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**BIENNIAL GROUNDWATER TECHNICAL REPORT (JUN. 1997-DEC. 1998)  
HARDEE COUNTY SOLID WASTE DISPOSAL FACILITY  
HARDEE COUNTY SOLID WASTE RECYCLING CENTER  
HARDEE COUNTY, FLORIDA  
PERMIT NUMBER 38414-002-SO**

**Prepared For:**

**HARDEE COUNTY, FLORIDA  
BOARD OF COUNTY COMMISSIONERS**

**November 2000**


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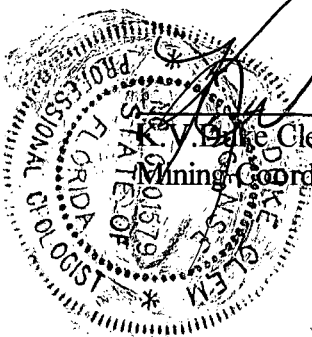
**D.E.P.**  
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Southwest District Tampa

**Prepared For:**

**HARDEE COUNTY, FLORIDA**  
**BOARD OF COUNTY COMMISSIONERS**

**November 2000**

  
K. V. Burke Clem, P.G.  
Mining Coordinator, Hardee County



## **EXECUTIVE SUMMARY**

This biennial technical report was prepared in response to Specific Condition Number 46 of the landfill operating permit and in accordance with Chapter 62-701.510 (9)(b) of the Florida Administrative Code (F.A.C.).

Groundwater elevation data and analytical results from June 1997 through December 1998 were tabulated and analyzed to determine the effectiveness of the groundwater monitoring plan implemented at the Hardee County Solid Waste Disposal Facility. Groundwater samples were collected and analyzed from seven monitor wells throughout the monitoring period. Groundwater elevation data was recorded from these seven monitor wells as well as fourteen piezometers located throughout the site.

The landfill site is monitored to determine if a contaminant leak from the landfill liner system has occurred. All tested analytes, except for iron, pH, and methylene chloride were reported below their respective guidance concentration limit or drinking water standard, where applicable, in all monitoring wells throughout the monitoring period. Elevated iron concentrations and low pH readings were reported for all monitoring wells, including the background well, for a majority of the sampling events.

Based on the location and depths of the monitoring wells, the groundwater monitoring plan currently in effect may require a minor modification in order to comply with F.A.C. 62-701.

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**HARDEE COUNTY SOLID WASTE DISPOSAL FACILITY**

**OPERATING PERMIT**

**Section 1**  
**INTRODUCTION**

**1.1 BACKGROUND AND REPORT OBJECTIVES**

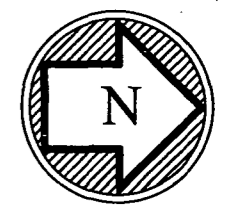
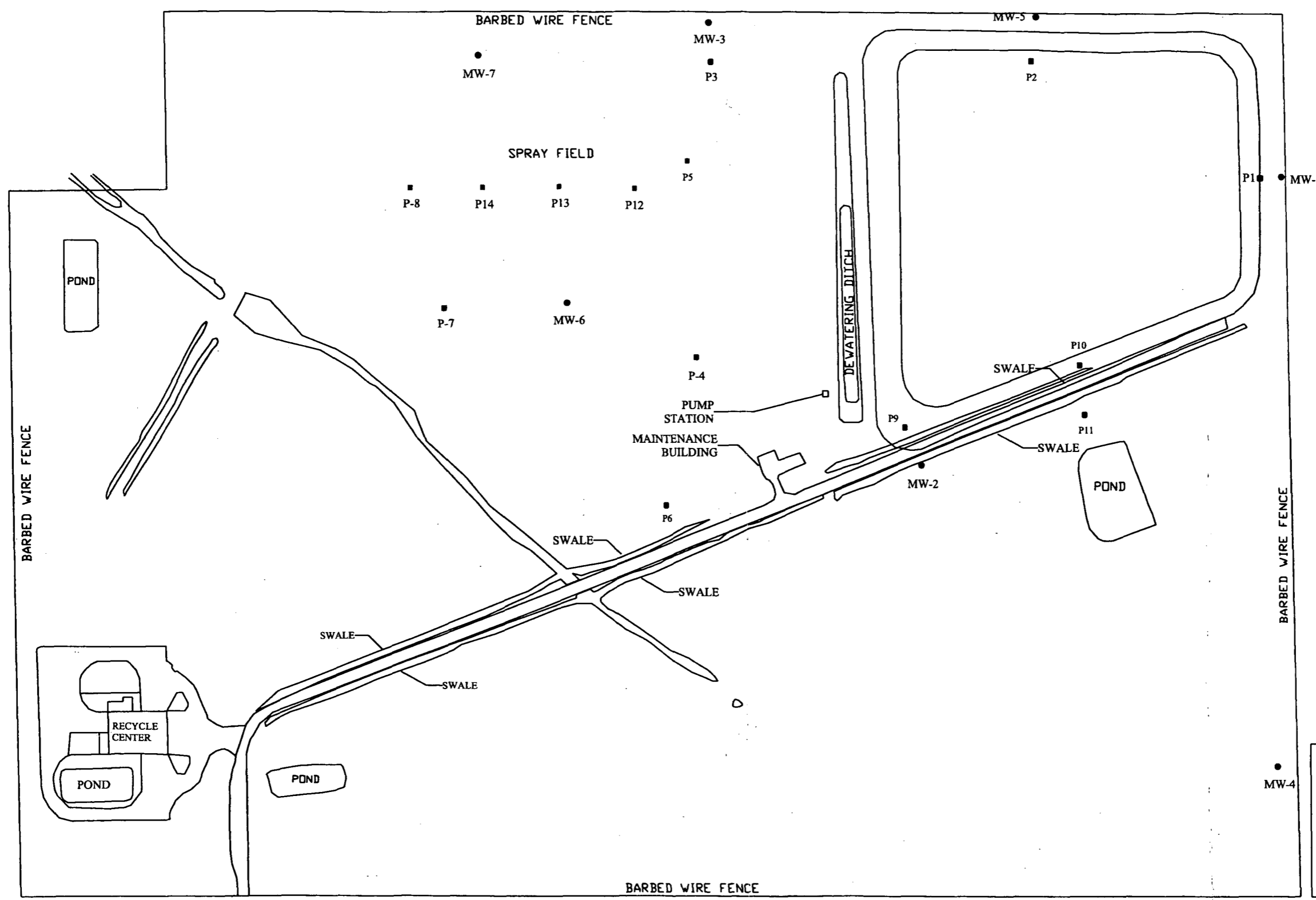
This report summarizes groundwater data collected from the Hardee County Solid Waste Disposal Facility (HCSWDF) from June 1997 through December 1998. The sampling frequency was conducted on a semi-annual basis. The Florida Department of Environmental Protection (FDEP) approved the change from quarterly to semi-annual groundwater sampling in correspondence dated August 24, 1995. The operating permit was issued on November 29, 1993 and was subsequently modified on June 13, 1996 to implement a new leachate/stormwater management plan. The sampling events included in this reporting period are indicated in the following table:

1997	1998
June 10  December 8	June 1  December 8

Short Environmental Laboratories, Inc. of Sebring, Florida analyzed the groundwater samples. Their approved Comprehensive Quality Assurance Plan (CompQAP) is currently on file with FDEP (No. 880516).

The monitoring points consisted of seven groundwater monitoring wells and fourteen piezometers which monitor the surficial aquifer. A site map showing the locations of the sampling points is presented as Figure 1-1. A well classification chart is included as Table 1-1.

This biennial report has been prepared in accordance with Specific Condition Number 46 of the operating permit for the HCSWDF.



Scale: 1" = 200'

Legend	
●	Monitorwell
■	Piezometer
MW-4	
P11	

Monitoring Well And Piezometer  
Location Map

Hardee County Mining Department  
110 S. Ninth Avenue  
Wauchula, FL 33873

Figure  
1-1

**TABLE 1-1**  
**HARDEE COUNTY**  
**MONITORING WELL CLASSIFICATION CHART**

<u>Monitor Well Number</u>	<u>GMS Number</u>	<u>Aquifer</u>	<u>Designation</u>
MW-1	4025A14569	SURFICIAL Surficial	COMPLIANCE
MW-2	4025A14570	SURFICIAL	COMPLIANCE DETECTION
MW-3	4025A14571	SURFICIAL	COMPLIANCE COMPLIANCE
MW-4	4025A14572	SURFICIAL	BACKGROUND
MW-5	4025A14573	SURFICIAL	COMPLIANCE DETECTION
MW-6	4025A14574	SURFICIAL	COMPLIANCE DETECTION
MW-7	4025A14575	SURFICIAL	COMPLIANCE DETECTION

## **Section 2**

### **GROUNDWATER ANALYTICAL RESULTS**

#### **2.1 GROUNDWATER ANALYTICAL RESULTS SUMMARY**

The analytical results for groundwater sampling conducted from June 1997 to December 1998 are summarized on the tables following this section. A copy of the certificates of laboratory analyses for each sampling event is currently on file with FDEP.

Iron consistently exceeded its maximum concentration limit (MCL) of 0.3 mg/L in all monitoring wells during the reporting period. Background concentrations of iron, as evidenced in the analysis of groundwater samples collected from monitor well MW-4, ranged from 9.86 to 26.9 mg/L with an overall average of 21.14 mg/L throughout this monitoring period; a decrease from the previous reporting period of 43.3 mg/L. The groundwater samples collected from the remaining compliance wells showed similar iron concentration fluctuations; however, reported readings for all sampling events were below background concentrations in these wells, except for a reported 53.3 mg/L concentration from MW-1 during the December 1998 sampling event, and a reported 10.6 mg/L during the June 10 1997 sampling event. Iron is a naturally occurring element and may be present in the groundwater as a product of the surrounding environment. This is supported by information presented in the Florida Geological Survey (FGS) Special Publication No. 34. According to this publication, iron has been detected in this region in the surficial aquifer at a background concentration of 43.90 part per million (ppm).

In addition to iron, all sampling events for all monitoring wells (except for the June 1998 sampling event at MW-2) did not achieve the minimum pH standard of 6.5. The lowest overall average pH, 4.32, was noted in monitoring well MW-7. The average reading for background well MW-4 was 5.87. Background pH readings for Hardee County have been reported at 4.90 as documented in the FGS report previously referenced.

Methylene chloride was below laboratory detection limits for all samples during the reporting period.

Minor concentrations of arsenic were consistently reported for monitor wells MW-1 and MW-4. Arsenic concentrations from 0.006 to .007  $\mu\text{g/L}$  were reported for monitor well MW-1. MW-4 exhibited arsenic concentrations from .007 to .012, with an average concentration of .013  $\text{mg/L}$ . Minor concentrations of selenium, nickel, lead, zinc and cadmium were also reported during the monitoring period, however all were below drinking water standards.

## **2.2 GROUNDWATER MONITORING WELL COMPARISONS**

Since only surficial monitoring wells were present at the site during this monitoring period, a relationship cannot be established between different flow zones. Section 2.4 discusses upgradient and downgradient groundwater quality comparisons.

## **2.3 GROUNDWATER FLOW**

The estimated predominant static groundwater flow gradient across the site is inferred to be to the south and southeast with monitor well MW-1 considered the farthest upgradient well. However, the ditch to the south of the landfill coupled with the liners around the other three sides of the landfill distort the overall groundwater flow near the site. As shown in the figures in Appendix A, an inward groundwater flow gradient has been consistently maintained around the perimeter of the landfill cell except during the December, 1997 sampling event. An outward flow from the landfill perimeter was observed along the eastern sides of the landfill at that time. Additionally, during the December, 1998 sampling event date, the groundwater flow around the western side of the landfill projected outward away from the landfill perimeter. Groundwater flow direction around these sides will be closely monitored during the dry season in the future. Additional pumping activities may be initiated if the inward gradient is not maintained during future monitoring. Groundwater elevation data is presented in Section 7.

## **2.4 DOWNGRAIENT CONTAMINANT MIGRATION**

Monitor wells MW-3, MW-5, MW-6, and MW-7 are considered the downgradient wells for the site. Monitor wells MW-1 and MW-2 are considered the upgradient wells with monitor well MW-4 considered the background well. The upgradient and downgradient water quality was generally at or below background contaminant concentrations throughout the monitoring period. As referenced earlier, iron and pH consistently did not meet their established MCL levels. However, there is no significant variation between upgradient, downgradient, and background concentration values.

## **2.5 GROUNDWATER MONITORING PLAN EVALUATION**

The groundwater monitoring plan currently in effect may require modifications in order to comply with 62-701.510(3)(a) and 62-701.510(3)(d) F.A.C. Although two additional monitoring wells, and piezometers (MW-8, MW-9 and P-15, P-16) have been installed within 50 ft. of the southern or downgradient direction of the landfill cell, the spacing of the downgradient monitoring wells along the southwestern and southern ends of the solid waste unit exceed the maximum spacing of 500 feet.

As part of the operating permit modification for the HCSWMF, a vertical liner was installed along the southern border of the landfill cell and connected to existing liners. The dewatering ditch currently present at the southern border of the landfill cell was incorporated into the landfill as part of this modification. Additionally, the spray field has been taken off-line and the leachate is collected in tanks and taken off-site for ultimate disposal.

