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BP Amoco

1999 Fourth Annual Report

AMOCO PIPE LINE
COMPANY
ARTESIA, NEW MEXICO

July 12, 1999

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1. INTRODUCTION

The objective of this Report is to provide the State of New Mexico Energy, Minerals & Natural Resources Department, Oil Conservation Division (OCD) information relative to activities and data collected at the subject site during the past 12 months (since June 1998). Activities completed since that time include the following:

(1) gauging of fluid levels from site monitoring wells;
(2) sampling of groundwater from Monitoring Wells MW-11 and MW-14 in August and December 1998 and in April and June 1999;
(3) removal of the remediation equipment and restoration of soil conditions at the aeration sprinkler system;
(4) relocation of the product storage tank to the Monitoring Well MW-2 site;
(5) regular bailing of free phase hydrocarbon (FPH) from MW-2; and
(6) submittal of a status report in December 1998.

These activities are discussed in detail in subsequent sections of this report.

Site History

A release of free phase hydrocarbon (FPH) was discovered at an BPAmoco Pipeline Company (BPAPL) site located approximately 12 miles southeast of Artesia, New Mexico (Site). BPAPL installed an interception trench and a groundwater separation/air stripper remediation system in November 1994 to control and remediate the FPH and dissolved hydrocarbon associated with the release. The system operated from that time until early 1997, when a request was made to and granted by the OCD to discontinue operation of the active remediation system due to lack of FPH and dissolved hydrocarbon in the monitoring wells in the vicinity of the remediation system at the site.

Quarterly reporting had been submitted to the OCD throughout operation of the remediation system. Annual reports have also been submitted, with the most recent

annual report being titled "Remediation System Operations Third Annual Report", dated June 30, 1998. That annual report describes activities that had occurred at the site from June 1997 through June 1998.

The report summarized current activities ongoing at the site, including:

- Monitoring of water levels in wells;
- Sampling Monitoring Wells MW-11 and MW-14 for BTEX; and
- Monitoring for FPH in wells.

As part of that report, Clayton Environmental Consultants (Clayton) concluded that the migration of free product had apparently stopped. Additionally, no dissolved BTEX had been detected in the downgradient wells MW-11 and MW-14 during the reported year of regular sampling. The historic groundwater sampling data taken from the Clayton report are included in Appendix A of this report. Site figures showing historic FPH thicknesses are also included in Appendix A.

2.0 ACTIVITIES DURING THE PAST YEAR

2.1 Fluid Level Gauging

During the period from June 1998 through June 1999, fluid levels from site monitoring wells were gauged. The 1998 gauging events (not included in the Clayton Annual Report) were conducted on May 29, June 30, July 23, August 19, and December 5, and the 1999 events on April 1 and June 3. Results of the gauging are presented in Table 1. Historic graphs of the depth to water data versus time are included on Figures 2 through 15. The data indicate the depth to water in the site wells generally increased (water levels dropped) during 1998 and early-1999, but the water levels in the recent June gauging are higher, reflecting the influence on the water table from recent increases in precipitation. Consistent with previous reports, Figures 16 through 19 contain maps showing water

level depth data for four selected quarters during the past year (August and December 1998, April and June 1999).

The fluid level data indicate that FPH thickness increased in MW-4 during December 1998, but the levels decreased back to zero by June 1999. This occurrence of FPH may be due to the drop of water levels during the same period. FPH thicknesses in the remaining wells either remained relatively constant or decreased. Overall, FPH thicknesses have decreased substantially since the release occurred.

2.2 Groundwater Sampling

Consistent with work conducted by Clayton, groundwater samples were collected regularly from Monitoring Wells MW-11 and MW-14 and submitted to a laboratory for BTEX analysis. Samples were collected in August and December 1998 and in April and June 1999. Laboratory analytical results are included in Appendix B. The results indicate that no BTEX constituents were detected in either well during the sampling period.

Annual sampling of other monitoring wells that did not historically contain FPH was not conducted during the reporting period. The wells included in the annual sampling are MW-4, MW-6, MW-7, MW-8, MW-10, MW-12, and MW-13. Those wells are scheduled for sampling in August/September 1999. Following sampling, MW-6, MW-7, MW-10, and MW-13 from this group of monitoring wells will be abandoned, as specified in the December 1998 Summary Report, unless the analytical data indicate significant increases in dissolved BTEX content. Other wells to be abandoned include MW-1, MW-5, and MW-9. Abandonment activities are scheduled for December 1999.

2.3 Removal of Remediation Equipment and Restoration of Soil Conditions

During October 1998, personnel from BEI met at the site with Mr. Jack Ford and Mr. Mike Stubblefield of the OCD. The primary purpose of the meeting was to discuss the status of the project, and to detail the removal of the remediation treatment system/building.

The treatment system was dismantled during late-November and early-December 1998. All equipment was removed from the treatment area at that time. The product storage tank was relocated to the tank battery area for storage of FPH removed from MW-2, as discussed later in this report. Details of the system dismantling were also discussed in the December 1998 Status Report.

The New Mexico Land Commission expressed a concern related to soils in the area where the sprinkle irrigation system sprayed treated water from the air stripper (letter to BPAPL from Mr. Mike Matush dated August 4, 1998). Mr. Matush stated that the site should be returned to a productive state following removal of the interception trench and treatment shed. He also requested that BPAPL determine the extent of damage in the sprayed area by conducting soil testing. The effluent sprinkle irrigation system, which is no longer operational, was located adjacent to and west of the stripper building (see Figure 1).

The area discussed above was inspected by BEI, and soil samples were collected during October 1998 and submitted to a laboratory for analysis of potential contaminants resulting from sprinkler operations from the air stripper effluent. Results of that investigation were included in the Status Report submitted to the OCD by BEI in December 1998.

Following removal of the equipment and building, the area in the vicinity of the remediation building, including the sprinkle irritation system, was restored to its natural condition. The suspected impacted soil area was restored to its natural condition by

removing clean soil from the area of the diversion berm and spreading it over the gypsum outcrop area. Following spreading, the soil area was regraded to allow natural drainage of surface water and to establish conditions that will be conducive for growth of native vegetation. Erosion control mounds were built into the restored soil area to prevent erosion during intense storm events until vegetation is established.

2.4 Relocation of the Product Storage Tank to MW-2

After the remediation building was dismantled, the product storage tank located outside of and south of the treatment building was moved to the area adjacent to MW-2. This was done to allow easy storage of FPH removed from that well.

2.5 Regular Bailing of FPH from MW-2

Beginning in April 1999, a program to regularly remove FPH from Monitoring Well MW-2 was initiated. To date, this activity has occurred two times, with approximately 3 gallons of FPH removed each time. As discussed in Section 3, the bailing is intended to be a temporary hydrocarbon removal technique until a permanent system is installed sometime in August/September 1999.

2.6 Submittal of a Status Report in December 1998

A Status Report with information relative to the dismantling of the remediation system and restoring the soil surrounding the sprinkler aeration system was submitted to the OCD in December 1998. That report also included recommendations for future monitoring and remediation at the site. Those recommendations are included in Section 3 of this report.

3. RECOMMENDATIONS FOR FUTURE MONITORING/REMEDIATION

The following recommendations for future monitoring and remediation are based on review of the existing information, including data gathered during the past 12 months.

As stated in the December 1998 Status Report, several of the monitoring wells at the site have either never had measurable accumulations of FPH, or have not had measurable amounts in the past several quarters. Additionally, many have had little or no dissolved BTEX concentrations. Fluid levels collected during early-June 1999 indicate that Monitoring Wells MW-2 and MW-3 are the only wells that had accumulations of FPH (3.10 ft and 0.03 ft, respectively, Table I).

The current monitoring and sampling program requires quarterly monitoring of fluid levels in all monitoring wells, and quarterly sampling and BTEX analysis from MW-11 and MW-14. In addition, the program calls for annual groundwater sampling from Monitoring Wells MW-4, MW-6, MW-7, MW-8, MW-10, MW-12, and MW-13. BPAPL believes that the objective of the groundwater-monitoring program can be met by conducting monitoring from a representative cross section of wells extending from the release area through the former treatment area. Therefore, BPAPL recommends selected monitoring wells be abandoned and excluded from the current monitoring program. The specific monitoring wells recommended for abandonment include:

- MW-1
- MW-5
- MW-6
- MW-7
- MW-9
- MW-10
- MW-13.

Even with these seven monitoring wells abandoned, there will still be seven monitoring wells (MW-2, MW-3, MW-4, MW-8, MW-11, MW-12, and MW-14) for continued monitoring of the site groundwater conditions. The remaining wells are strategically located at the site to allow data collection without compromising the groundwater monitoring program. Data from these wells will continue to allow BPAPL to adequately evaluate critical elements, such as groundwater levels, FPH presence and thickness, and groundwater dissolved hydrocarbon concentrations at the site. BPAPL will abandon the monitoring wells by the end of September 1999.

In addition to abandoning the seven monitoring wells, BPAPL also requests that groundwater sampling from Monitoring Wells MW-11 and MW-14 be performed semiannually, instead of quarterly, for one year. After that time, the need to continue sampling from those wells will be reevaluated. Those two wells will be sampled during August/September 1999 and March/April 2000. Also, the remaining wells that are sampled on an annual basis will be sampled during the August/September period. After that time, the need to continue sampling from those wells will also be reevaluated based on the groundwater BTEX concentrations and trends.

Recovery of FPH from monitoring well MW-2 has been implemented by hand bailing the FPH and placing it in a storage tank adjacent to the well. BPAPL is currently evaluating techniques for automatic FPH recovery from MW-2. The techniques being evaluated will allow for continuous recovery of FPH, instead of periodic recovery currently being performed. The recovered FPH will be pumped to the storage tank located next to MW-2. Methods for continuous FPH recovery being evaluated include hydrophilic skimmers along with low maintenance air or solar-powered pumping equipment; a self-adjusting pump also powered by either solar energy or on-site electricity that automatically adjusts the pump intake for changing water level; and wind-powered positive-displacement pumps for pumping total fluids to the storage tank. Specific details of the selected system will be furnished to the OCD for review and approval. We anticipate the selected system will be installed sometime in August or September 1999. FPH that is recovered from MW-2 will be periodically removed from the storage tank for proper disposal.

TABLE

TABLE 1
Monitoring Well Fluid Level Data
BPAmoco Pipeline Company
Artesia, New Mexico

Well No.	Date	Depth to FPH, ft	Depth to Water, ft	FPH Thickness, ft
MW-1	5/21/93	20.52	20.73	0.21
	11/17/94	17.54	17.56	0.02
	2/9/95	18.02	18.05	0.03
	6/16/95	19.15	19.21	0.06
	10/2/95	skim	16.48	skim
	11/26/95	15.85	15.87	0.02
	4/16/96	14.32	14.33	0.01
	7/6/96	15.55	15.57	0.02
	9/30/96	11.70	11.75	0.05
	1/10/97	12.79	12.90	0.11
	4/2/97	13.60	13.62	0.02
	7/10/97	14.78	14.79	0.01
	10/17/97	14.62	14.63	0.01
	1/18/98	none	13.74	0.00
	4/18/98	13.75	13.76	0.01
	5/29/98	none	14.56	0.00
	6/30/98	none	14.9	0.00
	7/23/98	none	15.71	0.00
	8/19/98	none	16.49	0.00
	12/5/98	none	17.94	0.00
	4/1/99	none	18.30	0.00
	6/3/99	none	17.65	0.00
MW-2	5/21/93	25.81	27.56	1.75
	11/17/94	23.28	26.67	3.39
	2/9/95	23.98	26.50	2.52
	6/16/95	25.63	26.45	0.82
	10/2/95	22.01	26.18	4.17
	11/26/95	21.23	26.17	4.94
	4/16/96	20.58	22.46	1.88
	7/6/96	21.86	25.18	3.32
	9/30/96	19.17	20.94	1.77
	1/10/97	20.20	22.98	2.78
	4/2/97	21.00	24.04	3.04
	7/10/97	22.41	23.50	1.09
	10/17/97	21.92	26.18	4.26
	1/18/98	20.03	24.00	3.97
	4/18/98	21.04	25.31	4.27
	5/29/98	21.68	25.86	4.18
	6/30/98	22.00	26.2	4.20
	7/23/98	23.08	26.25	3.17
	8/19/98	23.66	26.16	2.50
	12/5/98	24.90	26.70	1.80
	4/1/99	25.15	26.47	1.32
	6/1/99	23.10	26.20	3.10

TABLE 1 (cont.)
Monitoring Well Fluid Level Data

Well No.	Date	Depth to FPH, ft	Depth to Water, ft	FPH Thickness, ft
MW-3	5/21/93	16.45	17.81	1.36
	11/17/94	13.07	13.65	0.58
	2/9/95	13.75	14.32	0.57
	6/16/95	15.20	15.84	0.64
	10/2/95	10.69	11.43	0.74
	11/26/95	9.69	10.41	0.72
	4/16/96	9.58	9.63	0.05
	7/6/96	11.70	11.80	0.10
	9/30/96	8.71	8.75	0.04
	1/10/97	10.33	10.40	0.07
	4/2/97	11.36	11.42	0.06
	7/10/97	13.02	13.10	0.08
	10/17/97	13.22	13.24	0.02
	1/18/98	10.68	10.78	0.10
	4/18/98	11.47	11.55	0.08
	5/29/98	12.34	12.45	0.11
	6/30/98	12.70	12.80	0.10
	7/23/98	13.95	14.02	0.07
	8/19/98	15.08	15.15	0.07
	12/5/98	16.4	16.5	0.10
	4/1/99	16.00	16.08	0.08
	6/3/99	14.35	14.38	0.03
MW-4	11/17/94	none	28.28	0.00
	2/9/95	none	28.51	0.00
	6/16/95	none	29.58	0.00
	10/2/95	none	24.42	0.00
	11/26/95	none	22.61	0.00
	4/16/96	none	20.63	0.00
	7/6/96	none	26.44	0.00
	9/30/96	none	21.88	0.00
	1/10/97	none	25.24	0.00
	4/2/97	none	25.49	0.00
	4/18/98	none	25.02	0.00
	12/5/98	29.52	29.70	0.18
	4/1/99	28.65	28.67	0.02
	6/3/99	none	26.48	0.00

TABLE 1 (cont.)
Monitoring Well Fluid Level Data

Well No.	Date	Depth to FPH, ft	Depth to Water, ft	FPH Thickness, ft
MW-5	11/17/94	16.22	24.19	7.97
	2/9/95	16.84	24.85	8.01
	6/16/95	19.44	21.14	1.70
	10/2/95	16.19	17.85	1.66
	11/26/95	17.58	19.31	1.73
	4/16/96	17.04	17.25	0.21
	7/6/96	16.20	16.36	0.16
	9/30/96	11.17	11.38	0.21
	1/10/97	13.45	13.60	0.15
	4/2/97	14.19	14.35	0.16
	7/10/97	16.22	16.25	0.03
	10/17/97	13.37	13.39	0.02
	1/18/98	13.57	13.58	0.01
	4/18/98	14.04	14.05	0.01
	5/29/98	none	15.09	0.00
	6/30/98	none	15.42	0.00
	7/23/98	none	17.30	0.00
	8/19/98	18.09	18.10	0.01
	12/5/98	none	18.94	0.00
	4/1/99	none	19.48	0.00
	6/3/99	none	14.46	0.00
MW-6	11/17/94	trace	14.53	trace
	2/9/95	none	15.02	0.00
	6/16/95	16.24	16.27	0.03
	10/2/95	none	13.55	0.00
	11/26/95	none	14.84	0.00
	4/16/96	none	13.80	0.00
	7/6/96	none	14.55	0.00
	9/30/96	none	9.62	0.00
	1/10/97	none	12.26	0.00
	4/2/97	none	12.03	0.00
	4/18/98	none	12.14	0.00
	12/5/98	none	15.95	0.00
	4/1/99	none	16.04	0.00
	6/3/99	none	13.6	0.00

TABLE 1 (cont.)
Monitoring Well Fluid Level Data

Well No.	Date	Depth to FPH, ft	Depth to Water, ft	FPH Thickness, ft
MW-7	11/17/94	none	34.33	0.00
	2/9/95	none	34.67	0.00
	6/16/95	none	35.61	0.00
	10/2/95	none	33.79	0.00
	11/26/95	none	33.20	0.00
	4/16/96	none	30.95	0.00
	7/6/96	none	33.36	0.00
	9/30/96	none	29.15	0.00
	1/10/97	none	30.72	0.00
	4/2/97	none	31.85	0.00
	4/18/98	None	31.94	0.00
	12/5/98	None	35.24	0.00
	4/1/99	None	35.24	0.00
	6/3/99	None	33.32	0.00
MW-8	11/17/94	13.69	14.95	1.26
	2/9/95	14.46	15.02	0.56
	6/16/95	15.50	16.41	0.91
	10/2/95	13.03	13.45	0.42
	11/26/95	14.16	14.71	0.55
	4/16/96	13.66	13.70	0.04
	7/6/96	13.05	13.07	0.02
	9/30/96	8.04	8.07	0.03
	1/10/97	9.89	9.90	0.01
	4/2/97	10.58	10.60	0.02
	7/10/97	none	12.59	0.00
	10/17/97	none	10.20	0.00
	1/18/98	none	10.08	0.00
	4/18/98	none	10.52	0.00
	5/29/99	none	11.55	0.00
	6/30/98	none	11.87	0.00
	7/23/98	none	13.65	0.00
	8/19/98	none	14.42	0.00
	12/5/98	none	15.30	0.00
	4/1/99	none	15.73	0.00
	6/3/99	none	11.88	0.00

TABLE 1 (cont.)
Monitoring Well Fluid Level Data

Well No.	Date	Depth to FPH, ft	Depth to Water, ft	FPH Thickness, ft
MW-9	11/17/94	23.07	23.10	0.03
	2/9/95	trace	23.41	trace
	6/16/95	trace	24.65	trace
	10/2/95	skim	20.73	skim
	11/26/95	skim	19.52	skim
	4/16/96	17.53	17.54	0.01
	7/6/96	21.20	21.23	0.03
	9/30/96	16.00	16.02	0.02
	1/10/97	17.55	17.57	0.02
	4/2/97	18.91	18.92	0.01
	7/10/97	20.39	20.41	0.02
	10/17/97	20.13	20.15	0.02
	1/18/98	18.39	18.40	0.01
	4/18/98	18.80	18.81	0.01
	5/29/98	none	19.50	0.00
	6/30/98	none	19.82	0.00
	7/23/98	21.00	21.01	0.01
	8/19/98	none	21.75	0.00
	12/5/98	none	23.18	0.00
	4/1/99	none	22.85	0.00
	6/3/99	none	20.85	0.00
MW-10	11/17/94	19.02	21.24	2.22
	2/9/95	19.74	22.36	2.62
	6/16/95	20.97	23.30	2.33
	10/2/95	18.49	19.55	1.06
	11/26/95	20.13	22.03	1.90
	4/16/96	20.26	20.88	0.62
	7/6/96	19.86	20.03	0.17
	9/30/96	none	15.62	0.00
	1/10/97	19.00	19.05	0.05
	4/2/97	19.35	19.40	0.05
	7/10/97	20.37	20.42	0.05
	10/17/97	none	16.58	0.00
	1/18/98	none	17.82	0.00
	4/18/98	none	18.27	0.00
	5/29/99	none	18.72	0.00
	6/30/98	none	19.04	0.00
	7/23/98	none	19.26	0.00
	8/19/98	none	19.40	0.00
	12/5/98	none	19.69	0.00
	4/1/99	none	19.62	0.00
	6/3/99	none	17.10	0.00

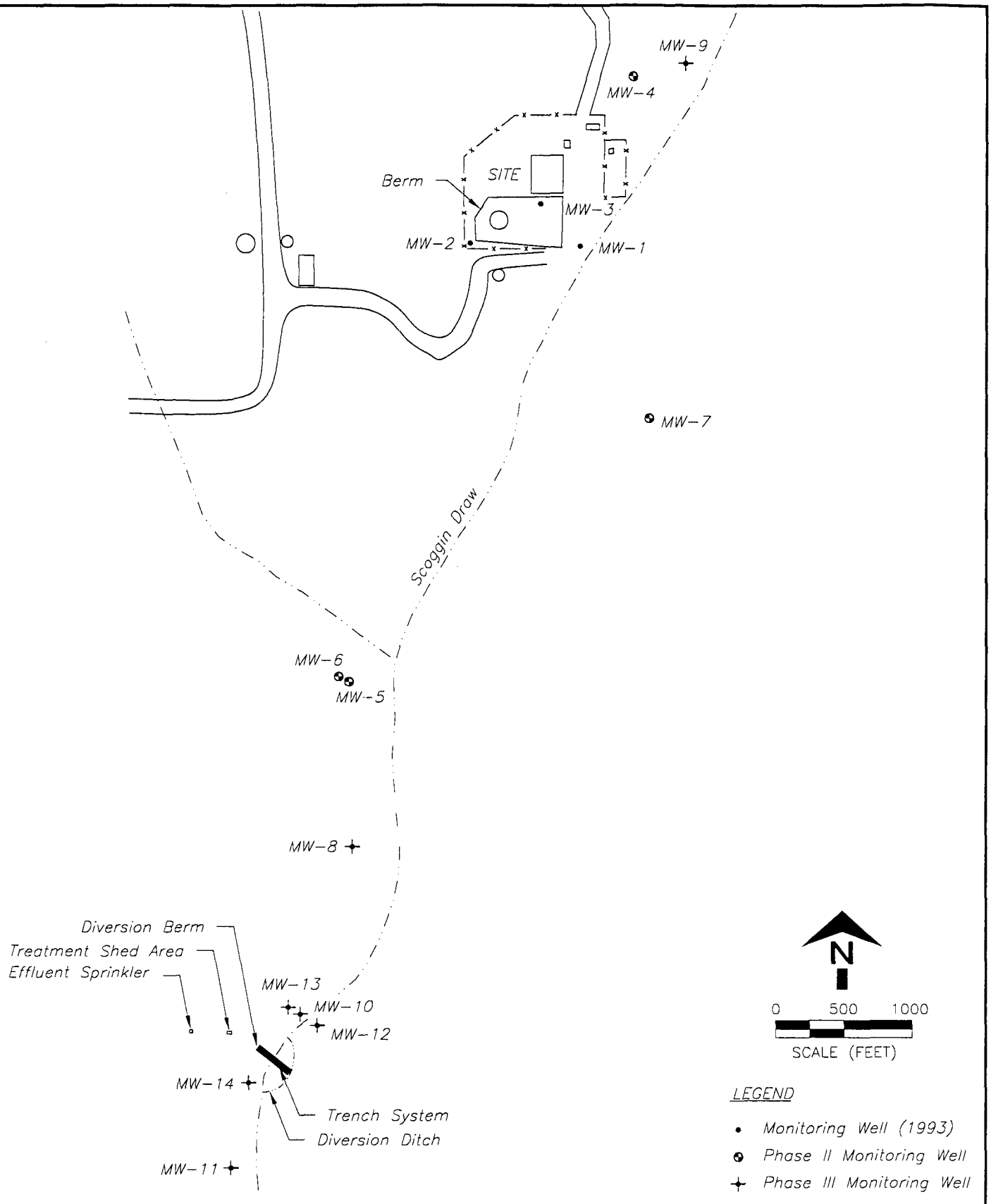
TABLE 1 (cont.)
Monitoring Well Fluid Level Data

Well No.	Date	Depth to FPH, ft	Depth to Water, ft	FPH Thickness, ft
MW-11	11/17/94	none	19.34	0.00
	2/9/95	none	19.61	0.00
	6/16/95	none	20.08	0.00
	10/2/95	none	19.74	0.00
	11/26/95	none	19.94	0.00
	4/16/96	none	19.68	0.00
	7/6/96	none	19.75	0.00
	9/30/96	none	18.65	0.00
	1/10/97	none	19.92	0.00
	4/2/97	none	14.50	0.00
	1/18/98	none	18.91	0.00
	4/18/98	none	19.07	0.00
	6/30/98	none	19.39	0.00
	8/19/98	none	19.54	0.00
	12/5/98	none	19.47	0.00
	4/1/99	none	19.44	0.00
	6/2/99	none	19.58	0.00
MW-12	11/17/94	none	16.47	0.00
	2/9/95	none	16.78	0.00
	6/16/95	none	17.28	0.00
	10/2/95	none	16.03	0.00
	11/26/95	none	16.63	0.00
	4/16/96	none	16.55	0.00
	7/6/96	none	16.45	0.00
	9/30/96	none	13.81	0.00
	1/10/97	none	18.92	0.00
	4/2/97	none	15.20	0.00
	4/18/98	none	14.91	0.00
	12/5/98	none	16.63	0.00
	4/1/99	none	16.87	0.00
	6/3/99	none	15.55	0.00

TABLE 1 (cont.)
Monitoring Well Fluid Level Data

Well No.	Date	Depth to FPH, ft	Depth to Water, ft	FPH Thickness, ft
MW-13	11/17/94	20.41	20.49	0.08
	2/9/95	20.84	20.87	0.03
	6/16/95	21.35	21.40	0.05
	10/2/95	19.35	19.44	0.09
	11/26/95	21.53	21.58	0.05
	4/16/96	21.82	21.90	0.08
	7/6/96	21.00	21.05	0.05
	9/30/96	16.40	16.42	0.02
	1/10/97	19.17	19.19	0.02
	4/2/97	18.50	18.52	0.02
	7/10/97	none	19.00	0.00
	10/17/97	none	18.03	0.00
	1/18/98	none	19.11	0.00
	4/18/98	none	19.60	0.00
	5/29/98	none	19.96	0.00
	6/30/98	none	20.28	0.00
	7/23/98	none	20.91	0.00
	8/19/98	none	21.25	0.00
	12/5/98	none	21.6	0.00
	4/1/99	none	21.81	0.00
	6/3/99	none	18.52	0.00
MW-14	11/17/94	none	18.11	0.00
	2/9/95	none	18.45	0.00
	6/16/95	none	18.93	0.00
	10/2/95	none	18.63	0.00
	11/26/95	none	18.83	0.00
	4/16/96	none	18.55	0.00
	7/6/96	none	18.58	0.00
	9/30/96	none	17.63	0.00
	1/10/97	none	17.42	0.00
	4/2/97	none	17.82	0.00
	1/18/98	none	17.61	0.00
	4/18/98	none	17.77	0.00
	6/30/98	none	18.10	0.00
	8/19/98	none	18.23	0.00
	12/5/98	none	18.15	0.00
	4/1/99	none	18.27	0.00
	6/2/99	none	18.25	0.00

