11	PZ-32	02-5520-6	89		0
12	PZ-33	02-5520-7	79		0
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

	QC Control Limit
S1 = 4-BROMO-FLUOROBENZENE (PID)	65-134

Column to be used to flag recovery values:

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

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:		Service ID:	025520
Project ID:	San Juan River Basin	Project No:	220013	Sample Matrix:	Water
		Batch No:	02G4308		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		02G4308-LCS-01	81	0
2		02G4308-LSD-01	86	0
3		02G4308-MB-02	84	0
4	MW-21-WG	02-5531-3MS	83	0
5	MW-21-WG	02-5531-3MSD	82	0
6	PZ-29	02-5520-5	95	0
7	PZ-36	02-5520-8	88	0
8				
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)	65-134

Column to be used to flag recovery values:

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

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

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

Chain of Custody ID 021016AL01
Page 1 of 2
Air Bill No. 833816776679

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan River Basin
Project Number 220013
Date Due 21 Days
Sampler's Name Ashley Lowe
(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	Sulfate			
BI	PZ32		10-16-02	8:51	WG	B	✓											
BI	PZ32A		10-16-02	8:51	WG	B							✓		✓			
BI	PZ22		10-16-02	9:42	WG	B	✓											
BI	PZ22A		10-16-02	9:42	WG	B							✓		✓			
BI	PZ33		10-16-02	10:20	WG	B	✓											
BI	PZ33A		10-16-02	10:20	WG	B							✓		✓			
BI	PZ21		10-16-02	11:12	WG	B	✓											
BI	PZ21A		10-16-02	11:12	WG	B							✓		✓			
BI	PZ36		10-16-02	11:52	WG	B	✓											
BI	PZ36A		10-16-02	11:52	WG	B							✓		✓			
BI	PZ29		10-16-02	12:49	WG	B	✓											
BI	PZ29A		10-16-02	14:16	WG	B							✓		✓			
BI	PZ16		10-16-02	13:16	WG	B	✓											
BI	PZ16A		10-16-02	13:16	WG	B							✓		✓			

5520

[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
Ashley S Lowe / AESE		10-16-02	16:30
	Paul C	10/17/02	0900

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:

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

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

Chain of Custody ID 04016 AL02
Page 2 of 2
Air Bill No. ~~836~~ 381676679

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan River Plant
Project Number 220013
Date Due 21 days
Sampler's Name Ashley Lowe
(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	Sulfate			
BI	PZ26		10-16-02	1345	WG	B	✓											
BI	PZ26A		10-16-02	1345	WG	B							✓		✓			
TB02101601			10-16-02				✓											
										520								

[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
Ashley L Lowe / AES		10-16-02	16:30
	Paul C	10/17/02	1000

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:

Gulf Coast
ACCUTEST
Laboratories

05/02/03

Technical Report for

Montgomery Watson

EPFS San Juan Basin GS

San Juan Basin

Accutest Job Number: T4255

Report to:

El Paso

lynn.benally@elpaso.com

ATTN: Lynn Benally

Total number of pages in report: 11

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

Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T4255

EPFS San Juan Basin GS
Project No: San Juan Basin

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T4255-1	04/29/03	12:22	MN	04/30/03	AQ	Ground Water	BISTI PZ-29
T4255-2	04/29/03	12:30	MN	04/30/03	AQ	Ground Water	BISTI PZ-30
T4255-3	04/29/03	12:51	MN	04/30/03	AQ	Ground Water	BISTI PZ-21
T4255-4	04/29/03	11:40	MN	04/30/03	AQ	Ground Water	BISTI PZ-36
T4255-5	04/29/03	07:00	MN	04/30/03	AQ	Trip Blank Water	TB29040301

Accutest Laboratories

Report of Analysis

Client Sample ID:	BISTI PZ-29		
Lab Sample ID:	T4255-1	Date Sampled:	04/29/03
Matrix:	AQ - Ground Water	Date Received:	04/30/03
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	KK005119.D	100	05/01/03	BC	n/a	n/a	GKK267
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	8460	100	ug/l	
108-88-3	Toluene	2010	100	ug/l	
100-41-4	Ethylbenzene	546	100	ug/l	
1330-20-7	Xylenes (total)	4110	300	ug/l	
95-47-6	o-Xylene	840	100	ug/l	
	m,p-Xylene	3270	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	96%		64-121%
98-08-8	aaa-Trifluorotoluene	103%		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:	BISTI PZ-30		
Lab Sample ID:	T4255-2	Date Sampled:	04/29/03
Matrix:	AQ - Ground Water	Date Received:	04/30/03
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	KK005114.D	1	05/01/03	BC	n/a	n/a	GKK267
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	2.4	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	3.9	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	3.9	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		64-121%
98-08-8	aaa-Trifluorotoluene	112%		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:	BISTI PZ-21		
Lab Sample ID:	T4255-3	Date Sampled:	04/29/03
Matrix:	AQ - Ground Water	Date Received:	04/30/03
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	KK005115.D	1	05/01/03	BC	n/a	n/a	GKK267
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1.3	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	124%		64-121%
98-08-8	aaa-Trifluorotoluene	101%		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:	BISTI PZ-36		
Lab Sample ID:	T4255-4	Date Sampled:	04/29/03
Matrix:	AQ - Ground Water	Date Received:	04/30/03
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	KK005120.D	50	05/01/03	BC	n/a	n/a	GKK267
Run #2	KK005122.D	100	05/01/03	BC	n/a	n/a	GKK267

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

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	12900 [a]	100	ug/l	
108-88-3	Toluene	100	50	ug/l	
100-41-4	Ethylbenzene	671	50	ug/l	
1330-20-7	Xylenes (total)	1060	150	ug/l	
95-47-6	o-Xylene	ND	50	ug/l	
	m,p-Xylene	1060	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%	95%	64-121%
98-08-8	aaa-Trifluorotoluene	94%	98%	71-121%

(a) Result is from Run# 2

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:	TB29040301		
Lab Sample ID:	T4255-5	Date Sampled:	04/29/03
Matrix:	AQ - Trip Blank Water	Date Received:	04/30/03
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	KK005111.D	1	05/01/03	BC	n/a	n/a	GKK267
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	100%		64-121%
98-08-8	aaa-Trifluorotoluene	101%		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: T4255
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK267-BS	KK005109.D	1	05/01/03	BC	n/a	n/a	GKK267

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

T4255-1, T4255-2, T4255-3, T4255-4, T4255-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.6	103	74-119
100-41-4	Ethylbenzene	20	20.8	104	82-115
108-88-3	Toluene	20	20.5	103	77-116
1330-20-7	Xylenes (total)	60	62.6	104	79-115
95-47-6	o-Xylene	20	20.4	102	78-114
	m,p-Xylene	40	42.2	106	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	64-121%
98-08-8	aaa-Trifluorotoluene	100%	71-121%

Method Blank Summary

Job Number: T4255
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK267-MB	KK005110.D	1	05/01/03	BC	n/a	n/a	GKK267

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

T4255-1, T4255-2, T4255-3, T4255-4, T4255-5

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	100%	64-121%
98-08-8	aaa-Trifluorotoluene	99%	71-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T4255
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T4255-3MS	KK005116.D	1	05/01/03	BC	n/a	n/a	GKK267
T4255-3MSD	KK005117.D	1	05/01/03	BC	n/a	n/a	GKK267
T4255-3	KK005115.D	1	05/01/03	BC	n/a	n/a	GKK267

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

T4255-1, T4255-2, T4255-3, T4255-4, T4255-5

CAS No.	Compound	T4255-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.3		20	21.8	103	21.7	102	0	64-124/16
100-41-4	Ethylbenzene	ND		20	20.5	103	20.1	101	2	64-123/14
108-88-3	Toluene	ND		20	20.8	104	20.8	104	0	64-120/13
1330-20-7	Xylenes (total)	ND		60	63.2	105	62.4	104	1	66-118/18
95-47-6	o-Xylene	ND		20	20.2	101	20.4	102	1	65-119/20
	m,p-Xylene	ND		40	43.0	108	42.0	105	2	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T4255-3	Limits
460-00-4	4-Bromofluorobenzene	131%*	134%*	124%*	64-121%
98-08-8	aaa-Trifluorotoluene	99%	100%	101%	71-121%

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

FED-EX Tracking # 836557900684
Bottle Order Control #
Accutest Quote #
Accutest Job #

Client / Reporting Information

Company Name: Montgomery Watson
Address: 6124 Reilly
City: Farmington State: NM Zip: 87401
Project Contact: Lynn Beardly E-mail:
Phone #: 5055992178
Sampler's Name: MM J Nee

Project Information

Project Name: San Juan Basin
Street:
City: State:
Project #: Bisti
Fax #:
Client Purchase Order #:

Requested Analysis: BTEX — Must run by 8021 [initials] 4/30/03

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	BTEX
1	Bisti PZ 29		4/29/03	1122	MN	GW	2	X								X
2	Bisti PZ-30		4/29/03	1030	MN	GW	2	X								X
3	Bisti PZ-21		4/29/03	1251	MN	GW	2	X								X
4	Bisti PZ-36		4/29/03	1440	MN	GW	2	X								X
5	TB29040301		4/29/03	0700	MN	WQ										X

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
- ☐ 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

T4255

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

Relinquished by	Date Time	Received by	Relinquished by	Date Time	Received by
1 Sampler: [signature]	1430 4/29/03	1	2		2 [signature] 4/30/03 0850
3		3	4		4
5		5	Custody Seal #	Preserved where applicable ✓	On Ice ✓ Cooler Temp. 2.6°C

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001-0 Project Name: Bisti Client: MWH

Location: Bisti Well No: PZ-21 Development ☐ Sampling ☐

Project Manager MJN Date 4/29/03 Start Time 1034 Weather 50s pc

Depth to Water 22.93 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 2.6' Well Dia. 2"

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 in build up

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
2.6 x .16	.42	53.25 x 3	159.74

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.) oz	Comments/ Flow rate
1034	7.02	6620	15.1				32	clear
	7.11	6540	14.7				48	
	7.03	6820	14.7				60	
	7.04	6620	15.1				73	Melvine w/ NavEPA demo
	7.01	6880	15.1				85	
1058	7.04	6850	14.2				97	
1100	7.06	6730	13.6				113	
1102	7.10	6740	13.6				121	well bailed dry well retan bisti to sample

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1102	7.10	6740	13.6						

COMMENTS: _____

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☐ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kutz

Sample ID Bisti PZ-21 Sample Time 1251 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 29040301

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001.0 Project Name: Bisti Client: MWH

Location: Bisti Well No: PZ-36 Development ☐ Sampling ☐

Project Manager MJN Date 4-29-03 Start Time 1106 Weather pc 50s

Depth to Water 25.56 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 25.7 Well Dia. 2"

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 baildry

Gal/ft x ft of water	Water Volume in Well		Gal to be removed
	Gallons	Ounces	
2.51 x .16	.48	51.2 x 3	153.6

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.) OZ cum	Comments/ Flow rate
1108	6.58	5630	17.3				90	grey H2O clear
	6.60	5580	18.0				56	
	6.52	5490	17.6				86	
	6.57	5380	18.1				104	
	6.62	5520	18.5				124	
	6.61	5720	18.9				144	
1136	6.61	5520	18.6				164	