TABLE 2-1  
SUMMARY OF LABORATORY ANALYSES  
HCMW-1

Analyte	Primary Drinking Water Standard	Secondary Drinking Water Standard	Units	12/08/98	06/01/98	12/08/97	06/10/97
<b>Field Data</b>							
Conductivity			umhos/cm	211	197	181	208
pH	6.5-8.5		pH units	5.05	4.91	4.75	4.89
Dissolved Oxygen			mg/L	6.8	3.2	3.2	5.2
Turbidity			NTU	20.2	16.7	18.8	10.5
Temperature			C	25	25.1	22.7	24.8
C/Sheens			N/A	YES	YES	YES	NO
<b>Laboratory Data</b>							
Ammonia			mg/L	0.21	0.3	0.27	0.38
Chloride		250	mg/L	BDL	33	94	31
Iron		0.03	mg/L	53.3	9.62	9.62	10.6
Mercury	0.002		mg/L	BDL	BDL	BDL	BDL
Nitrate	10		mg/L	0.05	0.04	0.05	0.04
Sodium	160		mg/L	12	12	14	12.7
Total Dissolved Solids		500	mg/L	208	210	260	220
Antimony	0.006		mg/L	BDL	BDL	BDL	BDL
Arsenic	0.05		mg/L	0.007	BDL	0.007	0.006
Barium	2		mg/L	BDL	BDL	BDL	BDL
Beryllium	0.004		mg/L	BDL	BDL	BDL	BDL
Cadmium	0.005		mg/L	BDL	BDL	BDL	BDL
Chromium	0.1		mg/L	BDL	BDL	BDL	BDL
Cobalt			mg/L	BDL	BDL	BDL	BDL
Copper		1	mg/L	BDL	BDL	BDL	0.02
Lead	0.015		mg/L	BDL	0.001	0.002	BDL
Nickel	0.01		mg/L	BDL	BDL	BDL	0.02
Selenium	0.05		mg/L	BDL	BDL	BDL	BDL
Silver		0.05	mg/L	BDL	BDL	BDL	BDL
Thallium	1		mg/L	BDL	BDL	BDL	BDL
Vanadium		.049*	mg/L	12	BDL	BDL	BDL
Zinc		5	mg/L	0.007	0.004	0.006	BDL
<b>Appendix I</b>							
Acetone		700*	ug/L	BDL	BDL	BDL	BDL
Methylene Chloride	5			BDL	BDL	BDL	BDL
Other App. I			ug/L	BDL	BDL	3.52	BDL
EPA 601/602 analytes			ug/L	BDL	BDL	BDL	BDL

All listed drinking water standards are established under F.A.C. 62-520.420(1)

\*Guidance concentration limit; guidance concentration limits are non-enforceable limits under F.A.C. 62-520.400

BDL - Below Detection Limit

TABLE 2-1 (cont.)  
SUMMARY OF LABORATORY ANALYSES  
HCMW2

Analyte	Primary Drinking Water Standard	Secondary Drinking Water Standard	Units	12/08/98	06/01/98	12/08/97	06/10/97
<b>Field Data</b>							
Conductivity			umhos/cm	298	357	282	289
pH	6.5-8.5		pH units	6.37	6.51	6.32	6.82
Dissolved Oxygen			mg/L	3.2	4.4	6.2	2.8
Turbidity			NTU	6.7	10.9	19.5	1.6
Temperature			C	25	24.2	22.5	24
C/Sheens			N/A	YES	NO	NO	NO
<b>Laboratory Data</b>							
Ammonia			mg/L	0.16	0.17	0.11	0.18
Chloride		250	mg/L	7.4	16	14	15
Iron		0.30	mg/L	5.79	8.32	3.88	6.55
Mercury	0.002		mg/L	BDL	BDL	BDL	BDL
Nitrate	10		mg/L	BDL	0.02	BDL	BDL
Sodium	160		mg/L	8.5	9.7	9.2	9.7
Total Dissolved Solids		500	mg/L	172	206	230	166
Antimony	0.006		mg/L	BDL	BDL	BDL	BDL
Arsenic	0.05		mg/L	BDL	BDL	BDL	BDL
Barium	2		mg/L	BDL	0.02	BDL	BDL
Beryllium			mg/L	BDL	BDL	BDL	BDL
Cadmium			mg/L	BDL	BDL	0.002	BDL
Chromium	0.1		mg/L	BDL	BDL	BDL	BDL
Cobalt			mg/L	BDL	BDL	BDL	BDL
Copper		1	mg/L	BDL	BDL	BDL	BDL
Lead	0.015		mg/L	BDL	BDL	0.007	BDL
Nickel	0.01		mg/L	BDL	BDL	BDL	0.02
Selenium	0.05		mg/L	BDL	BDL	BDL	BDL
Silver			mg/L	BDL	BDL	BDL	BDL
Thallium	1		mg/L	BDL	BDL	BDL	BDL
Vanadium		.049*	mg/L	BDL	BDL	BDL	BDL
Zinc		5	mg/L	0.002	0.002	BDL	BDL
<b>Appendix I</b>							
Acetone				BDL	BDL	BDL	BDL
Methylene Chloride				BDL	BDL	BDL	BDL
Other App. I				BDL	BDL	BDL	BDL
EPA 601/602 Analytes				BDL	BDL	0.88	BDL

All listed drinking water standards are established under F.A.C. 62-520.420 (1)

\*Guidance concentration limit; guidance concentration limits are non-enforceable limits under F.A.C. 62-520.400

BDL - Below Detection Limit

TABLE 2-1 (cont.)  
HARDEE COUNTY LANDFILL  
HCMW3

Analyte	Primary Drinking Water Standard	Secondary Drinking Water Standard	Units	12/08/98	06/01/98	12/08/97	06/10/97
<b>Field Data</b>							
Conductivity			umhos/cm	66	78	87	79
pH	6.5-8.5		pH units	5.3	5.24	5.35	4.68
Dissolved Oxygen			mg/L	2.8	1.8	3.8	2.7
Turbidity			NTU	3.36	1	44.2	0.90
Temperature			C	26.5	24.9	23.9	25
C/Sheens			N/A	YES	NO	YES	NO
<b>Laboratory Data</b>							
Ammonia			mg/L	0.06	0.06	BDL	0.12
Chloride		250	mg/L	3.6	4.3	4.3	6.6
Iron		0.3	mg/L	0.89	0.68	3.38	0.71
Mercury	0.002		mg/L	BDL	BDL	BDL	BDL
Nitrate	10		mg/L	BDL	BDL	BDL	BDL
Sodium	160		mg/L	2.5	2.5	2.6	2.8
Total Dissolved Solids		500	mg/L	48	48	108	40
Antimony	0.006		mg/L	BDL	BDL	BDL	BDL
Arsenic	0.05		mg/L	BDL	BDL	BDL	BDL
Barium	2		mg/L	BDL	BDL	0.02	BDL
Beryllium			mg/L	BDL	BDL	BDL	BDL
Cadmium			mg/L	BDL	BDL	0.002	0
Chromium	0.1		mg/L	BDL	BDL	0.02	0
Cobalt			mg/L	BDL	BDL	BDL	BDL
Copper		1	mg/L	BDL	BDL	BDL	BDL
Lead	0.015		mg/L	BDL	BDL	0.005	BDL
Nickel	0.01		mg/L	BDL	BDL	0.01	0.01
Selenium	0.05		mg/L	BDL	BDL	BDL	BDL
Silver			mg/L	BDL	BDL	BDL	BDL
Thallium	1		mg/L	BDL	BDL	BDL	BDL
Vanadium		.049*	mg/L	BDL	BDL	BDL	BDL
Zinc		5	mg/L	BDL	BDL	0.009	BDL
<b>Appendix I</b>							
Acetone		700*		BDL	BDL	BDL	BDL
Methylene Chloride	5				BDL	BDL	BDL
Other App. I					BDL	BDL	BDL
EPA 601/602 Analytes				BDL	BDL	0.75	BDL

All listed drinking water standards are established under F.A.C. 62-520.420(1)

\*Guidance concentration limit; guidance concentration limits are non-enforceable limits established under F.A.C. 62-520.400

BDL - Below Detection Limit

TABLE 2-1 (cont.)  
HARDEE COUNTY LANDFILL  
HCMW4

Analyte	Primary Drinking Water Standard	Secondary Drinking Water Standard	Units	12/08/98	06/01/98	12/08/97	06/10/97
<b>Field Data</b>							
Conductivity			umhos/cm	185	431	209	204
pH	6.5-8.5		pH units	6.09	6.16	5.66	5.6
Dissolved Oxygen			mg/L	2.2	3.4	2	2.6
Turbidity			NTU	16.4	3.8	8.2	9.6
Temperature			C	23.9	22.5	22.6	23.4
C/Sheens			N/A	YES	NO	YES	NO
<b>Laboratory Data</b>							
Ammonia			mg/L	0.19	0.28	0.22	0.31
Chloride		250	mg/L	7.5	13	12	21
Iron		0.3	mg/L	9.86	26.3	21.5	26.9
Mercury	0.002		mg/L	BDL	BDL	BDL	BDL
Nitrate	10		mg/L	BDL	0.06	0.06	0.05
Sodium	160		mg/L	4.2	6.3	4.6	6.5
Total Dissolved Solids		500	mg/L	182	318	235	150
Antimony	0.006		mg/L	BDL	BDL	BDL	BDL
Arsenic	0.05		mg/L	0.012	0.007	0.012	0.02
Barium	2		mg/L	0.02	0.05	BDL	BDL
Beryllium	0.004		mg/L	BDL	BDL	BDL	BDL
Cadmium	0.005		mg/L	BDL	BDL	BDL	BDL
Chromium	0.1		mg/L	BDL	BDL	BDL	BDL
Cobalt			mg/L	BDL	BDL	BDL	BDL
Copper		1	mg/L	BDL	BDL	BDL	BDL
Lead	0.015		mg/L	BDL	BDL	0.002	BDL
Nickel	0.1		mg/L	BDL	BDL	BDL	BDL
Selenium	0.05		mg/L	BDL	BDL	BDL	BDL
Silver		0.05	mg/L	BDL	BDL	BDL	BDL
Thallium	1		mg/L	BDL	BDL	BDL	BDL
Vanadium		.049*	mg/L	BDL	BDL	BDL	BDL
Zinc		5	mg/L	BDL	0.002	BDL	BDL
<b>Appendix I</b>							
Acetone		700*	ug/L	BDL	BDL	BDL	BDL
Methylene Chloride	5		ug/L	BDL	BDL	BDL	BDL
Other App. I			ug/L	BDL	BDL	BDL	BDL
EPA 601/602 Analytes			ug/L	BDL	BDL	BDL	BDL

All listed drinking water standards are established under F.A.C. 62-520.420

\*Guidance concentration limit; guidance concentration limits are non-enforceable limits established under F.A.C. 62-520.400

BDL - Below Detection Limit

TABLE 2-1 (cont.)  
HARDEE COUNTY LANDFILL  
HCMW5

[illegible]

All listed drinking water standards are established under F.A.C. 62-520.420(1)

\*Guidance concentration limit; guidance concentration limits are non-enforceable limits established under F.A.C. 62-520.400

BDL - Below Detection Limit

TABLE 2-1 (cont.)  
HARDEE COUNTY LANDFILL  
HCMW6

Analyte	Primary Drinking Water Standard	Secondary Drinking Water Standard	Units	12/08/98	06/01/98	12/08/97	06/10/97
<b>Field Data</b>							
Conductivity			umhos/cm	109	99	114	123
pH	6.5-8.5		pH units	5.14	4.87	4.73	4.58
Dissolved Oxygen			mg/L	3	2.1	3.1	2.3
Turbidity			NTU	4.47	0.74	1.93	0.7
Temperature			C	24.8	23.8	23.7	23.1
C/Sheens			N/A	yes	yes	no	no
<b>Laboratory Data</b>							
Ammonia			mg/L	BDL	0.05	0	0.06
Chloride		250	mg/L	18	17	20	21
Iron		0.03	mg/L	2.49	2.51	3.48	3.88
Mercury	0.002		mg/L	BDL	BDL	BDL	BDL
Nitrate	10		mg/L	BDL	0.02	BDL	BDL
Sodium	160		mg/L	13	12	13	15
Total Dissolved Solids		500	mg/L	78	64	76	56
Antimony	0.006		mg/L	BDL	BDL	BDL	BDL
Arsenic	0.05		mg/L	BDL	BDL	BDL	BDL
Barium	2		mg/L	BDL	BDL	BDL	BDL
Beryllium	0.004		mg/L	BDL	BDL	BDL	BDL
Cadmium	0.005		mg/L	BDL	BDL	BDL	BDL
Chromium	0.1		mg/L	BDL	BDL	BDL	BDL
Cobalt			mg/L	BDL	BDL	BDL	BDL
Copper		1	mg/L	BDL	BDL	BDL	BDL
Lead	0.015		mg/L	BDL	0.001	0.002	BDL
Nickel	0.01		mg/L	BDL	BDL	BDL	BDL
Selenium	0.05		mg/L	BDL	BDL	BDL	BDL
Silver		0.05	mg/L	BDL	BDL	BDL	BDL
Thallium	1		mg/L	BDL	BDL	BDL	BDL
Vanadium		.049*	mg/L	BDL	BDL	BDL	BDL
Zinc		5	mg/L	BDL	BDL	BDL	BDL
<b>Appendix I</b>							
Acetone		700*	ug/L	BDL	BDL	BDL	BDL
Methylene Chloride	5		ug/L	BDL	5.2	BDL	BDL
Other Appl Analytes			ug/L	BDL	BDL	BDL	BDL
EPA 601/602 Analytes			ug/L	BDL	BDL	BDL	BDL

All listed drinking water standards are established under F.A.C. 62-520.420(1)

\*Guidance concentration limit; guidance concentration limits are non-enforceable limits established under F.A.C. 62-520.400

BDL - Below Detection Limit

TABLE 2-1 (cont.)  
HARDEE COUNTY LANDFILL  
HCMW7

Analyte	Primary Drinking Water Standard	Secondary Drinking Water Standard	Units	12/08/98	06/01/98	12/08/97	06/10/97
<b>Field Data</b>							
Conductivity			umhos/cm	98	118	125	158
pH	6.5-8.5		pH units	4.82	4.69	4.32	4.43
Dissolved Oxygen			mg/L	4.2	2	3.7	2.2
Turbidity			NTU	1.2	0.75	1.6	2
Temperature			C	24.8	22.8	23.3	23.4
C/Sheens			N/A	yes	no	no	no
<b>Laboratory Data</b>							
Ammonia			mg/L	0.2	0.22	0.24	0.35
Chloride		250	mg/L	14	22	27	35
Iron		0.03	mg/L	2.24	2.61	2.94	3.87
Mercury	0.002		mg/L	BDL	BDL	BDL	BDL
Nitrate	10		mg/L	BDL	BDL	0.02	BDL
Sodium	160		mg/L	13	14	16	19
Total Dissolved Solids		500	mg/L	70	74	86	82
Antimony	0.006		mg/L	BDL	BDL	BDL	BDL
Arsenic	0.05		mg/L	BDL	BDL	BDL	BDL
Barium	2		mg/L	BDL	BDL	BDL	BDL
Beryllium	0.004		mg/L	BDL	BDL	BDL	BDL
Cadmium	0.005		mg/L	BDL	BDL	BDL	BDL
Chromium	0.1		mg/L	BDL	BDL	BDL	BDL
Cobalt			mg/L	BDL	BDL	BDL	BDL
Copper		1	mg/L	BDL	BDL	BDL	BDL
Lead	0.015		mg/L	BDL	BDL	0.004	BDL
Nickel	0.01		mg/L	BDL	BDL	BDL	BDL
Selenium	0.05		mg/L	BDL	BDL	BDL	BDL
Silver		0.05	mg/L	BDL	BDL	BDL	BDL
Thallium	1		mg/L	BDL	BDL	BDL	BDL
Vanadium		.049*	mg/L	BDL	BDL	BDL	BDL
Zinc		5	mg/L	BDL	BDL	BDL	BDL
<b>Appendix I</b>							
Acetone		700*	ug/L	BDL	BDL	BDL	BDL
Methylene Chloride	5		ug/L	BDL	BDL	BDL	BDL
Other App. I			ug/L	BDL	BDL	BDL	BDL
EPA 601/602 Analytes			ug/L	BDL	BDL	BDL	BDL

All listed drinking water standards are established under F.A.C. 62-520.420(1)

\*Guidance concentration limit; guidance concentration limits are non-enforceable limits established under F.A.C. 62-520.400