FIGURES



BASCOR Environmental, Inc.
consulting engineers and scientists

AMOCO PIPELINE COMPANY
Artesia, New Mexico

SITE LAYOUT

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-6-99

FILENAME: D:\DWGS\AP98223\BASEMAP.DWG
REFERENCE FILES: NONE

FIGURE 1

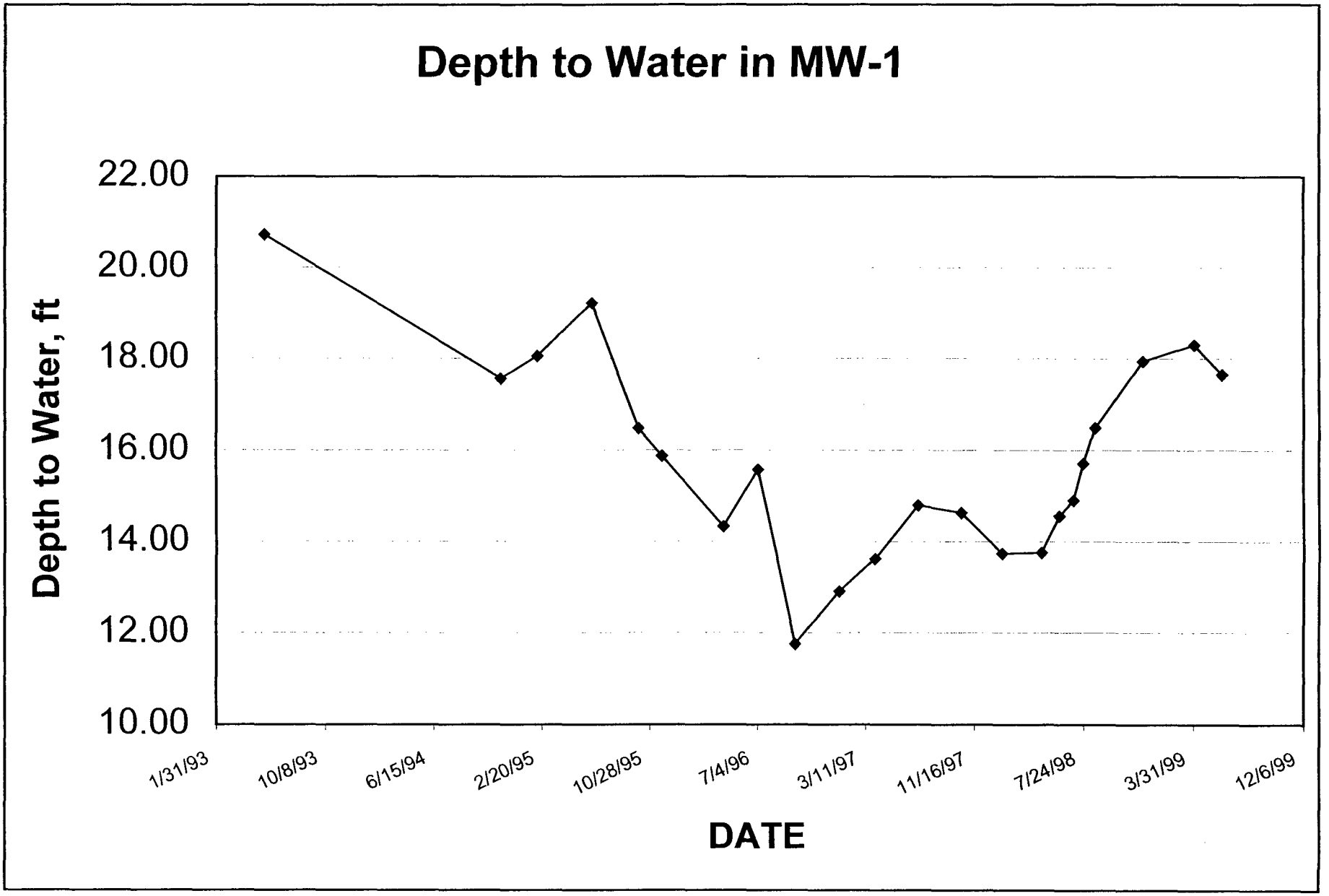

Depth to Water in MW-1
Depth to Water, ft
22.00
20.00
18.00
16.00
14.00
12.00
10.00
1/31/93
10/8/93
6/15/94
2/20/95
10/28/95
7/4/96
3/11/97
11/16/97
7/24/98
3/31/99
12/6/99
DATE

FIGURE 2

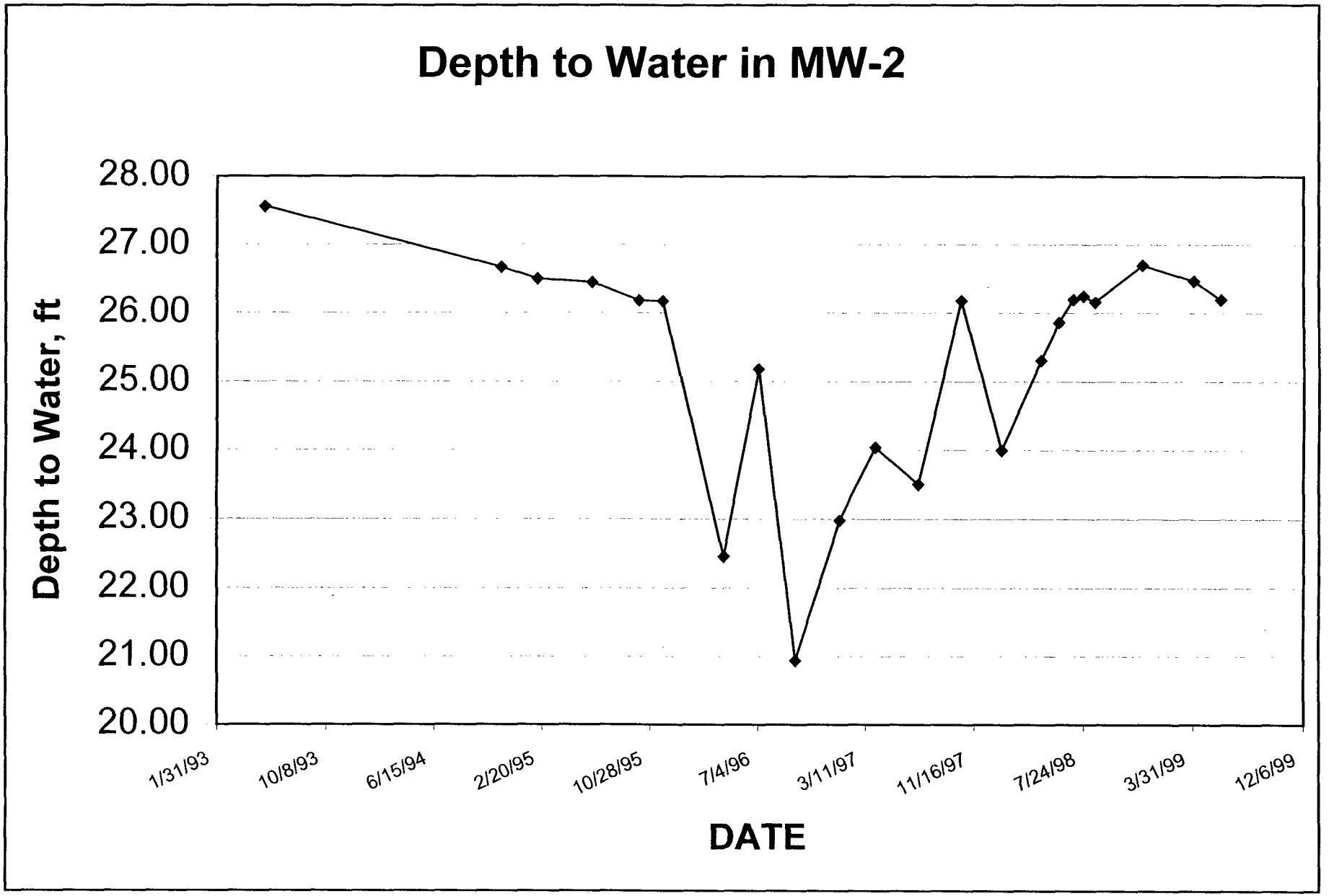

Depth to Water in MW-2
Depth to Water, ft
28.00
27.00
26.00
25.00
24.00
23.00
22.00
21.00
20.00
1/31/93
10/8/93
6/15/94
2/20/95
10/28/95
7/4/96
3/11/97
11/16/97
7/24/98
3/31/99
12/6/99
DATE

FIGURE 3

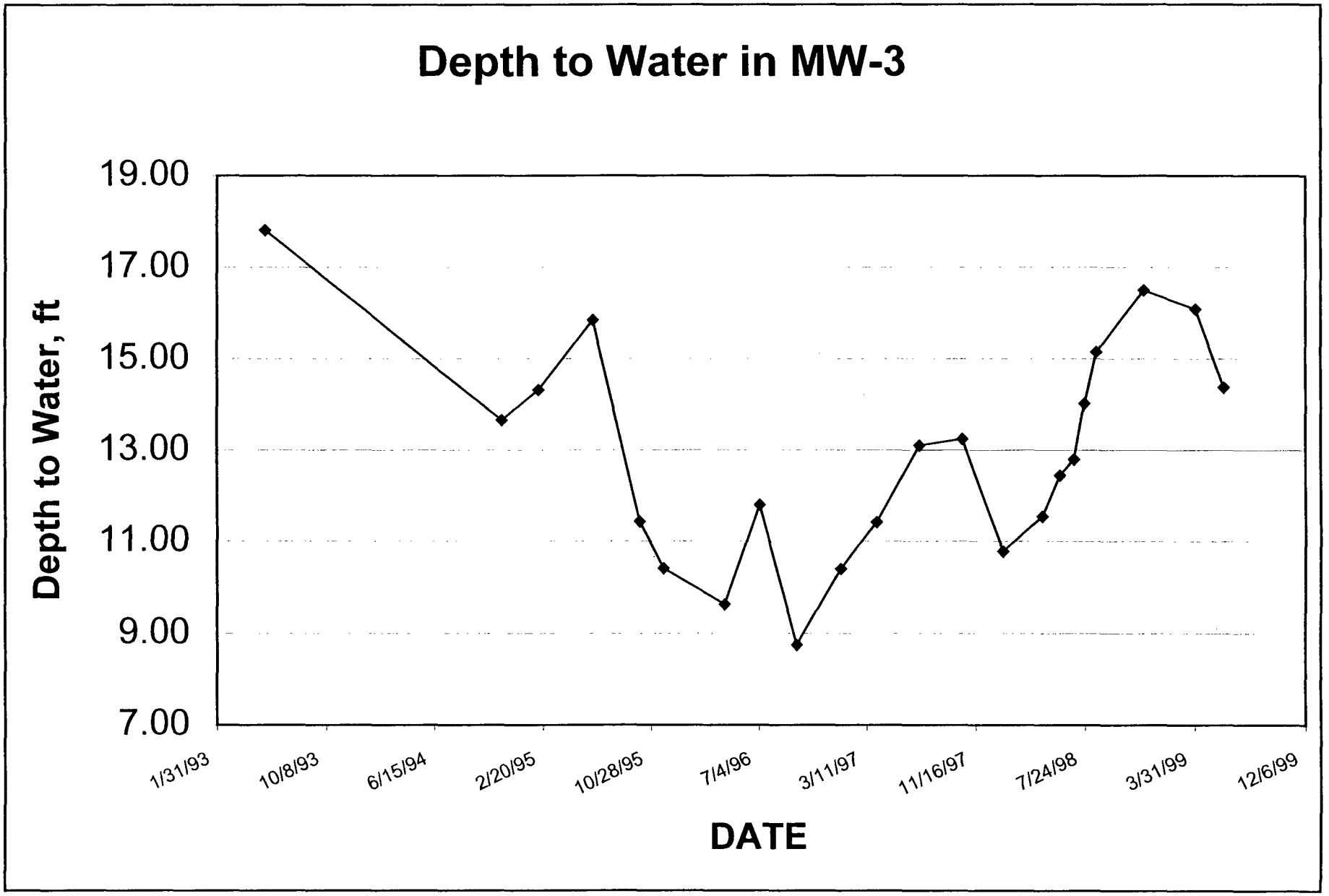

Depth to Water in MW-3
Depth to Water, ft
19.00
17.00
15.00
13.00
11.00
9.00
7.00
1/31/93
10/8/93
6/15/94
2/20/95
10/28/95
7/4/96
3/11/97
11/16/97
7/24/98
3/31/99
12/6/99
DATE

FIGURE 4

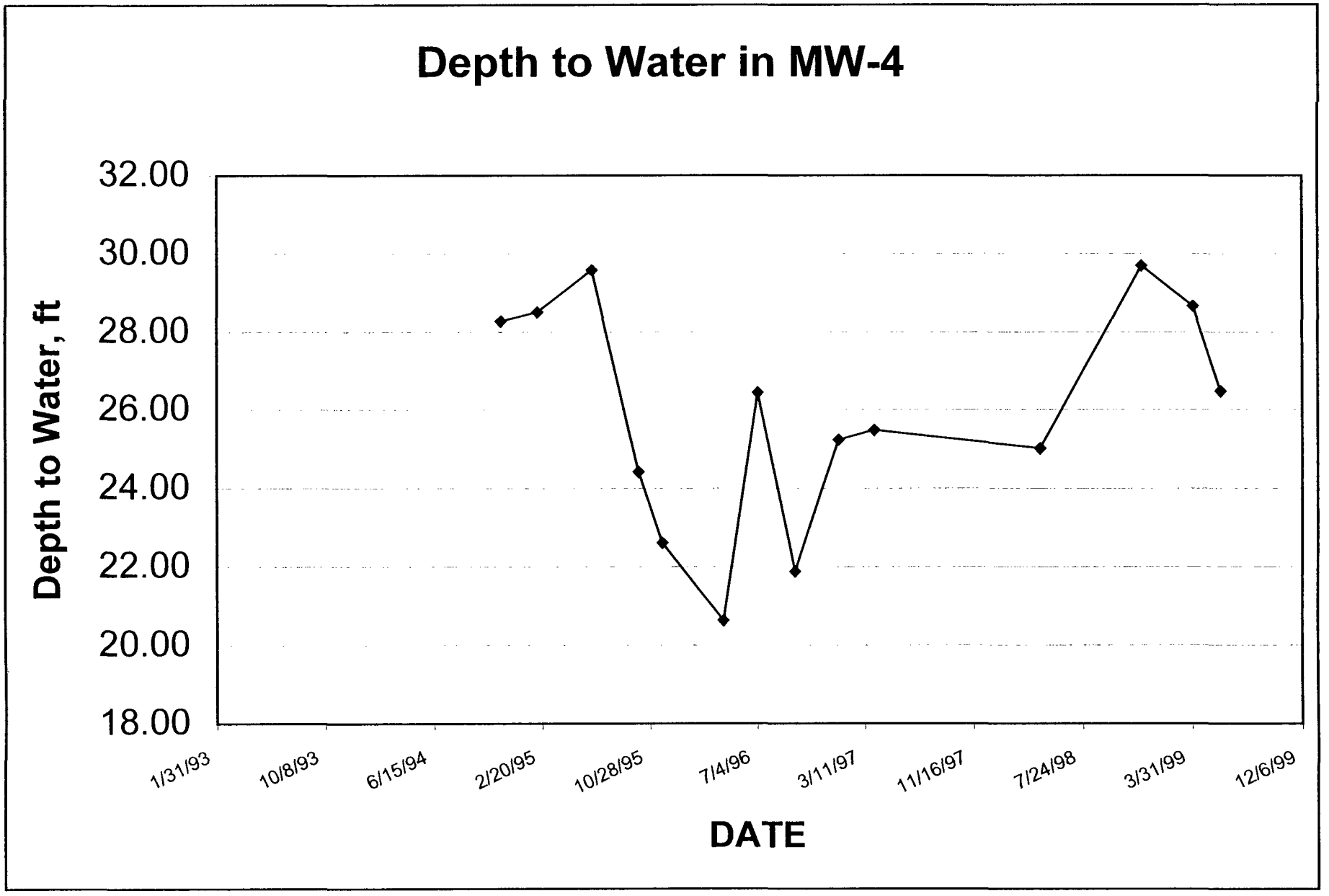

Depth to Water in MW-4
Depth to Water, ft
32.00
30.00
28.00
26.00
24.00
22.00
20.00
18.00
1/31/93
10/8/93
6/15/94
2/20/95
10/28/95
7/4/96
3/11/97
11/16/97
7/24/98
3/31/99
12/6/99
DATE

FIGURE 5

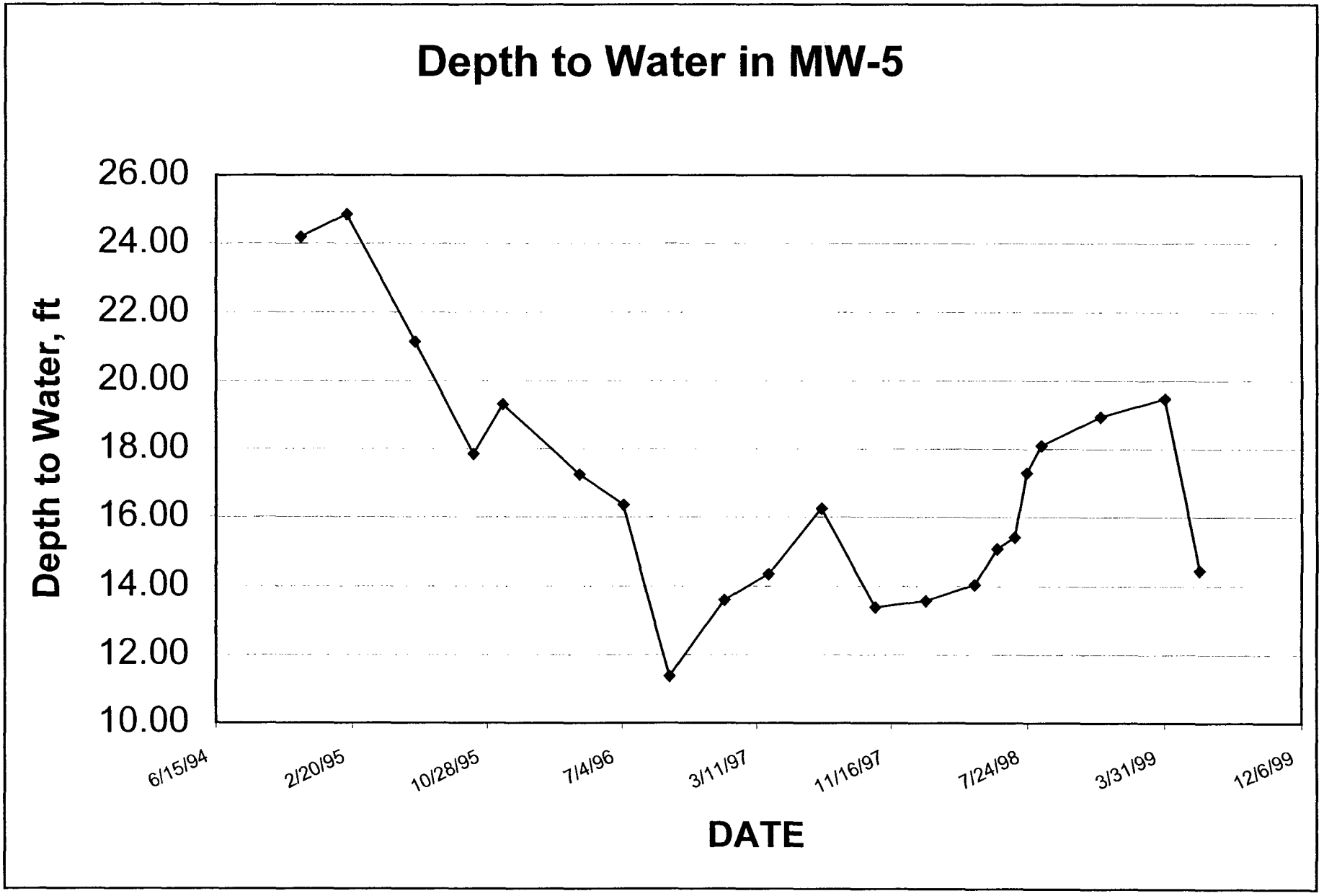

Depth to Water in MW-5
Depth to Water, ft
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
6/15/94
2/20/95
10/28/95
7/4/96
3/11/97
11/16/97
7/24/98
3/31/99
12/6/99
DATE

FIGURE 6

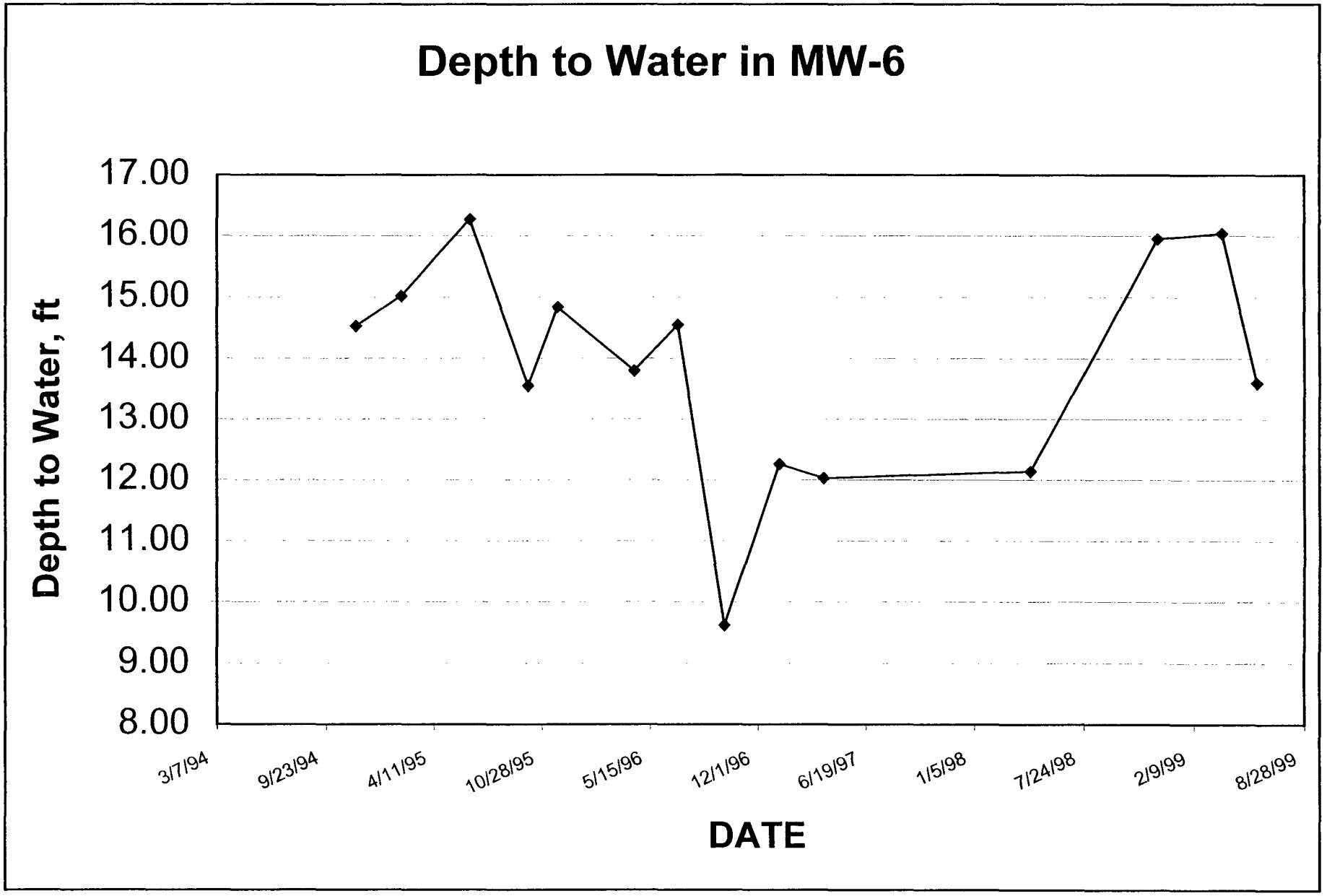

Depth to Water in MW-6
Depth to Water, ft
17.00
16.00
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 7