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1136	6.61	5520	18.6					164	

COMMENTS:

INSTRUMENTATION: pH Meter ☒ ____ Temperature Meter ☒ ____

DO Monitor ☐ ____ Other ☐ ____

Conductivity Meter ☒ ____

Water Disposal Kutz

Sample ID Bisti PZ-36 Sample Time 1140 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ ____ ☐ ____ ☐ ____ ☐ ____ ☐

MS/MSD ____ BD ____ BD Name/Time ____ TB 29040301

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001-0 Project Name: Bisti Client: MWH

Location: Bisti Well No: PZ-29 Development ☐ Sampling ☒

Project Manager MJN Date 4/29/03 Start Time 0932 Weather pc 50s

Depth to Water 18.305 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 1.76' Well Dia. 2"

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 turbidity

Gal/ft x ft of water	Water Volume In Well		Gal/pz to be removed
	Gallons	Ounces	
1.76x.16	.28	36 x 3	108

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.) cum 62	Comments/ Flow rate
0937	649	6030	15°				28	light flow
0941	652	6120	144				40	
	657	6130	146				48	strong HC odor
	659	6080	144				54	
0957	659	6070	155				56	well is dry well return to sample

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
0957	659	6070	155					56	

COMMENTS: _____

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☒ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kutz

Sample ID Bisti PZ-29 Sample Time 1222 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 29040301

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001-0 Project Name: Bisti Client: MMWH

Location: Bisti Well No: PZ-9 Development ☐ Sampling ☑

Project Manager MJN Date 4/29/03 Start Time 0916 Weather PC 50s

Depth to Water 14.87 Depth to Product No Product Thickness No Measuring Point TOC

Water Column Height .55' Well Dia. 2"

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 building

Gal/ft x ft of water	Water Volume In Well		Gal (oz) to be removed
	Gallons	Ounces	
.55x.16	.099x3	11-26	33-79

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.) Lum oz	Comments/ Flow rate
0923	7.16	4160	14.1				8	Light yellow tint
0929	7.23	4180	15.0				10	building well return to to sample
1211								Still No water — No Sample

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate

COMMENTS: _____

INSTRUMENTATION: pH Meter ☑ _____ Temperature Meter ☑ _____

DO Monitor ☑ _____ Other ☐ _____

Conductivity Meter ☑ _____

Water Disposal KUTZ

Sample ID No Sample Sample Time _____ BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 2904301

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001.0 Project Name: Bisti Client: MWH

Location: Bisti Well No: PZ-17 Development ☐ Sampling ☑

Project Manager MJN Date 4/29/03 Start Time 1000 Weather pc 50s

Depth to Water 17.58 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 6.44 Well Dia. 2

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 w bailer

Gal/ft x ft of water	Water Volume In Well		Gal (oz) to be removed
	Gallons	Ounces	
.44 x 16	.07	9 x 3	27

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.) (oz) cum	Comments/ Flow rate
1002	6.85	8340	17.7				5	Strong HC odor
	6.88	8640	17.7				8	
1011	6.87	8620	17.7				10	well dry well return to sample

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1011	6.87	8620	17.7					10 oz	

COMMENTS: 1229 attempted sample No water — No Sample

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☐ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kurtz

Sample ID No Sample Sample Time — BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 29046301

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30091-0 Project Name: Bisti Client: MWH

Location: Bisti Well No: PZ 30 Development ☐ Sampling ☑

Project Manager MJN Date 4/29/03 Start Time 1013 Weather 50s pc

Depth to Water 21.61 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 1-45' Well Dia. 2"

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 as bid/day

Gal/ft x ft of water	Water Volume In Well		Gal/Oz to be removed
	Gallons	Ounces	
1-45 X .16	.23	29.7	89

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.) cum oz	Comments/ Flow rate
								stratified clear to
1013	6.56	4910	15.5				17	dark gray on bottom
	6.72	4730	15.5				26	
	6.75	4570	15.9				34	
	6.83	4680	15.7				38	clear
1024	6.87	4660	16.5				40	

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1024	6.87	4660	16.5					40	

COMMENTS:

INSTRUMENTATION: pH Meter ☒ Temperature Meter ☒

DO Monitor ☐ Other ☐

Conductivity Meter ☒

Water Disposal Kutz

Sample ID Bisti PZ-30 Sample Time 1236 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ ☐ ☐ ☐ ☐

MS/MSD BD BD Name/Time TB ~~4/29~~ m

29040301 mw

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001-0 Project Name: Bisti Client: MWH

Location: Bisti Well No: PZ-21 Development ☐ Sampling ☐

Project Manager MJN Date 4/29/03 Start Time 1034 Weather 50s pc

Depth to Water 22.93 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 2.6' Well Dia. 2"

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 turbidity

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
2.6x.16	.42	53.25x3	159.74

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.) oz	Comments/ Flow rate
1034	7.02	6620	15.1				32	clear
	7.11	6540	14.7				48	
	7.03	6820	14.7				60	
	7.04	6620	15.1				73	Moving w/ NAVEPA pumps
	7.01	6880	15.1				85	
1058	7.04	6850	14.2				97	
1100	7.06	6730	13.6				113	
1102	7.10	6740	13.6				121	well bailed dry well return to collect samples

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1102	7.10	6740	13.6						

COMMENTS:

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☐ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kutz

Sample ID Bisti PZ-21 Sample Time 1251 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 29040301

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

FED-EX Tracking # 836557900684 | Bottle Order Control #
Accutest Quote # | Accutest Job #

Client / Reporting Information

Company Name: Montgomery Watson
Address: 6124 Reilly
City: Farmington State: NM Zip: 87401
Project Contact: Lynn Bently E-mail:
Phone #: 505 599 2198
Sampler's Name: M J Nee

Project Information

Project Name: San Juan Basin
Street:
City: State:
Project #: Bisti
Fax #:
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

Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Time	Sampled By	Matrix	# of bottles	Preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ZnOAc	LAB USE ONLY
	Bisti PZ 29		4/29/03	1222	MW	GW	2	X								X
	Bisti PZ-30		4/29/03	1230	MW	GW	2	X								X
	Bisti PZ-21		4/29/03	1251	MW	GW	2	X								X
	Bisti PZ-36		4/29/03	1240	MW	GW	2	X								X
	TB 29040301		4/29/03	0700 MW	MW	WQ										X

Turnaround Time (Business Days)

- [ ] 5 Day STANDARD — Approved By: / Date:
- [ ] 4 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

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	1430	1 4/29/03	2		2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3	4		4
Relinquished by:	Date Time:	Received by:	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp.
5		5			

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project No: 220013
Project Manager: Delbert Belin
Date: 1/15/03
Client Company: MWH
Site Name: BIST1

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
PZ-35	1220		24.85	27.74	2.89	Bailed dry.	

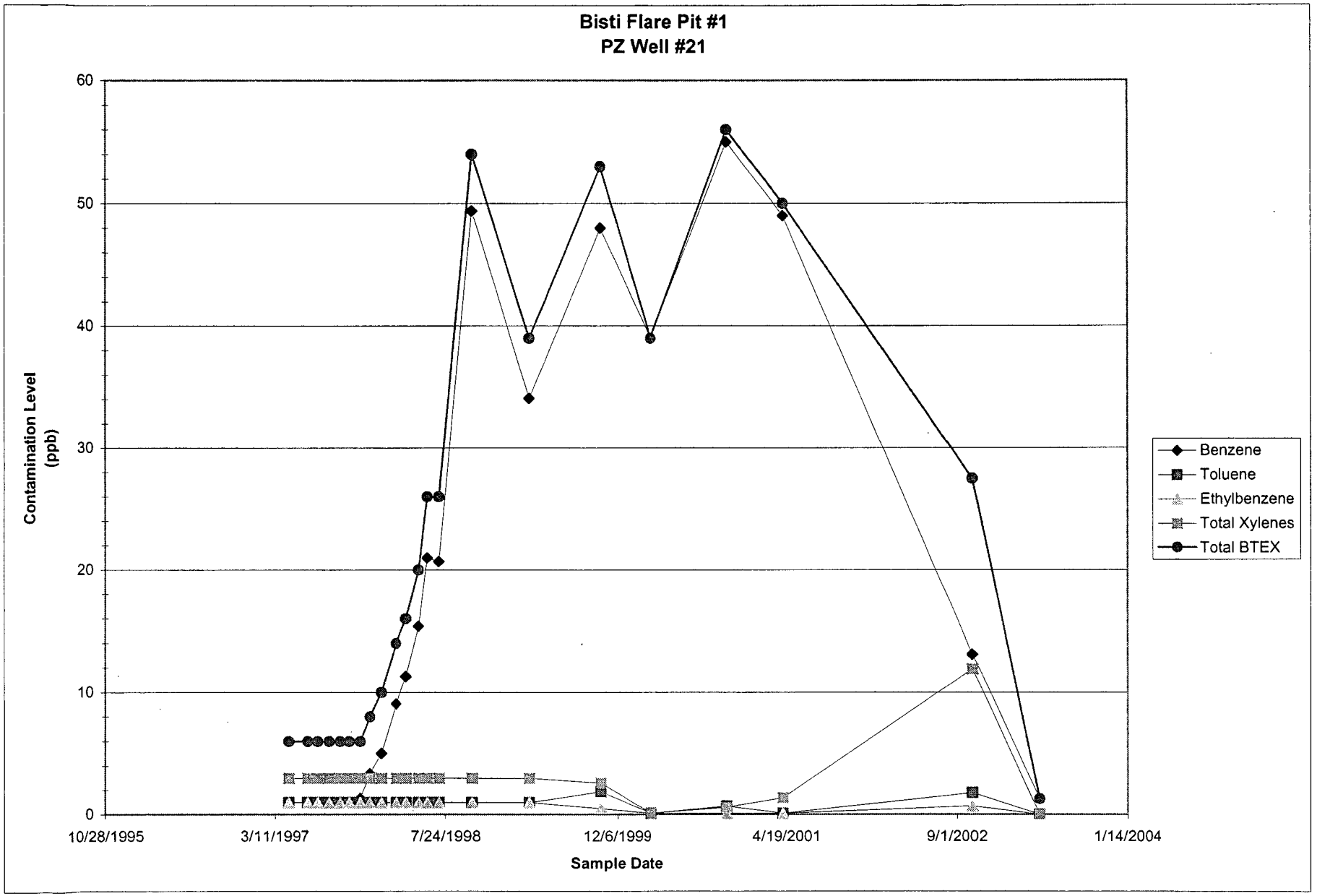
COMMENTS:

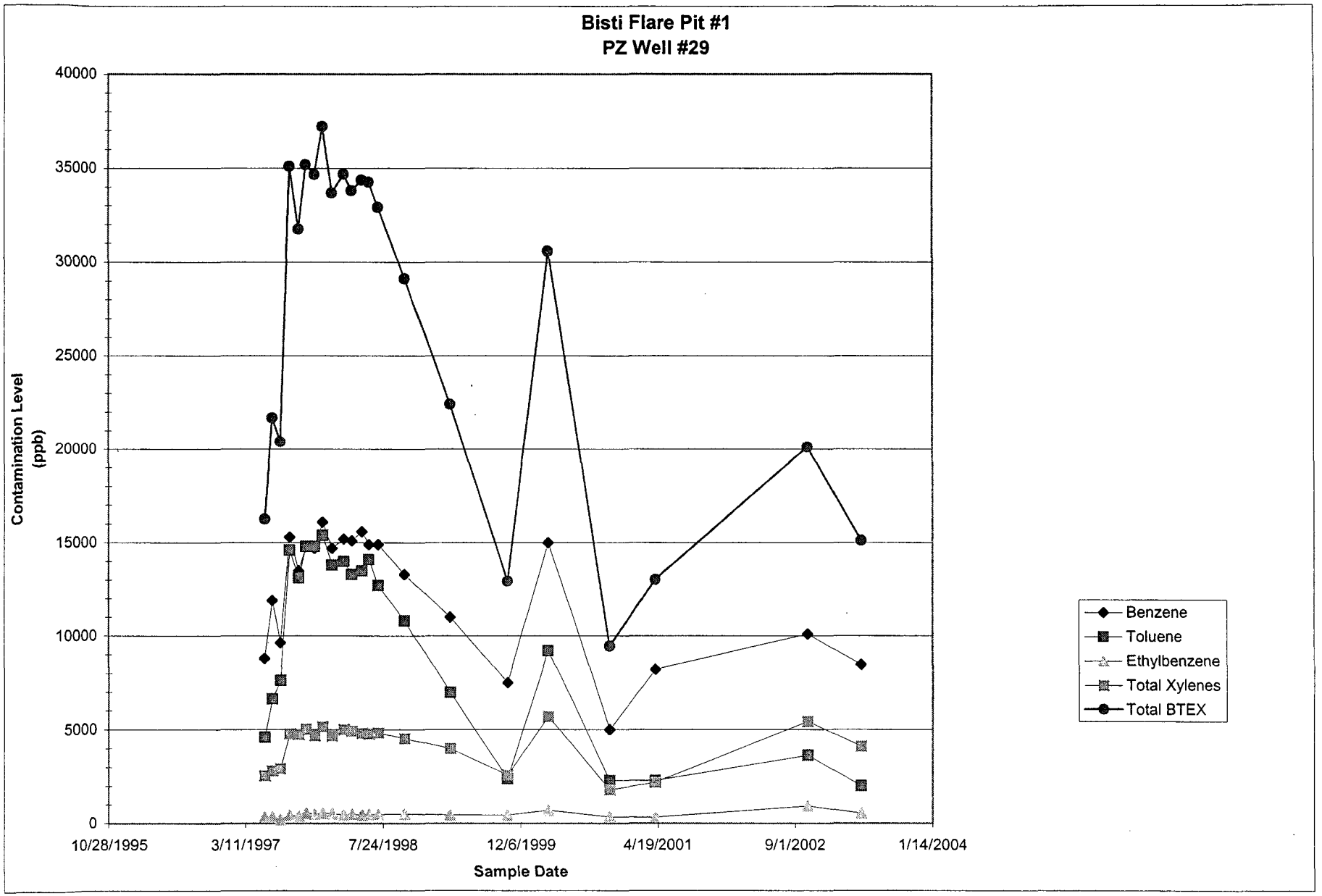
PZ-35 - 2 gallons of product bailed dry.
Product was dark in color almost brown, & very strong odor.

Signature: Delbert Belin
Date: 1/16/03

APPENDIX B

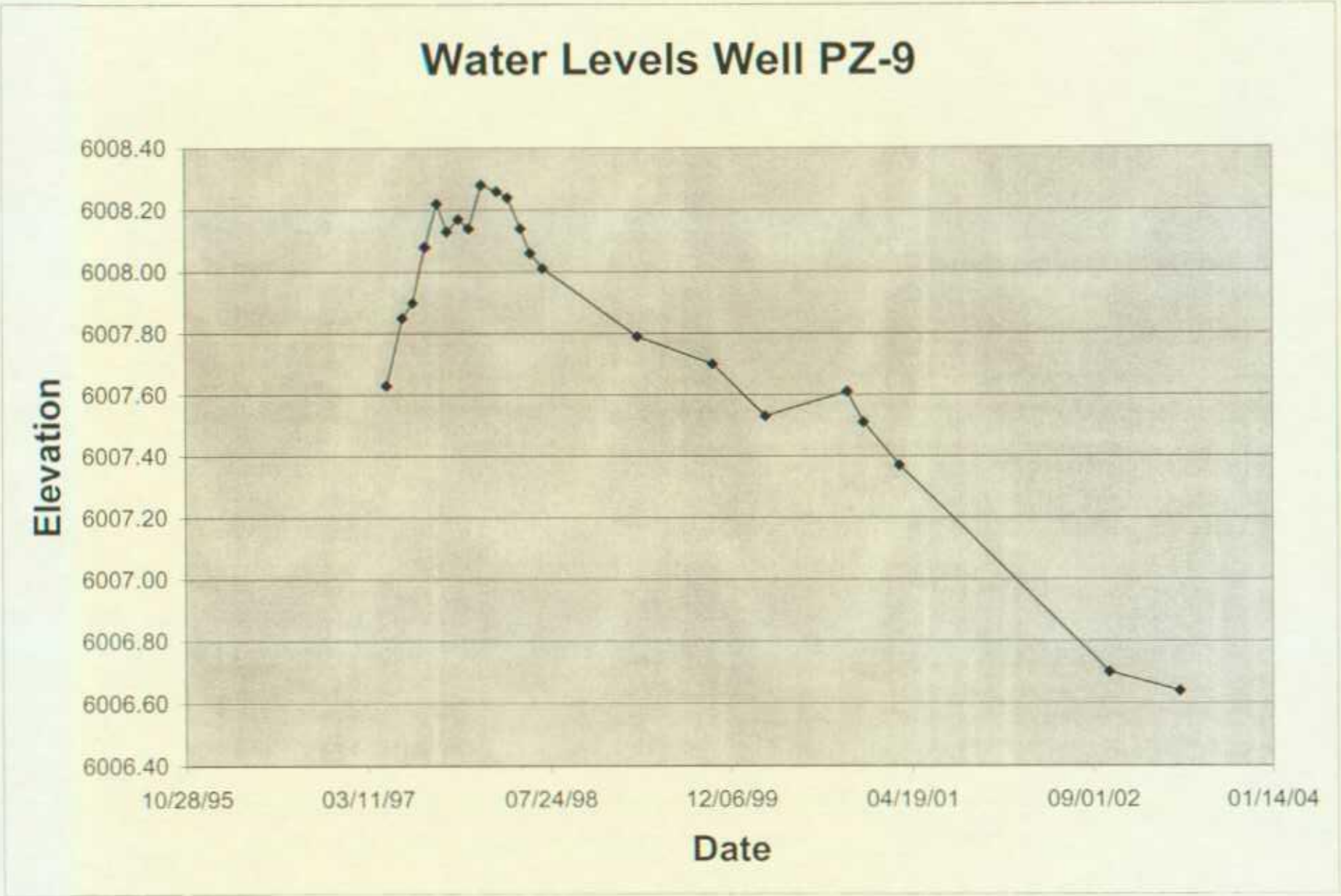
Water-Quality Graphs

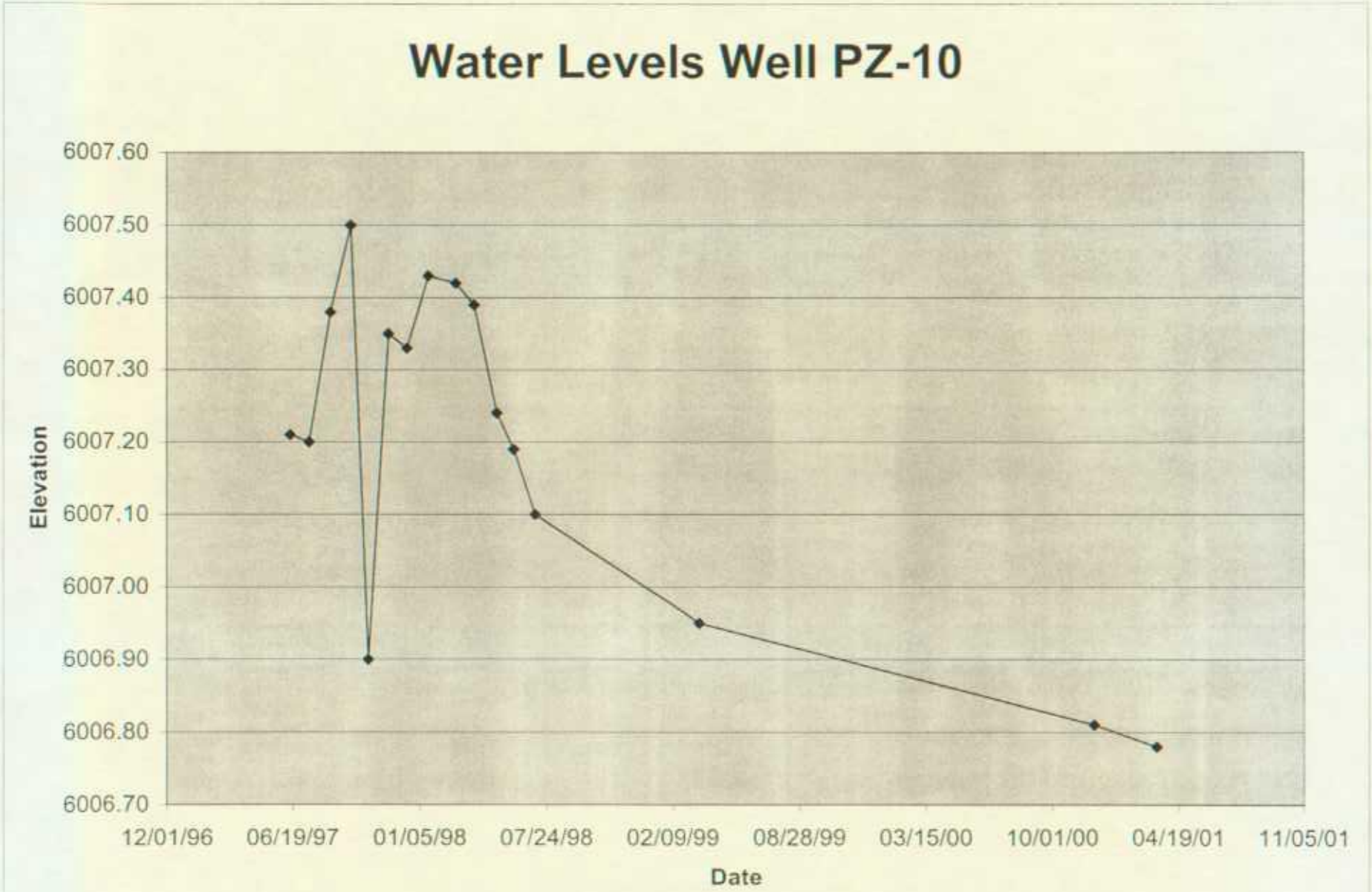

Bisti Flare Pit #1
PZ Well #21
Contamination Level (ppb)
60
50
40
30
20
10
0
10/28/1995
3/11/1997
7/24/1998
12/6/1999
4/19/2001
9/1/2002
1/14/2004
Sample Date
Benzene
Toluene
Ethylbenzene
Total Xylenes
Total BTEX