BDL - Below Detection Limit

## **Section 3**

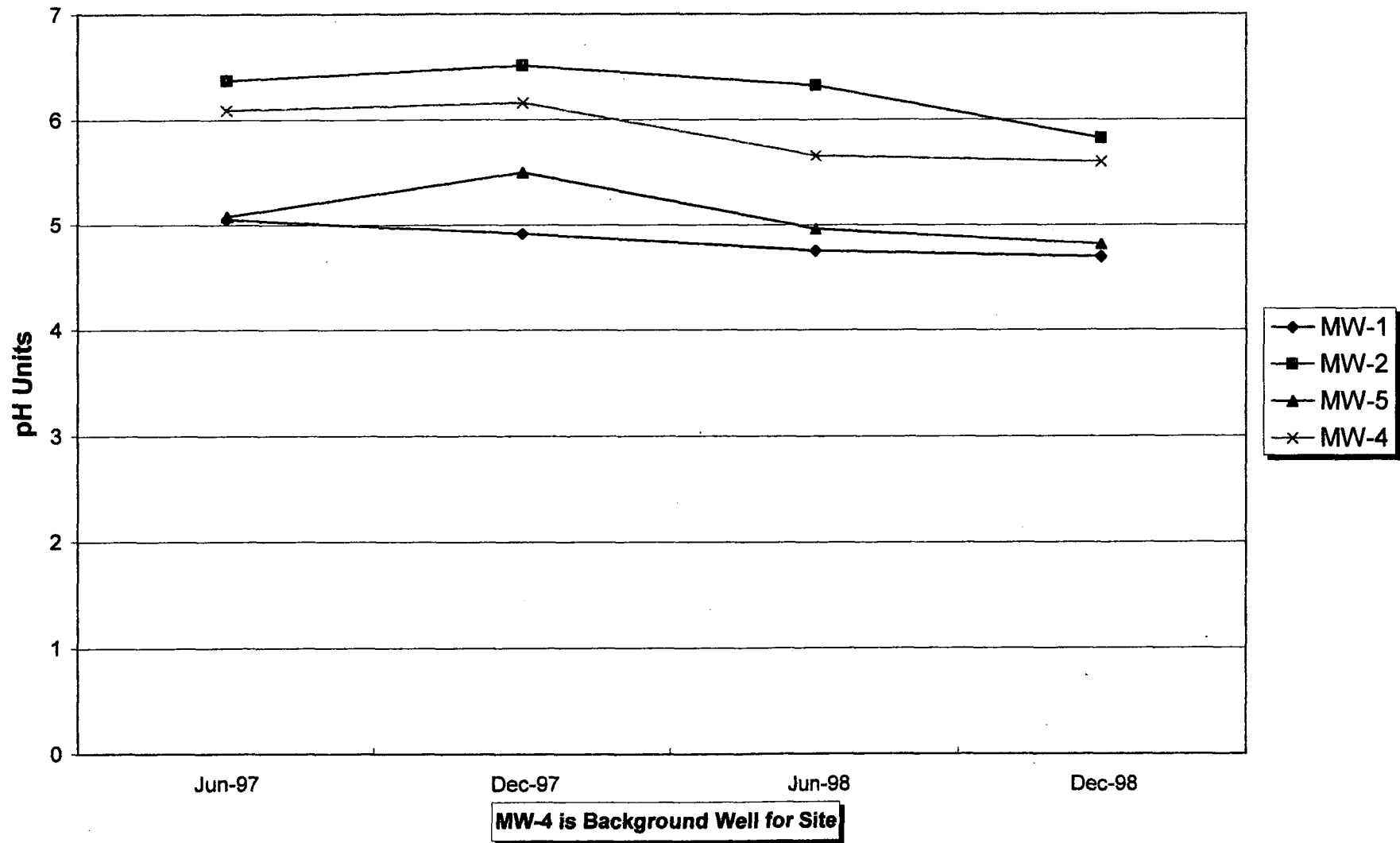
### **GRAPHICAL ANALYSIS OF GROUNDWATER DATA**

#### **3.1 GRAPHICAL SUMMARY**

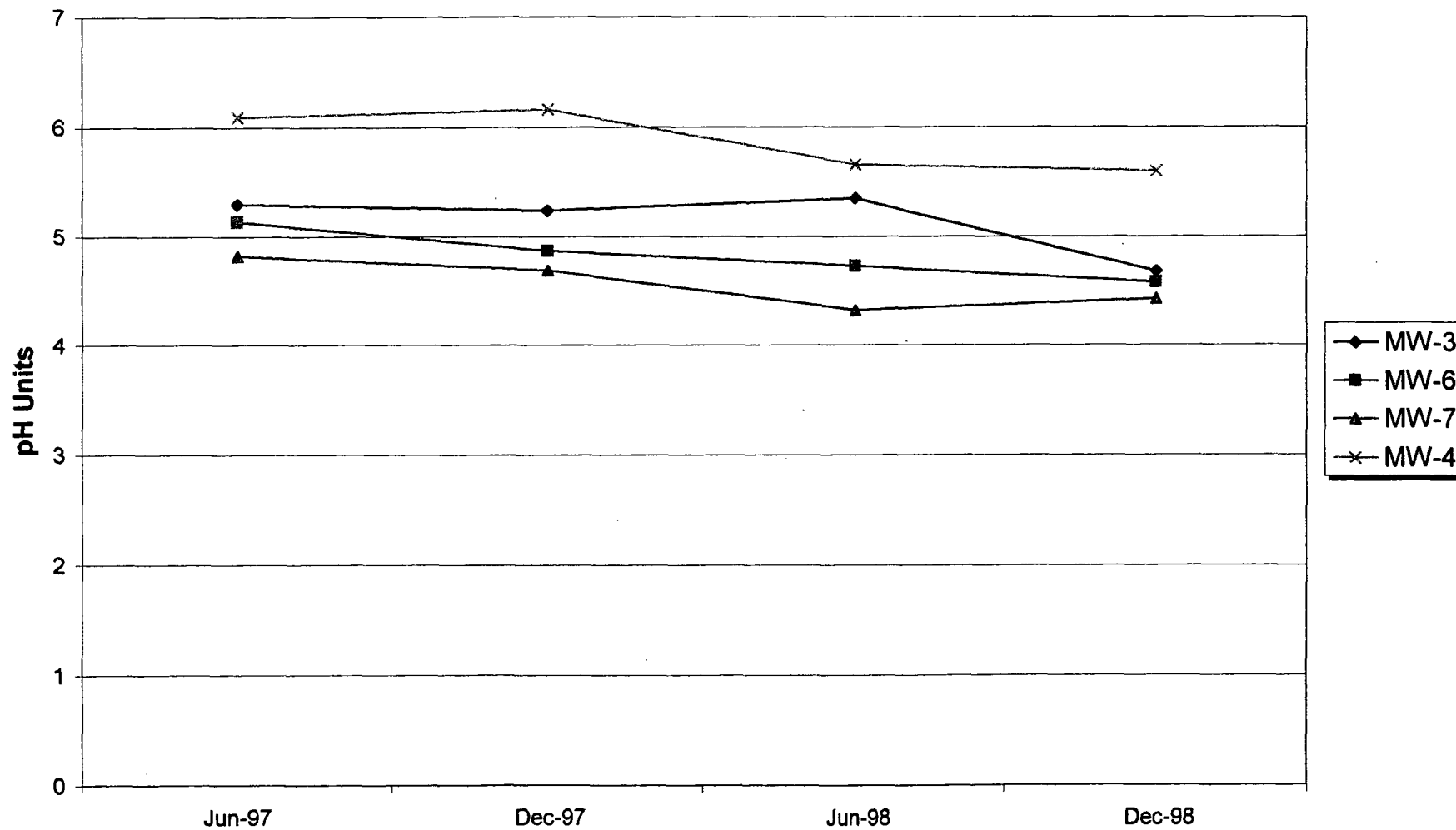
Graphs displaying the concentration of pH, dissolved oxygen, temperature, ammonia, and total dissolved solids are presented for each monitoring well. The monitoring wells are grouped on the graphs according to their location on site. Monitor wells MW-1, MW-2, and MW-5 are located adjacent to the landfill while monitor wells MW-3, MW-6, and MW-7 are located in the spray field area. Monitor well MW-4 is included on both graphs for each parameter set since it represents background levels. Any observed trends are discussed below.

In general, most of the graphs displayed fluctuations. Most fluctuations were consistent with the background well. Seasonal fluctuations were apparent with some parameters such as dissolved oxygen, but a majority of the fluctuations did not exhibit any significant trends. The trends, however, were generally consistent between the landfill and the spray field for most parameters.