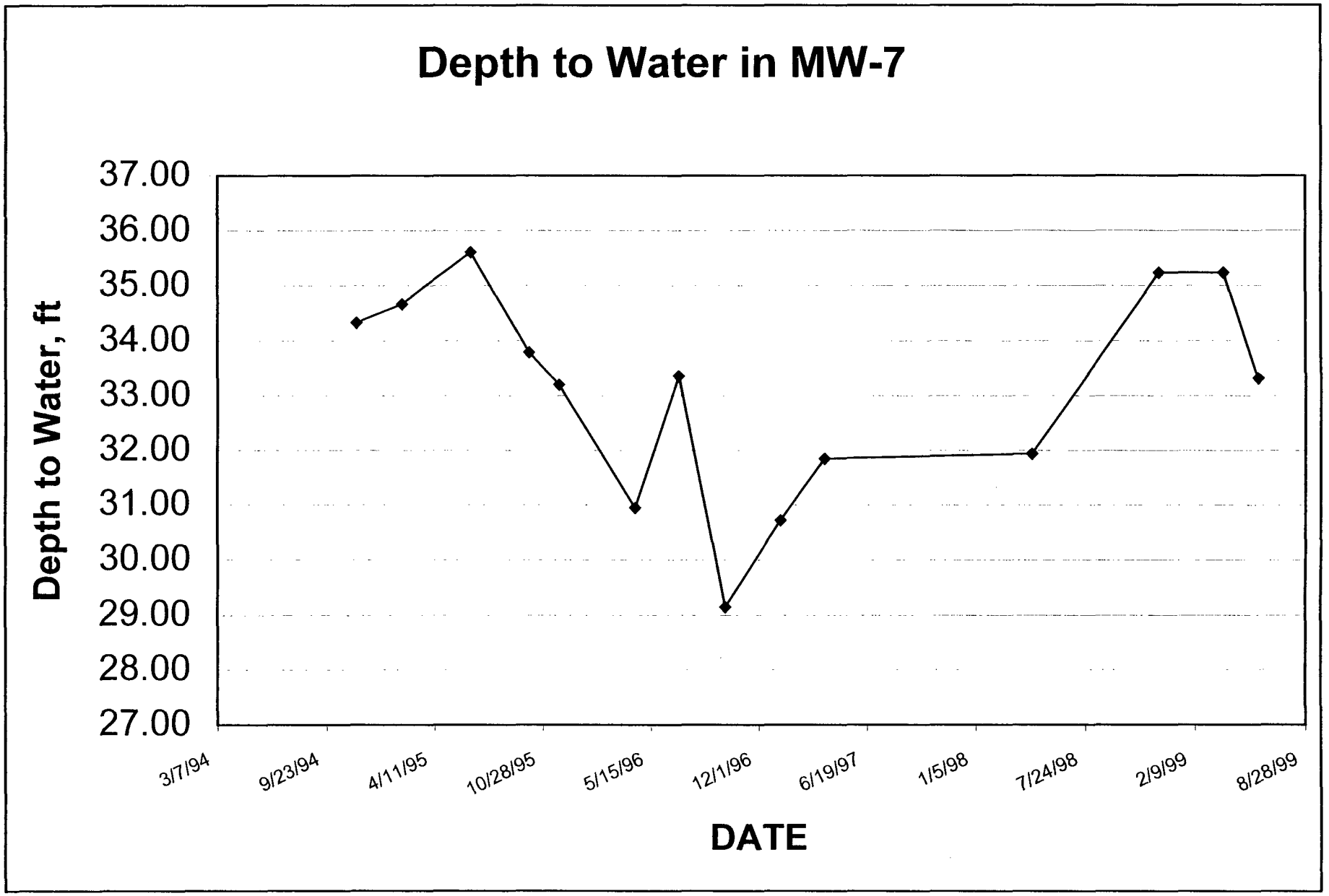

Depth to Water in MW-7
Depth to Water, ft
37.00
36.00
35.00
34.00
33.00
32.00
31.00
30.00
29.00
28.00
27.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 8

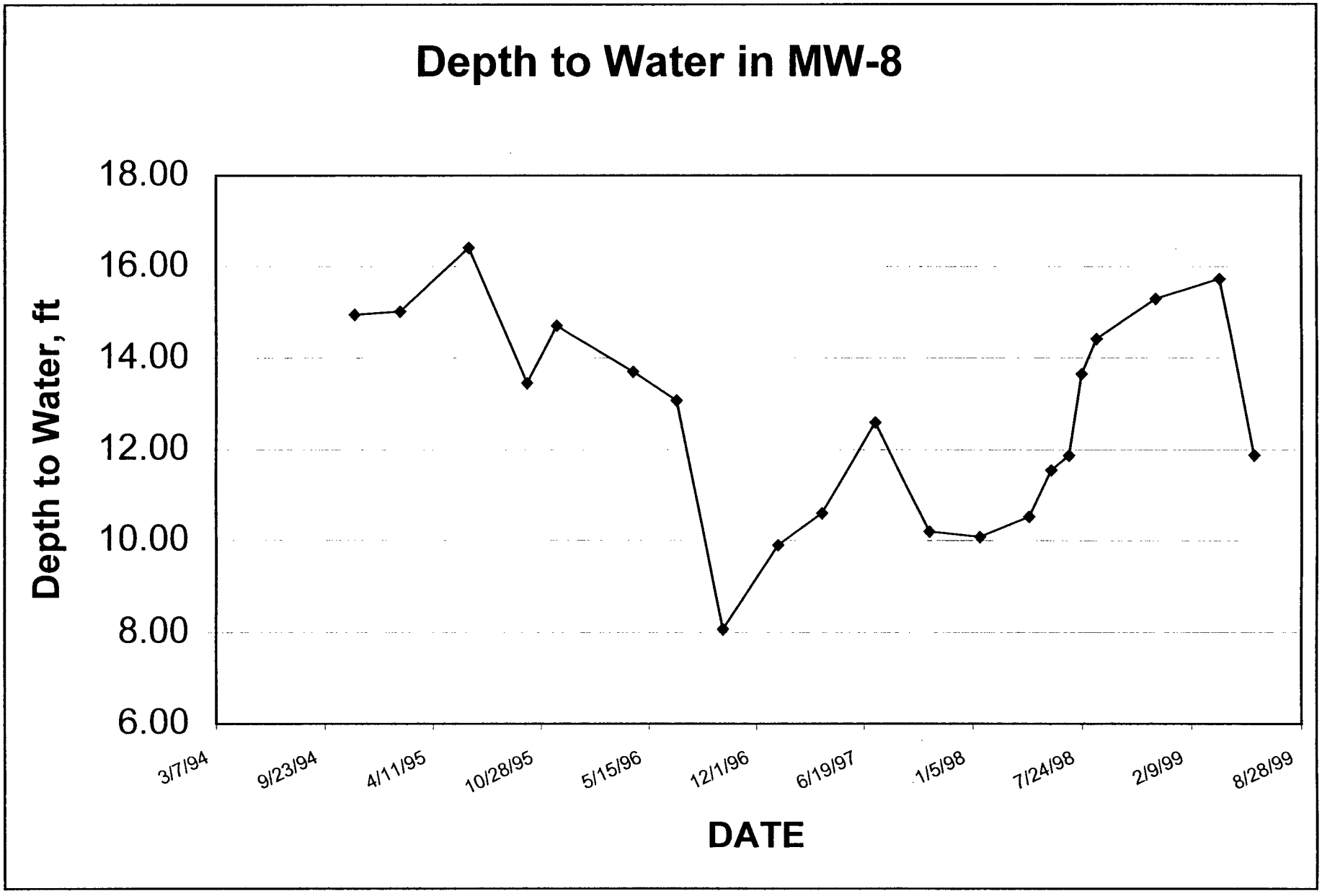

Depth to Water in MW-8
Depth to Water, ft
18.00
16.00
14.00
12.00
10.00
8.00
6.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 9

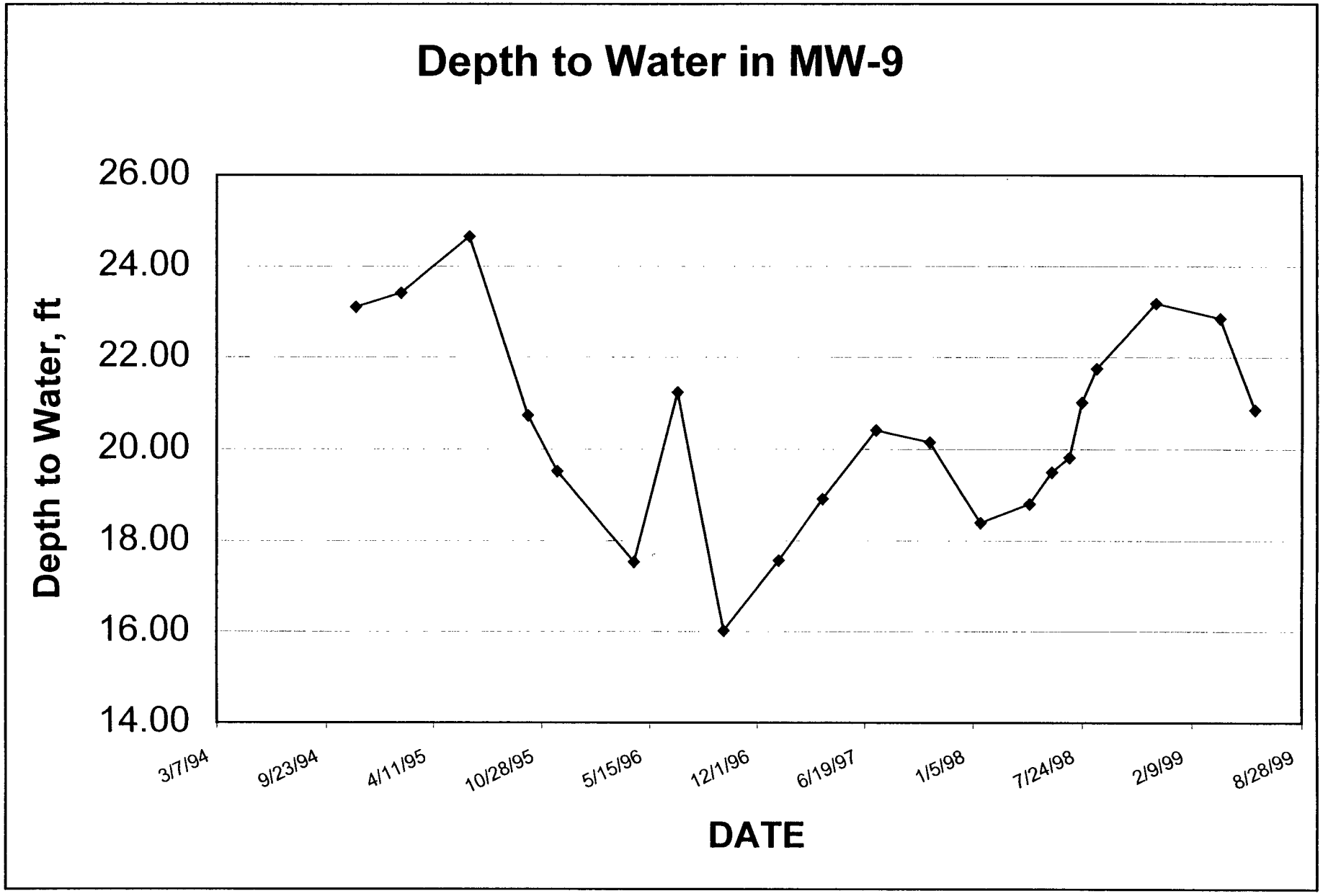

Depth to Water in MW-9
Depth to Water, ft
26.00
24.00
22.00
20.00
18.00
16.00
14.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 10

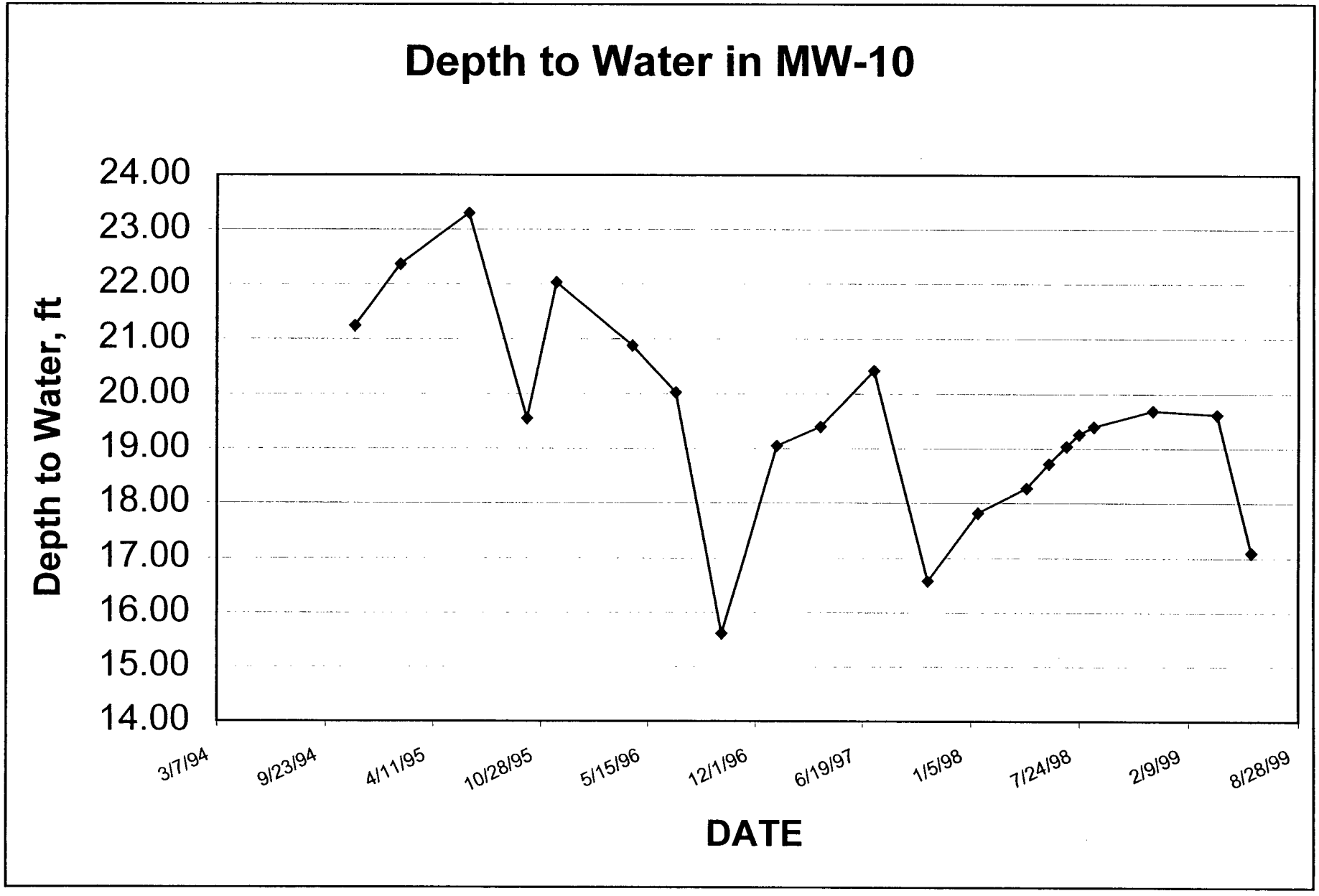

Depth to Water in MW-10
Depth to Water, ft
24.00
23.00
22.00
21.00
20.00
19.00
18.00
17.00
16.00
15.00
14.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 11

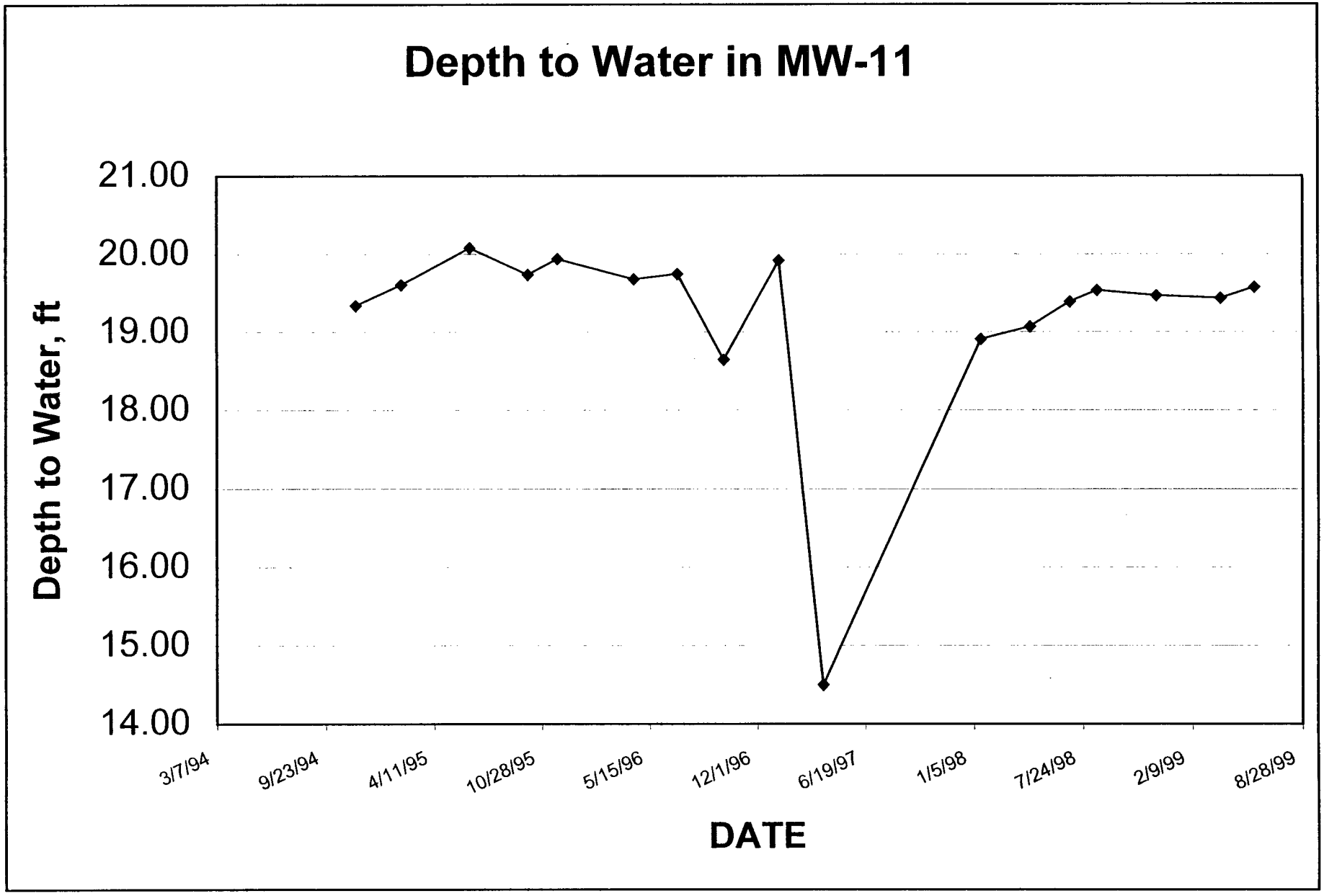

Depth to Water in MW-11
Depth to Water, ft
21.00
20.00
19.00
18.00
17.00
16.00
15.00
14.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 12

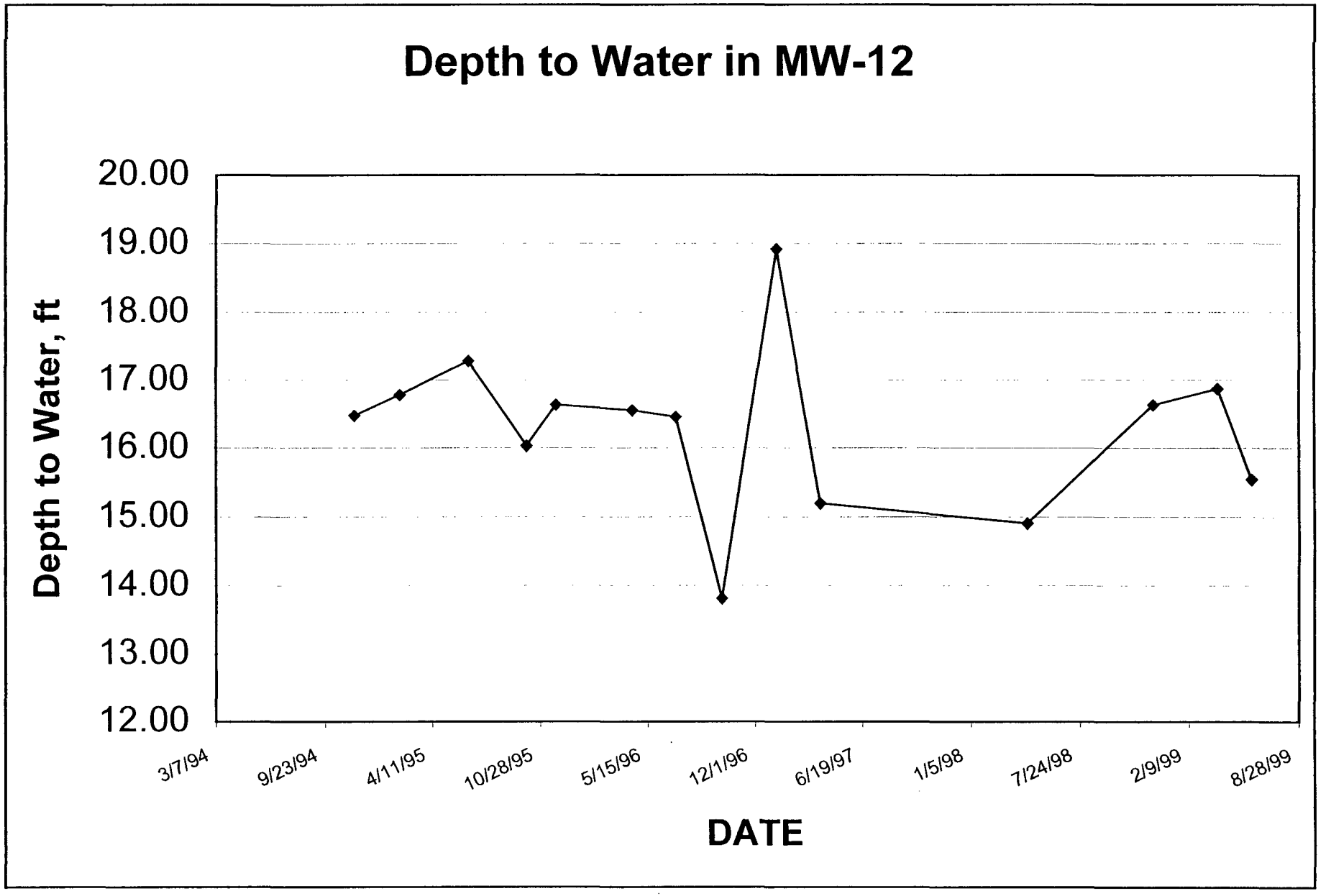

Depth to Water in MW-12
Depth to Water, ft
20.00
19.00
18.00
17.00
16.00
15.00
14.00
13.00
12.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 13

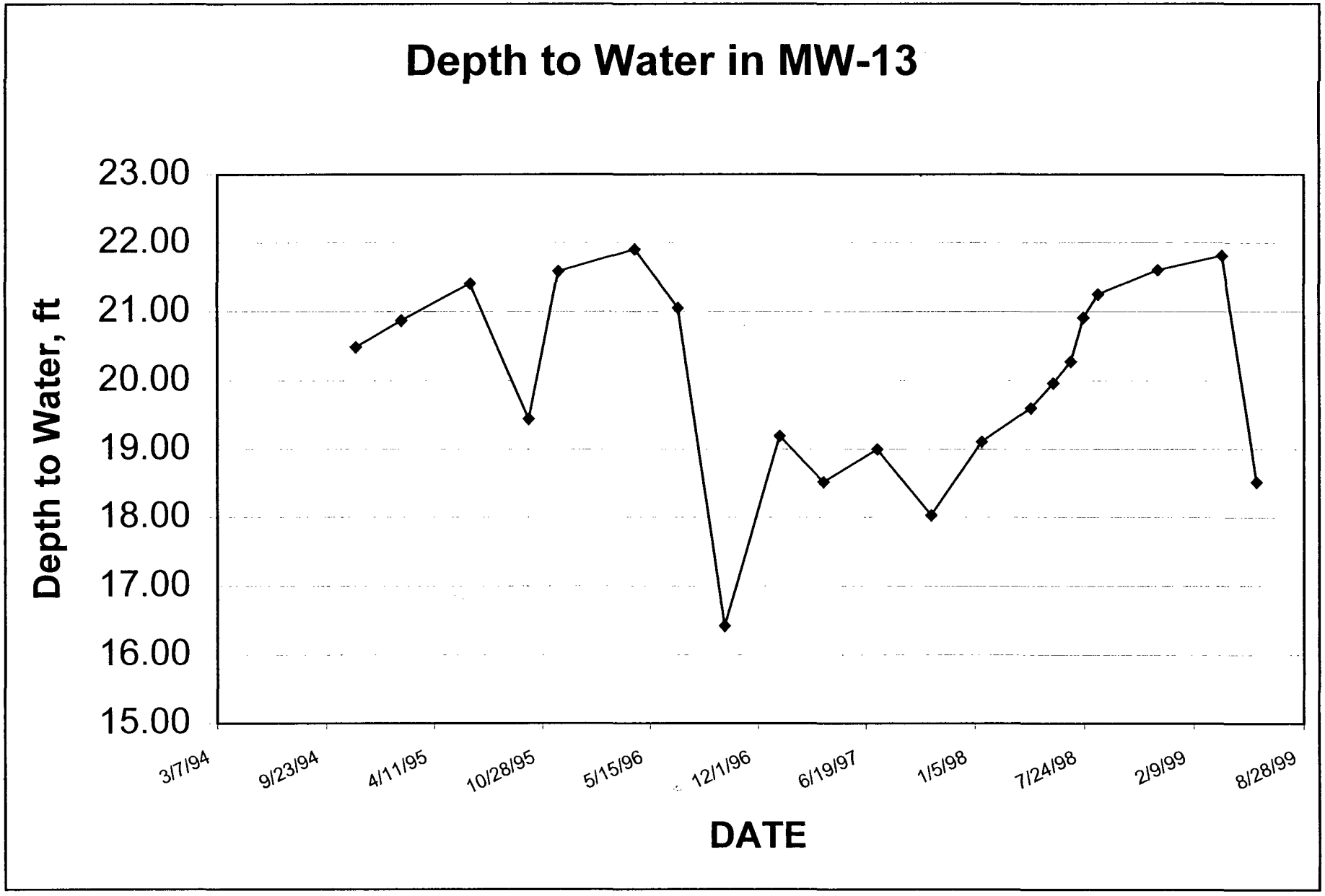

Depth to Water in MW-13
Depth to Water, ft
23.00
22.00
21.00
20.00
19.00
18.00
17.00
16.00
15.00
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 14