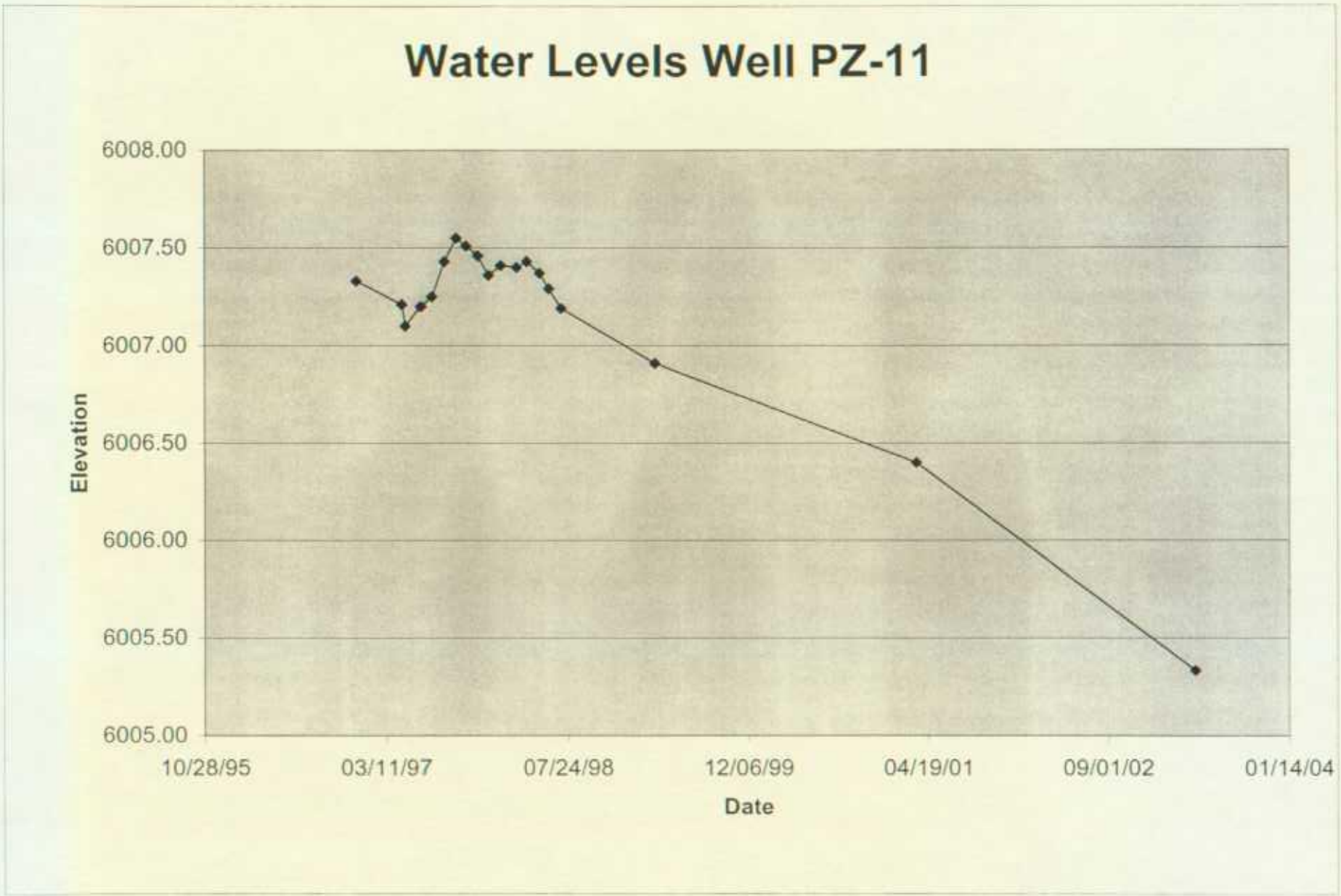

Bisti Flare Pit #1
PZ Well #29
Contamination Level (ppb)
40000
35000
30000
25000
20000
15000
10000
5000
0
10/28/1995
3/11/1997
7/24/1998
12/6/1999
4/19/2001
9/1/2002
1/14/2004
Sample Date
Benzene
Toluene
Ethylbenzene
Total Xylenes
Total BTEX