**pH (SPRAY FIELD)**

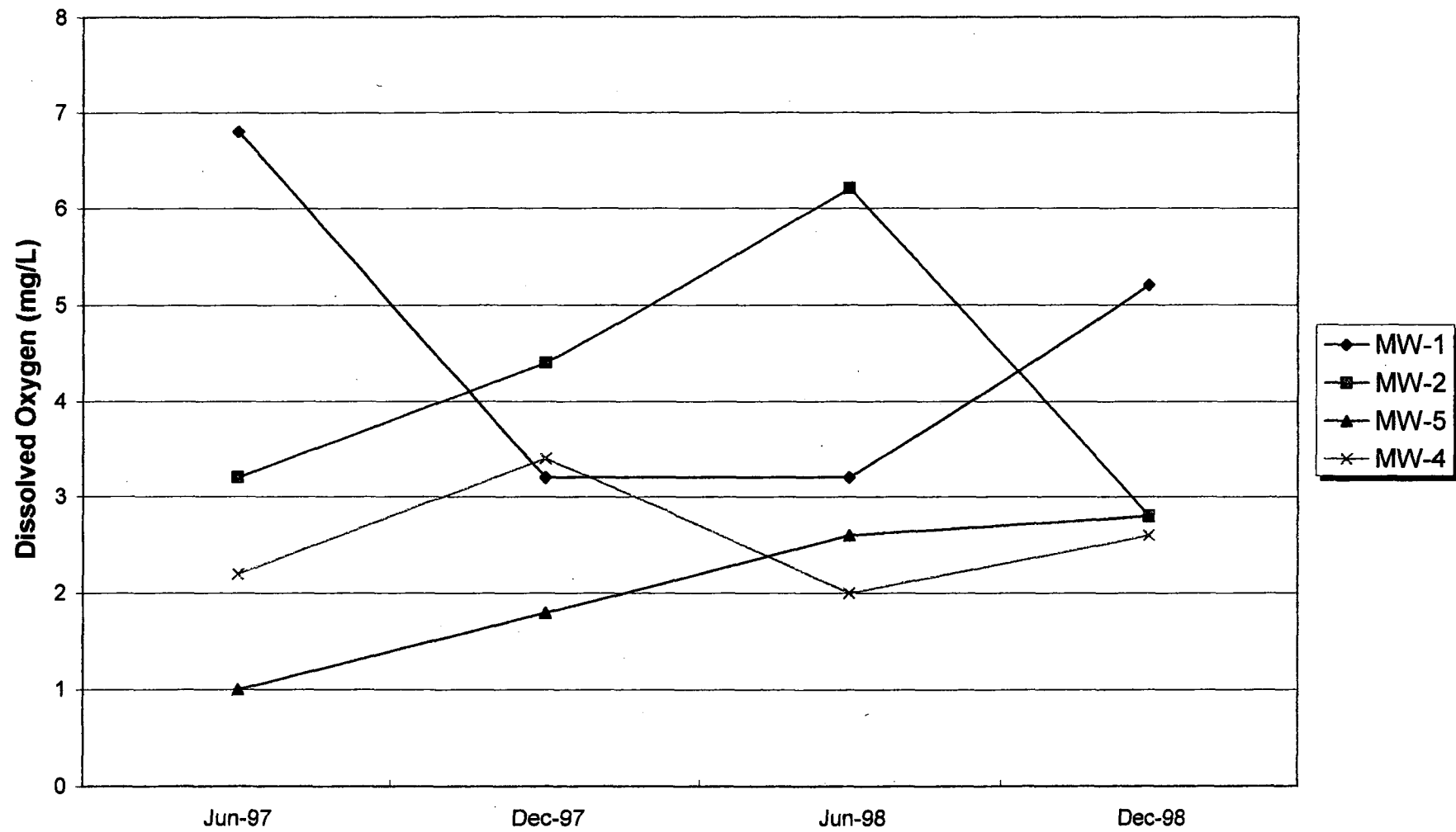


**pH (LANDFILL)**



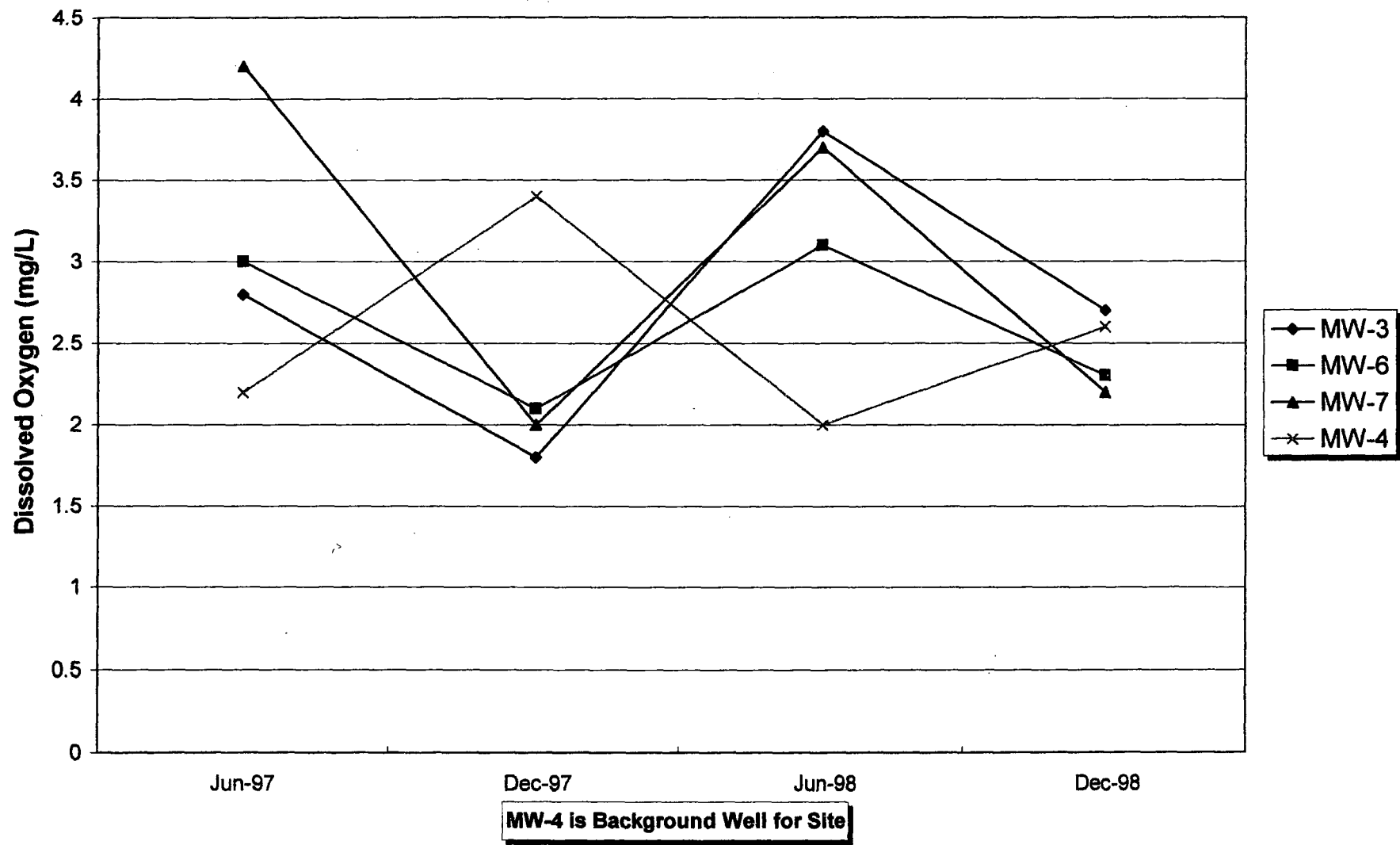
**MW-4 is Background Well for Site**

**DISSOLVED OXYGEN (SPRAY FIELD)**

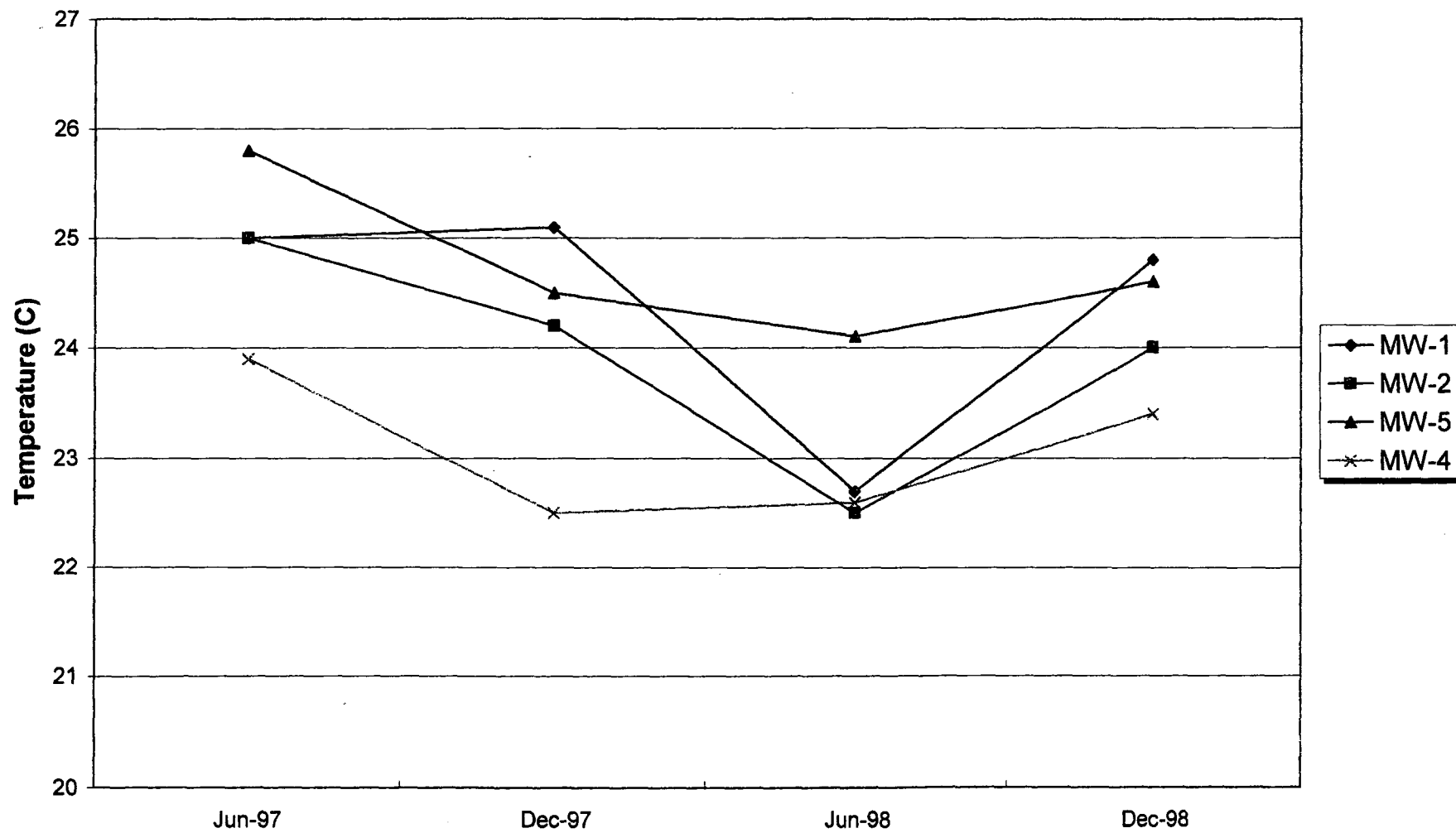


**MW-4 is Background Well for Site**

**DISSOLVED OXYGEN (LANDFILL)**

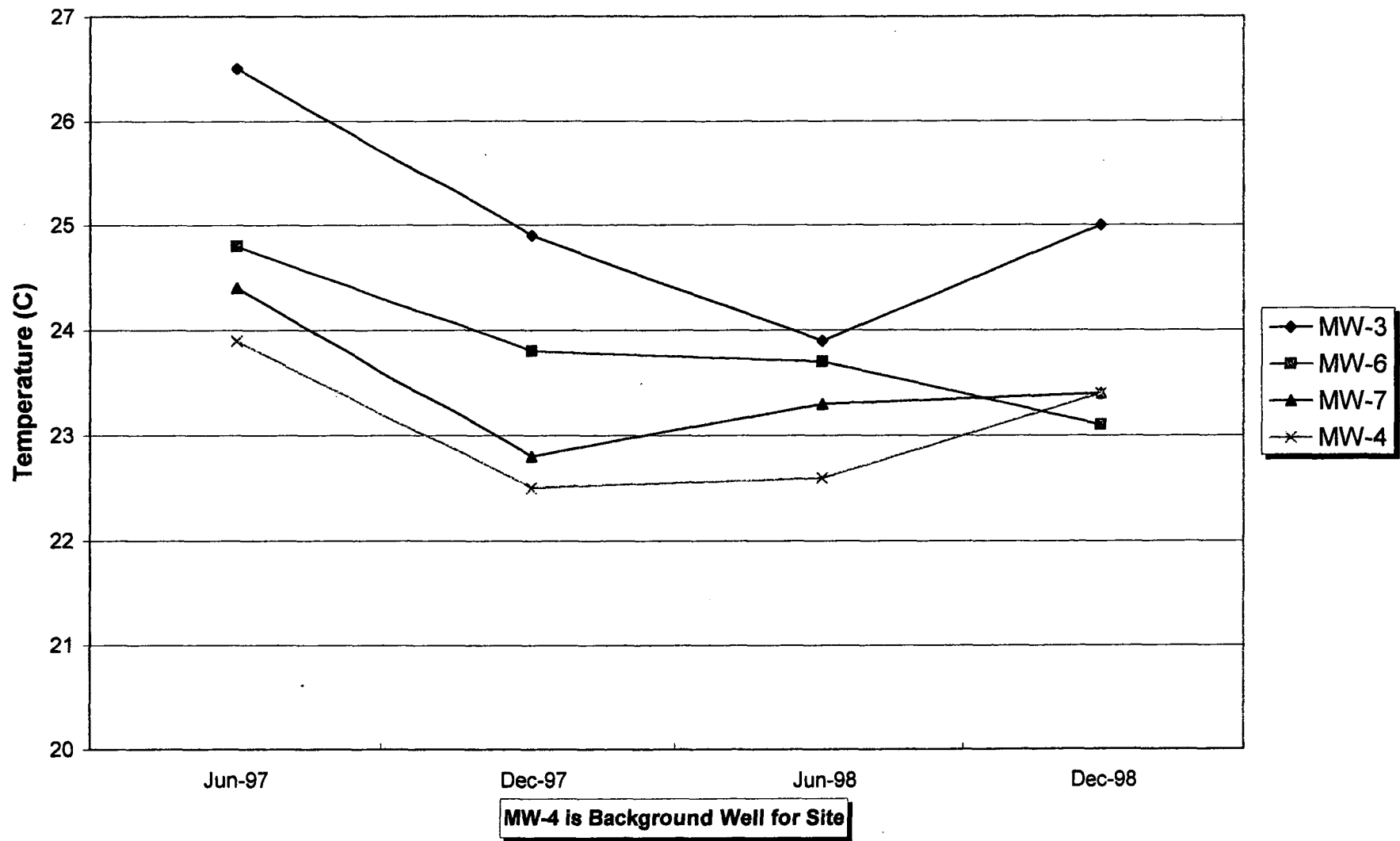


**TEMPERATURE (SPRAYFIELD)**

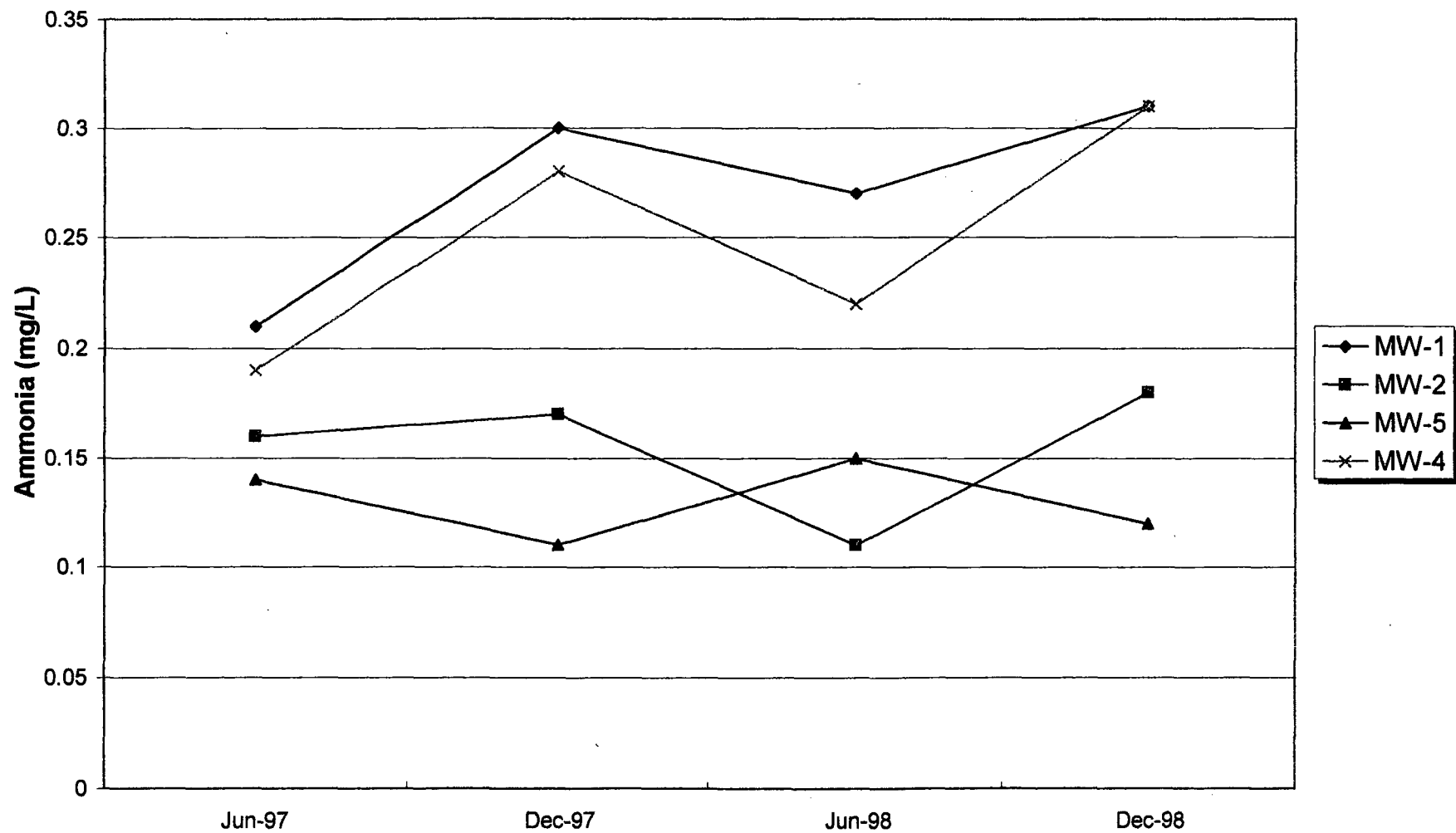


**MW-4 is Background Well for Site**

**TEMPERATURE (LANDFILL)**

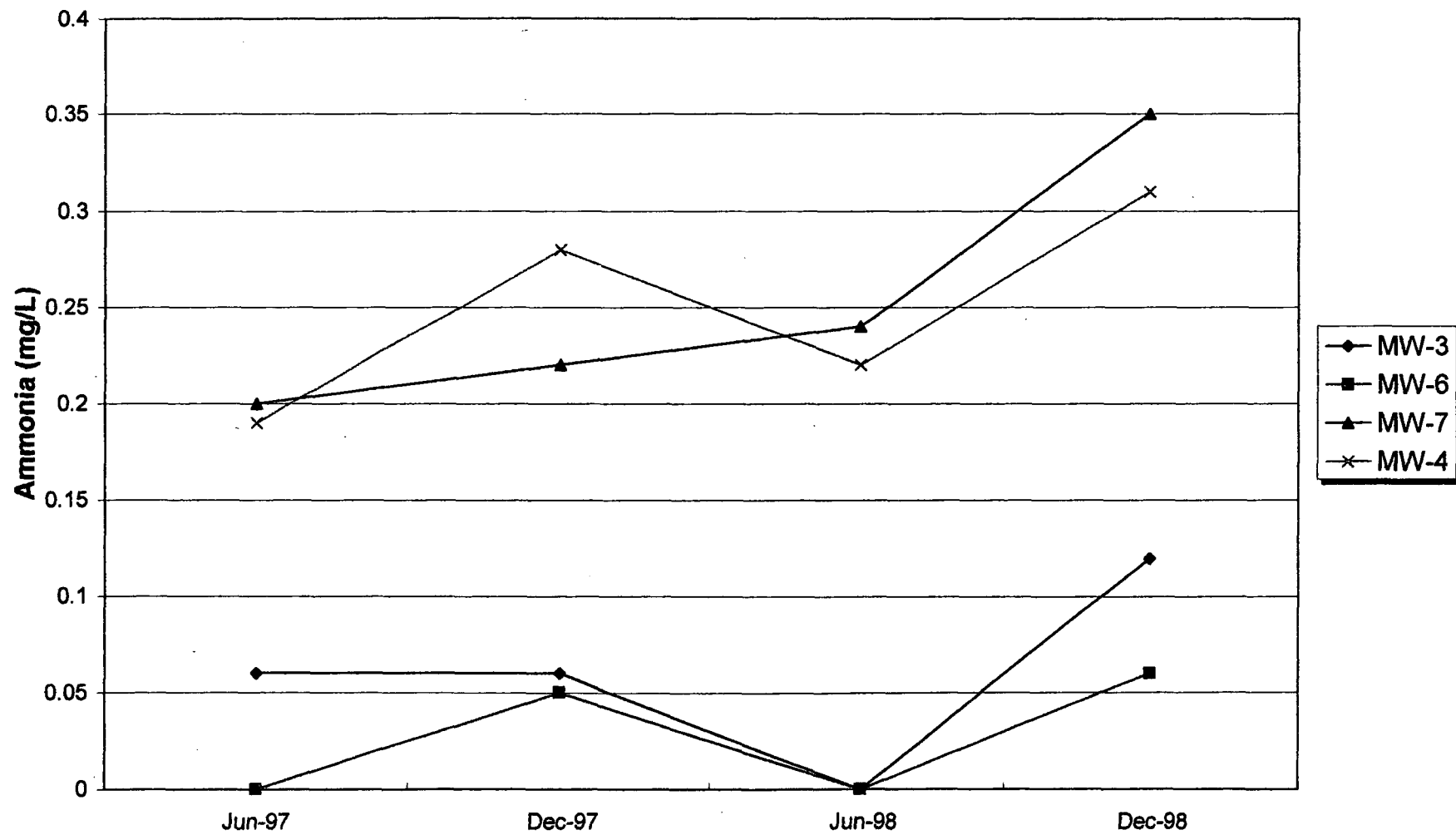