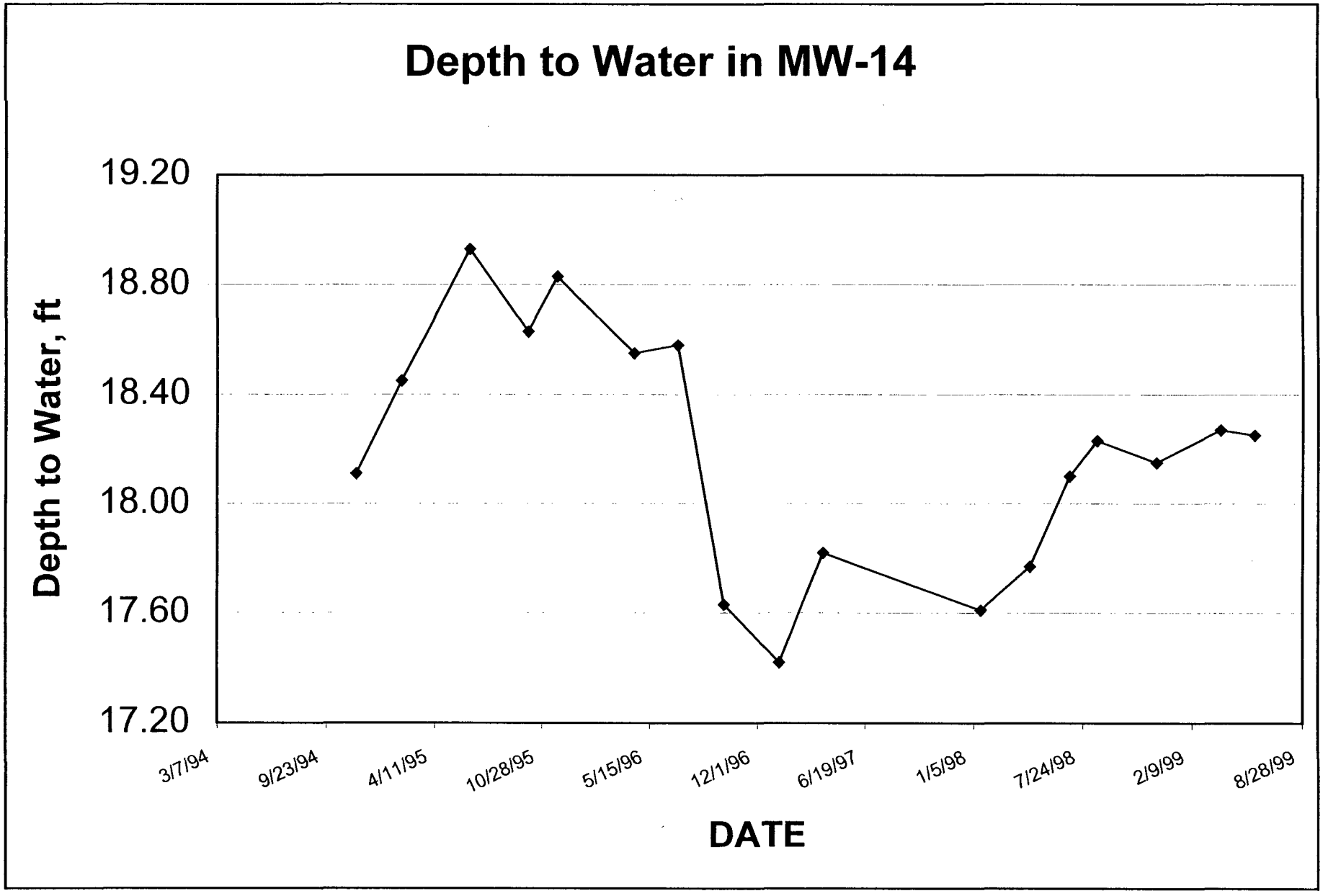
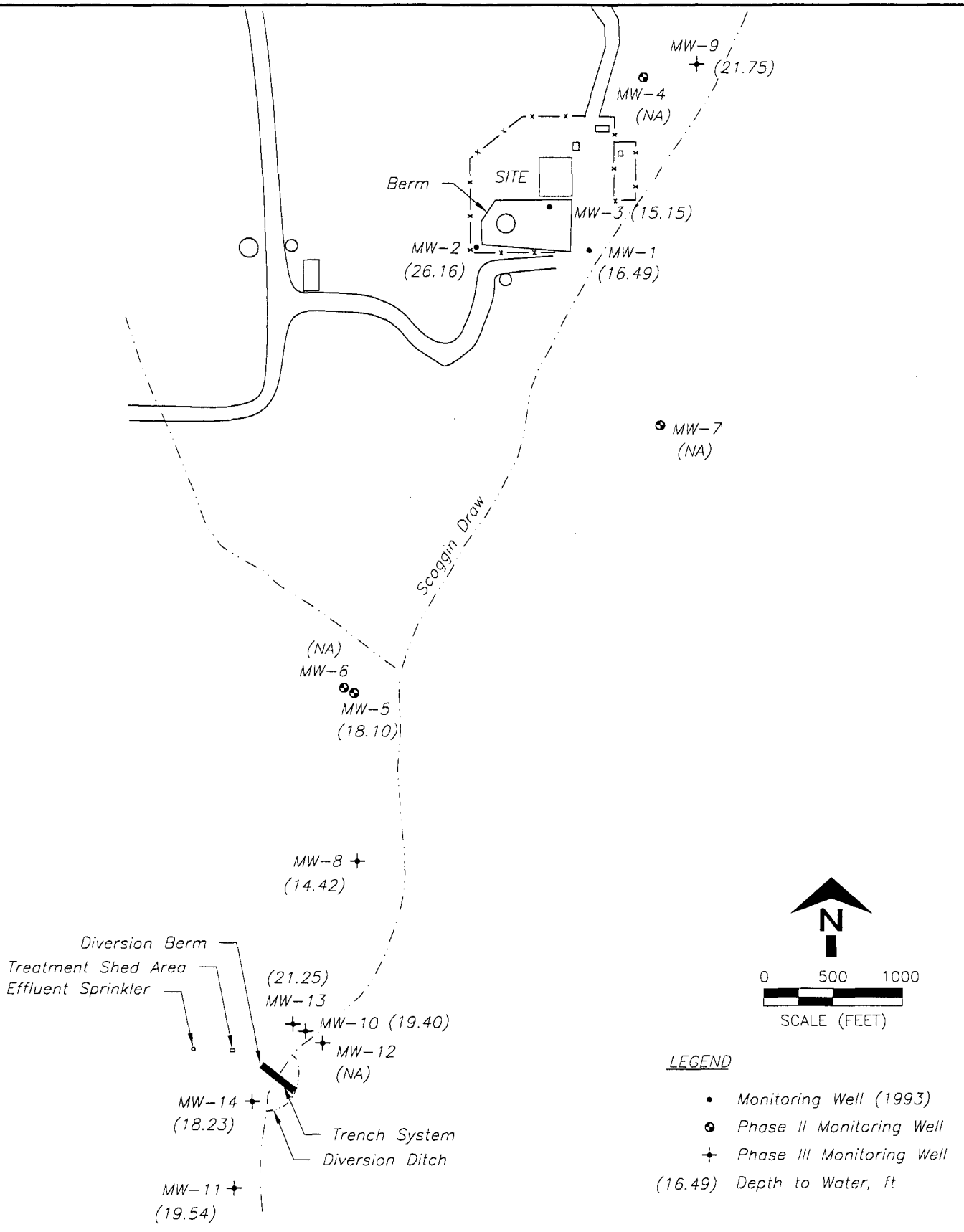

Depth to Water in MW-14
Depth to Water, ft
19.20
18.80
18.40
18.00
17.60
17.20
3/7/94
9/23/94
4/11/95
10/28/95
5/15/96
12/1/96
6/19/97
1/5/98
7/24/98
2/9/99
8/28/99
DATE

FIGURE 15



BASCOR Environmental, Inc.
consulting engineers and scientists

AMOCO

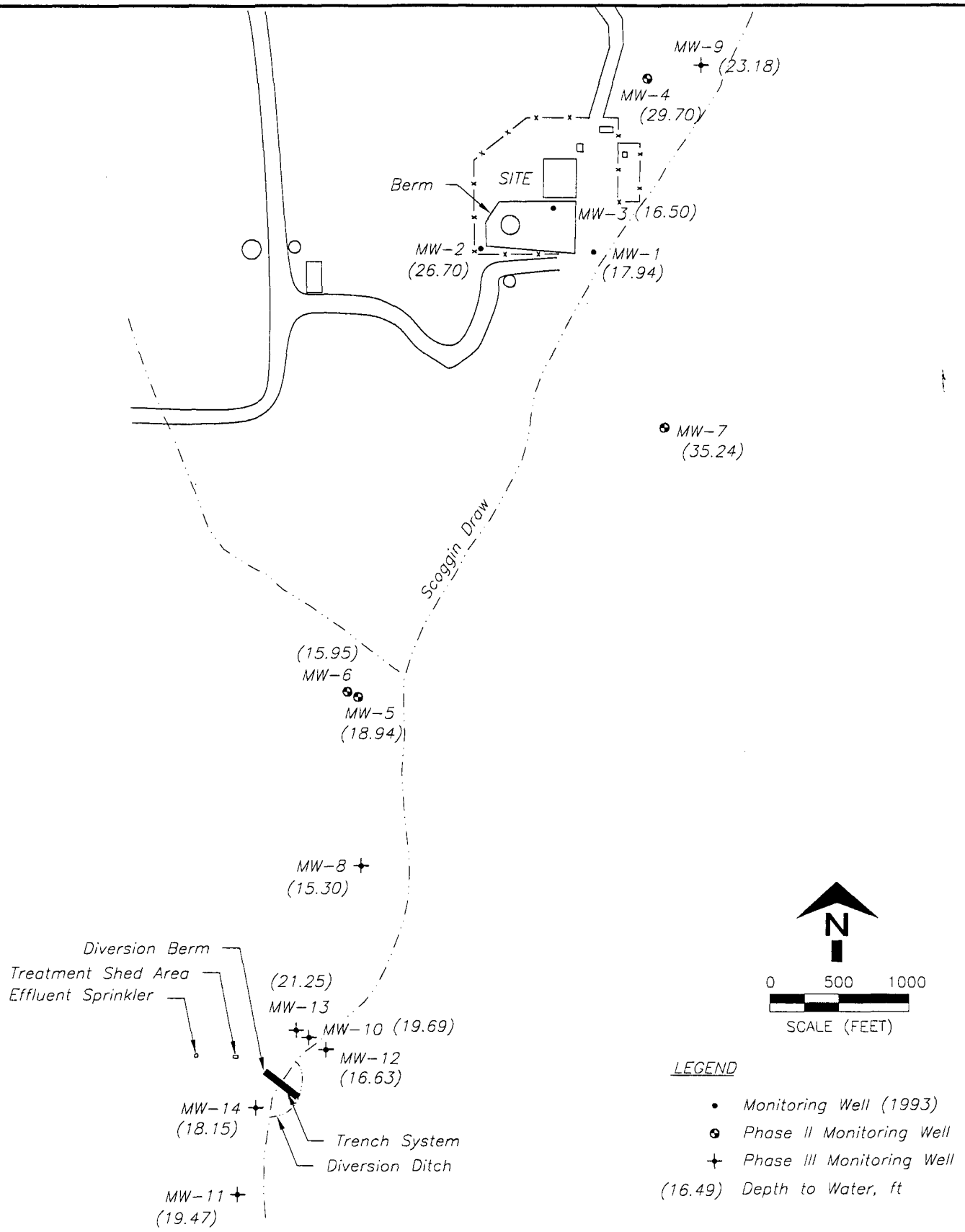
AMOCO PIPELINE COMPANY
Artesia, New Mexico

MEASURED DEPTH TO WATER DATA, 8/19/98

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG
REFERENCE FILES: NONE

FIGURE 16



BASCOR Environmental, Inc.
consulting engineers and scientists

AMOCO PIPELINE COMPANY

Artesia, New Mexico

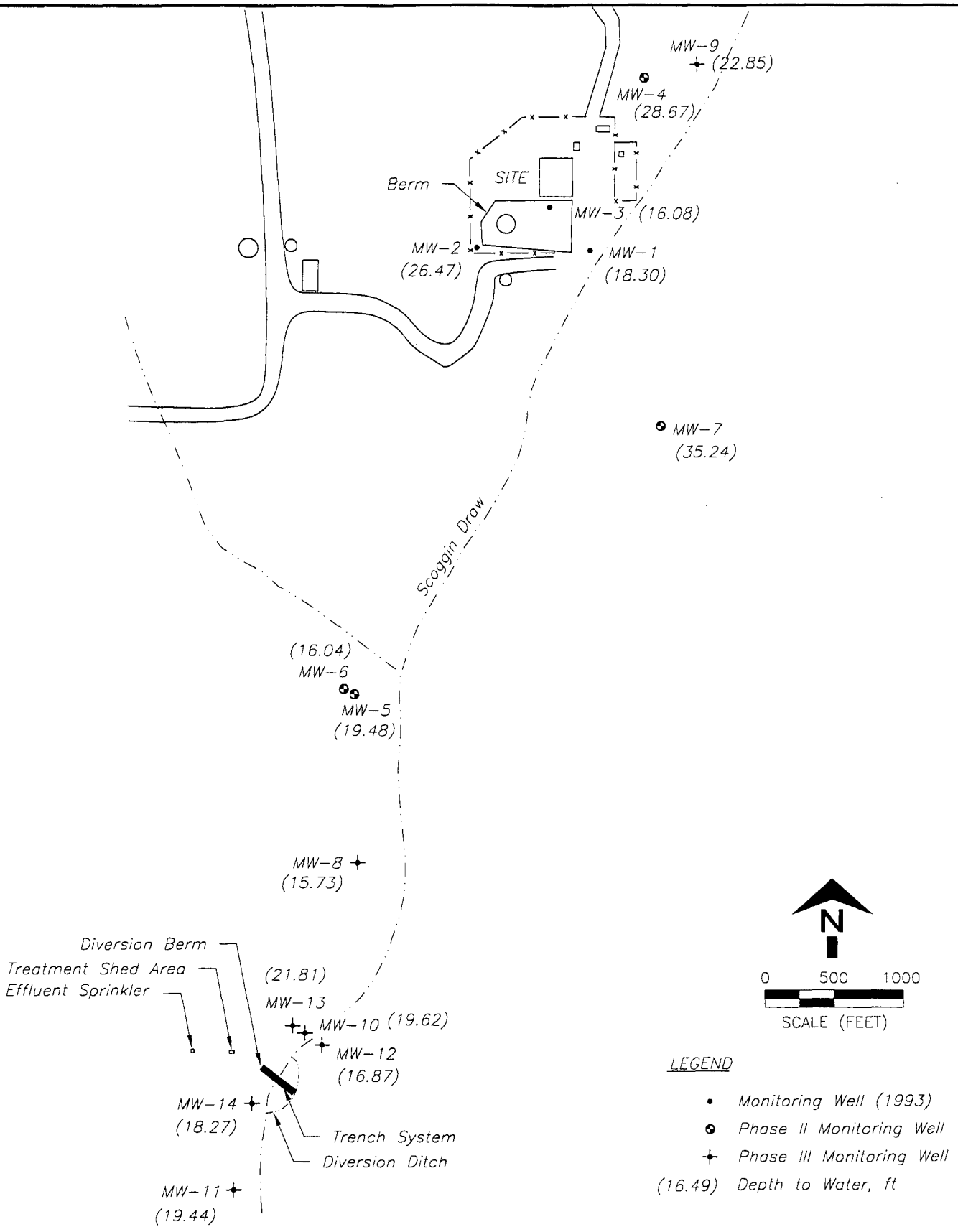
MEASURED DEPTH TO WATER DATA, 12/5/98

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG

REFERENCE FILES: NONE

FIGURE 17



BASCOR Environmental, Inc.
consulting engineers and scientists

AMOCO

AMOCO PIPELINE COMPANY

Artesia, New Mexico

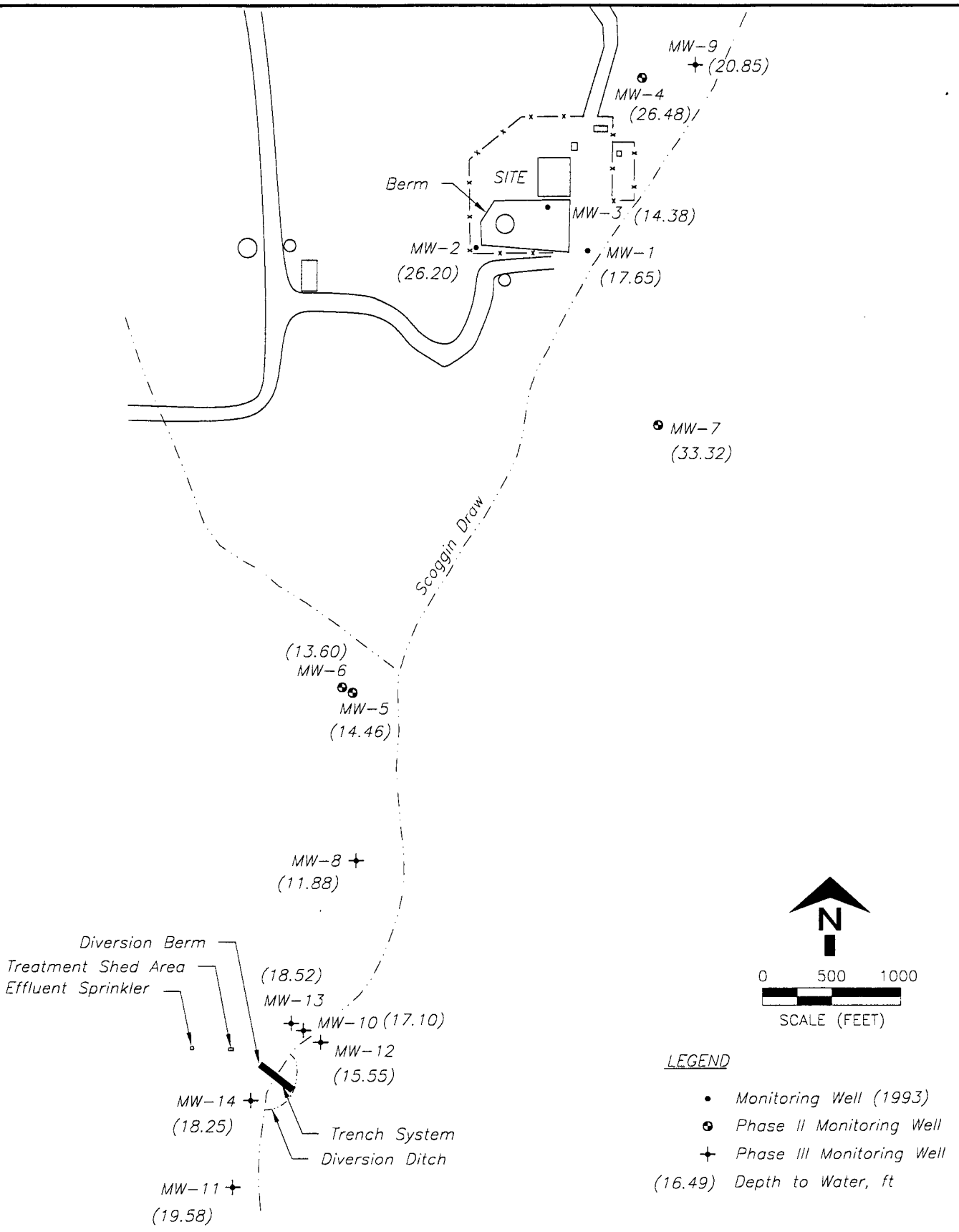
MEASURED DEPTH TO WATER DATA, 4/1/98

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG

REFERENCE FILES: NONE

FIGURE 18



BASCOR Environmental, Inc.
consulting engineers and scientists

AMOCO PIPELINE COMPANY

Artesia, New Mexico

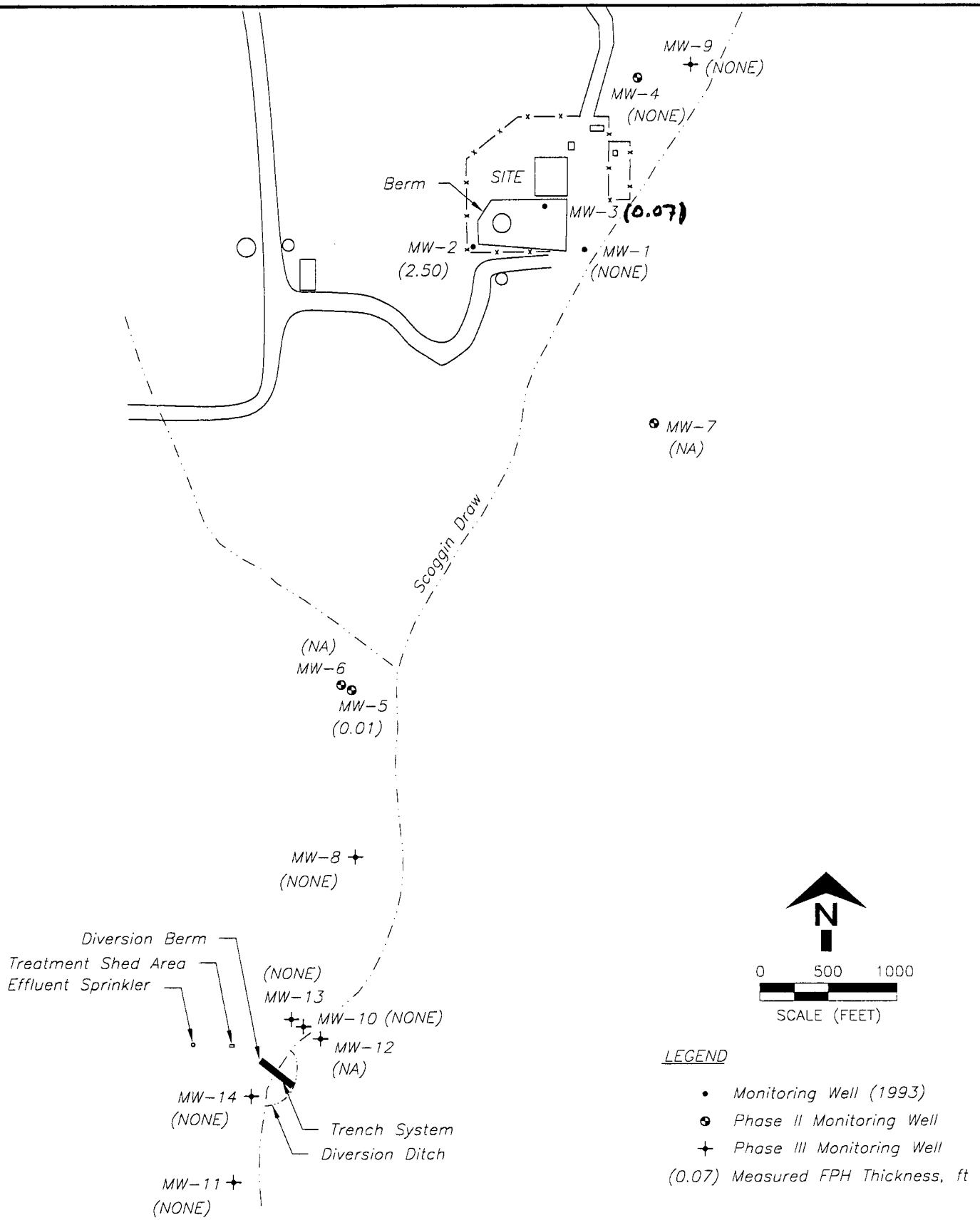
MEASURED DEPTH TO WATER DATA, 6/3/98

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG

REFERENCE FILES: NONE

FIGURE 19



BASCOR Environmental, Inc.
consulting engineers and scientists

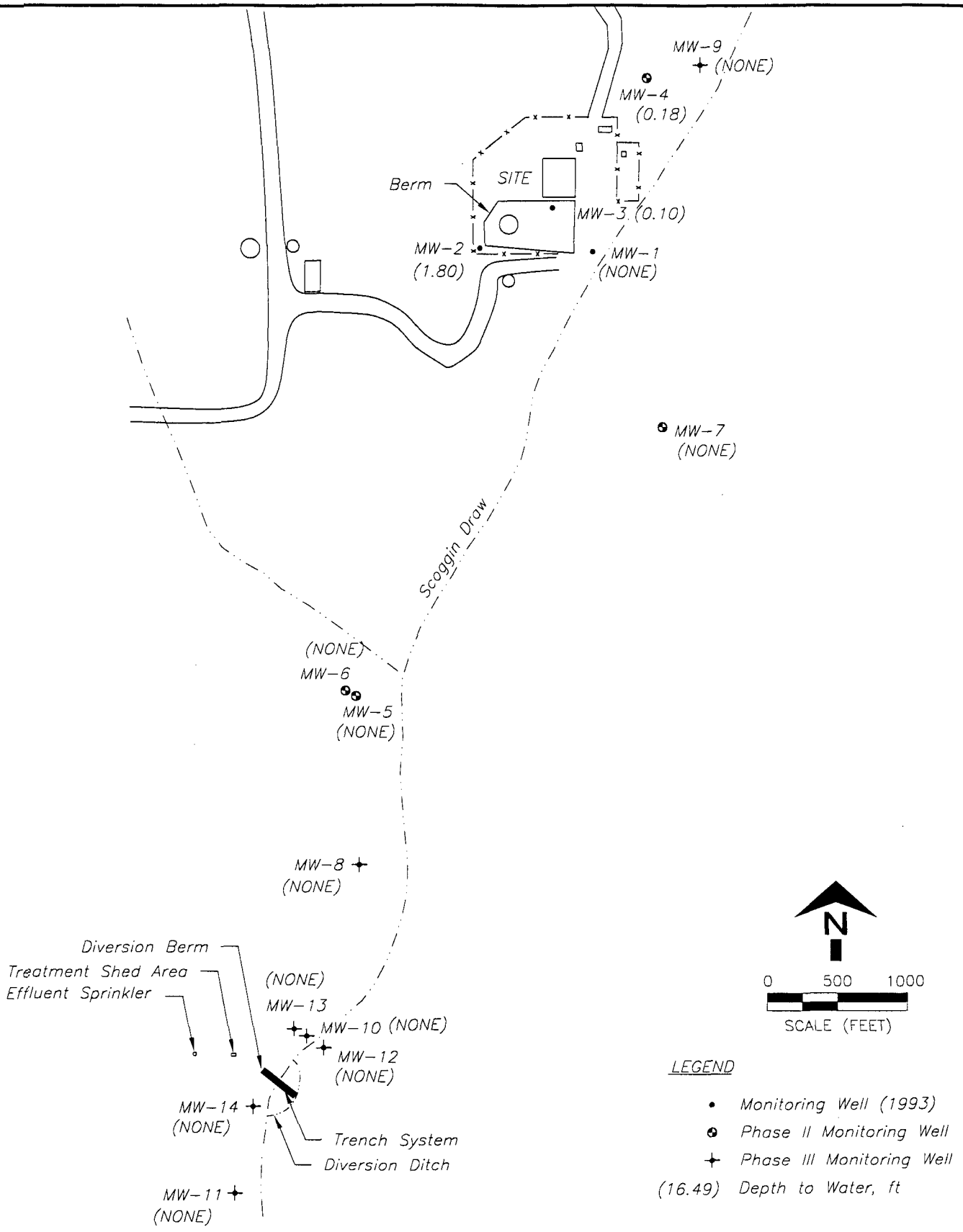
AMOCO PIPELINE COMPANY
Artesia, New Mexico