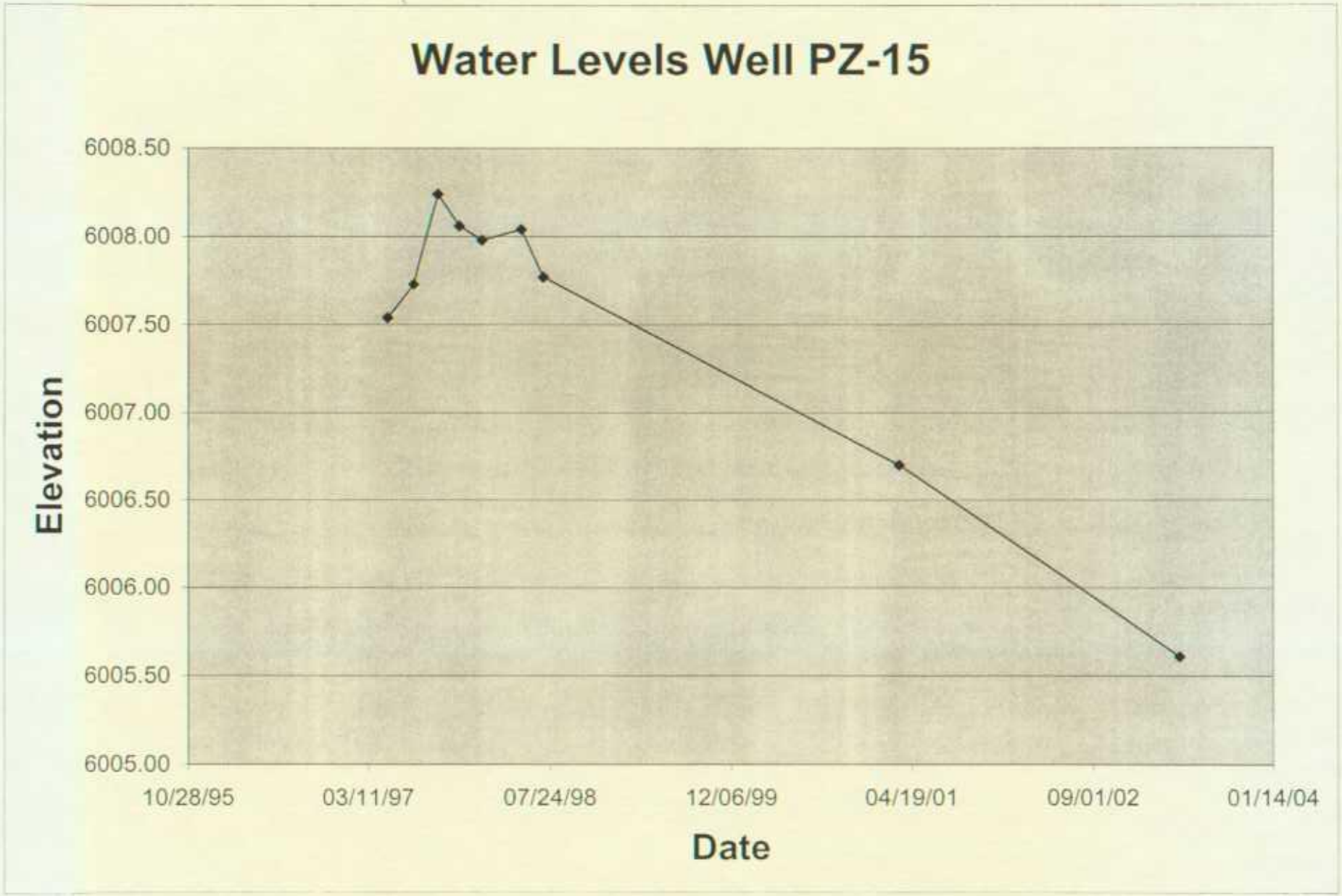
APPENDIX C

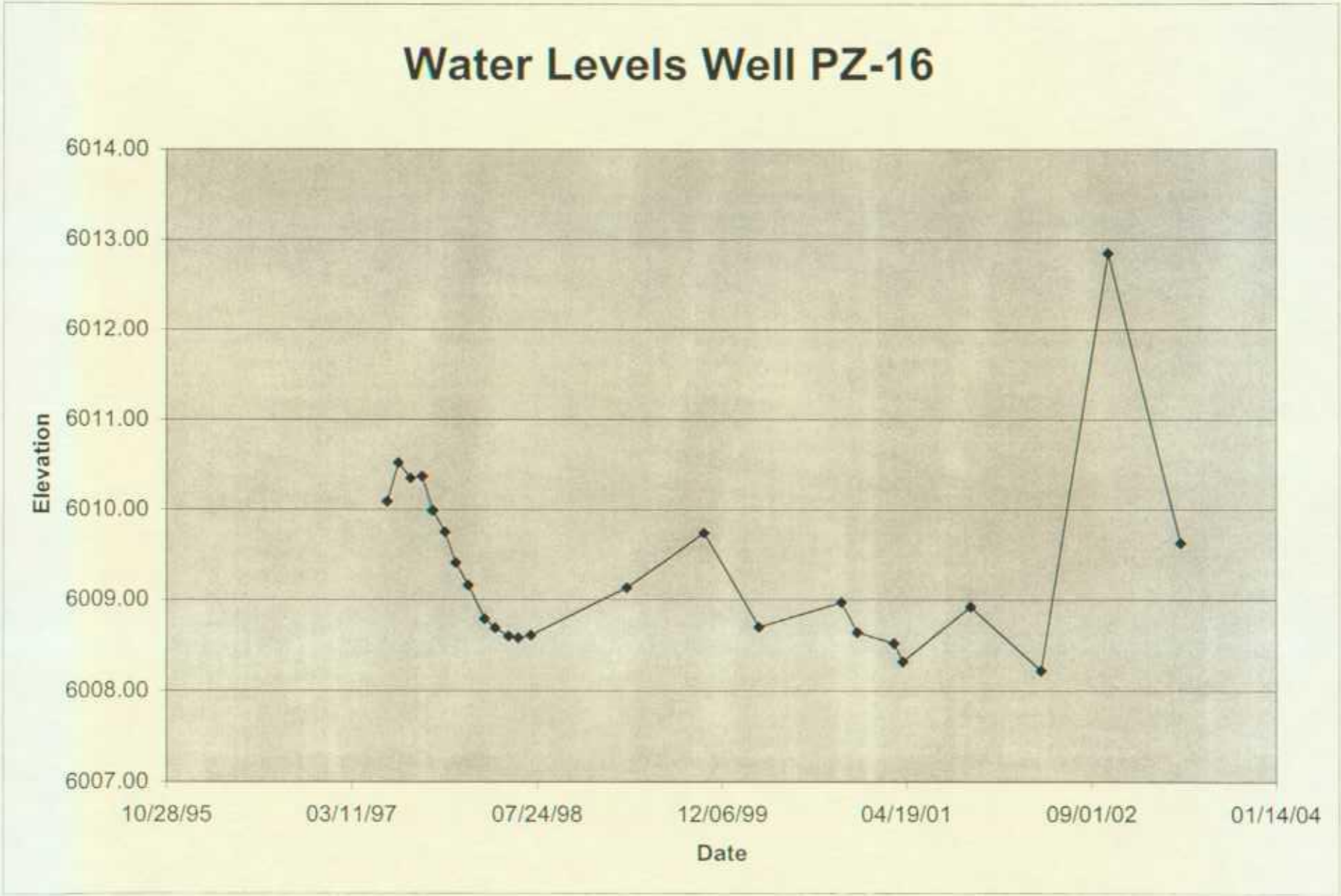
Water-Level Graphs

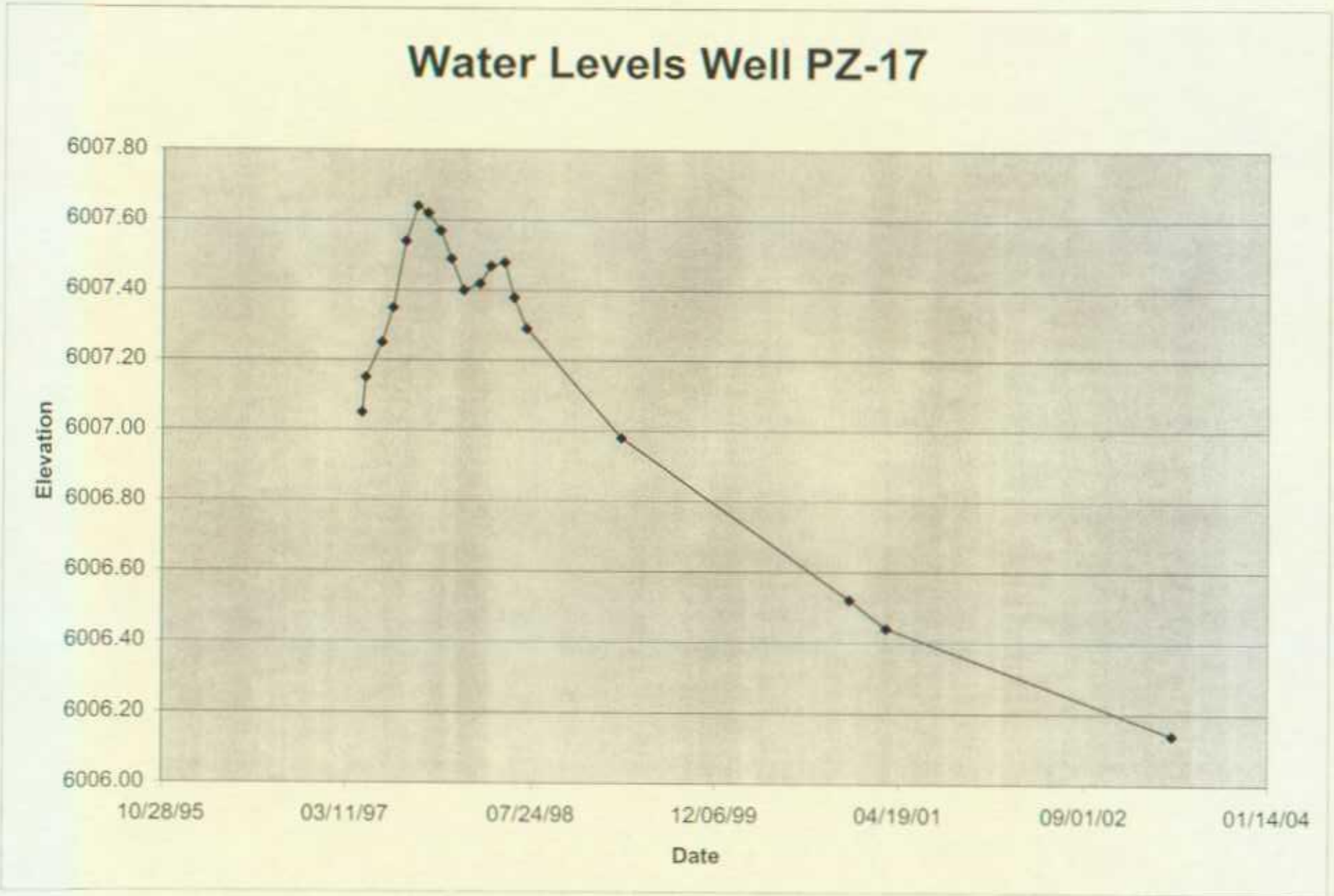

Water Levels Well PZ-9
Elevation
6008.40
6008.20
6008.00
6007.80
6007.60
6007.40
6007.20
6007.00
6006.80
6006.60
6006.40
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date

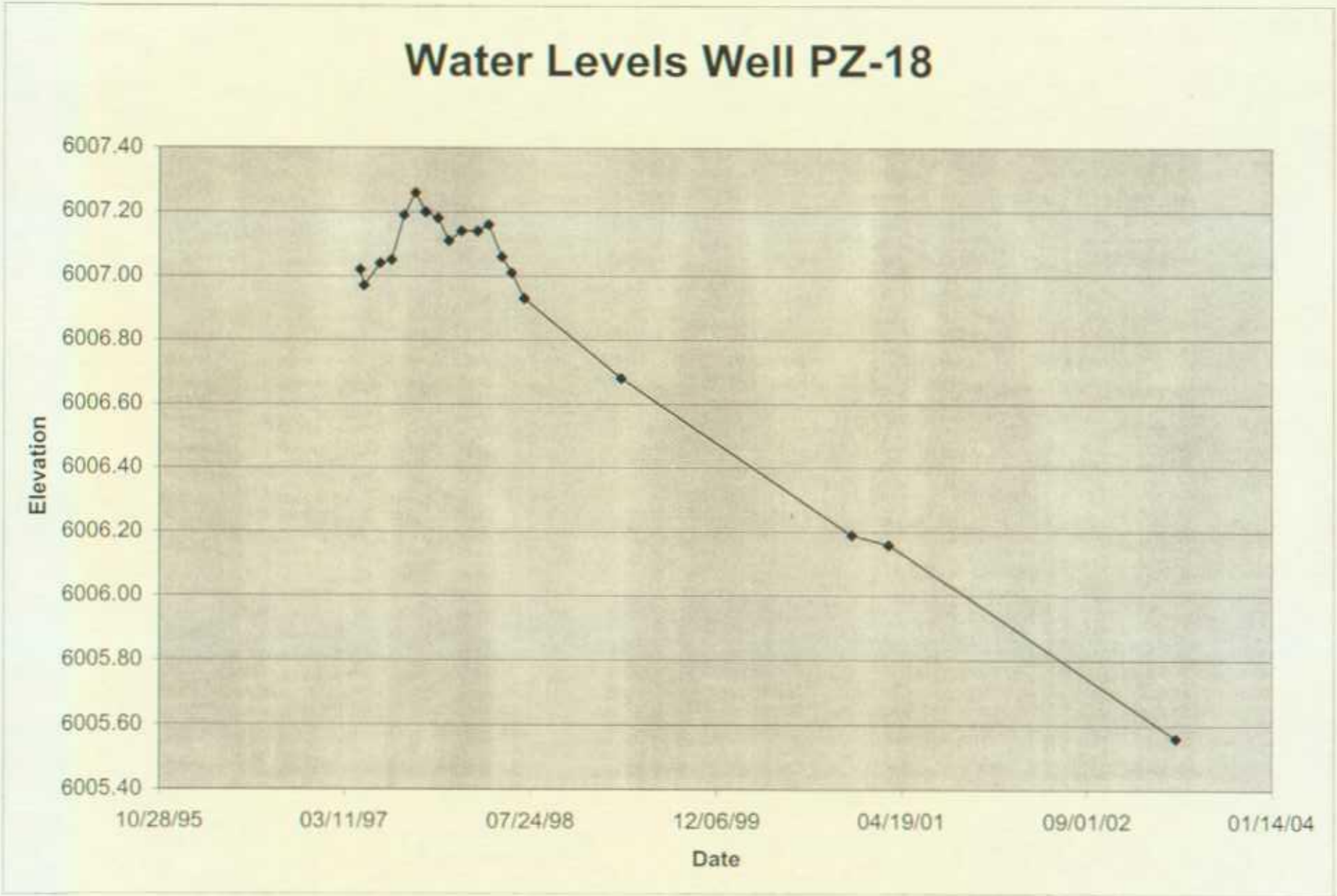

Water Levels Well PZ-10
Elevation
6007.60
6007.50
6007.40
6007.30
6007.20
6007.10
6007.00
6006.90
6006.80
6006.70
12/01/96
06/19/97
01/05/98
07/24/98
02/09/99
08/28/99
03/15/00
10/01/00
04/19/01
11/05/01
Date


Water Levels Well PZ-11
6008.00
6007.50
6007.00
6006.50
6006.00
6005.50
6005.00
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date

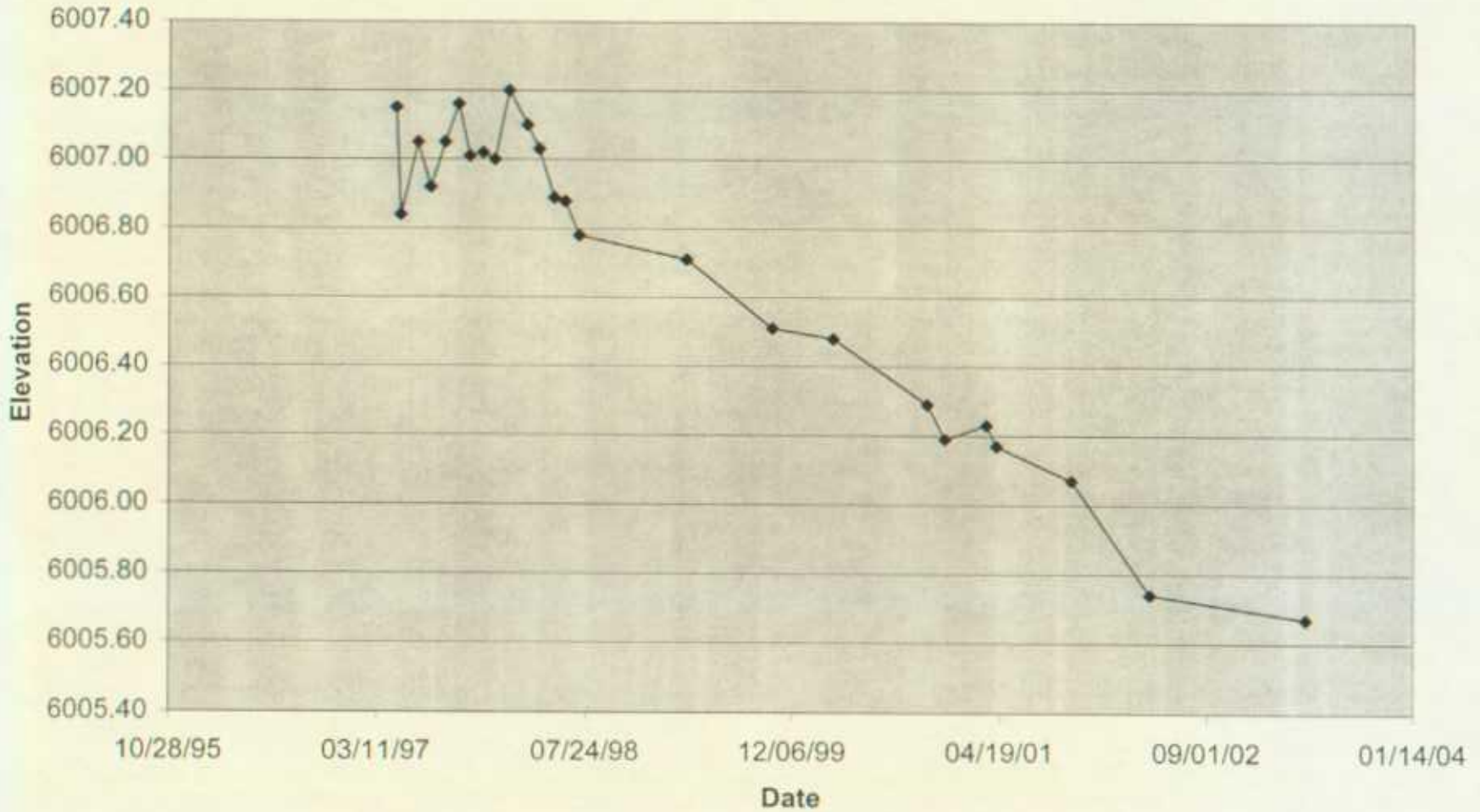

Water Levels Well PZ-15
Elevation
6008.50
6008.00
6007.50
6007.00
6006.50
6006.00
6005.50
6005.00
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date