**AMMONIA (SPRAYFIELD)**



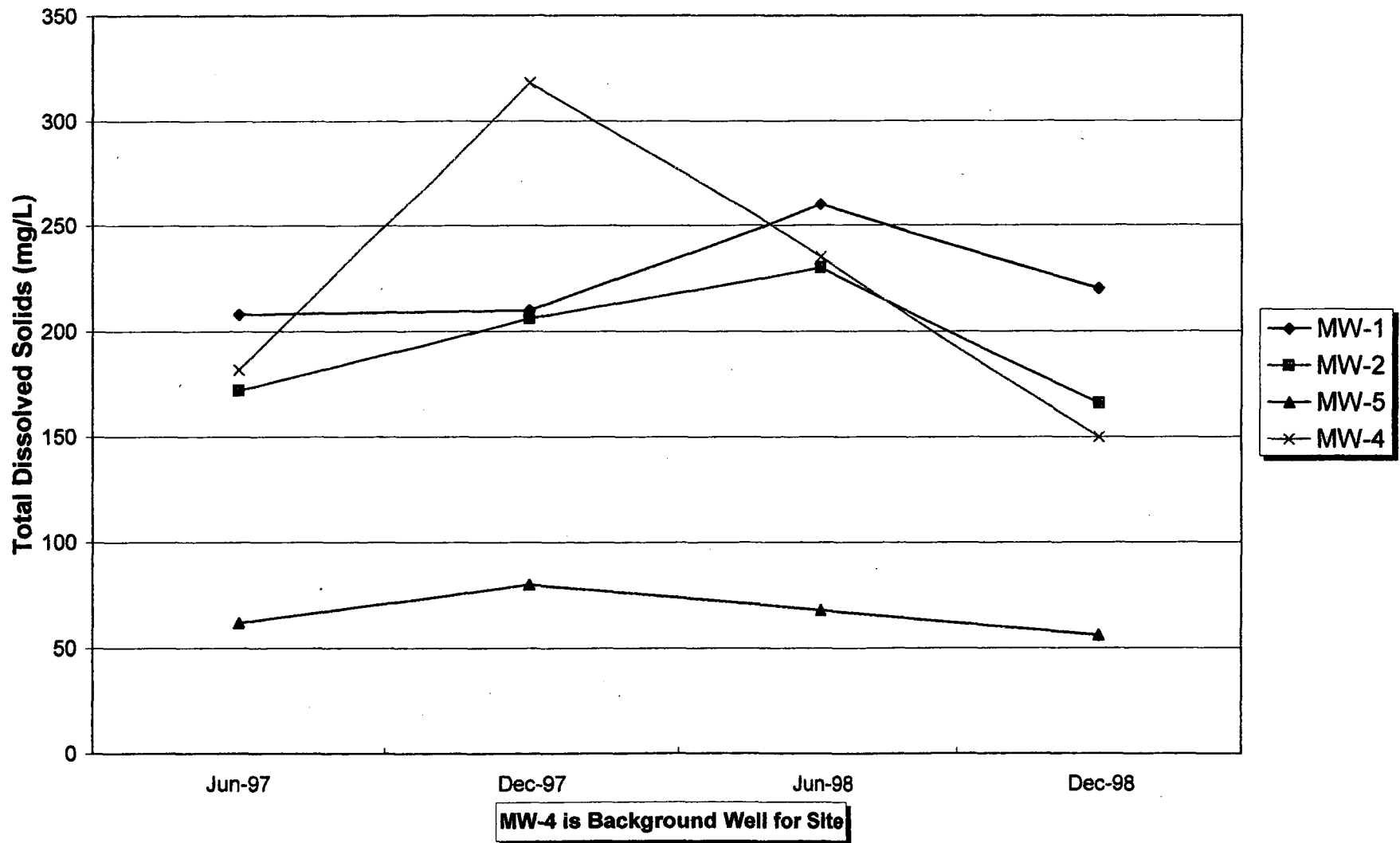
**MW-4 is Background Well for Site**

**AMMONIA (LANDFILL)**

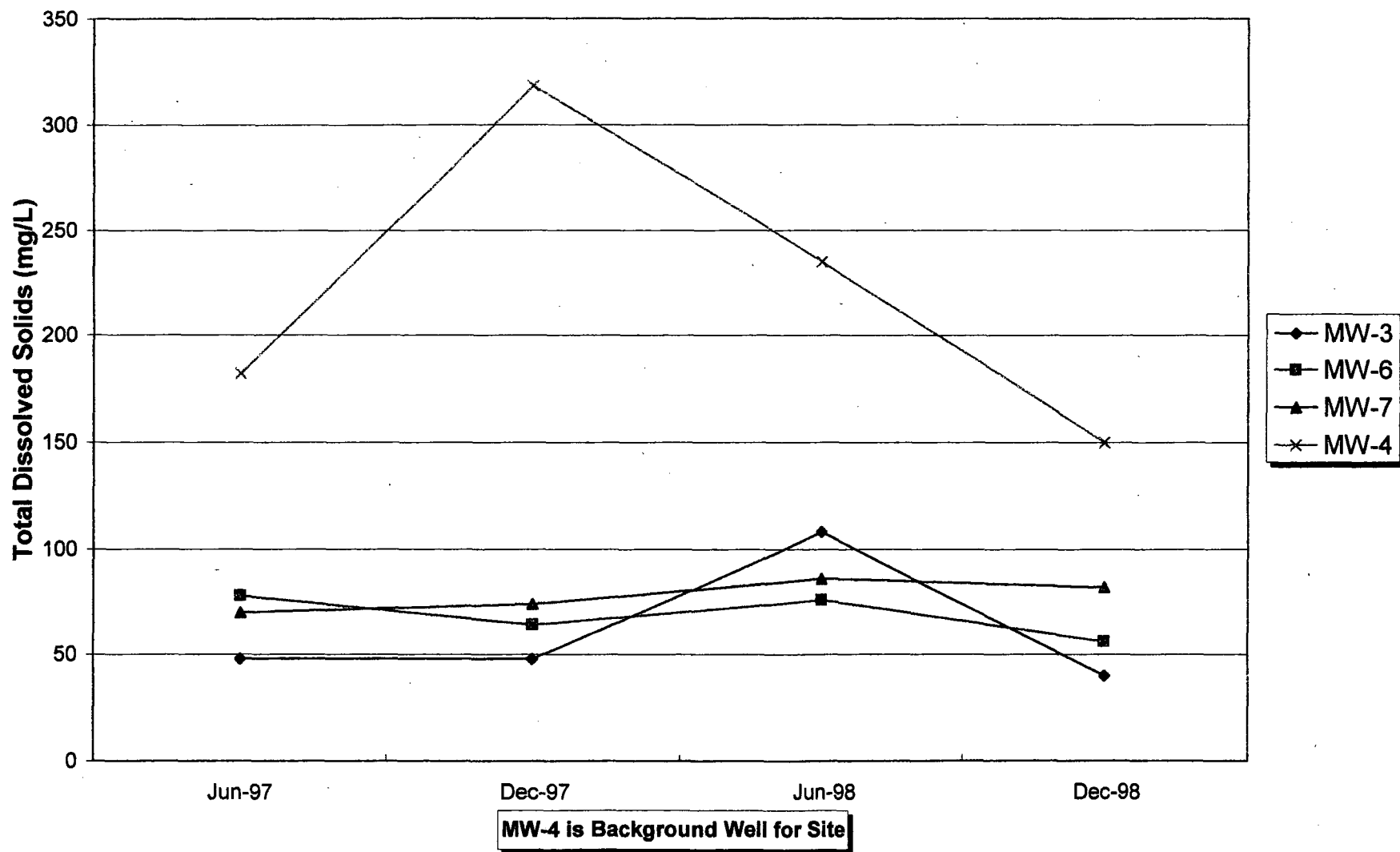


**MW-4 is Background Well for Site**

**TOTAL DISSOLVED SOLIDS (SPRAYFIELD)**



**TOTAL DISSOLVED SOLIDS (LANDFILL)**



## **Section 4**

### **GROUNDWATER PARAMETER CORRELATIONS**

#### **4.1 GROUNDWATER PARAMETER CORRELATIONS**

Related groundwater monitoring parameters have been correlated and graphed to depict any relationships that may exist. The graphs located on the following pages compare the following parameters:

TDS vs. Conductivity

Iron vs. Conductivity

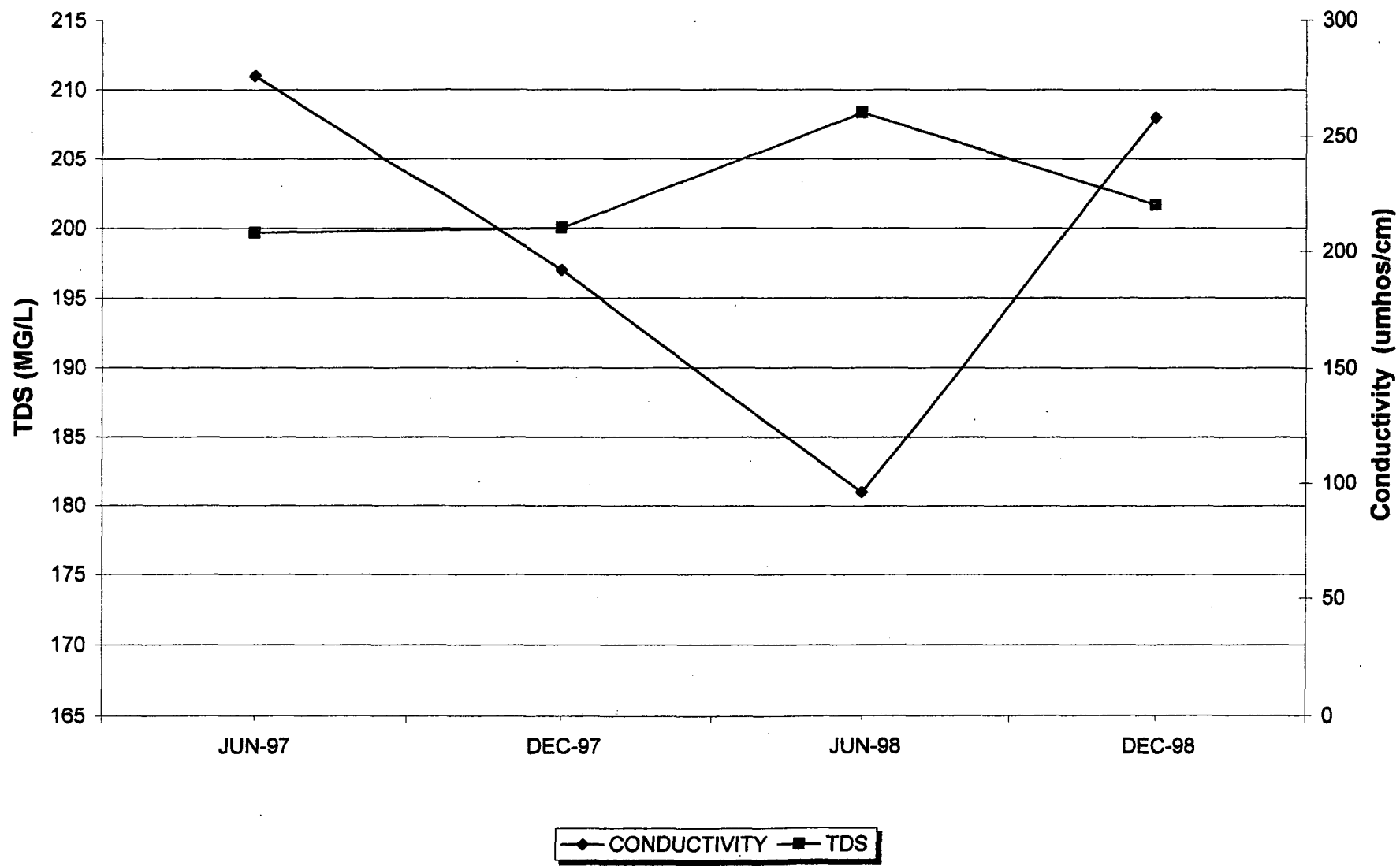
Sodium vs. Conductivity

Iron vs. Turbidity

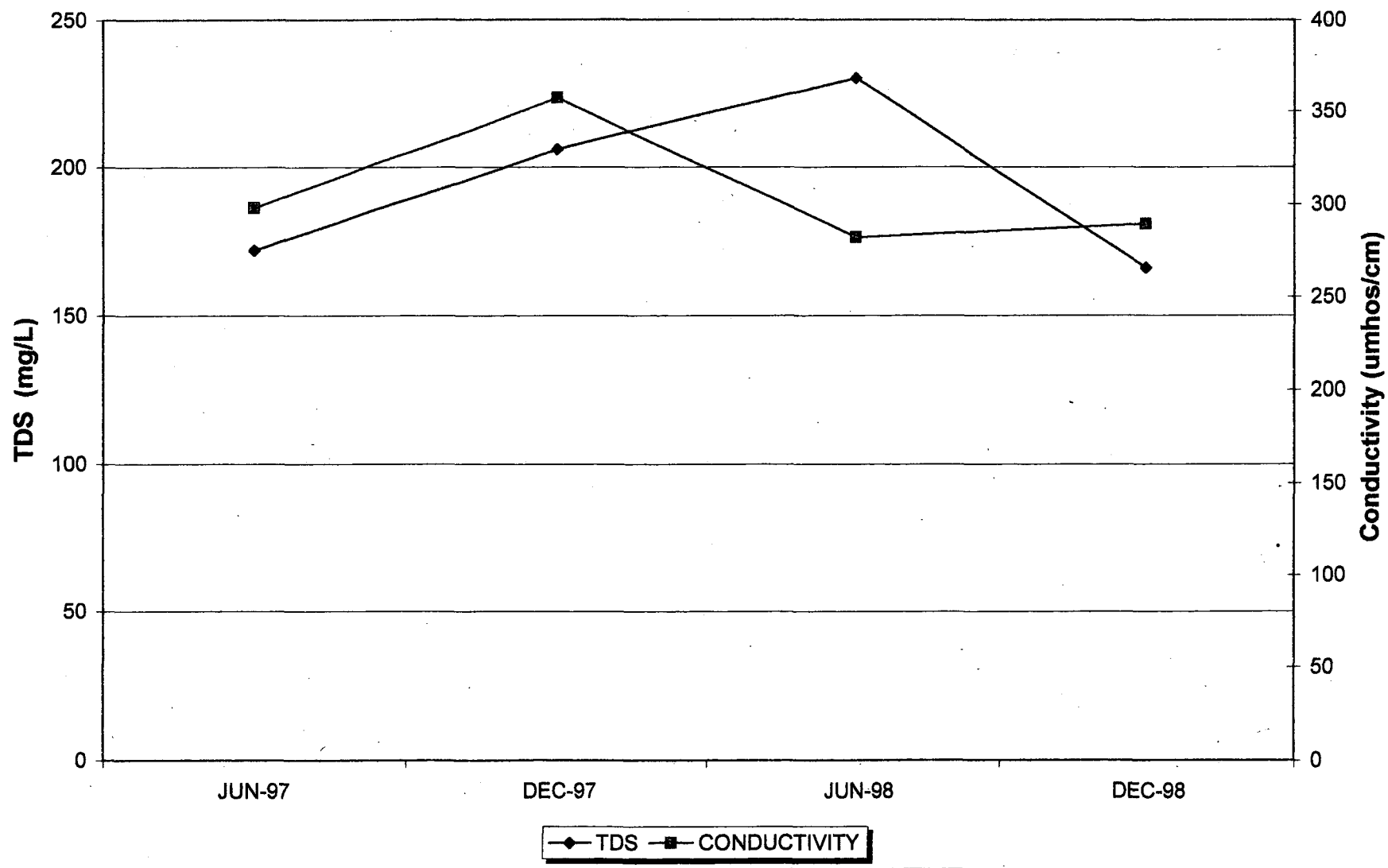
Sodium vs. Turbidity

The relationship between TDS vs conductivity, as displayed graphically for the monitor wells, shows a partial direct correlation with variation. The relationship between sodium vs conductivity shows a similar direct correlation with less variation than the TDS vs conductivity graph. The iron vs conductivity graph shows a direct relationship with the best match of all conductivity comparison plots. A direct correlation with some variation was observed for both the iron and sodium versus turbidity graphs. The relationship was the best for the iron versus turbidity plot. The only deviation from a direct relationship plot was observed in monitoring well MW-4.

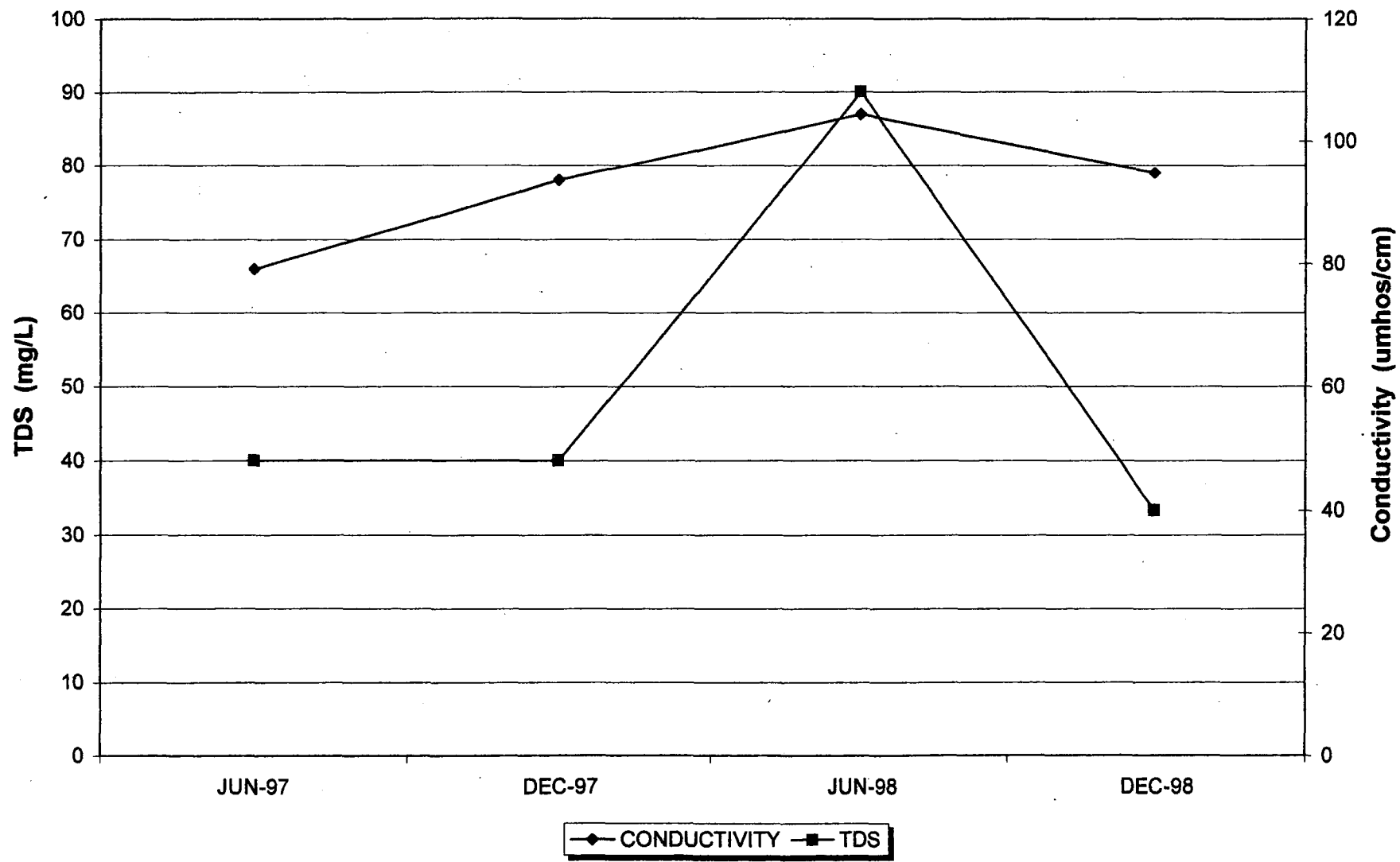
TDS VS CONDUCTIVITY (MW-1)