MEASURED FPH THICKNESS DATA, 8/19/98

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG
REFERENCE FILES: NONE

FIGURE 20



BASCOR Environmental, Inc.
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AMOCO

AMOCO PIPELINE COMPANY

Artesia, New Mexico

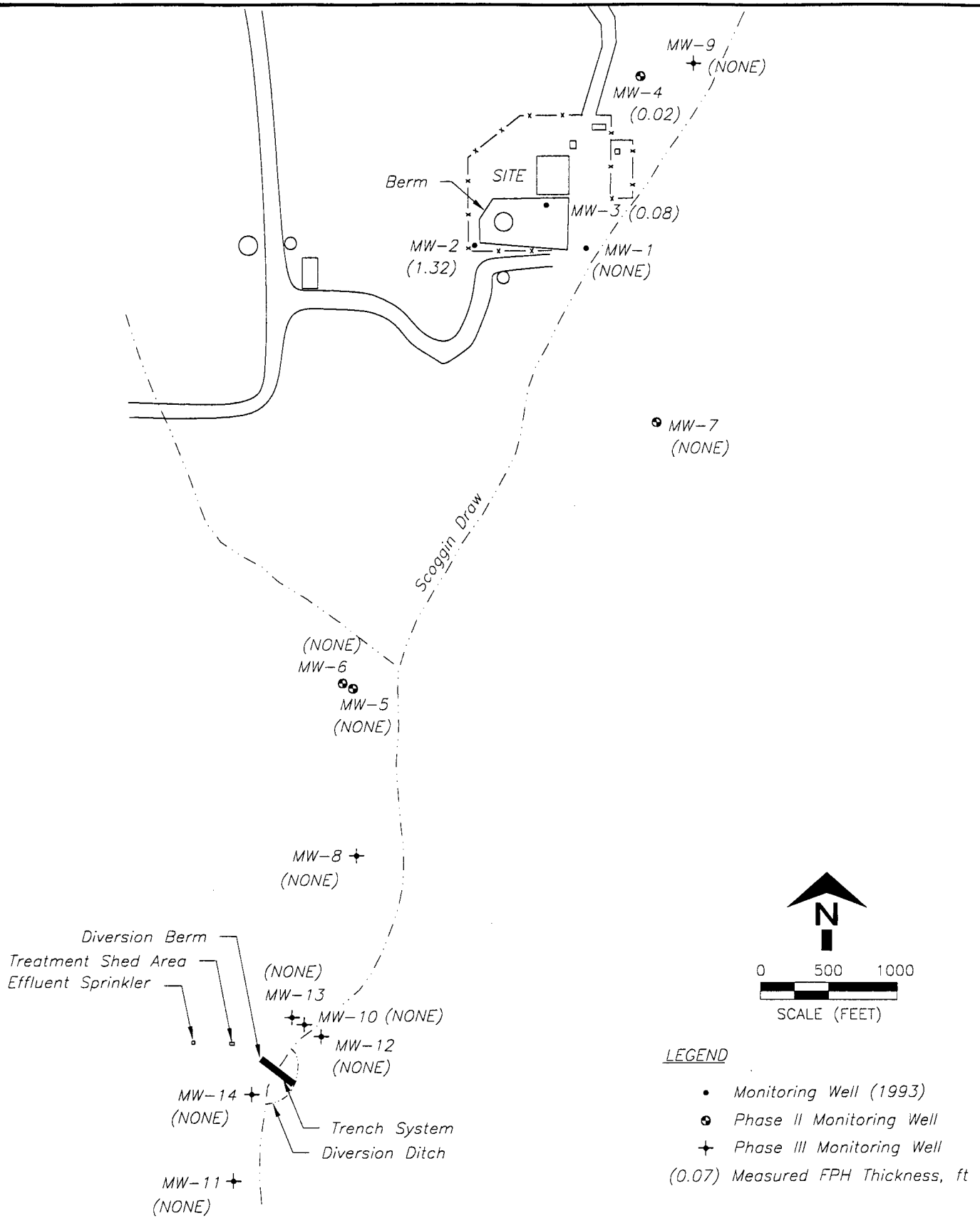
MEASURED FPH THICKNESS DATA, 12/5/98

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG

REFERENCE FILES: NONE

FIGURE 21



BASCOR Environmental, Inc.
consulting engineers and scientists

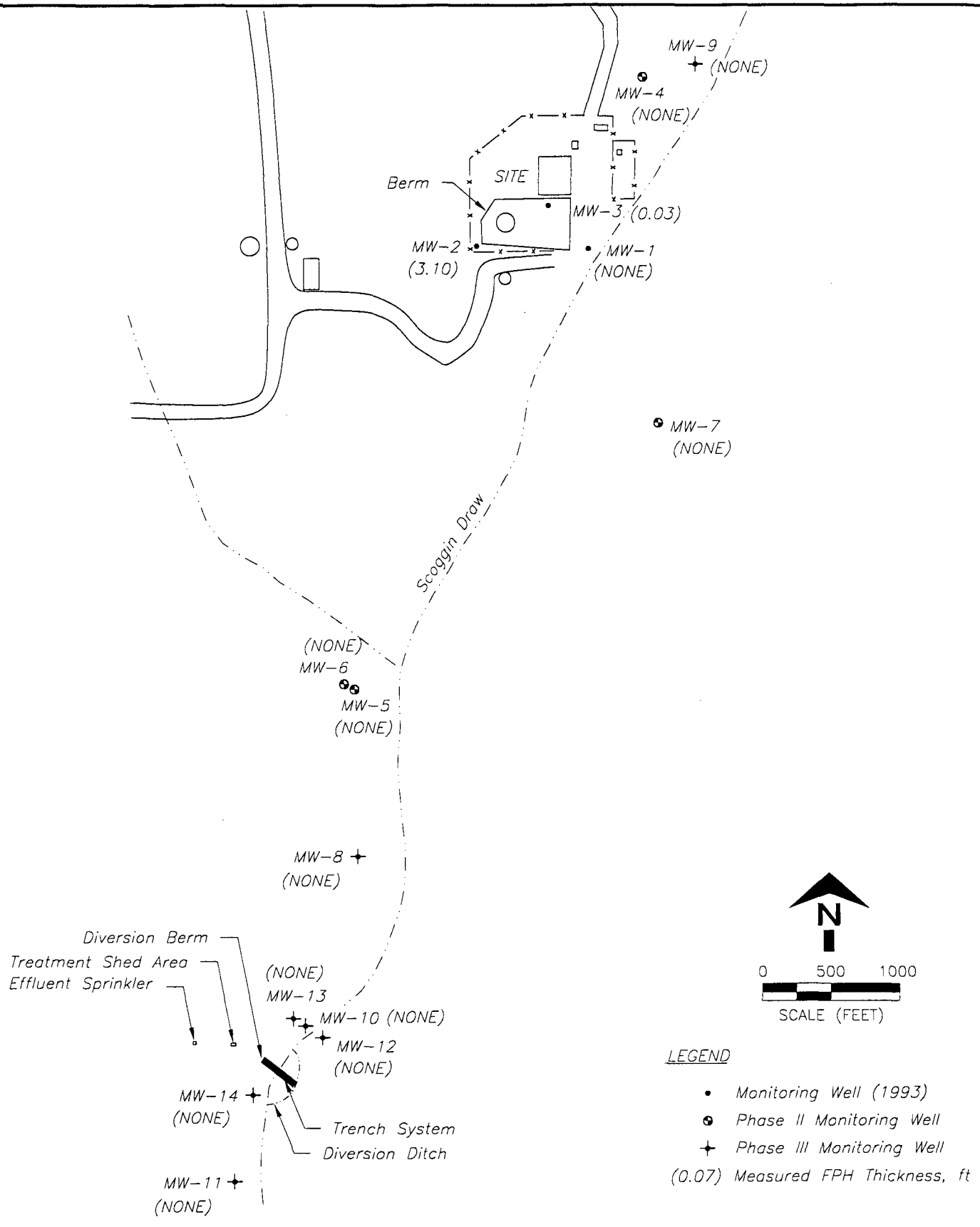
AMOCO PIPELINE COMPANY
Artesia, New Mexico

MEASURED FPH THICKNESS DATA, 4/1/99

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG
REFERENCE FILES: NONE

FIGURE 22



BASCOR Environmental, Inc.
consulting engineers and scientists

AMOCO PIPELINE COMPANY
Artesia, New Mexico

MEASURED FPH THICKNESS DATA, 6/3/99

DRAWN	CHECKED	APPROVED	DATE
S.WHITNEY	S.SENN	R.SENN	7-9-99

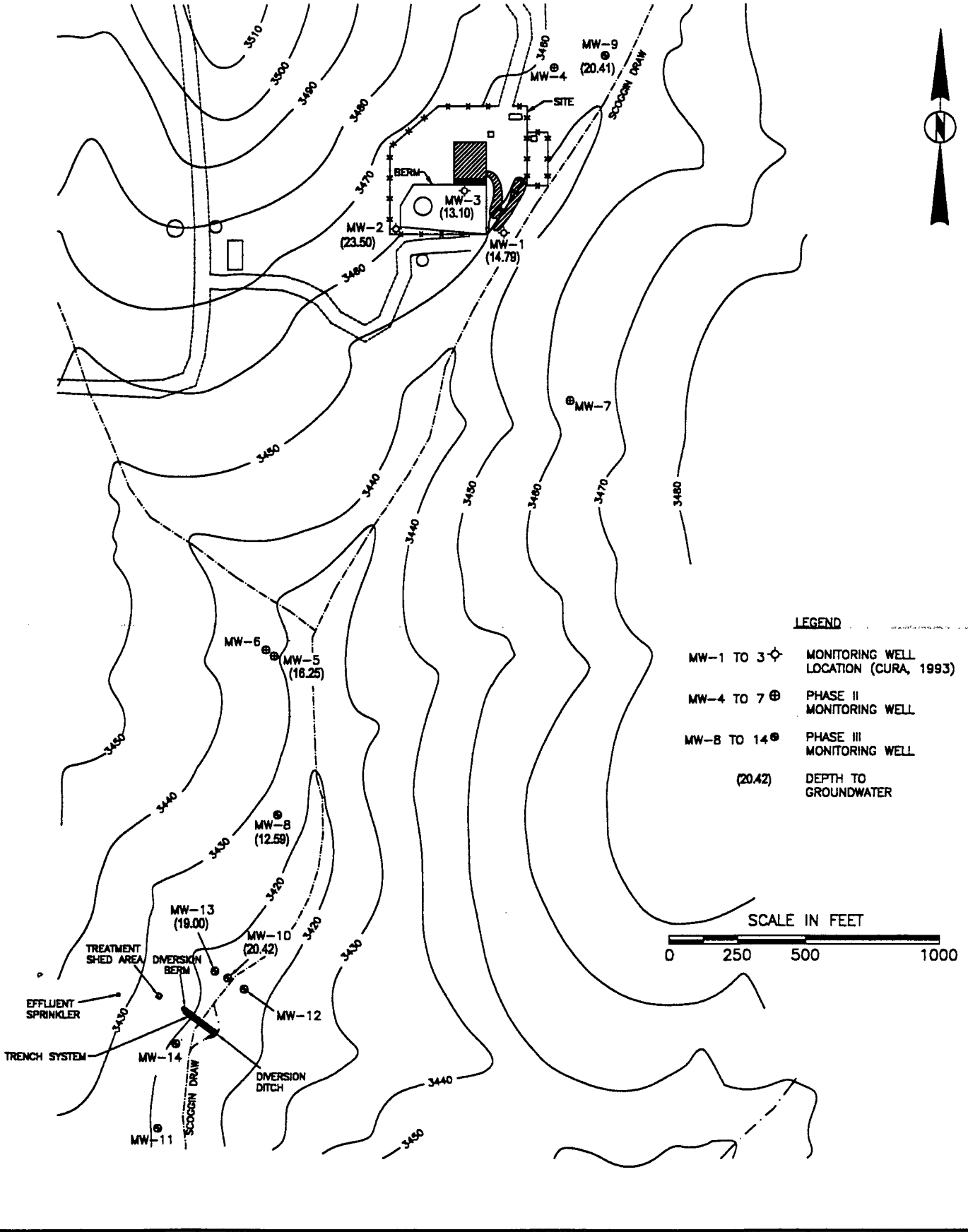
FILENAME: D:\DWGS\AP98223\DEPTH TO WATER.DWG
REFERENCE FILES: NONE

FIGURE 23

APPENDICES

APPENDIX A

Historic Data Collected by Clayton Environmental Consultants



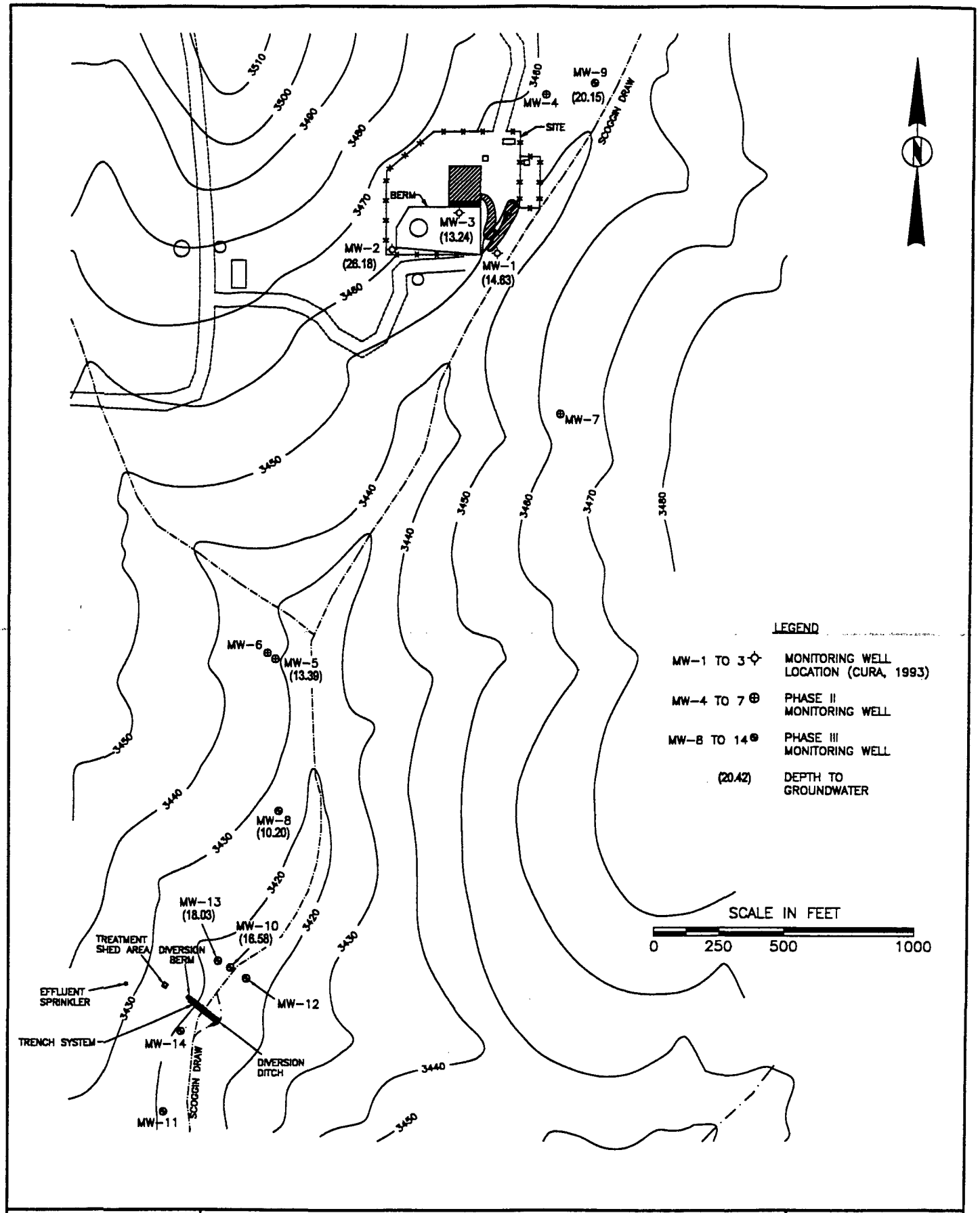
CHECK BY	HMM
DRAWN BY	BCP
DATE	6-26-98
SCALE	AS SHOWN
CAD NO.	6466101A
PRJ NO.	64661.01

DEPTH TO GROUNDWATER
JULY 10, 1997

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS
Div. of Clayton Group Services, Inc.

FIGURE WT-1



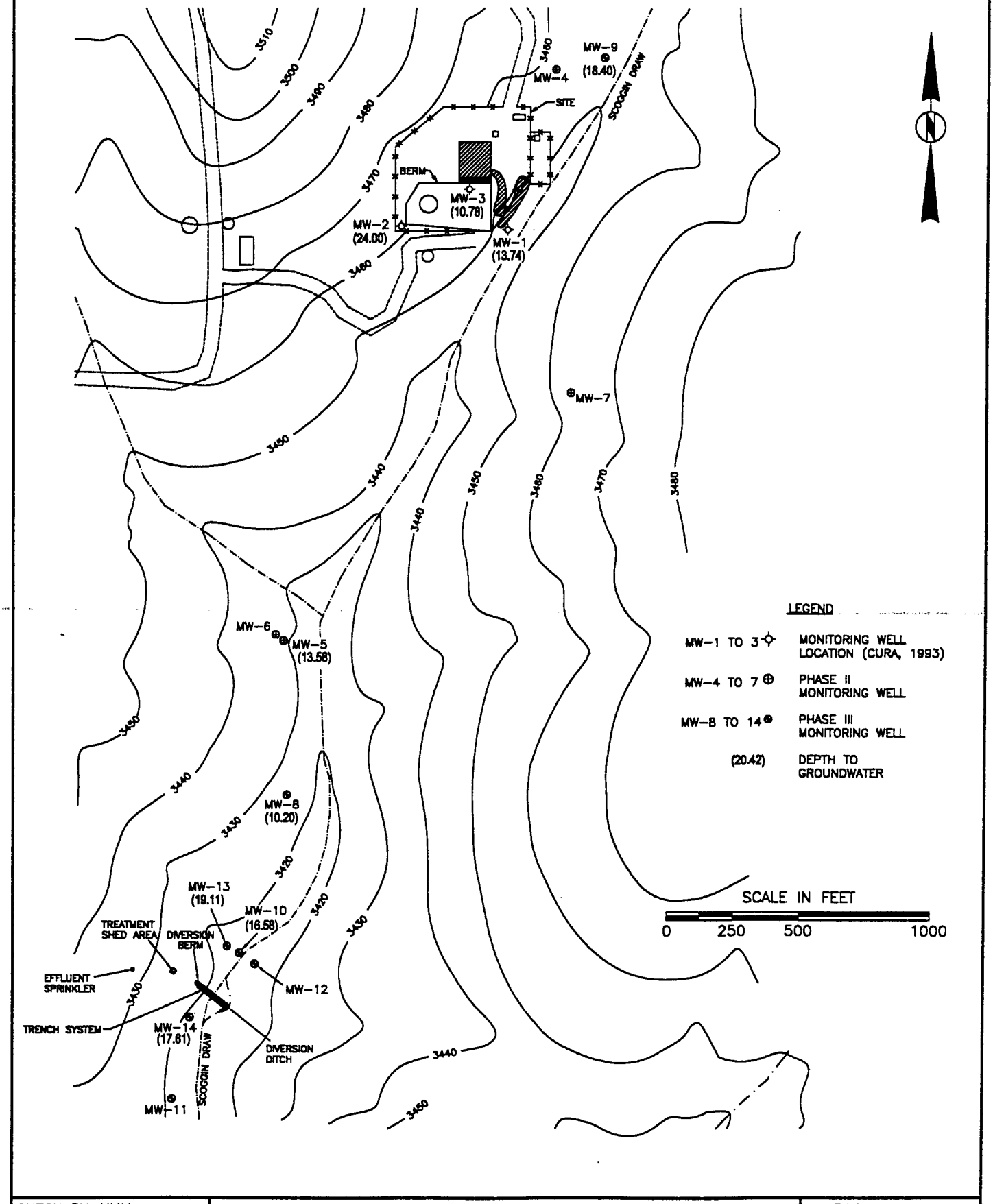
CHECK BY	HMM
DRAWN BY	BCP
DATE	6-26-98
SCALE	AS SHOWN
CAD NO.	6466101B
PRJ NO.	64661.01

DEPTH TO GROUNDWATER
OCTOBER 17, 1997

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS
Div. of Clayton Group Services, Inc.

FIGURE WT-2



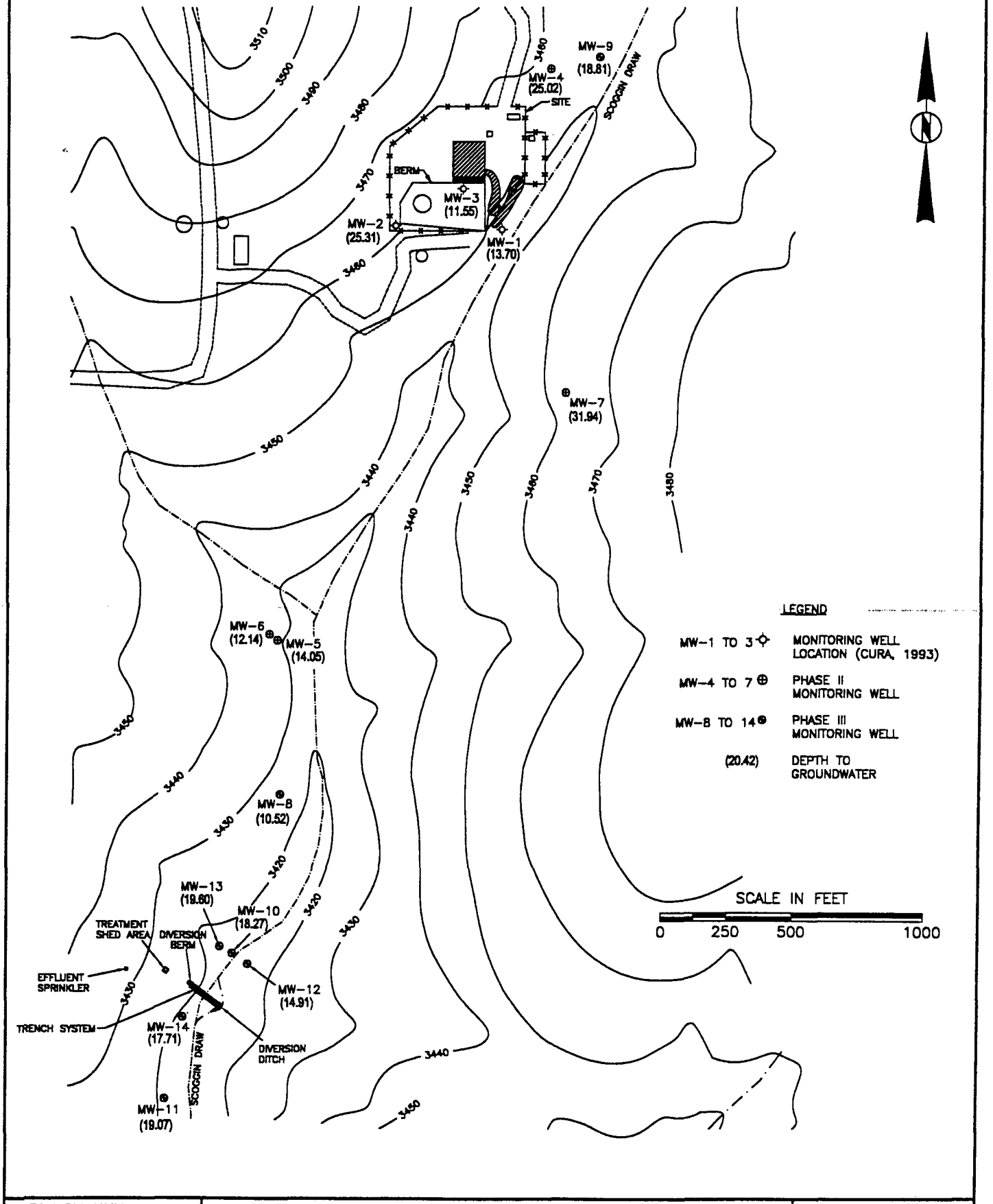
CHECK BY	HMM
DRAWN BY	BCP
DATE	6-26-98
SCALE	AS SHOWN
CAD NO.	6466101C
PRJ NO.	64661.01

DEPTH TO GROUNDWATER
JANUARY 18, 1998

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS
Div. of Clayton Group Services, Inc.