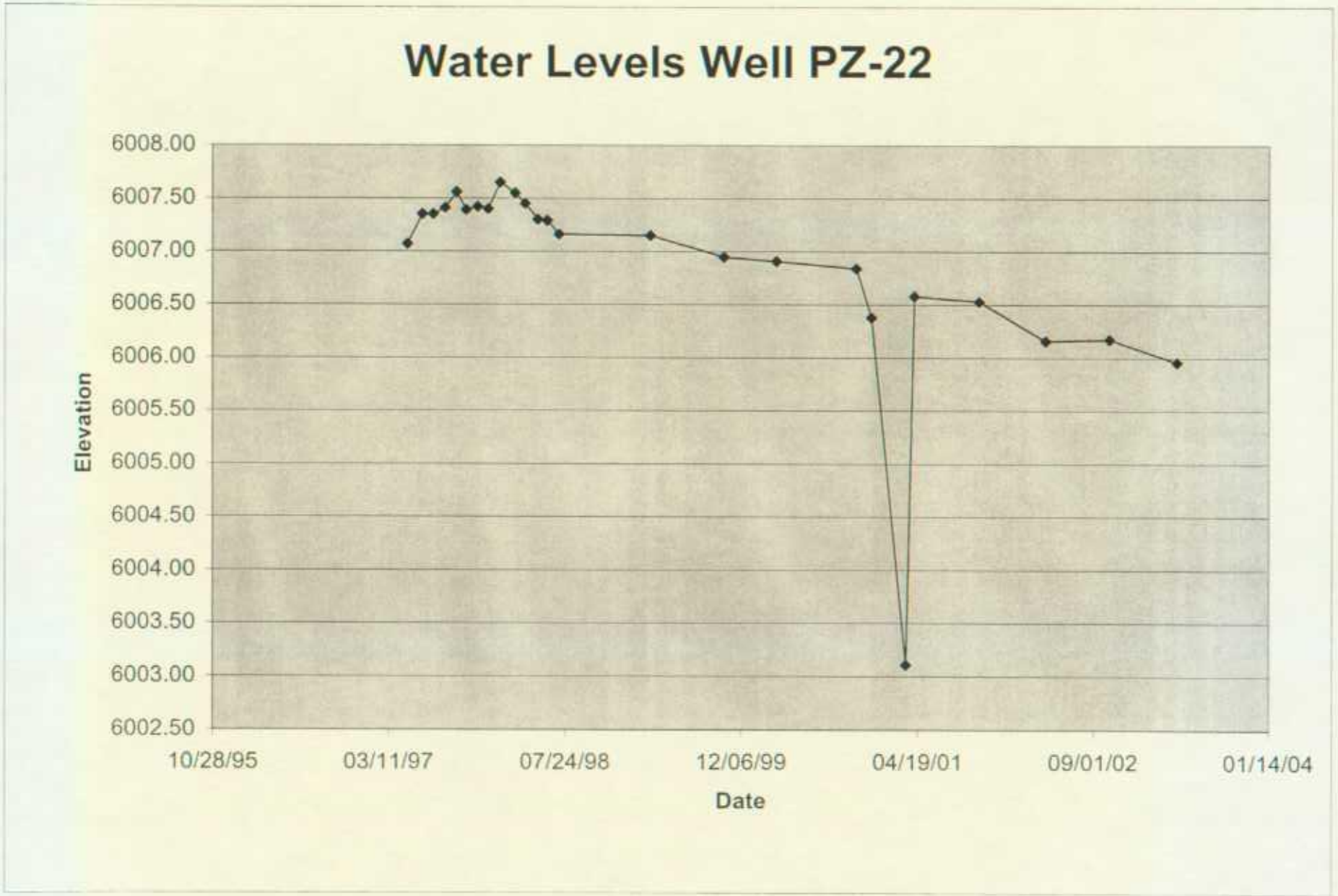

Water Levels Well PZ-16
6014.00
6013.00
6012.00
6011.00
6010.00
6009.00
6008.00
6007.00
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date

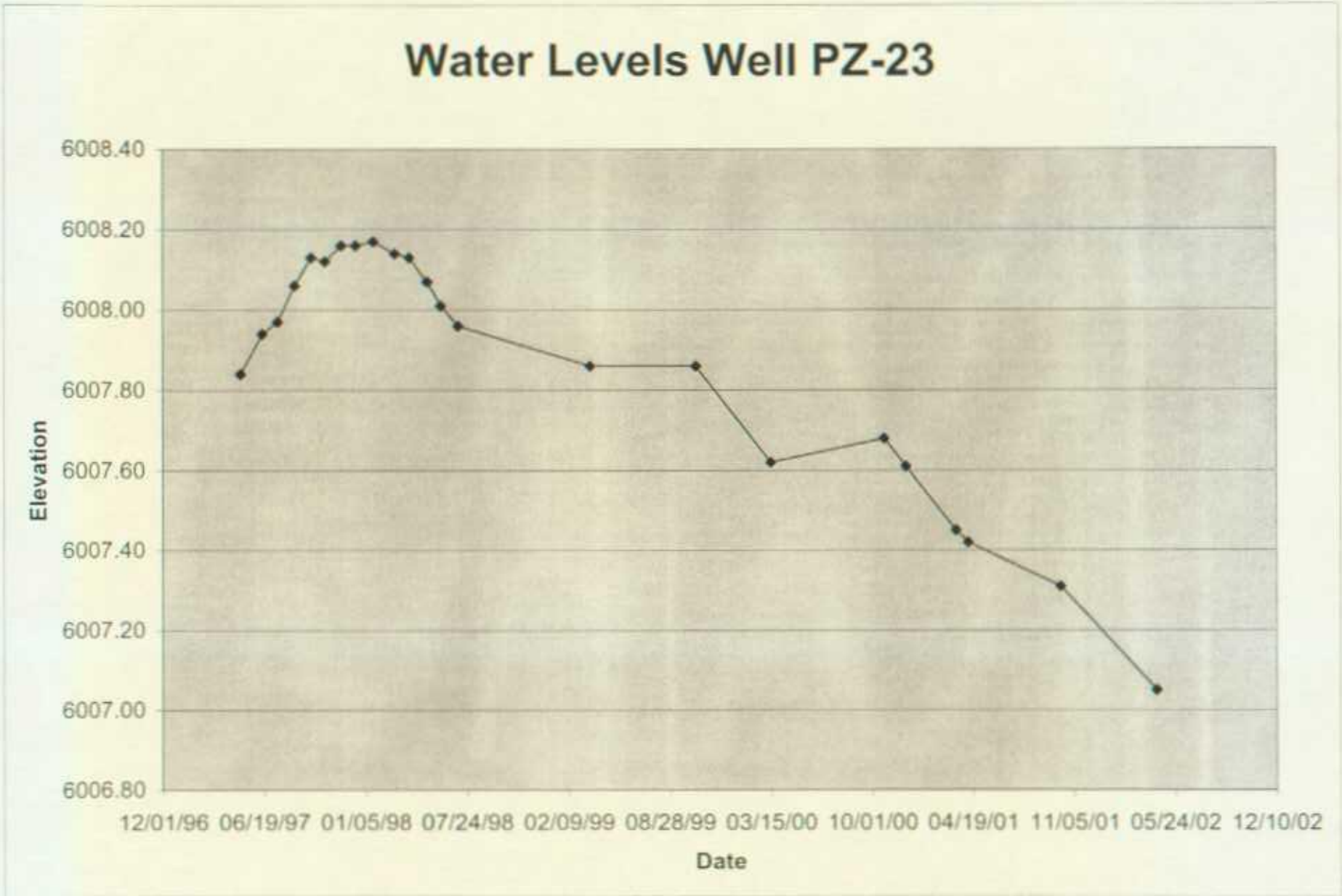

Water Levels Well PZ-17
6007.80
6007.60
6007.40
6007.20
6007.00
6006.80
6006.60
6006.40
6006.20
6006.00
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date