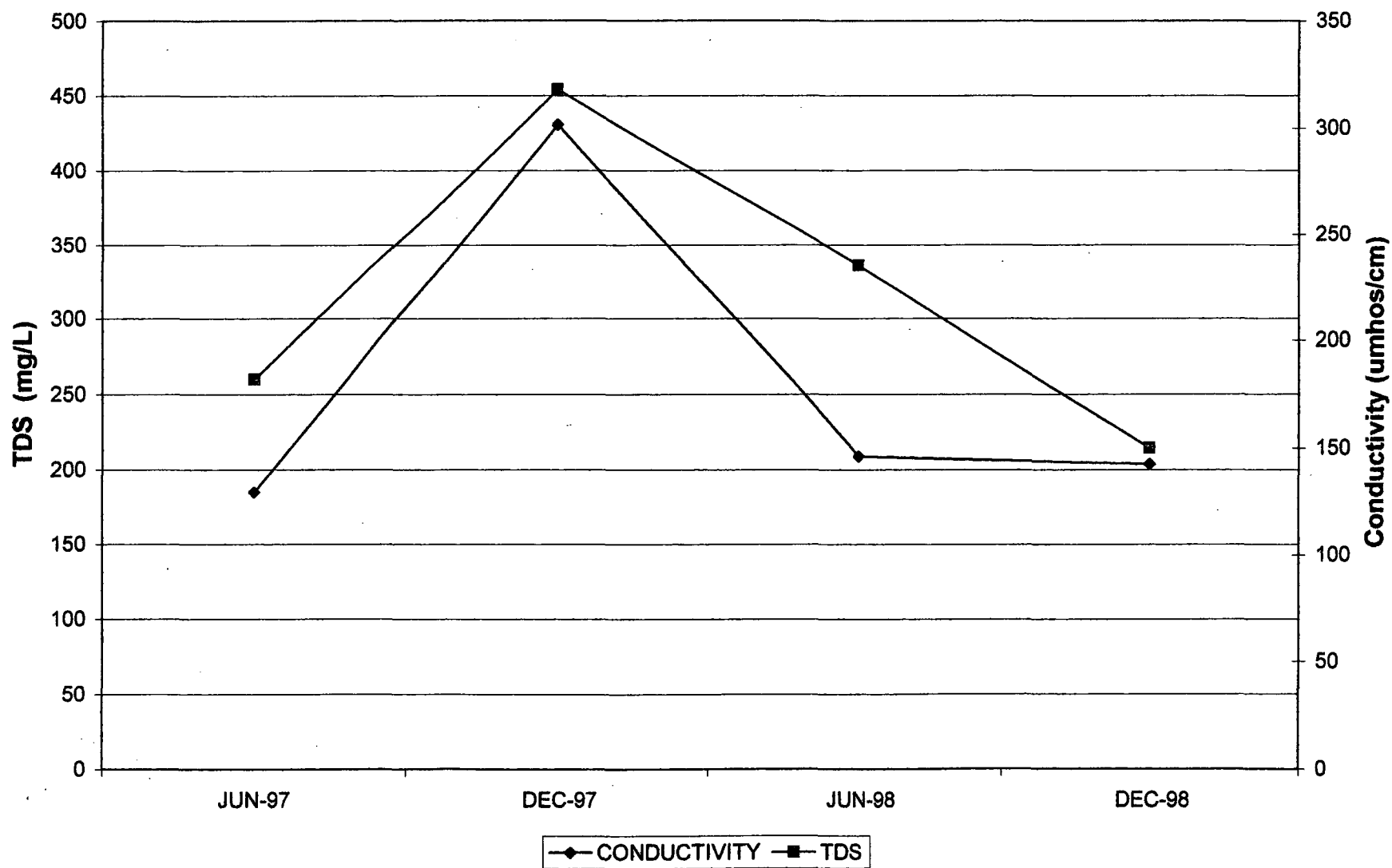
**TDS VS CONDUCTIVITY (MW-2)**



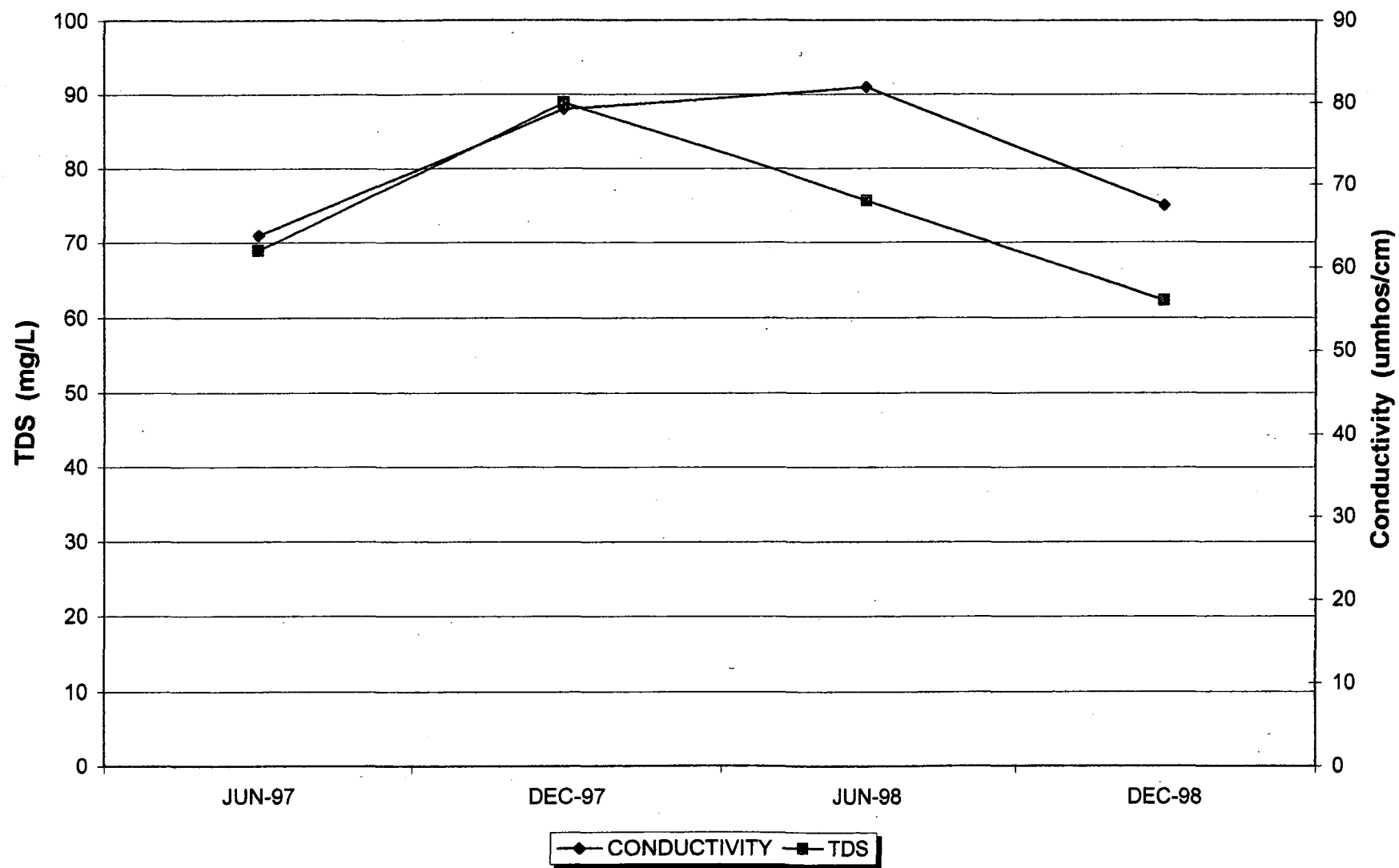
**TDS VS CONDUCTIVITY (MW-3)**



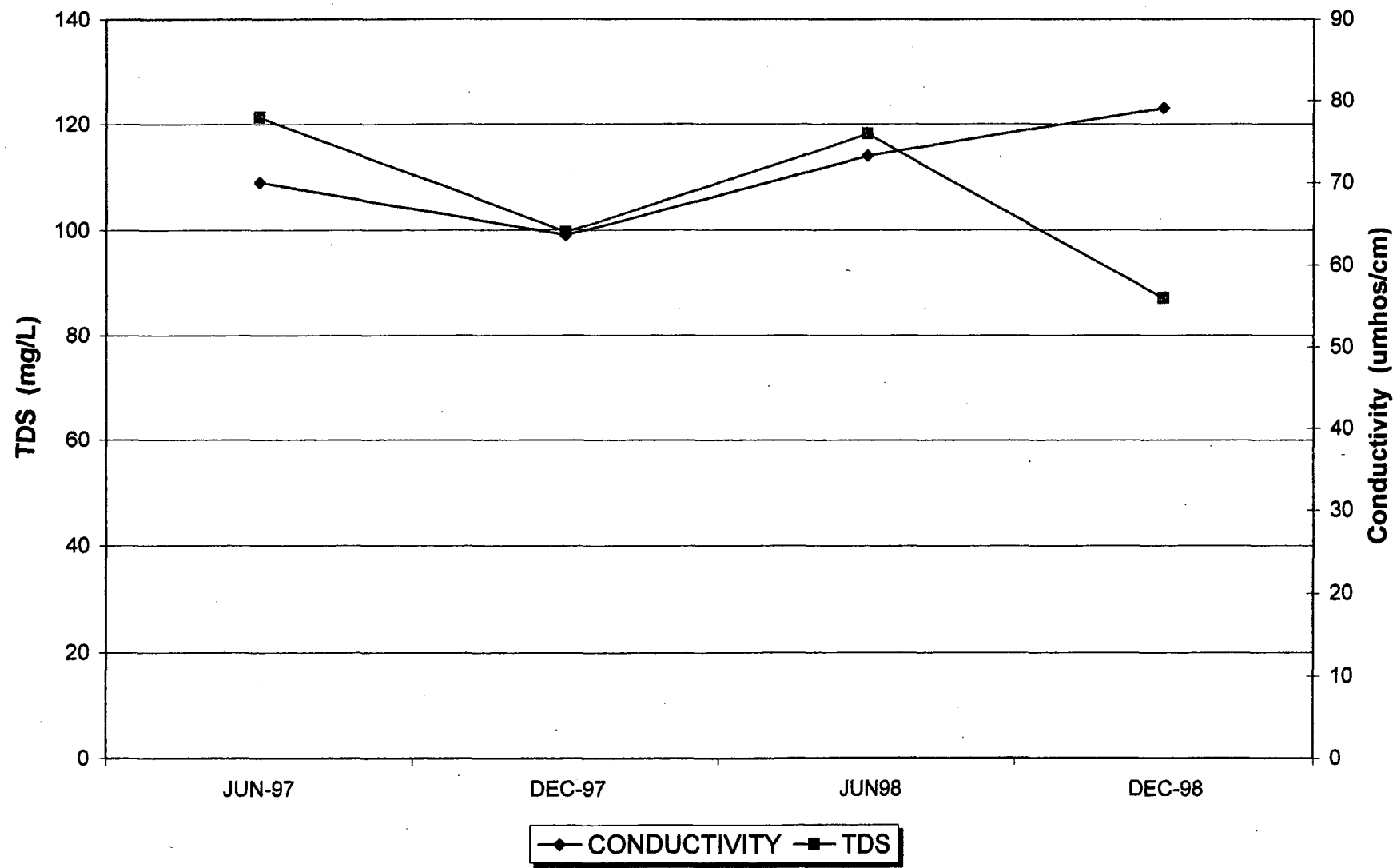
TDS VS CONDUCTIVITY (MW-4)



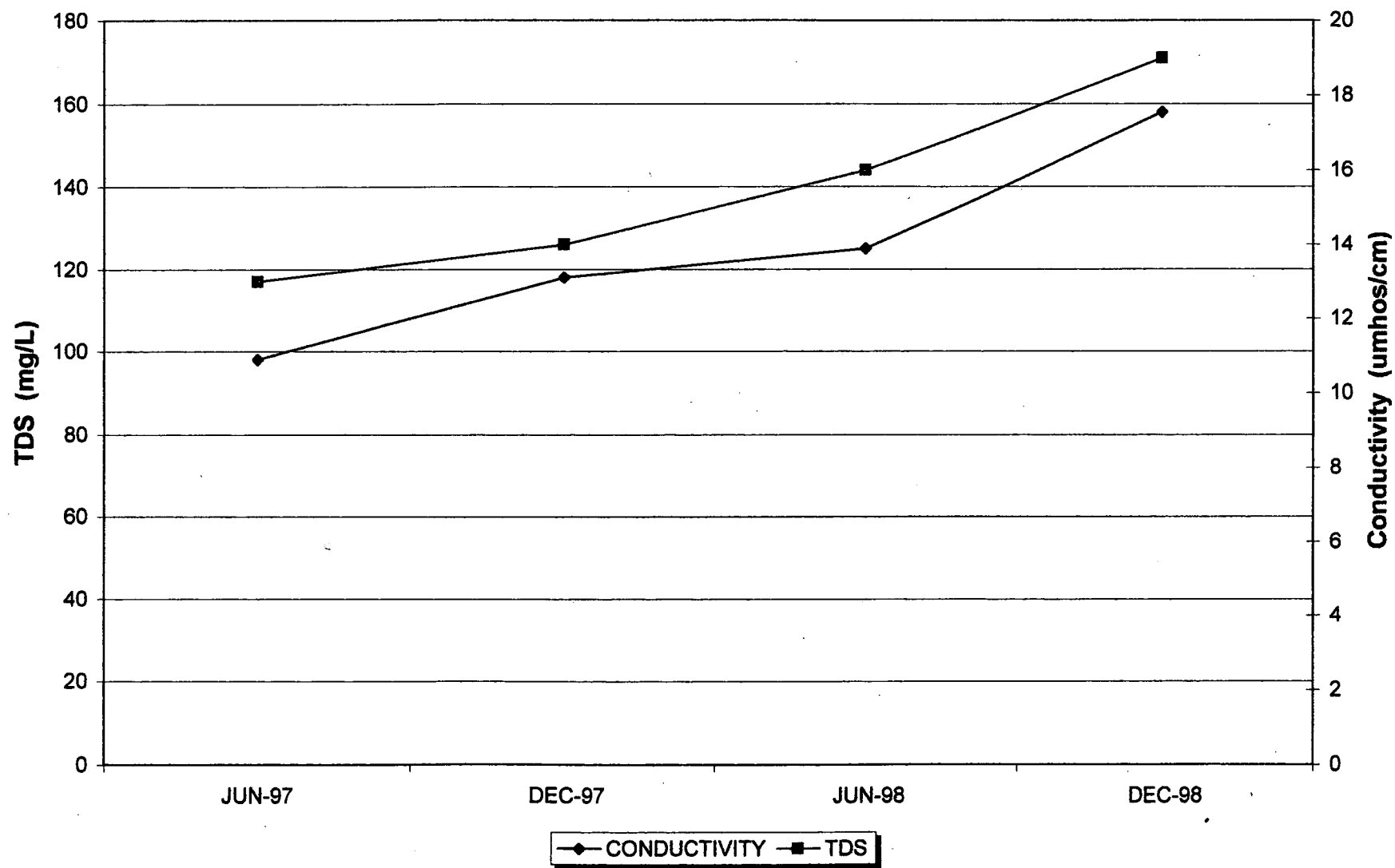
TDS VS CONDUCTIVITY (MW-5)