FIGURE WT-3



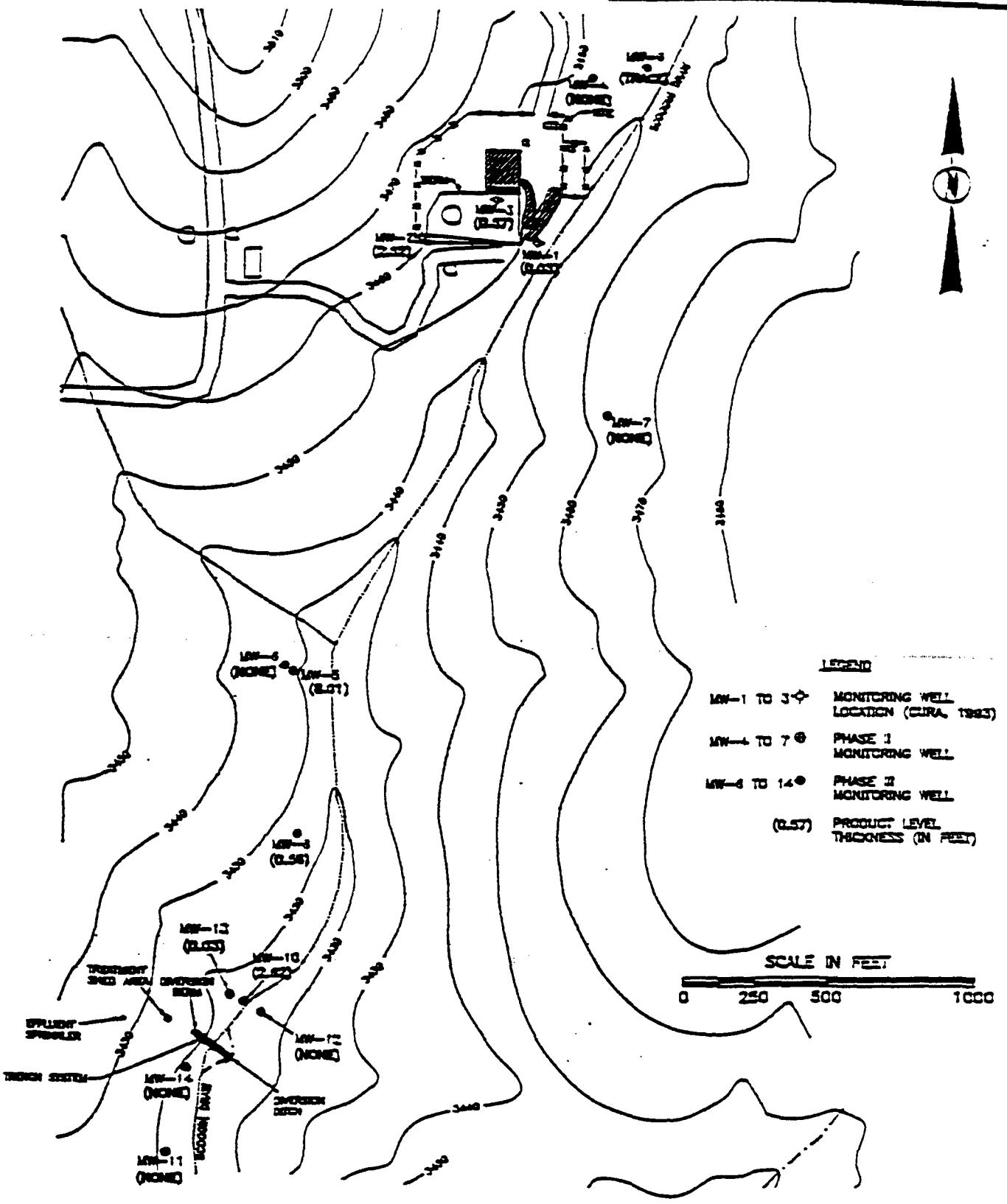
CHECK BY	HMM
DRAWN BY	BCP
DATE	6-26-98
SCALE	AS SHOWN
CAD NO.	6466101D
PRJ NO.	64661.01

DEPTH TO GROUNDWATER
APRIL 18, 1998

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS
Div. of Clayton Group Services, Inc.

FIGURE WT-4



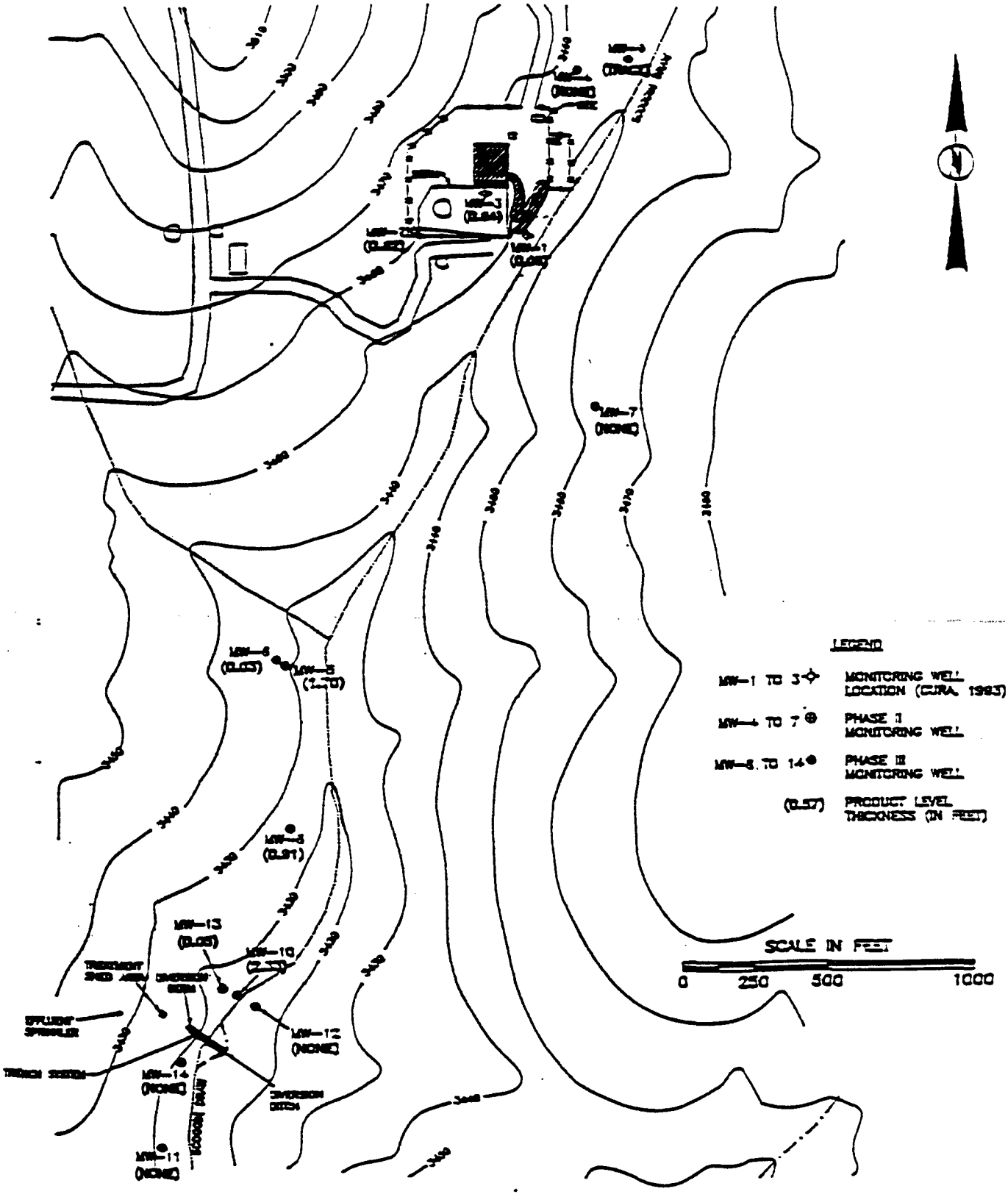
CHECK BY	HMM
DRAWN BY	BCP
DATE	5-3-95
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775:02C

FREE PRODUCT THICKNESS MAP
FEBRUARY 9, 1995

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 1



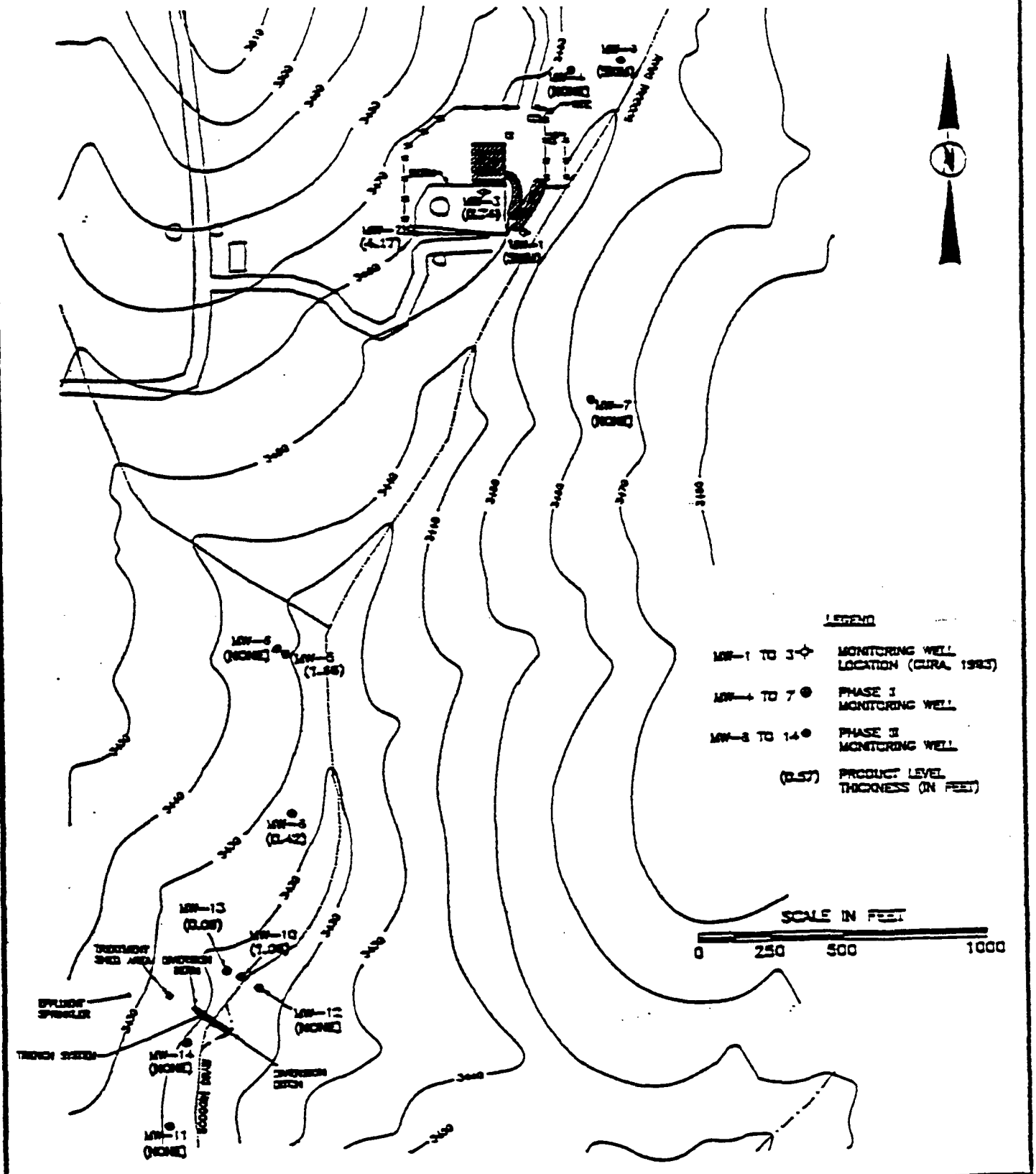
CHECK BY	HMM
DRAWN BY	BCP
DATE	7-25-95
SCALE	AS SHOWN
CAD NO.	Z775102E
PRJ NO.	Z775.00-02

FREE PRODUCT
THICKNESS MAP
JUNE 16, 1995

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL
CONSULTANTS

FIGURE
2



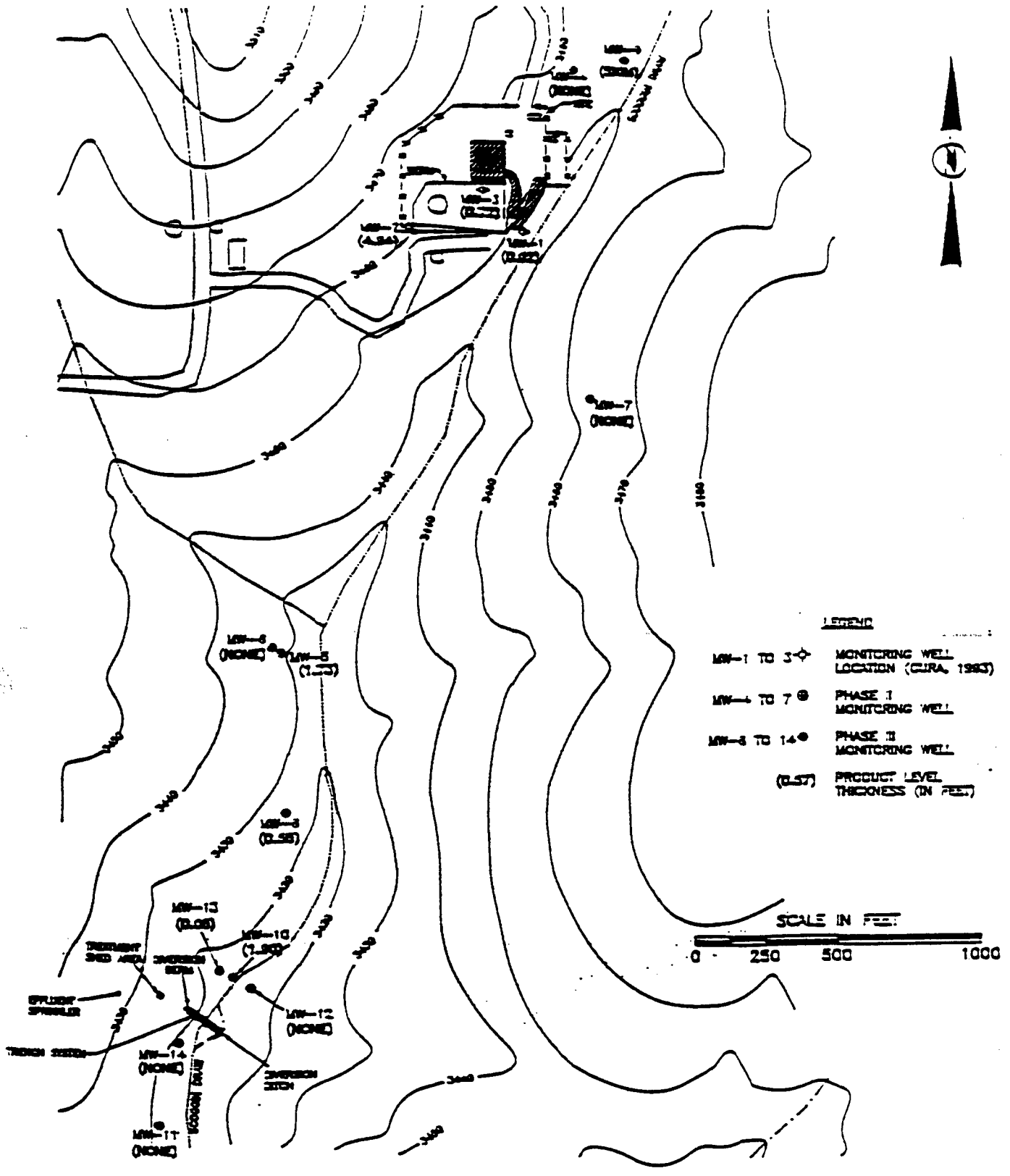
CHECK BY	HMM
DRAWN BY	BCP
DATE	10-16-95
SCALE	AS SHOWN
CAD NO.	Z775.00-02
PRJ NO.	27751025

FREE PRODUCT THICKNESS MAP
OCTOBER 2, 1995

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 3



CHECK BY	HMM
DRAWN BY	BCP
DATE	1-12-96
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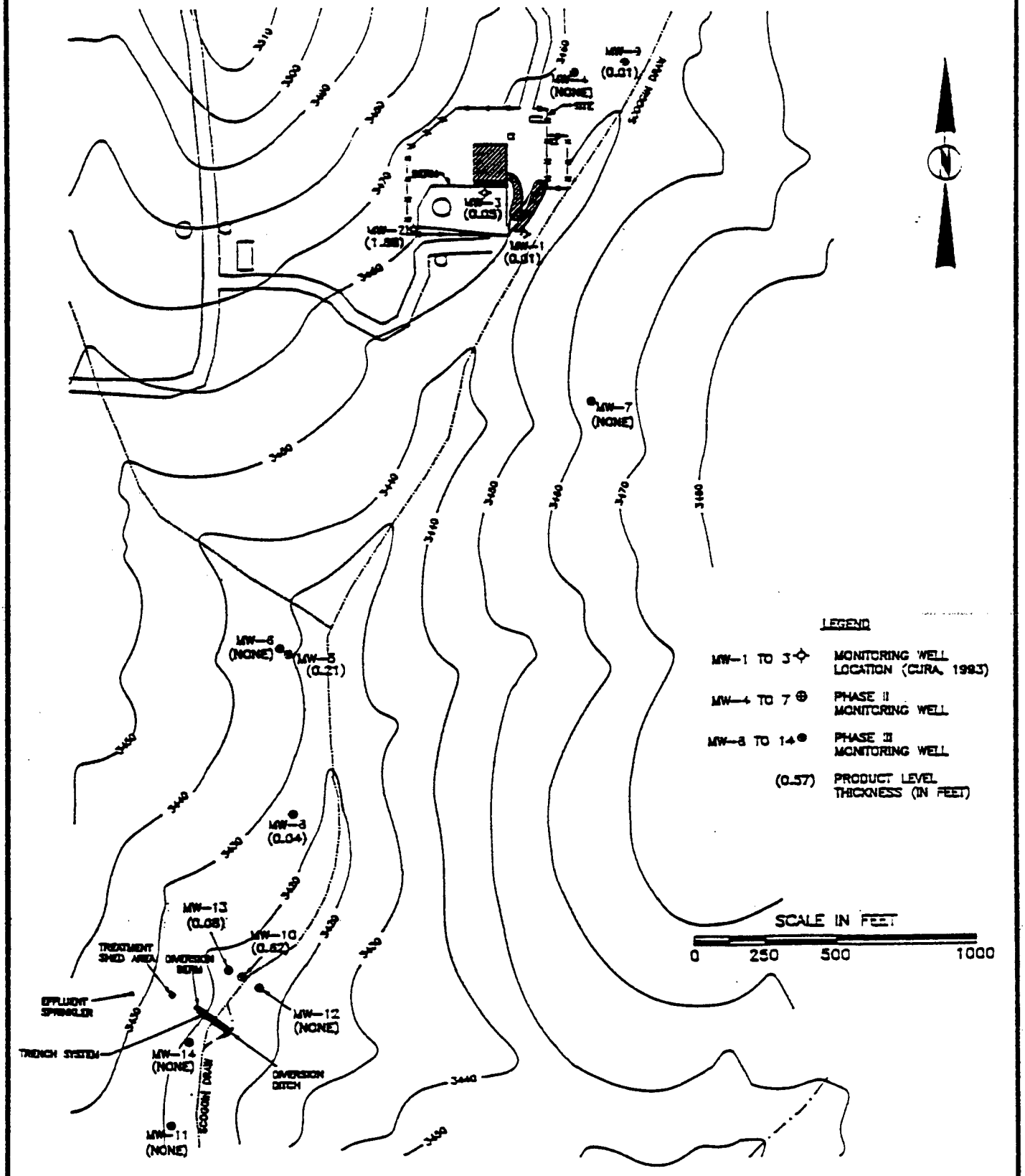
PRJ NO.	27751026

FREE PRODUCT THICKNESS MAP
NOVEMBER 25-26, 1995

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 4



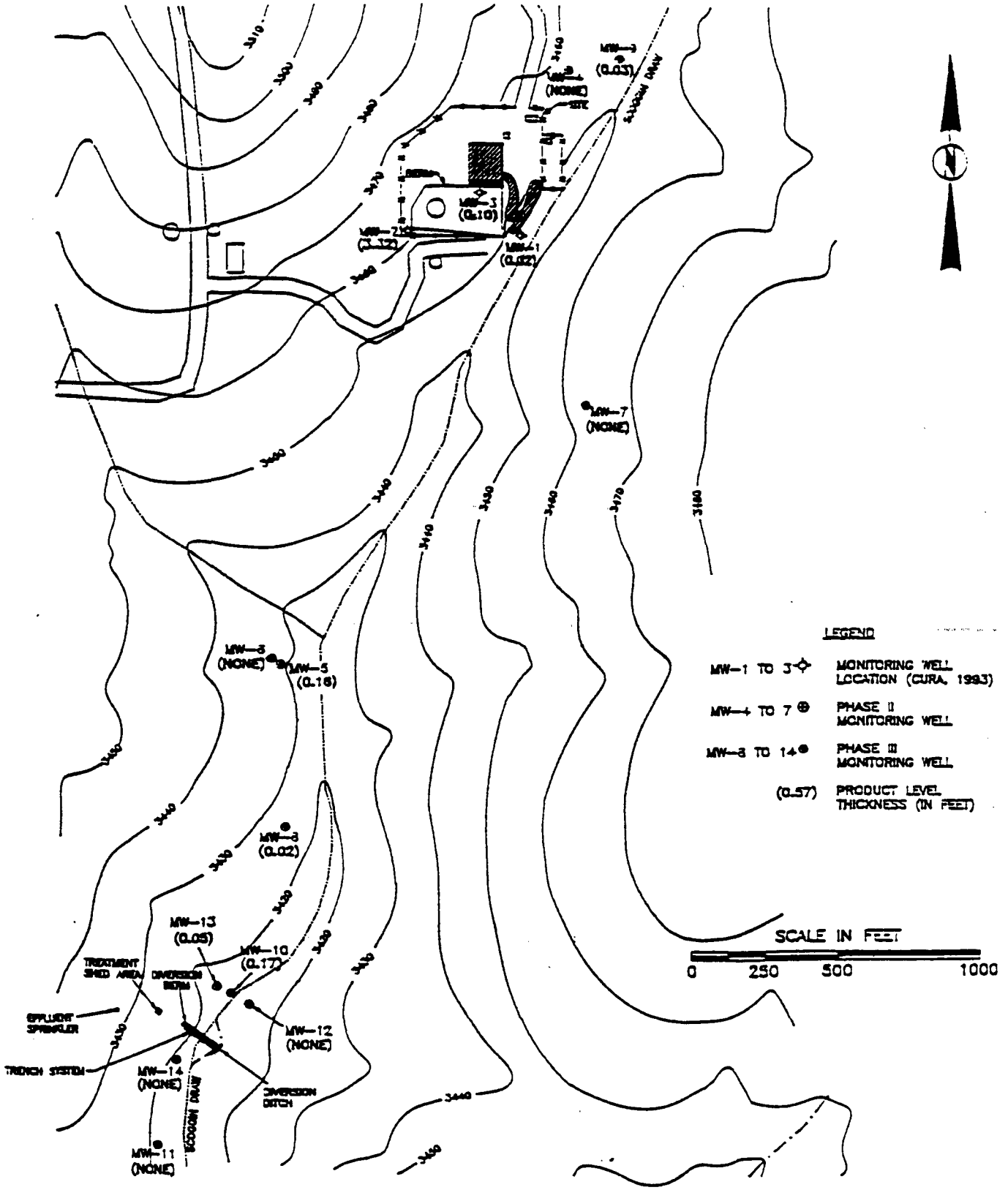
CHECK BY	HMM
DRAWN BY	BCP
DATE	4-24-96
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	27751021