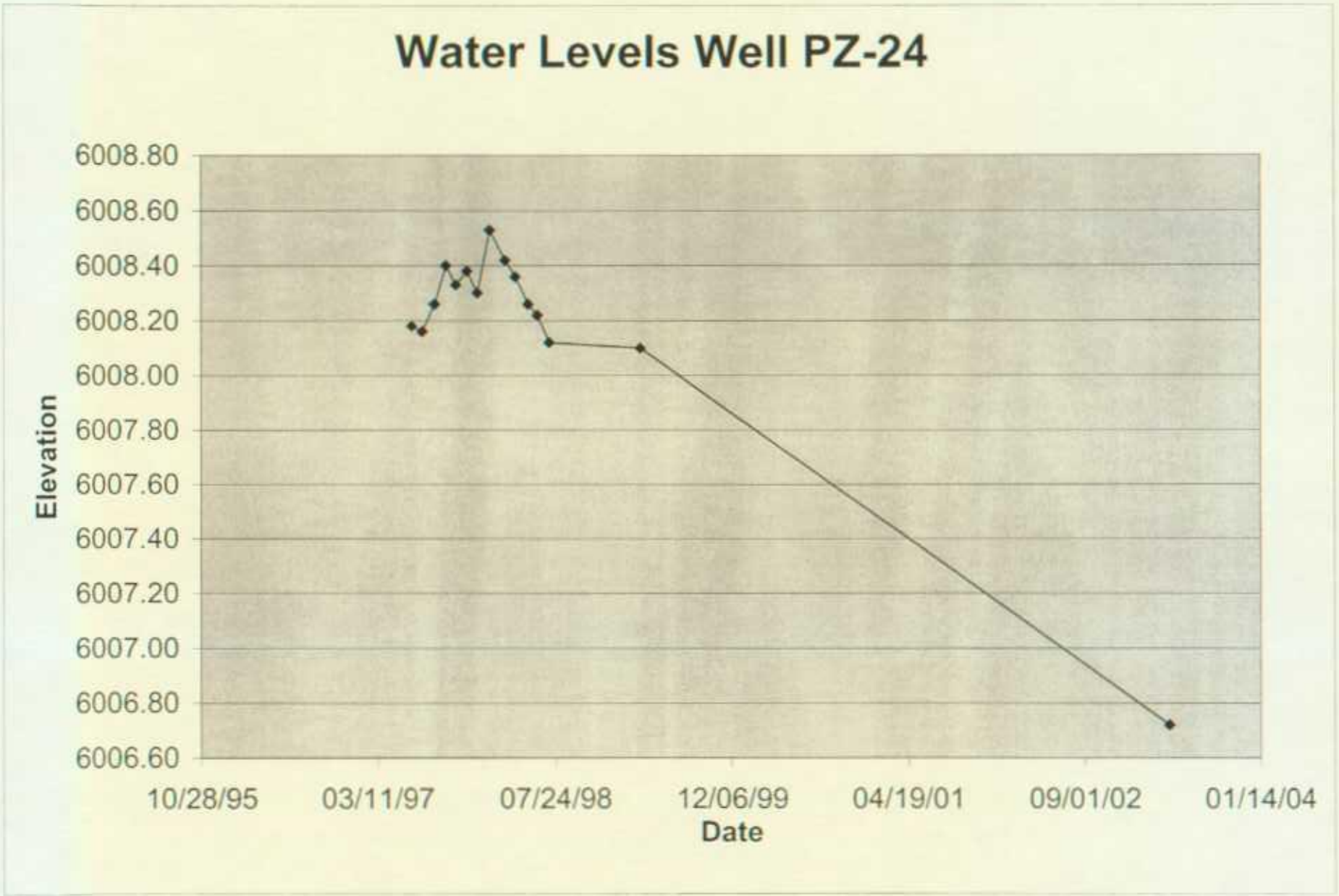

Water Levels Well PZ-18
6007.40
6007.20
6007.00
6006.80
6006.60
6006.40
6006.20
6006.00
6005.80
6005.60
6005.40
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date

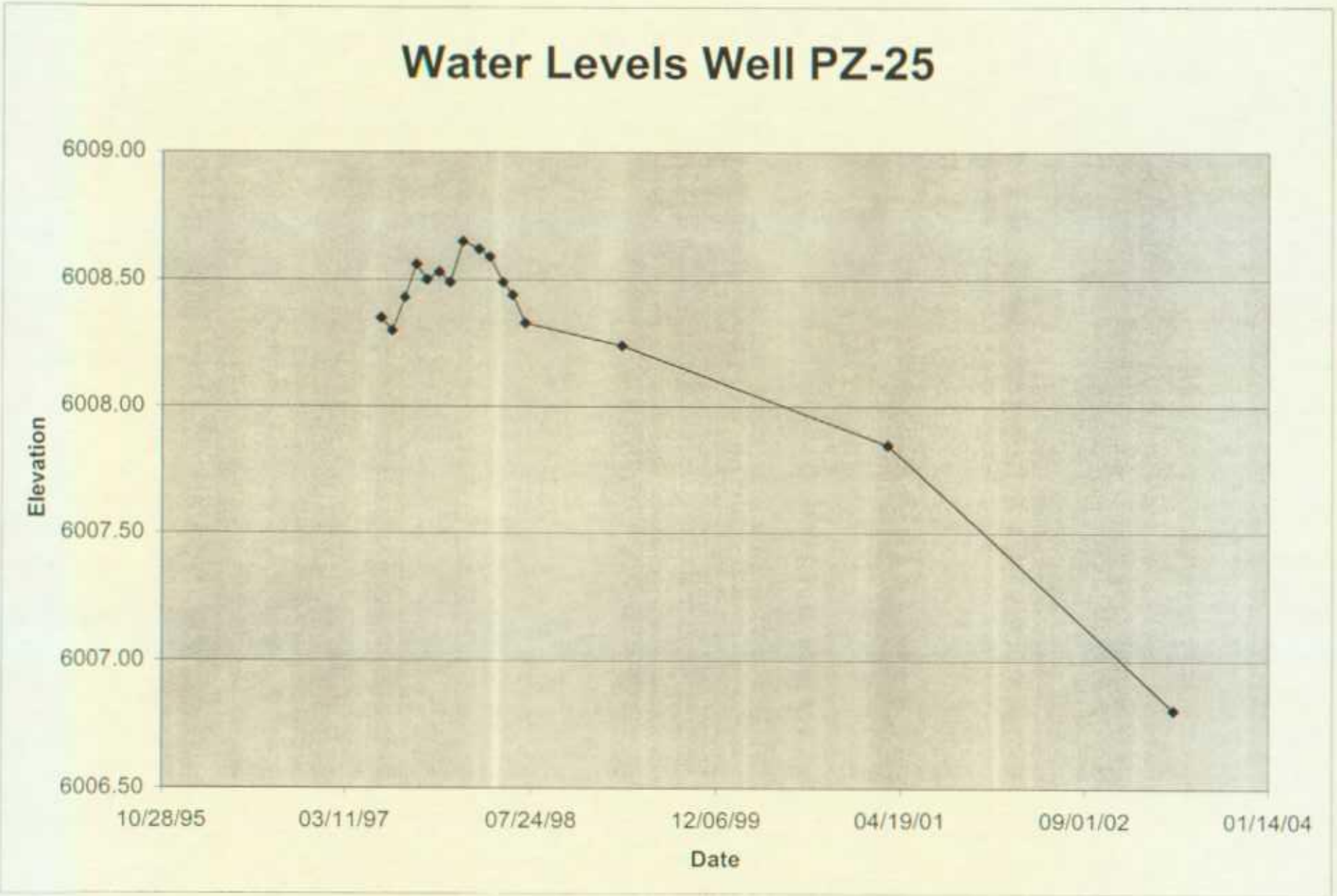
Water Levels Well PZ-21

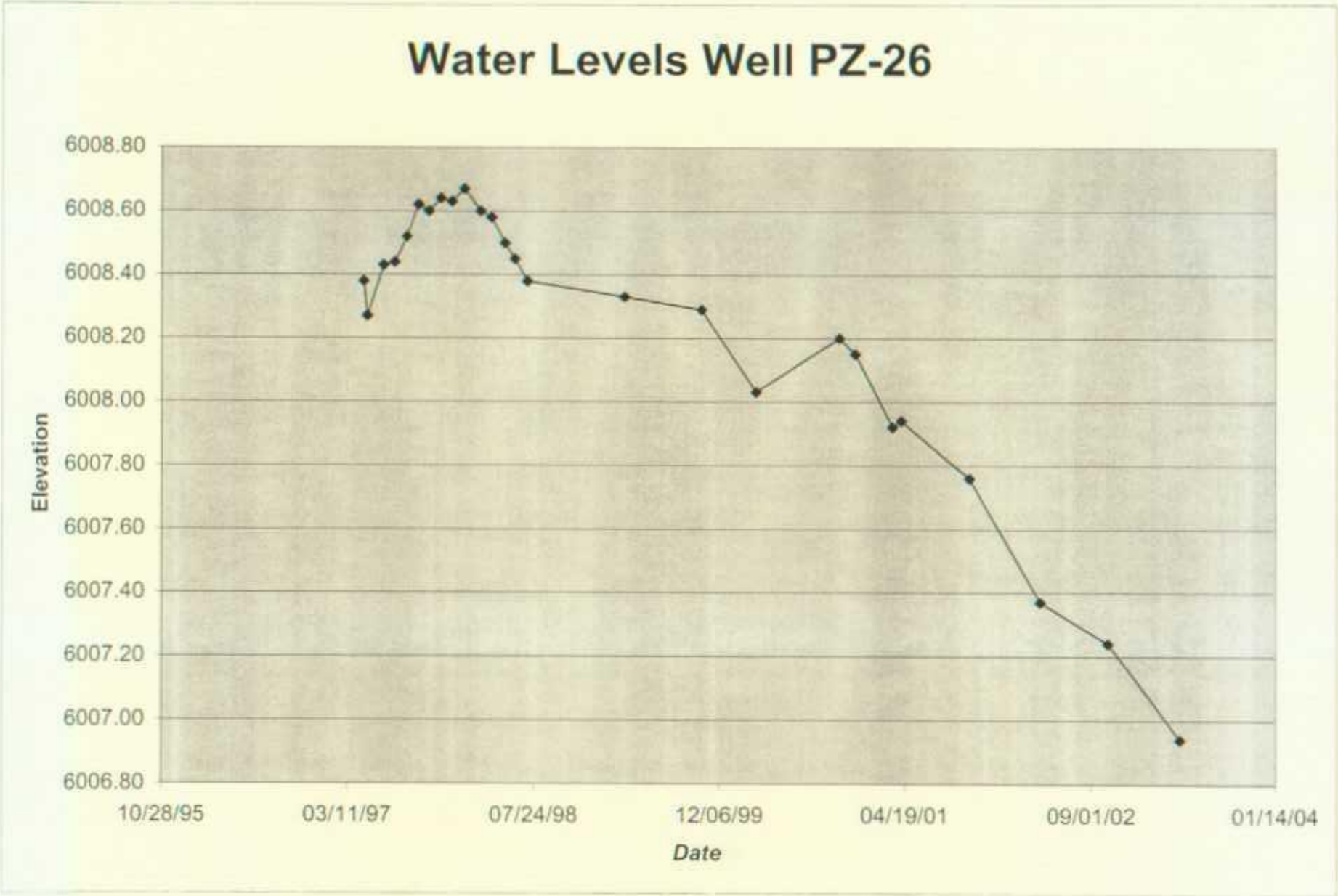


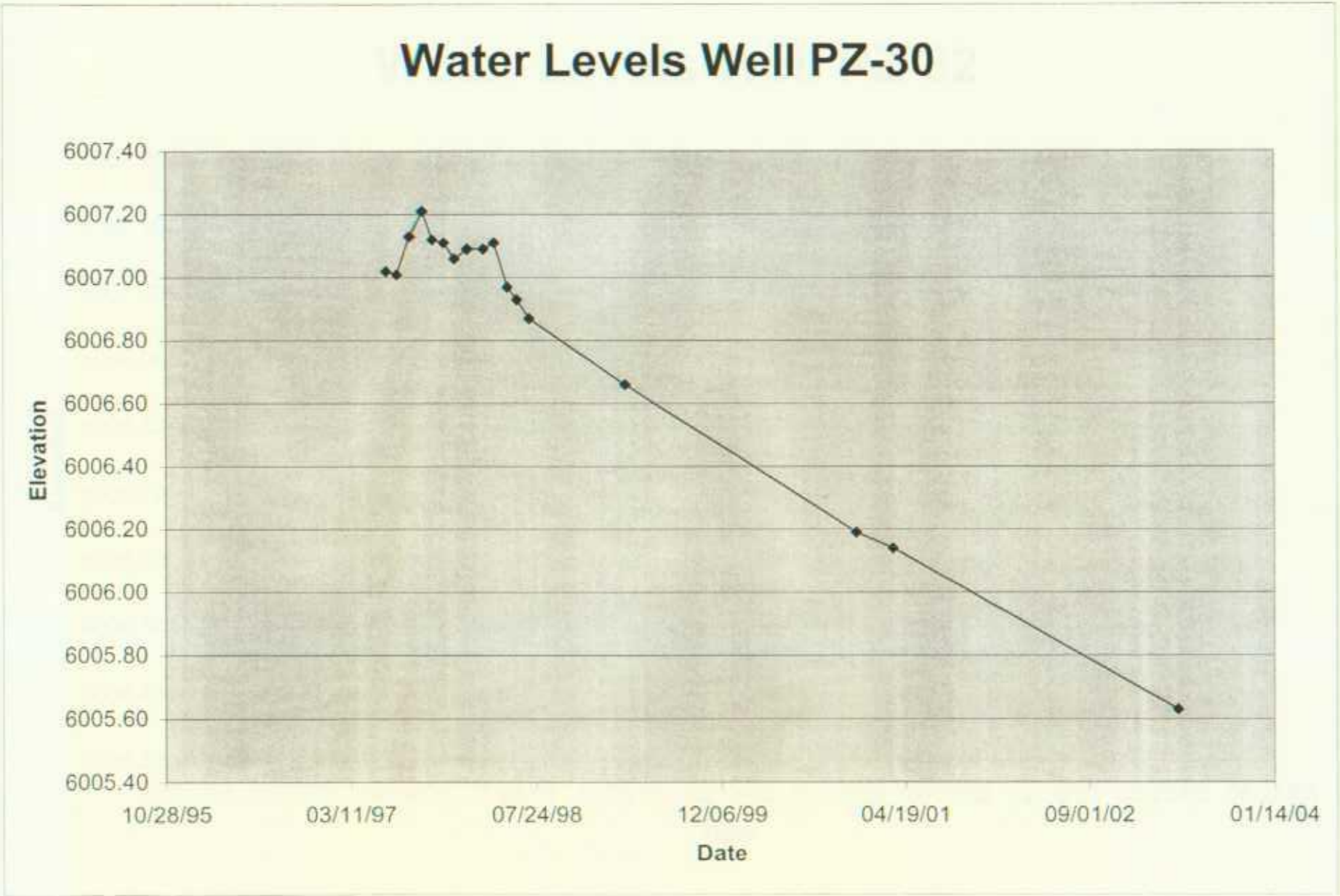

Water Levels Well PZ-22
6008.00
6007.50
6007.00
6006.50
6006.00
6005.50
6005.00
6004.50
6004.00
6003.50
6003.00
6002.50
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date

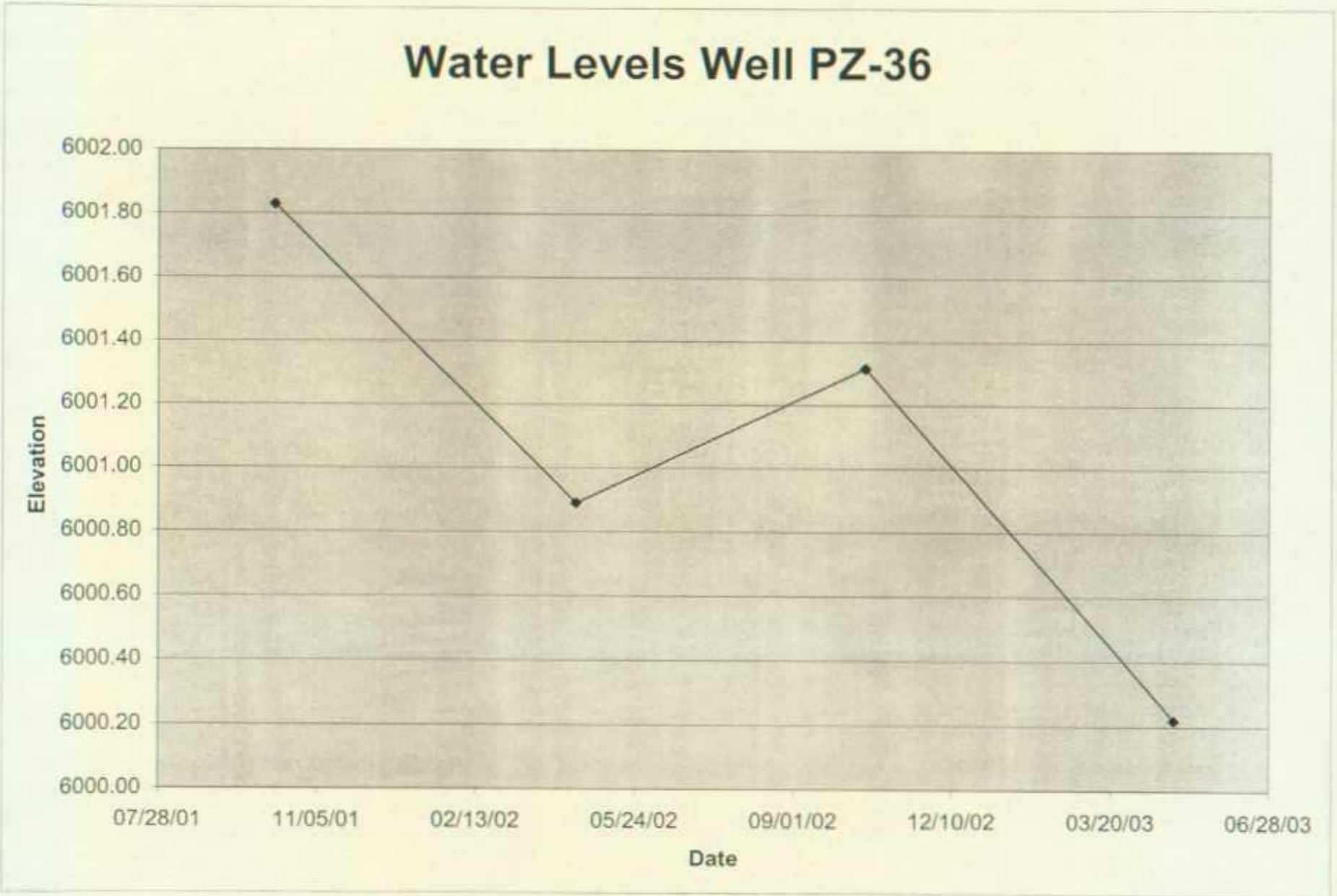

Water Levels Well PZ-23
6008.40
6008.20
6008.00
6007.80
6007.60
6007.40
6007.20
6007.00
6006.80
Elevation
12/01/96
06/19/97
01/05/98
07/24/98
02/09/99
08/28/99
03/15/00
10/01/00
04/19/01
11/05/01
05/24/02
12/10/02
Date


Water Levels Well PZ-24
6008.80
6008.60
6008.40
6008.20
6008.00
6007.80
6007.60
6007.40
6007.20
6007.00
6006.80
6006.60
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date


Water Levels Well PZ-25
6009.00
6008.50
6008.00
6007.50
6007.00
6006.50
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date


Water Levels Well PZ-26
6008.80
6008.60
6008.40
6008.20
6008.00
6007.80
6007.60
6007.40
6007.20
6007.00
6006.80
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date


Water Levels Well PZ-30
6007.40
6007.20
6007.00
6006.80
6006.60
6006.40
6006.20
6006.00
6005.80
6005.60
6005.40
Elevation
10/28/95
03/11/97
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
Date


Water Levels Well PZ-36
6002.00
6001.80
6001.60
6001.40
6001.20
6001.00
6000.80
6000.60
6000.40
6000.20
6000.00
Elevation
07/28/01
11/05/01
02/13/02
05/24/02
09/01/02
12/10/02
03/20/03
06/28/03
Date

APPENDIX D

Injection Point Abandonment Report

AESE 906 San Juan Blvd., Suite D, Farmington, NM 87401 (505) 566-9116

December 6, 2002

Mr. Lynn Benally
Montgomery Watson Harza Americas, Inc.
614 Reilly Avenue
Farmington, New Mexico 87401

VIA FACSIMILE 599-2119

RE: EPFS Chaco Flare Pit Injection Point Abandonment

Dear Mr. Benally,

AE Schmidt Environmental (AESE) is pleased to present the following data and accompanying injection well abandonment diagram. AESE completed the abandonment work November 15, 18 and 19, 2002. AESE attempted to pull each injection point by hand and was not successful. Therefore, each point was filled with 3/8-inch bentonite chips and hydrated with two quarts of water. A hole was then dug around the injection point and the point cut off one foot beneath ground surface. The hole/injection point was then covered with soil.

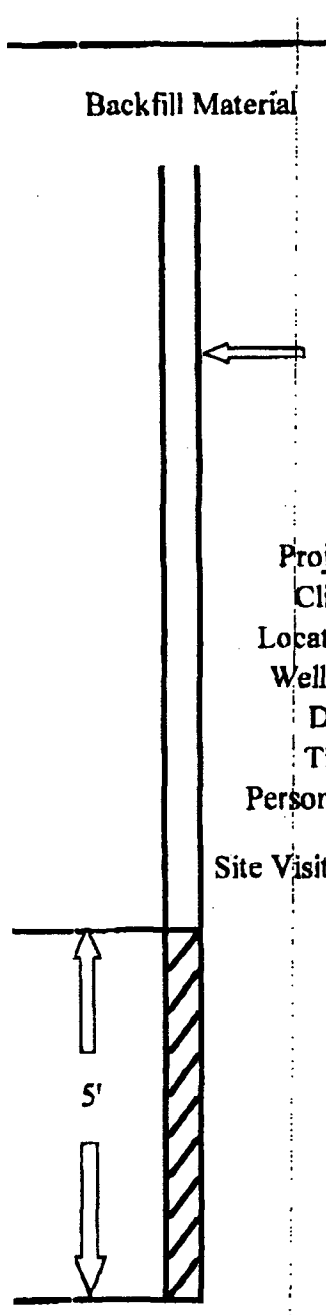
If you have any questions or require additional information please do not hesitate to contact me at (505) 566-9116.

Sincerely,
AE Schmidt Environmental

Martin Nee

CC: File

EPFS Chaco Flare Pit
Injection Point Plug and Abandon Form



Project	EPFS Chaco Flare Pit Injection Point P&A
Client	Montgomery Watson Harza
Location	Chaco Plant
Well ID	50 injection points
Date	11/15,18,19/02
Time	4-Aug
Personnel	M Nee, P Nee AESE
	Melvina Claw, NNEPA
Site Visitors	11/18/02

Comments Abandoned injection points 3,7,8,70,73,74,75,81-84,92,104,106-126,131-136,141-148,151,152. See data sheet for well depths

AE Schmidt Environmental
906 San Juan Blvd. Ste D
Farmington, NM 87401
(505) 566-9116

EPFS Bisti Flare Pit			
Injection Point number	**Approximate Depth (bgs feet)**	**Bentonite per well (pounds)**	**Abandoned (Date)**
114	18.85	8	11/19/2002
115	18.05	8	11/19/2002
116	17.35	9	11/19/2002
117	20	9.5	11/19/2002
121	na	10	11/19/2002
122	na	9	11/19/2002
123	na	11	11/19/2002
3	18.9	8	11/19/2002
7	18.23	7	11/19/2002
8	18.15	8	11/19/2002
126	18.3	9	11/19/2002
147	18	7	11/19/2002
148	17.6	7	11/19/2002
151	17.4	7	11/19/2002
152	17.2	7	11/19/2002

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