FREE PRODUCT
THICKNESS MAP
APRIL 16-17, 1996

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL
CONSULTANTS

FIGURE 5



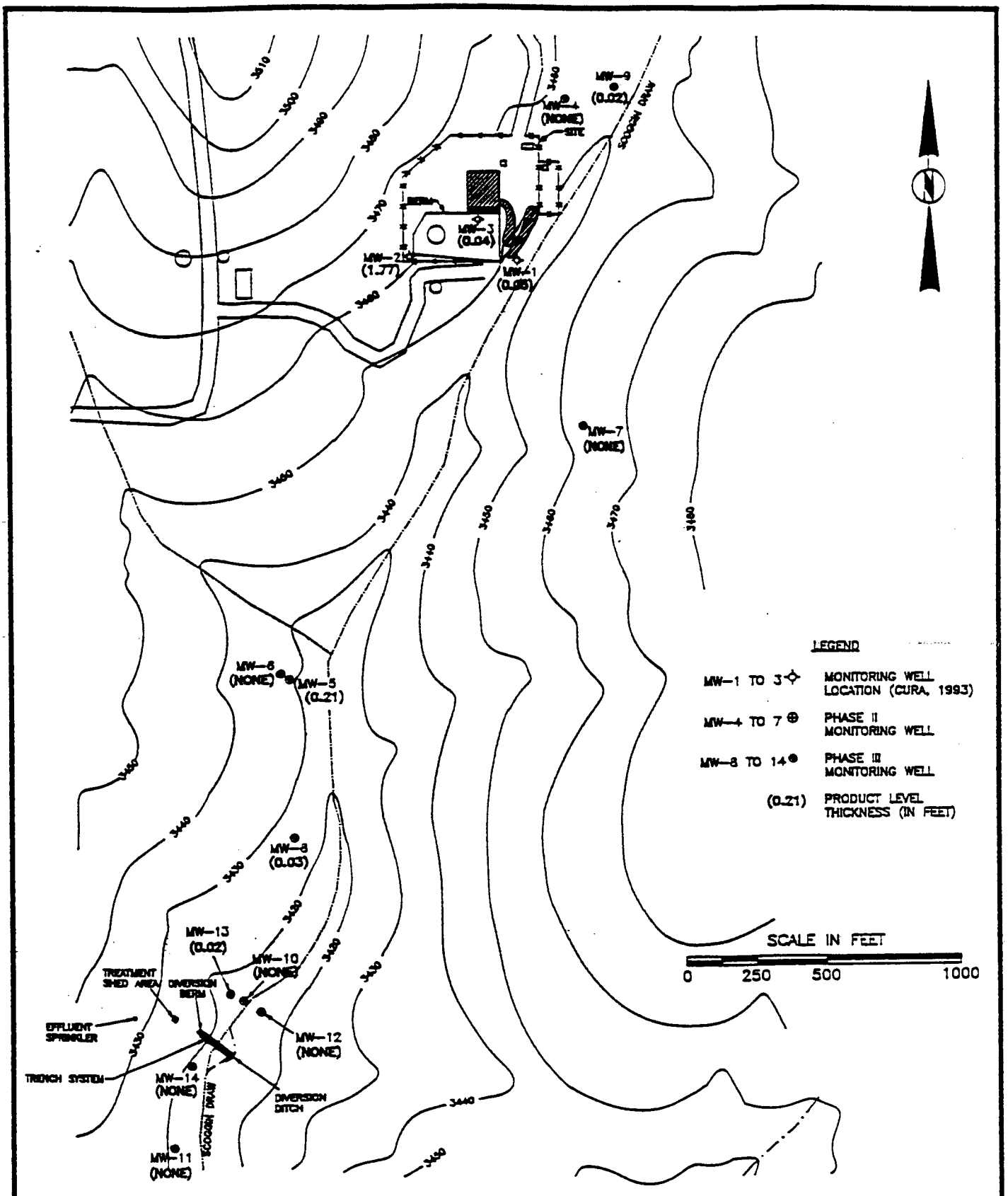
CHECK BY	HMM
DRAWN BY	BCP
DATE	7-16-96
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	27751021

FREE PRODUCT THICKNESS MAP
JULY 2, 1996

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 6



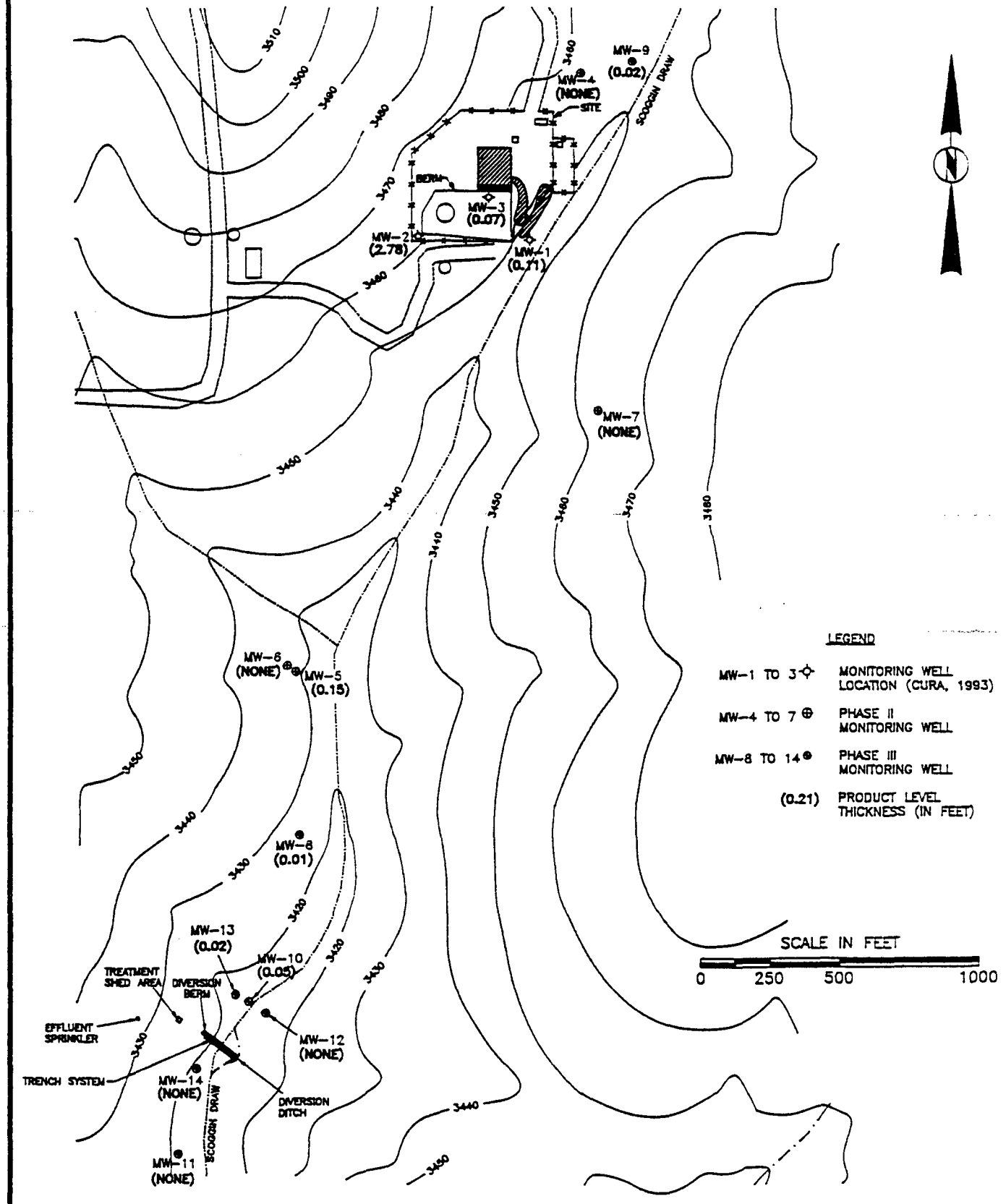
CHECK BY	HMM
DRAWN BY	BCP
DATE	10-9-96
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775102J

FREE PRODUCT
THICKNESS MAP
SEPTEMBER 30, 1996

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 7



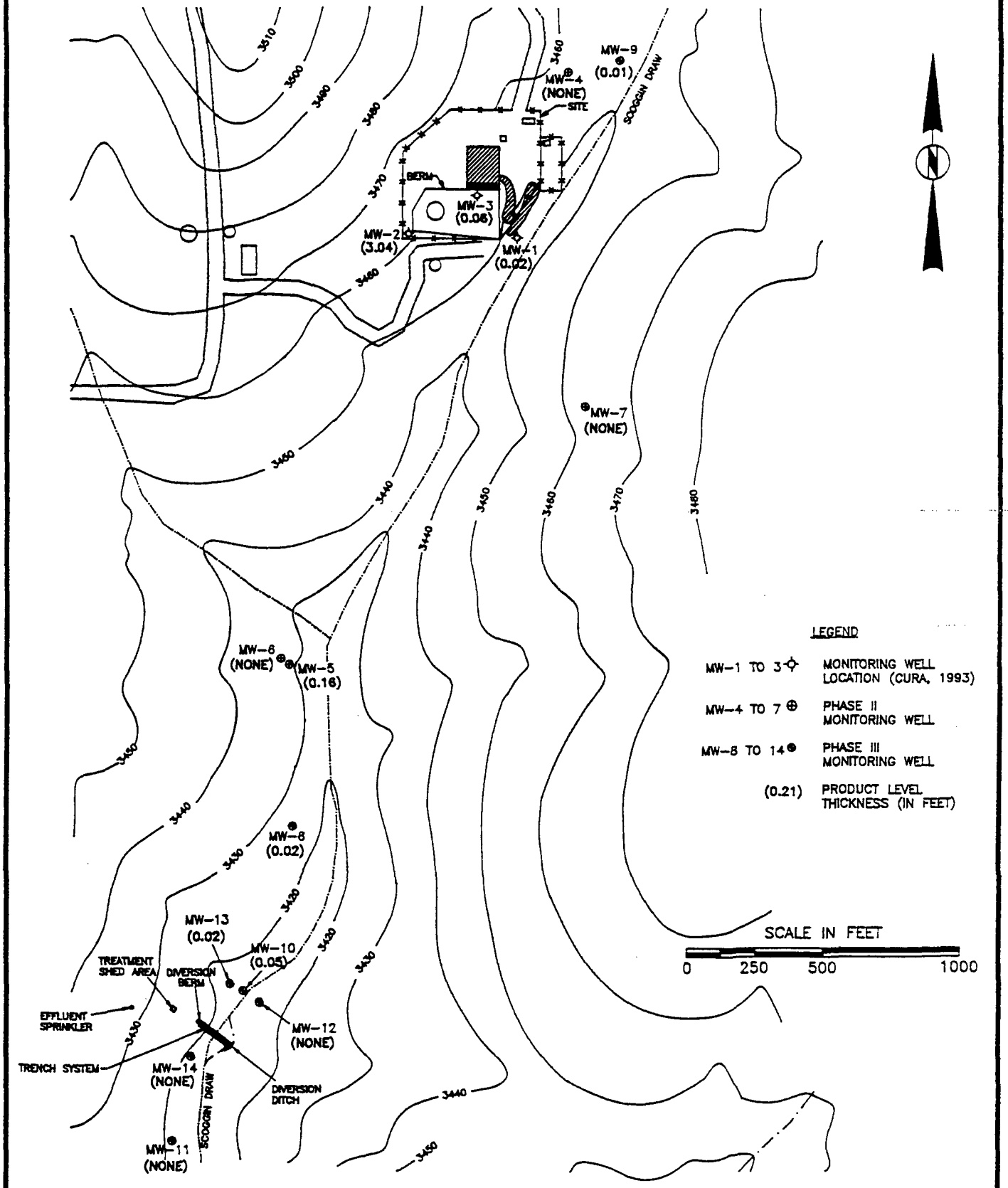
CHECK BY	HMM
DRAWN BY	BCP
DATE	1-23-97
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775102K

FREE PRODUCT
THICKNESS MAP
JANUARY 10, 1997

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 8



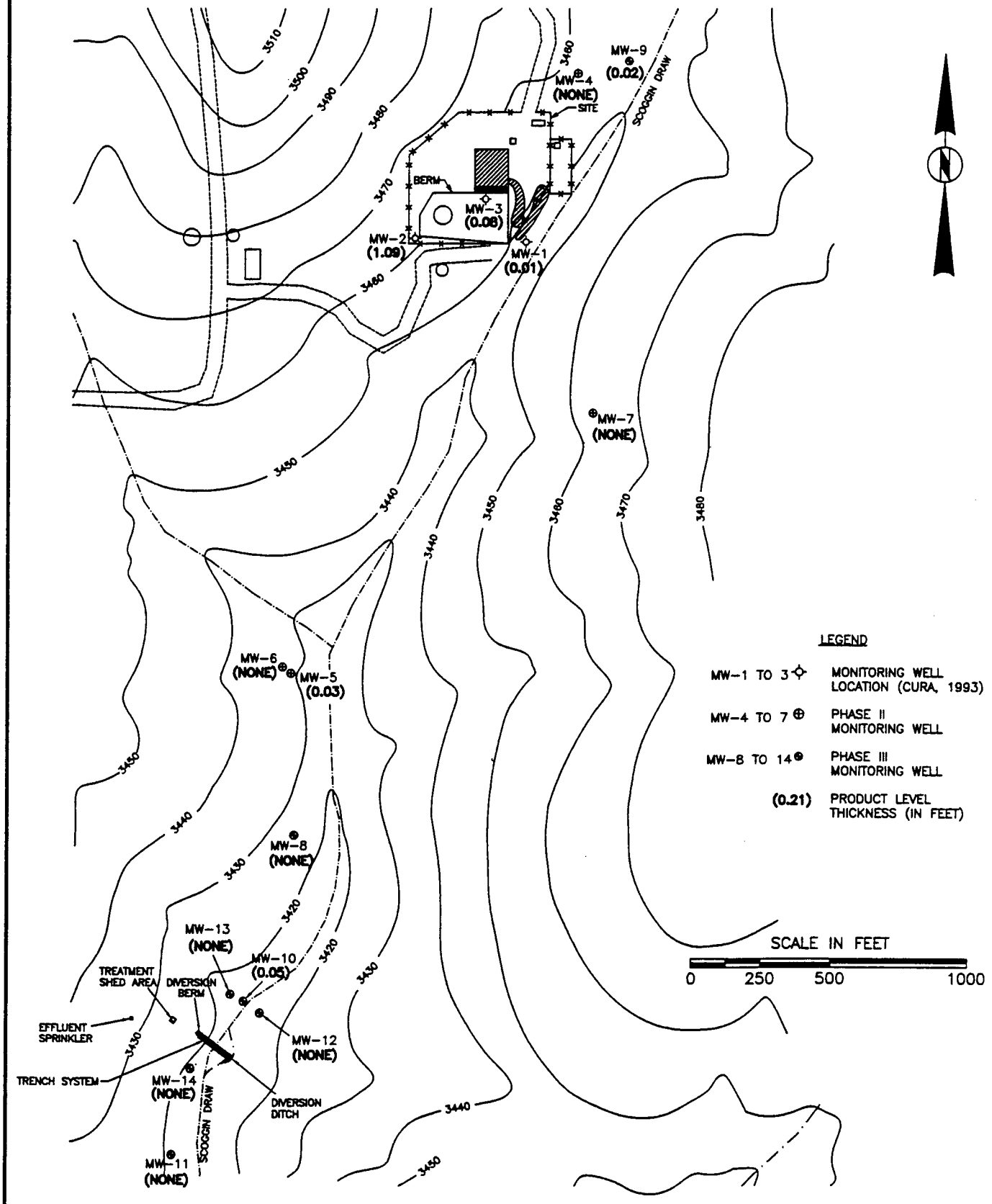
CHECK BY	HMM
DRAWN BY	BCP
DATE	4-16-97
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775102L

FREE PRODUCT
THICKNESS MAP
APRIL 2, 1997

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL
CONSULTANTS

FIGURE
9



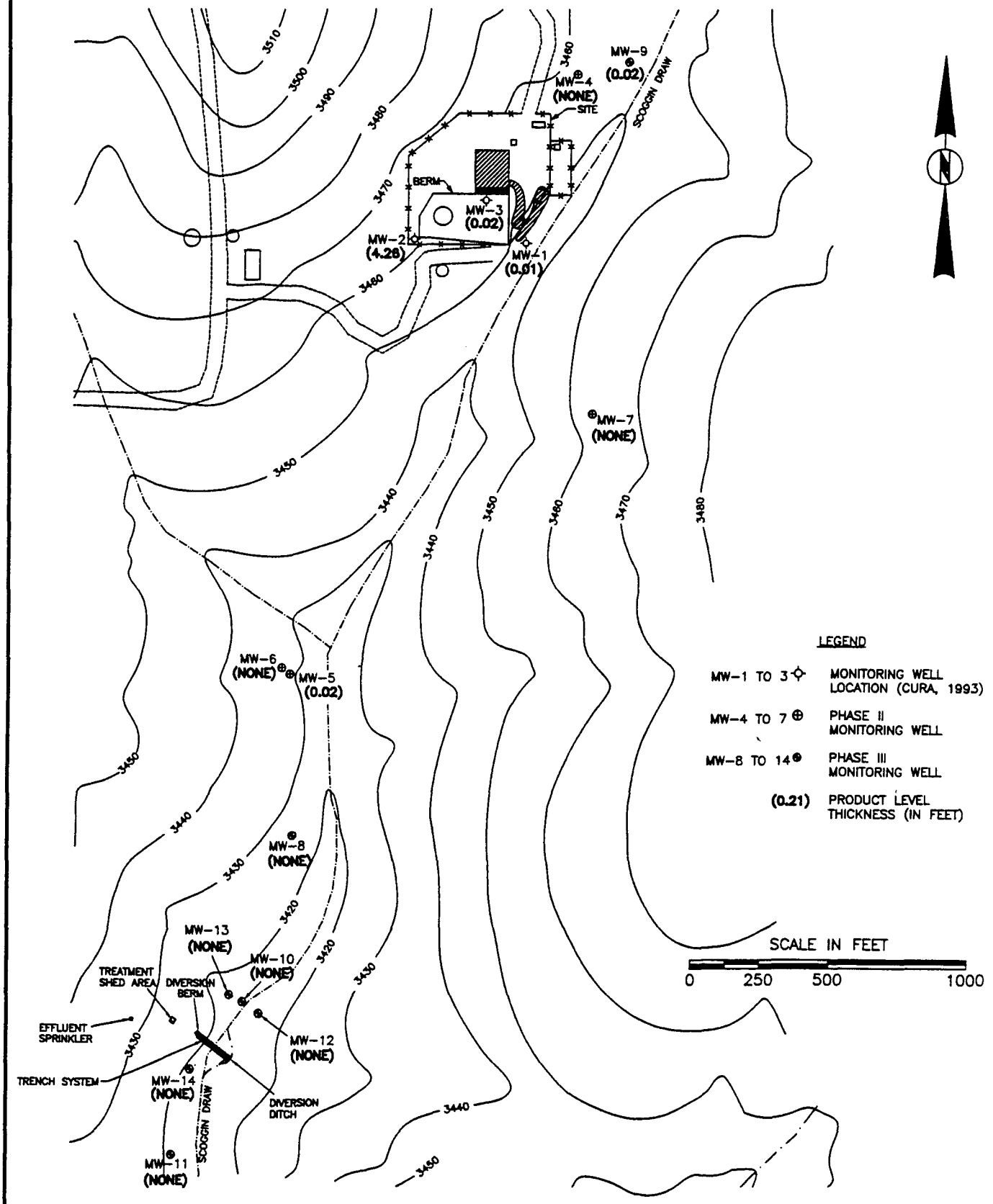
CHECK BY	HMM
DRAWN BY	BCP
DATE	5-11-98
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775102M

FREE PRODUCT
THICKNESS MAP
JULY 10, 1997

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 10



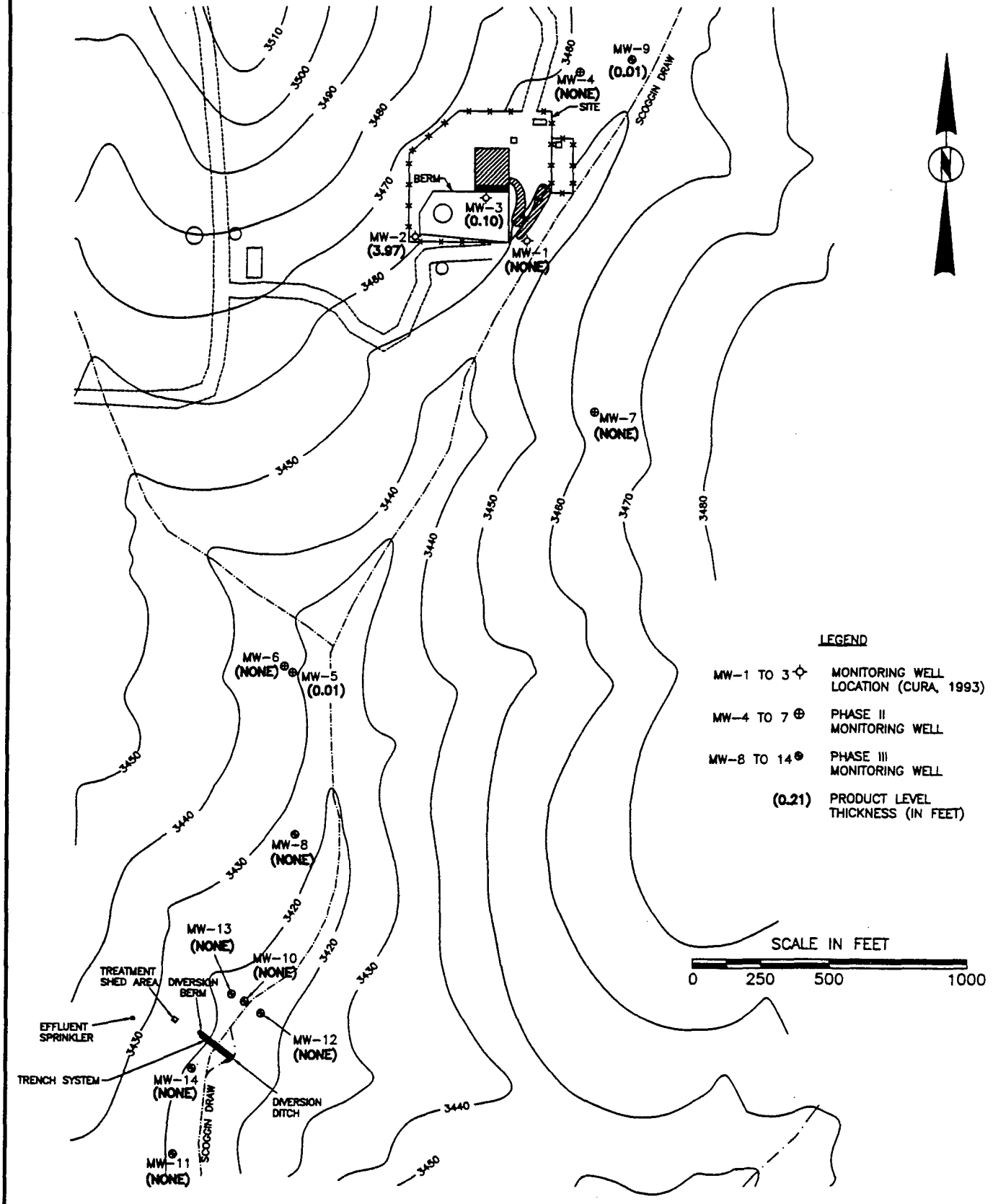
CHECK BY	HMM
DRAWN BY	BCP
DATE	5-11-98
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775102N

FREE PRODUCT
THICKNESS MAP
OCTOBER 17, 1997

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL
CONSULTANTS

FIGURE
11



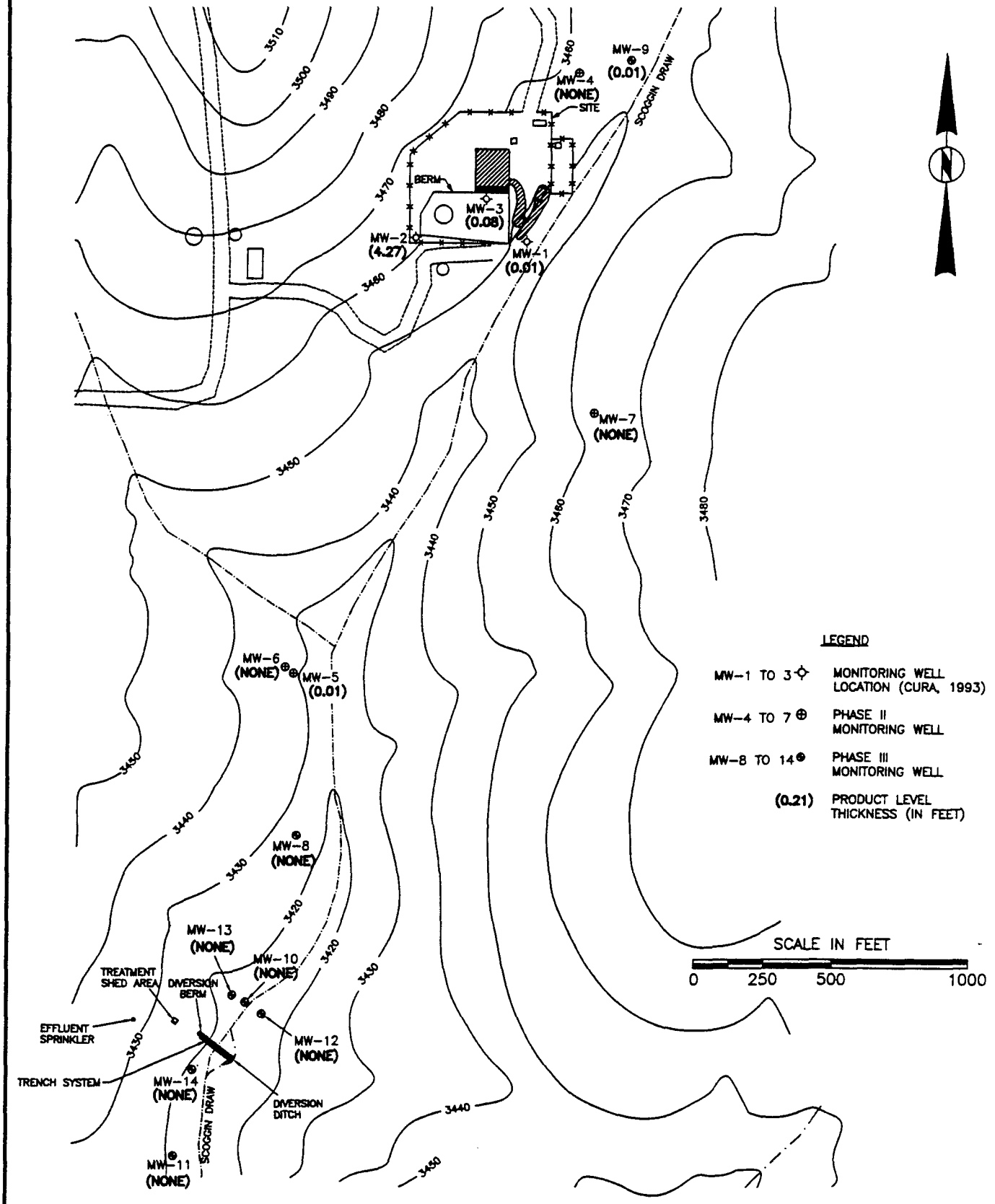
CHECK BY	HMM
DRAWN BY	BCP
DATE	5-11-98
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775102o

FREE PRODUCT
THICKNESS MAP
JANUARY 18, 1998

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 12



CHECK BY	HMM
DRAWN BY	BCP
DATE	5-11-98
SCALE	AS SHOWN
CAD NO.	2775.00-02
PRJ NO.	2775102P

FREE PRODUCT
THICKNESS MAP
APRIL 18, 1998

AMOCO PIPELINE COMPANY
ARTESIA, NEW MEXICO

Clayton
ENVIRONMENTAL CONSULTANTS

FIGURE 13

TABLE 1
BETX Results for Monitoring Wells with No Free Product

Amoco Pipeline Company / Artesia, New Mexico

WELL 4															
Sample Date:	**11/25/94**	**12/22/94**	**02/16/95**	**06/16/95**	**10/02/95**	**11/26/95**	**04/17/96**	**07/05/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	<1	<1	<1	54.4	9.8	4.7	6.3	5.0	<1	<1	1.3	N/A	N/A	N/A	750
Ethylbenzene	<1	<1	<1	2.5	<1	1.3	<1.0	<1	<1	<1	<1	N/A	N/A	N/A	100
Toluene	<1	<1	<1	<1	<1	2.0	1.1	<1	<1	<1	<1	N/A	N/A	N/A	130
Xylene	<1	<1	<1	6.7	<1	3.8	3.6	2.0	<1	<1	<1	N/A	N/A	N/A	150
WELL 6															
Sample Date:	**11/25/94**	**12/21/94**	**02/16/95**	**06/16/95**	**10/02/95**	**11/26/95**	**04/16/96**	**07/06/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	FREE	FREE	2.2	FREE	3.1	5.8	<1	<1	<1	<1	<1	N/A	N/A	N/A	<1
Ethylbenzene	PRODUCT	PRODUCT	<1	PRODUCT	<1	6.1	<1	<1	2.0	<1	<1	N/A	N/A	N/A	<1
Toluene	PRESENT	PRESENT	<1	PRESENT	<1	<1.0	<1	<1	<1	<1	<1	N/A	N/A	N/A	<1
Xylene			<1		2.5	19	3.7	<1	<1	<1	<1	N/A	N/A	N/A	<1
WELL 7															
Sample Date:	**11/25/94**	**12/22/94**	**02/16/95**	**06/16/95**	**10/02/95**	**11/26/95**	**04/17/96**	**07/06/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	<1	1590	846	3100	880	3000	1900	1,800	170	160	<1	N/A	N/A	N/A	120
Ethylbenzene	<1	39	20.9	58.7	17	51	130	160	<2	<1	<1	N/A	N/A	N/A	<1
Toluene	<1	<10	<10	3.6	<10	4.6	<20	<10	<2	<1	<1	N/A	N/A	N/A	<1
Xylene	<1	86.5	52.7	140	35	200	100	120	11	3.2	<1	N/A	N/A	N/A	7.7
WELL 8															
Sample Date:	**11/17/94**	**12/22/94**	**02/16/95**	**06/16/95**	**10/02/95**	**11/26/95**	**04/16/96**	**07/02/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,800
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	480
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	820
Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100
WELL 10															
Sample Date:	**11/17/94**	**12/22/94**	**02/16/95**	**06/14/95**	**10/02/95**	**11/25/95**	**04/16/96**	**07/02/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	62	N/A	N/A	N/A	N/A	N/A	91
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	N/A	N/A	N/A	N/A	N/A	<1
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1	N/A	N/A	N/A	N/A	N/A	<1
Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	N/A	N/A	N/A	N/A	N/A	20
WELL 11															
Sample Date:	**11/17/94**	**12/22/94**	**02/16/95**	**06/14/95**	**10/02/95**	**11/25/95**	**04/16/96**	**07/02/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	<1	<1	<1	<1	<1	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	2.1	1.1	<1	<1	1.5	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	5.3	2.8	<1	<1	1.2	<1	<1	<1	<1	<1
Xylene	<1	<1	<1	<1	<1	6.1	3.7	<1	<1	6	<1	<1	<1	<1	<1
WELL 12															
Sample Date:	**11/17/94**	**12/22/94**	**02/16/95**	**06/16/95**	**10/02/95**	**11/26/95**	**04/16/96**	**07/02/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	75	5.6	<1	<1	<1	1.1	1.5	4.1	30	2.3	<1	N/A	N/A	N/A	3.9
Ethylbenzene	1	<1	<1	<1	<1	<1.0	1.8	<1	<1	<1	<1	N/A	N/A	N/A	<1
Toluene	1.1	<1	<1	<1	<1	3.5	5.1	<1	<1	<1	<1	N/A	N/A	N/A	<1
Xylene	1	<1	<1	<1	<1	5.1	5.8	1.2	<1	<1	<1	N/A	N/A	N/A	<1
WELL 13															
Sample Date:	**11/17/94**	**12/22/94**	**02/16/95**	**06/16/95**	**10/02/95**	**11/26/95**	**04/16/96**	**07/02/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.1
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1
Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13
WELL 14															
Sample Date:	**11/17/94**	**12/22/94**	**02/16/95**	**06/16/95**	**10/02/95**	**11/26/95**	**04/16/96**	**07/02/96**	**09/30/96**	**01/10/97**	**04/02/97**	**07/10/97**	**09/14/97**	**01/18/98**	**04/18/98**
Benzene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	1.7	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	3.6	1.7	<1	<1	<1	<1	<1	<1	<1	<1
Xylene	<1	<1	<1	<1	<1	6.8	2.4	<1	<1	<1	<1	<1	<1	<1	<1

NOTES: All results are in ug/L. N/A = Not Applicable

APPENDIX B

Laboratory Analytical Results

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

Mr. Hank Mittelhauser
CLAYTON ENVIRONMENTAL
1240 Iroquois Drive
Suite 206
Naperville, IL 60563

08/31/1998

NET Job Number: 98.11031

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: Artesia Station, NM

Sample Number	Sample Description	Date Taken	Date Received
489710	Monitor Well #11	08/19/1998	08/21/1998
489711	Monitor Well #14	08/19/1998	08/21/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
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Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Hank Mittelhauser
CLAYTON ENVIRONMENTAL
1240 Iroquois Drive
Suite 206
Naperville, IL 60563

08/31/1998

Sample No. : 489710

NET Job No.: 98.11031

Sample Description: Monitor Well #11
Artesia Station, NM

Date Taken: 08/19/1998
Time Taken: 16:45
IEPA Cert. No. 100221

Date Received: 08/21/1998
Time Received: 10:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<1.0		ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Ethyl Benzene	<1.0		ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Toluene	<1.0		ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Xylenes, Total	<1.0		ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Surr: Toluene-d8	85.4	R	%	08/27/1998	88-110	mjo	2528	SW 8260A
Surr: Bromofluorobenzene	83.8	R	%	08/27/1998	86-115	mjo	2528	SW 8260A
Surr: Dibromofluoromethane	92.4		%	08/27/1998	86-118	mjo	2528	SW 8260A

R : Surrogate recovery verified by re-analysis

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
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Bartlett, IL 60103
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Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Hank Mittelhauser
CLAYTON ENVIRONMENTAL
1240 Iroquois Drive
Suite 206
Naperville, IL 60563

08/31/1998

Sample No. : 489711

NET Job No.: 98.11031

Sample Description: Monitor Well #14
Artesia Station, NM

Date Taken: 08/19/1998
Time Taken: 17:45
IEPA Cert. No. 100221

Date Received: 08/21/1998
Time Received: 10:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0	ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Ethyl Benzene	<1.0	ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Toluene	<1.0	ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Xylenes, Total	<1.0	ug/L	08/27/1998	1.0	mjo	2528	SW 8260A
Surr: Toluene-d8	89.8	%	08/27/1998	88-110	mjo	2528	SW 8260A
Surr: Bromofluorobenzene	91.4	%	08/27/1998	86-115	mjo	2528	SW 8260A
Surr: Dibromofluoromethane	94.4	%	08/27/1998	86-118	mjo	2528	SW 8260A

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
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Bartlett, IL 60103
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(800) 807-2877

QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

CLAYTON ENVIRONMENTAL
1240 Iroquois Drive
Suite 206
Naperville, IL 60563
Mr. Hank Mittelhauser

08/31/1998

NET Job Number: 98.11031

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
UST VOLATILES 8260 - AQUEOUS				
Benzene	2528	50.0	52.9	105.8
Ethyl Benzene	2528	50.0	52.0	104.0
Toluene	2528	50.0	50.8	101.6
Xylenes, Total	2528	150	155	103.3

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
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Rockford, IL 61109
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Fax: (815) 874-5622
(800) 807-2877

QUALITY CONTROL REPORT

BLANK ANALYSIS

CLAYTON ENVIRONMENTAL
1240 Iroquois Drive
Suite 206
Naperville, IL 60563
Mr. Hank Mittelhauser

08/31/1998

NET Job Number: 98.11031

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
UST VOLATILES 8260 - AQUEOUS						SW 8260A
Benzene		2528	<1.0	ug/L	1.0	SW 8260A
Ethyl Benzene		2528	<1.0	ug/L	1.0	SW 8260A
Toluene		2528	<1.0	ug/L	1.0	SW 8260A
Xylenes, Total		2528	<1.0	ug/L	1.0	SW 8260A
Surr: Dibromofluoromethane		2528	94.2	%	86-118	SW 8260A
Surr: Toluene-d8		2528	105.0	%	88-110	SW 8260A
Surr: Bromofluorobenzene		2528	98.4	%	86-115	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

NATIONAL ENVIRONMENTAL TESTING, INC.

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Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

CLAYTON ENVIRONMENTAL
1240 Iroquois Drive
Suite 206
Naperville, IL 60563
Mr. Hank Mittelhauser

08/31/1998

NET Job Number: 98.11031

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
UST VOLATILES 8260 - AQUEOUS					
Benzene		2528	20.0	20.6	103.0
Ethyl Benzene		2528	20.0	19.9	99.5
Toluene		2528	20.0	19.7	98.5
Xylenes, Total		2528	60.0	58.7	97.8
Surr: Dibromofluoromethane		2528	50.0	46.9	93.8
Surr: Toluene-d8		2528	50.0	51.3	102.6
Surr: Bromofluorobenzene		2528	50.0	48.0	96.0

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

CLAYTON ENVIRONMENTAL
1240 Iroquois Drive
Suite 206
Naperville, IL 60563
Mr. Hank Mittelhauser

08/31/1998

NET Job Number: 98.11031

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
UST VOLATILES 8260 - AQUEOU												
Benzene		2528	18.1	<1.0	20.0	ug/L	90.5	20.0	20.0	ug/L	100.0	9.9
Ethyl Benzene		2528	18.3	<1.0	20.0	ug/L	91.5	22.0	20.0	ug/L	110.0	18.3
Toluene		2528	17.6	<1.0	20.0	ug/L	88.0	20.3	20.0	ug/L	101.5	14.1
Xylenes, Total		2528	38.5	<1.0	60.0	ug/L	64.2	45.7	60.0	ug/L	76.2	17.1

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

CHAIN OF CUSTODY RECORD

COMPANY Amoco Pipeline Co.
ADDRESS MC P0630L2 POB 7513 Chicago, IL 60680-7513
PHONE 312-856-7251 FAX 312 856-3731
PROJECT NAME/LOCATION Artesia Station Eddy Co, NM
PROJECT NUMBER Facility 10125
PROJECT MANAGER Mr. Doug Earley

REPORT TO: D. Earley H. Mittelhauser
INVOICE TO:
P.O. NO.
NET QUOTE NO.

MBF Services

SAMPLED BY
Clayton M Barnhill (PRINT NAME)
SIGNATURE
(PRINT NAME)
SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: BTEX 8020									
						2				40 mL Vials										
8/19/98	16:45	Monitor Well # 11 (2 @ 40mL Vials)	W	X		X					X									
8/19/98	17:45	Monitor Well # 14	W	X		X					X									

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ✓ No ____
Is this work being conducted for regulatory enforcement action? Yes ____ No ____
Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO
FIELD FILTERED? ~~YES~~ / ~~NO~~ N/A
COC SEALS PRESENT AND INTACT? ~~YES~~ / ~~NO~~ N/A
VOLATILES FREE OF HEADSPACE? YES / (NO)
TEMPERATURE UPON RECEIPT: 3.2°C blue ice
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ✓ DATE 8/20/98

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
	8/20/98	14:15			8/21/98	1000	P. Merrill

METHOD OF SHIPMENT: FEDEX - Priority

REMARKS: PLEASE SEND COPY OF REPORT PROMPTLY TO. H. Mittelhauser # 2775

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER YELLOW PT 3 - COPY FOR RECORDS PINK

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

12/14/1998

NET Job Number: 98.15621

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: Artesian Station; Amoco Pipeline Co.

Sample Number	Sample Description	Date Taken	Date Received
505837	Monitoring Well #11	12/05/1998	12/07/1998
505838	Monitoring Well #14	12/05/1998	12/07/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

12/14/1998

Sample No. : 505837

NET Job No.: 98.15621

Sample Description: Monitoring Well #11
Artesian Station; Amoco Pipeline Co.

Date Taken: 12/05/1998
Time Taken: 09:30

Date Received: 12/07/1998
Time Received: 11:00

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Ethyl Benzene	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Toluene	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Xylenes, Total	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Surr: Toluene-d8	102.8		%	85-117	12/13/1998	pll	SW 8260A
Surr: Bromofluorobenzene	105.8		%	80-116	12/13/1998	pll	SW 8260A
Surr: Dibromofluoromethane	108.4		%	75-130	12/13/1998	pll	SW 8260A

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

12/14/1998

Sample No. : 505838

NET Job No.: 98.15621

Sample Description: Monitoring Well #14
Artesian Station; Amoco Pipeline Co.

Date Taken: 12/05/1998
Time Taken: 10:30

Date Received: 12/07/1998
Time Received: 11:00

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Ethyl Benzene	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Toluene	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Xylenes, Total	<1.0		ug/L	1.0	12/13/1998	pll	SW 8260A
Surr: Toluene-d8	101.6		%	85-117	12/13/1998	pll	SW 8260A
Surr: Bromofluorobenzene	101.0		%	80-116	12/13/1998	pll	SW 8260A
Surr: Dibromofluoromethane	115.6		%	75-130	12/13/1998	pll	SW 8260A

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

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(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: Bascor Environmental Inc.
ADDRESS: 800 West Central Road Suite 104N
PHONE: 847-577-4980 FAX: Mt. Prospect, IL
PROJECT NAME/LOCATION: Amoco Pipeline Co. 60056-2384
PROJECT NUMBER: Artesia Station
PROJECT MANAGER: MR. Samuel Senn, PE

REPORT TO: MR. Sam Senn
INVOICE TO: Bascor
P.O. NO.:
NET QUOTE NO.:

CMB Environmental

SAMPLED BY
Clayton M Barnes (PRINT NAME)
Clayton M Barnes SIGNATURE
(PRINT NAME)
SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: BTEX 8021
12/5/98	9:30	Monitor Well #11	H_2O	X		3 40ml VOAs					X
12/5/98	10:30	Monitor Well #14	H_2O	X		3 40ml VOAs					X

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ✓ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO)

COC SEALS PRESENT AND INTACT? YES / NO VOLATILES FREE OF HEADSPACE? (YES) / NO

TEMPERATURE UPON RECEIPT: Ice Water Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA Call MR. Senn
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Clayton M Barnes	12/5/98	13:20			12/7/98	1100	J. Dell

METHOD OF SHIPMENT: FedEx

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

TestAmerica
INCORPORATED

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

04/07/1999

NET Job Number: 99.03261

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Amoco Artesia Station

Sample Number	Sample Description	Date Taken	Date Received
520839	Monitor Well #11	04/01/1999	04/05/1999
520840	Monitor Well #14	04/01/1999	04/05/1999
520841	Trip Blank		04/05/1999

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

04/07/1999

Sample No. : 520839

NET Job No.: 99.03261

Sample Description: Monitor Well #11
Amoco Artesia Station

Date Taken: 04/01/1999
Time Taken: 11:46

Date Received: 04/05/1999
Time Received: 10:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Ethyl Benzene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Toluene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Xylenes, Total	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Surr: Toluene-d8	91.6		%	85-117	04/06/1999	mjo	SW 8260A
Surr: Bromofluorobenzene	90.8		%	80-116	04/06/1999	mjo	SW 8260A
Surr: Dibromofluoromethane	107.4		%	75-130	04/06/1999	mjo	SW 8260A

850 W. BARTLETT RD./ BARTLETT, IL 60103 / 630-289-3100 / FAX: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

04/07/1999

Sample No. : 520840

NET Job No.: 99.03261

Sample Description: Monitor Well #14
Amoco Artesia Station

Date Taken: 04/01/1999
Time Taken: 15:40

Date Received: 04/05/1999
Time Received: 10:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Ethyl Benzene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Toluene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Xylenes, Total	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Surr: Toluene-d8	93.4		%	85-117	04/06/1999	mjo	SW 8260A
Surr: Bromofluorobenzene	96.8		%	80-116	04/06/1999	mjo	SW 8260A
Surr: Dibromofluoromethane	101.4		%	75-130	04/06/1999	mjo	SW 8260A

850 W. BARTLETT RD./ BARTLETT, IL 60103 / 630-289-3100 / FAX: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

04/07/1999

Sample No. : 520841

NET Job No.: 99.03261

Sample Description: Trip Blank
Amoco Artesia Station

Date Taken:
Time Taken:

Date Received: 04/05/1999
Time Received: 10:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Ethyl Benzene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Toluene	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Xylenes, Total	<1.0		ug/L	1.0	04/06/1999	mjo	SW 8260A
Surr: Toluene-d8	98.2		%	85-117	04/06/1999	mjo	SW 8260A
Surr: Bromofluorobenzene	106.0		%	80-116	04/06/1999	mjo	SW 8260A
Surr: Dibromofluoromethane	111.2		%	75-130	04/06/1999	mjo	SW 8260A

850 W. BARTLETT RD./ BARTLETT, IL 60103 / 630-289-3100 / FAX: 630-289-5445 / 800-378-5700

TestAmerica, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
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(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

CHAIN OF CUSTODY RECORD

TestAmerica INCORPORATED

COMPANY: Amoco Pipeline Company
ADDRESS: C/O Bascor Environmental Inc.
PHONE: 847-577-1980 FAX: 847-577-1982
PROJECT NAME/LOCATION: Amoco Artesia Station
PROJECT NUMBER:
PROJECT MANAGER: Mr. Sam Senn

REPORT TO: Mr. Sam Senn
INVOICE TO: Bascor
P.O. NO.:
QUOTE NO.:

C M B Environmental

SAMPLED BY
(PRINT NAME) Clayton M Barnhill
SIGNATURE
(PRINT NAME)
SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: BTEX 8021
4/1/99	11:46	Monitor Well #11	H_2O	X		X					X
4/1/99	15:40	Monitor Well #14	H_2O	X		X					X
		Trip Blank	H_2O	X		X					

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ✓ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ___

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

Any Questions Please Call Mr. Sam Senn @ Bascor. 847-577-1980

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? ~~YES~~ / NO NA

COC SEALS PRESENT AND INTACT? ~~YES~~ / NO VOLATILES FREE OF HEADSPACE? YES (NO)

TEMPERATURE UPON RECEIPT: 17.7°C Blue ICE
Bottles supplied by LAB? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST LAB TO DISPOSE OF ALL SAMPLE REMAINDERS CMB DATE 4/2/99

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR LAB BY:
[signature]	4/2/99	16:00			4-5-99	10:30	CBenson

METHOD OF SHIPMENT: FEDEX

REMARKS: Please Send Results ASAP To Sam Senn @ Bascor

PT 2 - PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

TestAmerica
INCORPORATED

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

06/14/1999

NET Job Number: 99.05745

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Amoco Artesian Station

Sample Number	Sample Description	Date Taken	Date Received
529933	Monitor Well #11	06/02/1999	06/03/1999
529934	Monitor Well #14	06/02/1999	06/03/1999

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:
Mary Pearson

Mary Pearson
Project Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

06/14/1999

Sample No. : 529933

Job No.: 99.05745

Sample Description: Monitor Well #11
Amoco Artesian Station

Date Taken: 06/02/1999
Time Taken: 14:13

Date Received: 06/03/1999
Time Received: 10:45

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0		ug/L	1.0	06/12/1999	mjo	SW 8260A
Ethyl Benzene	<1.0		ug/L	1.0	06/12/1999	mjo	SW 8260A
Toluene	<1.0		ug/L	1.0	06/12/1999	mjo	SW 8260A
Xylenes, Total	<1.0		ug/L	1.0	06/12/1999	mjo	SW 8260A
Surr: Toluene-d8	86.0		%	85-117	06/12/1999	mjo	SW 8260A
Surr: Bromofluorobenzene	72.2	R	%	80-116	06/12/1999	mjo	SW 8260A
Surr: Dibromofluoromethane	107.2		%	75-130	06/12/1999	mjo	SW 8260A

R : Surrogate recovery verified by re-analysis.

850 W. BARTLETT RD./ BARTLETT, IL 60103 / 630-289-3100 / FAX: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Sam Senn
BASCOR ENVIRONMENTAL
800 W. Central
Suite 104N
Mt. Prospect, IL 60056

06/14/1999

Sample No. : 529934

Job No.: 99.05745

Sample Description: Monitor Well #14
Amoco Artesian Station

Date Taken: 06/02/1999
Time Taken: 15:31

Date Received: 06/03/1999
Time Received: 10:45

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
UST VOLATILES 8260 - AQUEOUS							
Benzene	<1.0		ug/L	1.0	06/12/1999	mjo	SW 8260A
Ethyl Benzene	<1.0		ug/L	1.0	06/12/1999	mjo	SW 8260A
Toluene	<1.0		ug/L	1.0	06/12/1999	mjo	SW 8260A
Xylenes, Total	2.2		ug/L	1.0	06/12/1999	mjo	SW 8260A
Surr: Toluene-d8	98.2		%	85-117	06/12/1999	mjo	SW 8260A
Surr: Bromofluorobenzene	86.0		%	80-116	06/12/1999	mjo	SW 8260A
Surr: Dibromofluoromethane	115.8		%	75-130	06/12/1999	mjo	SW 8260A

850 W. BARTLETT RD./ BARTLETT, IL 60103 / 630-289-3100 / FAX: 630-289-5445 / 800-378-5700

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

TESTAMERICA INC.

Chain of Custody Record — Page ____ of ____

☐ Asheville, NC (A) (828) 254-5169	☒ Bartlett, IL (C) (630) 289-3100	☐ Cedar Falls, IA (E) (319) 277-2401	☐ Charlotte, NC (G) (704) 392-1164	☐ Dayton, OH (I) (937) 294-6856	☐ Lumberton, NC (K) (910) 738-6190	☐ Nashville, TN (M) (615) 726-0177	☐ Pontiac, MI (O) (248) 332-1940	☐ Rockford. Il (Q) (815) 874-2171
☐ Atlanta, GA (B) (770) 368-0636	☐ Brighton, CO (D) (303) 659-0497	☐ Charleston, SC (F) (843) 849-6550	☐ Columbia, SC (H) (803) 796-8989	☐ Davenport. IA (J) (319) 323-7944	☐ Indianapolis, IN (L) (317) 842-4261	☐ Macon, GA (N) (912) 757-0811	☐ Orlando, FL (P) (407) 851-2560	☐ Watertown, WI (R) (920) 261-1660

Client: BASCOR Environmental	Project No.: Amoco Artesia Station
Report Address: 800 West Central Road, Mt. Prospect, IL 60056-2384	Invoice Address: BASCOR
Attn: MR. Sam Senn	Attn: Sam Senn
Phone No.: 847-577-1980	Sampled By: CD Barnhill
Fax No.:	P.O. No:
	Quote No.
	State Samples Collected N.M.

TURNAROUND TIME

~~☒ Standard~~

☐ Rush (surcharges may apply) Date Needed: _____

REQUESTED PARAMETERS

BTEX 8021

Is this work being conducted for regulatory compliance monitoring? Yes X No___

Is this work being conducted for regulatory enforcement action? Yes X No___

Which regulations apply:
RCRA____ NPDES Wastewater____
UST____ Drinking Water____
Other X None____

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	BTEX 8021	# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
MONITOR WELL #11	6/2/99	14:12	G	H2O		X	X						3 40mL VOA'S
MONITOR WELL #14	6/2/99	15:31	G	H2O		X	X						" " "
TRIP BLANK													

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Init Lab Temp

Rec Lab Temp: 2°C wet Ice

COMMENTS: ANY Questions Please Call Sam Senn, BASCOR Environmental (847) 577-1980 800 West Central Road, Suite 104 Mt. Prospect, IL 60058-2384

Relinquished By: [signature]	Date 6/2/99	Time 17:00	Received By: [signature]	Date 6/3	Time 1045	LAB USE ONLY:
Relinquished By:	Date	Time	Received By:	Date	Time	
Relinquished By:	Date	Time	Received By:	Date	Time	Custody Seal: ☐ Yes ☐ No ☒ N/A
Relinquished By:	Date	Time	Received By:	Date	Time	Bottles Supplied by TA: ~~☒~~ Yes ☐ No