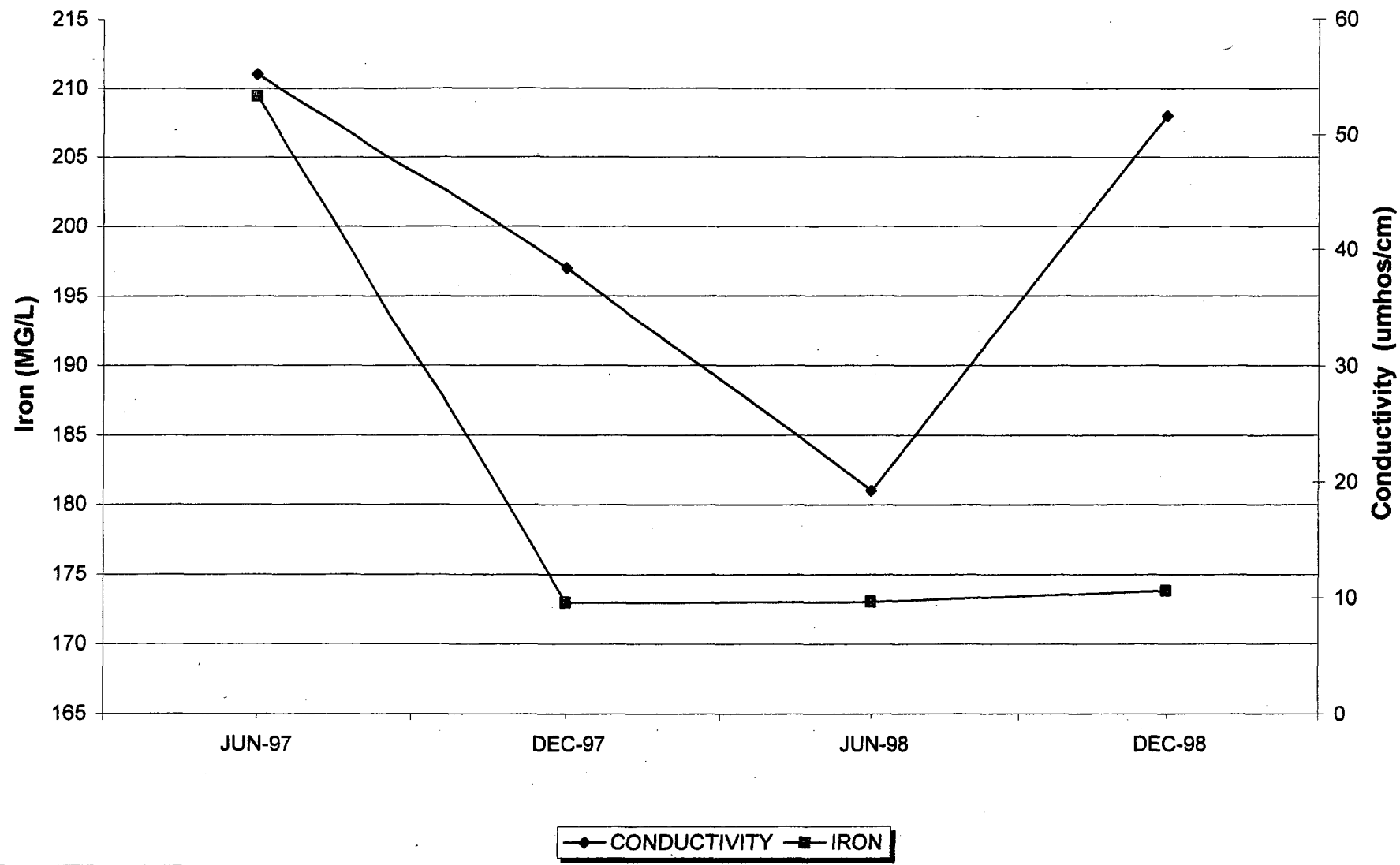
**TDS VS CONDUCTIVITY (MW-6)**



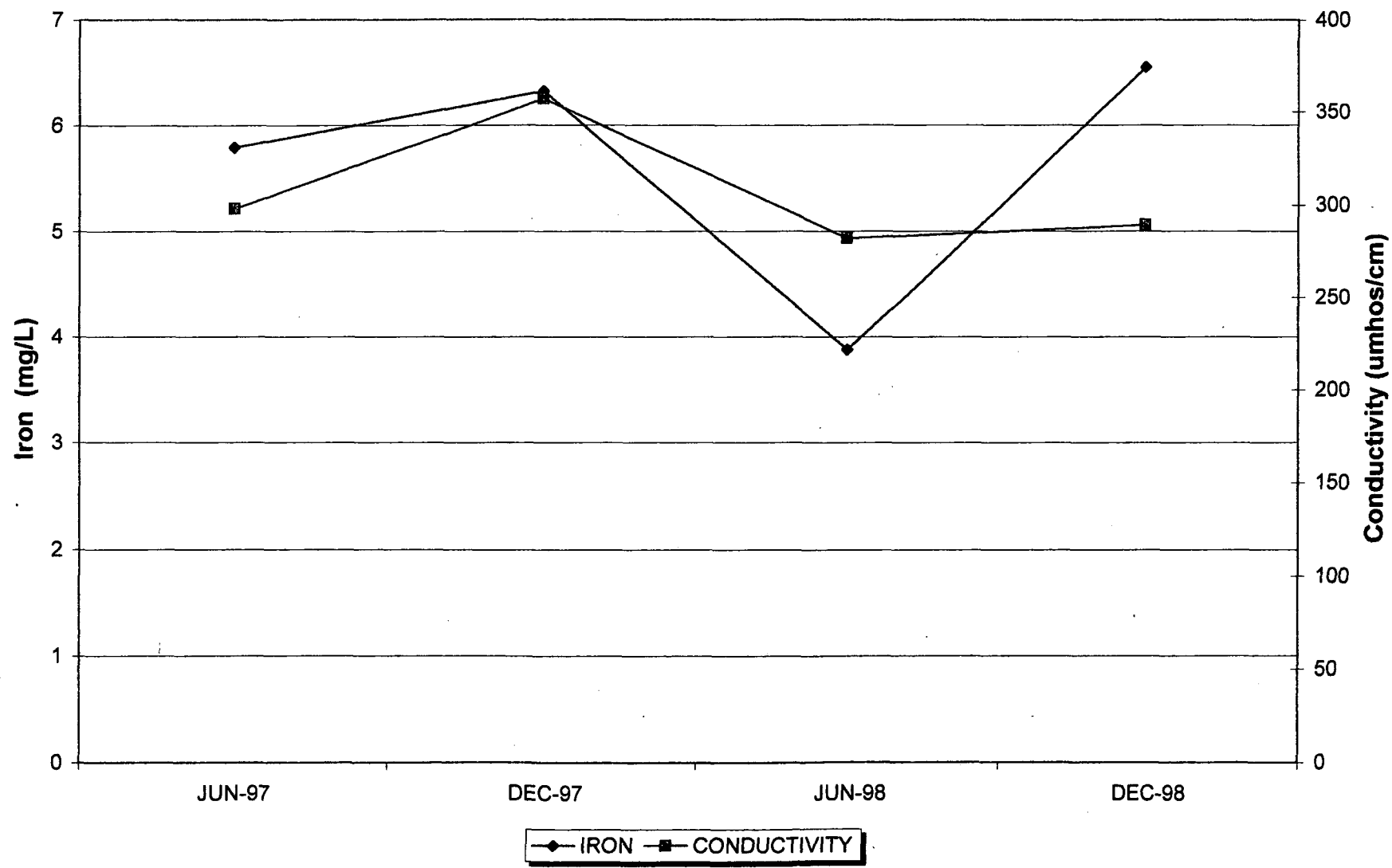
**TDS VS CONDUCTIVITY (MW-7)**



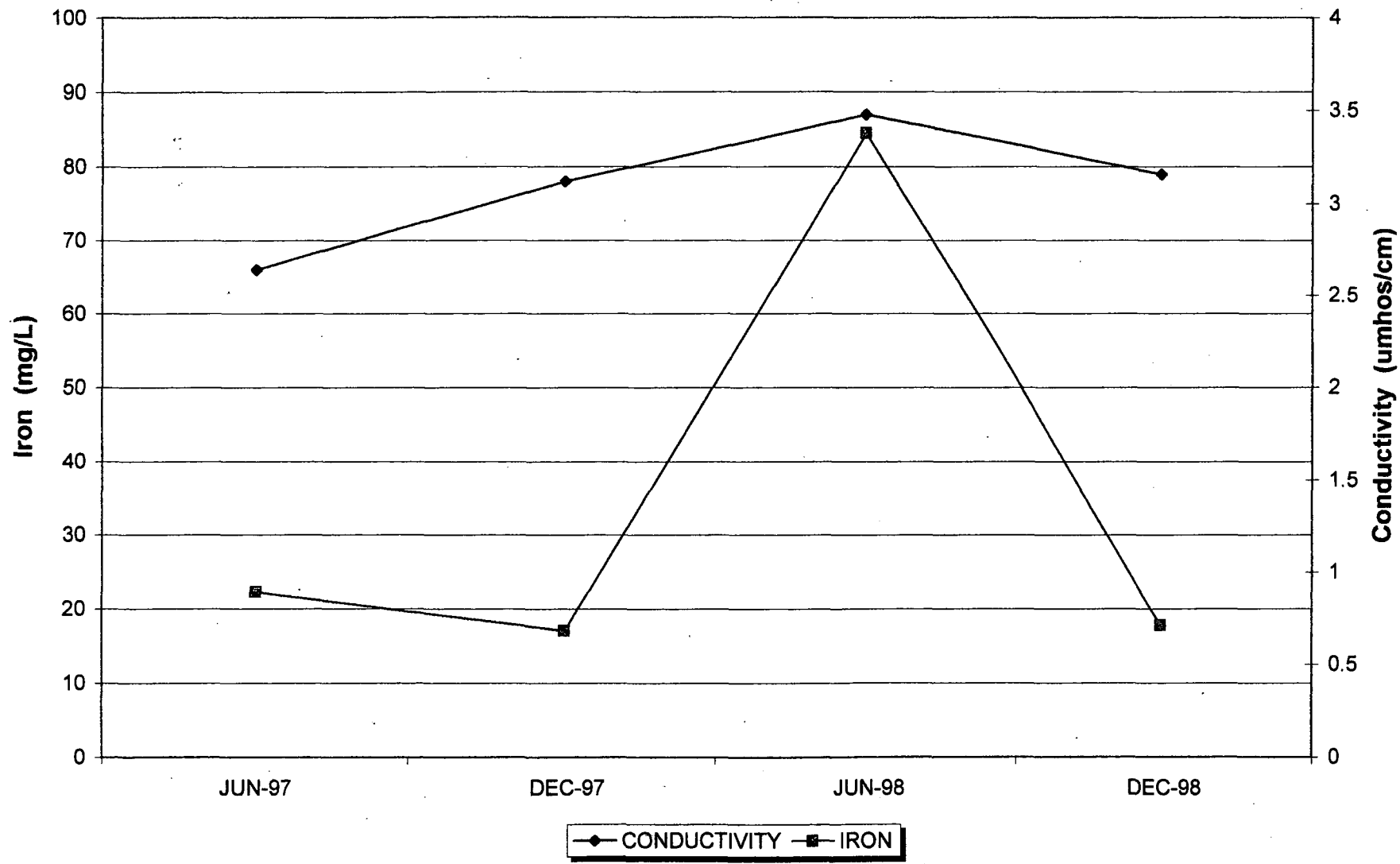
IRON VS CONDUCTIVITY (MW-1)



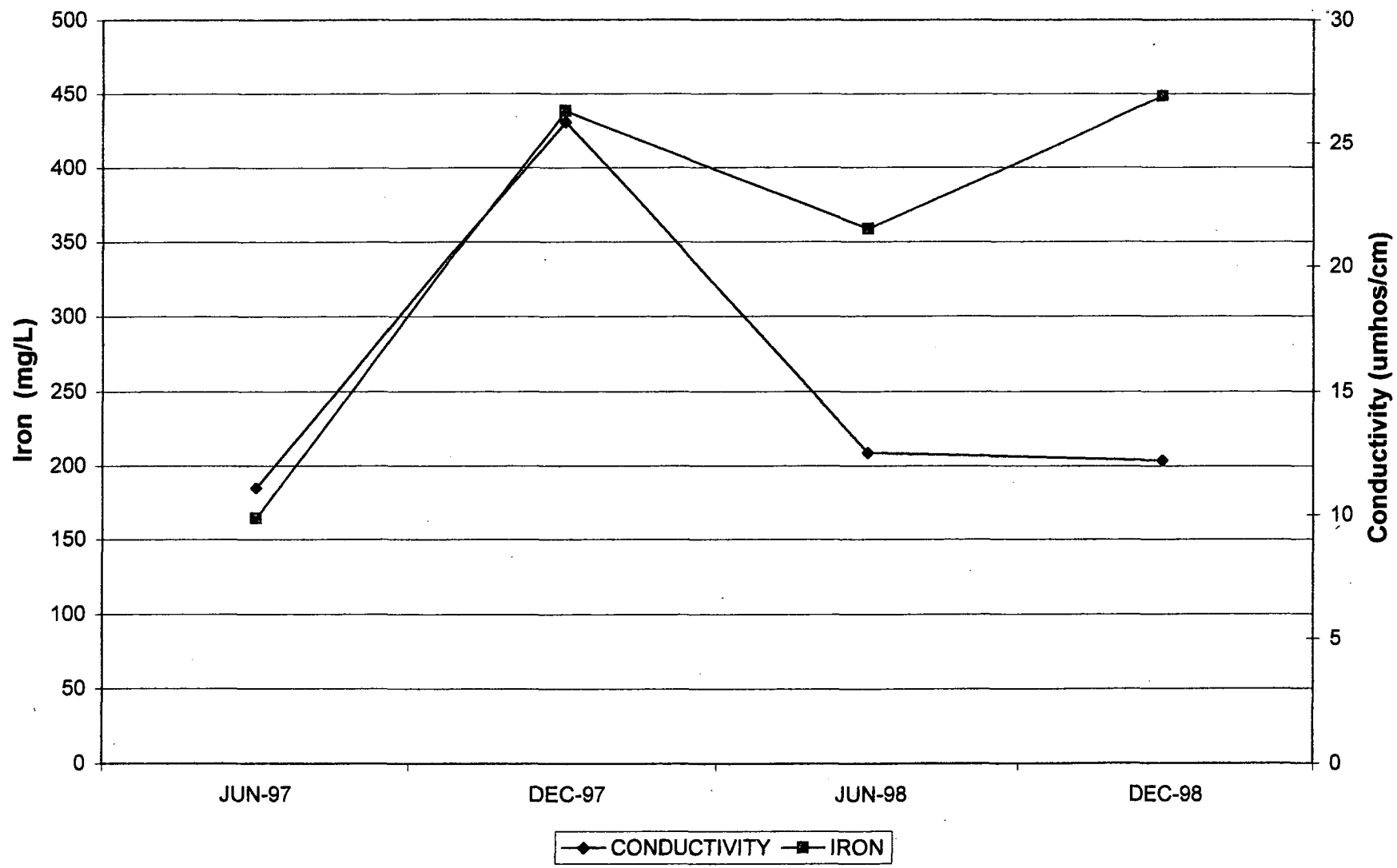
IRON VS CONDUCTIVITY (MW-2)



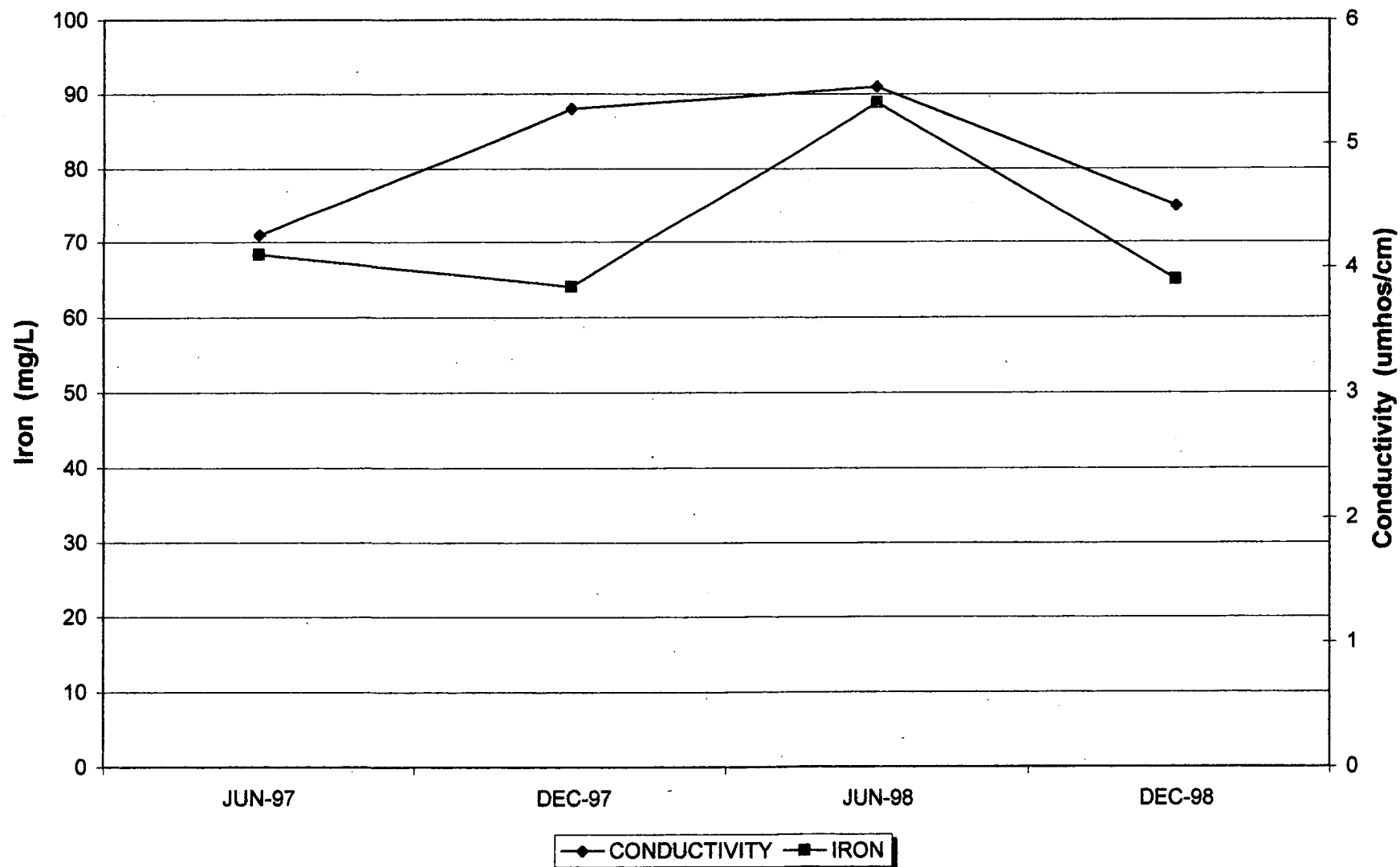
IRON VS CONDUCTIVITY (MW-3)



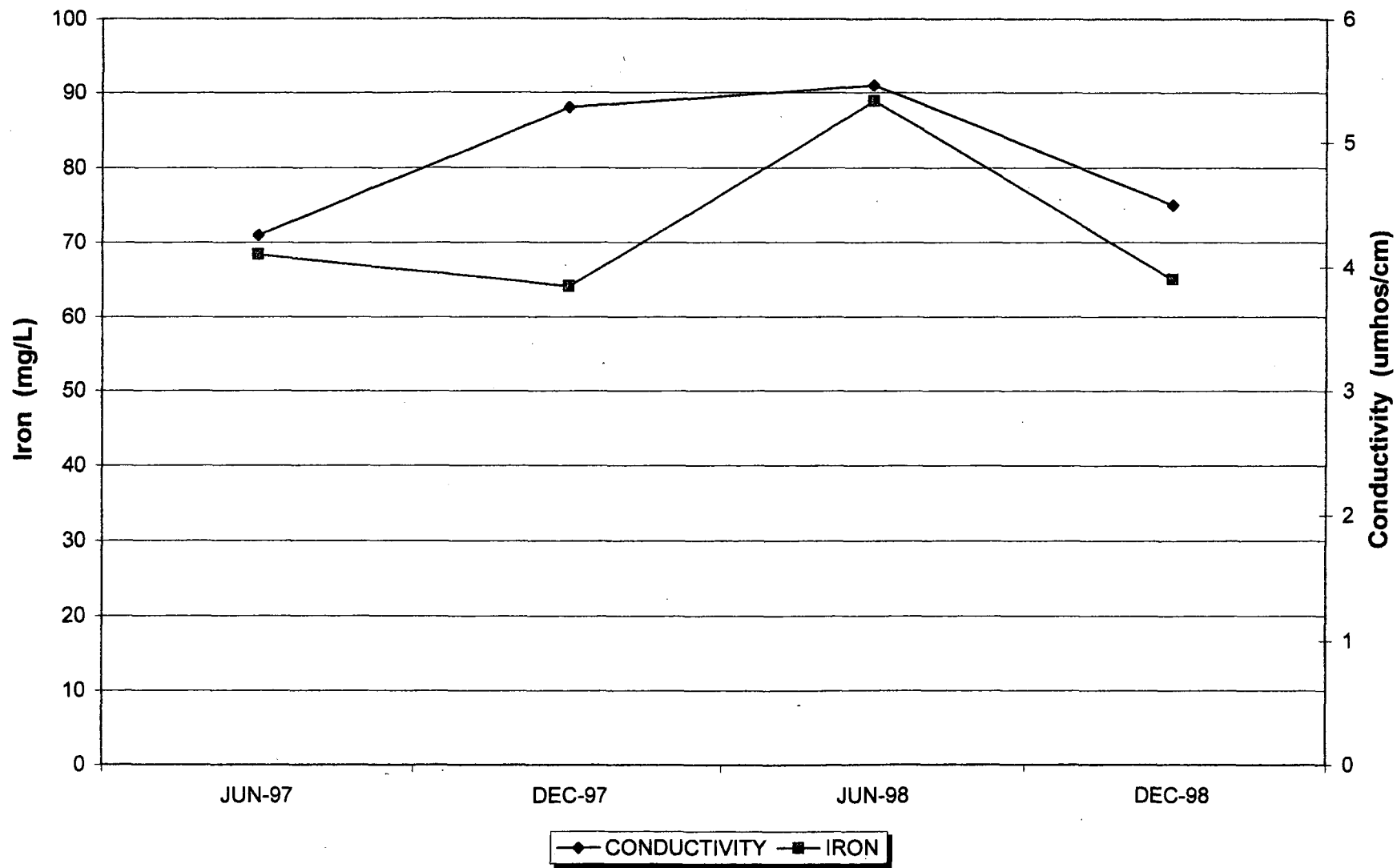
IRON VS CONDUCTIVITY (MW-4)



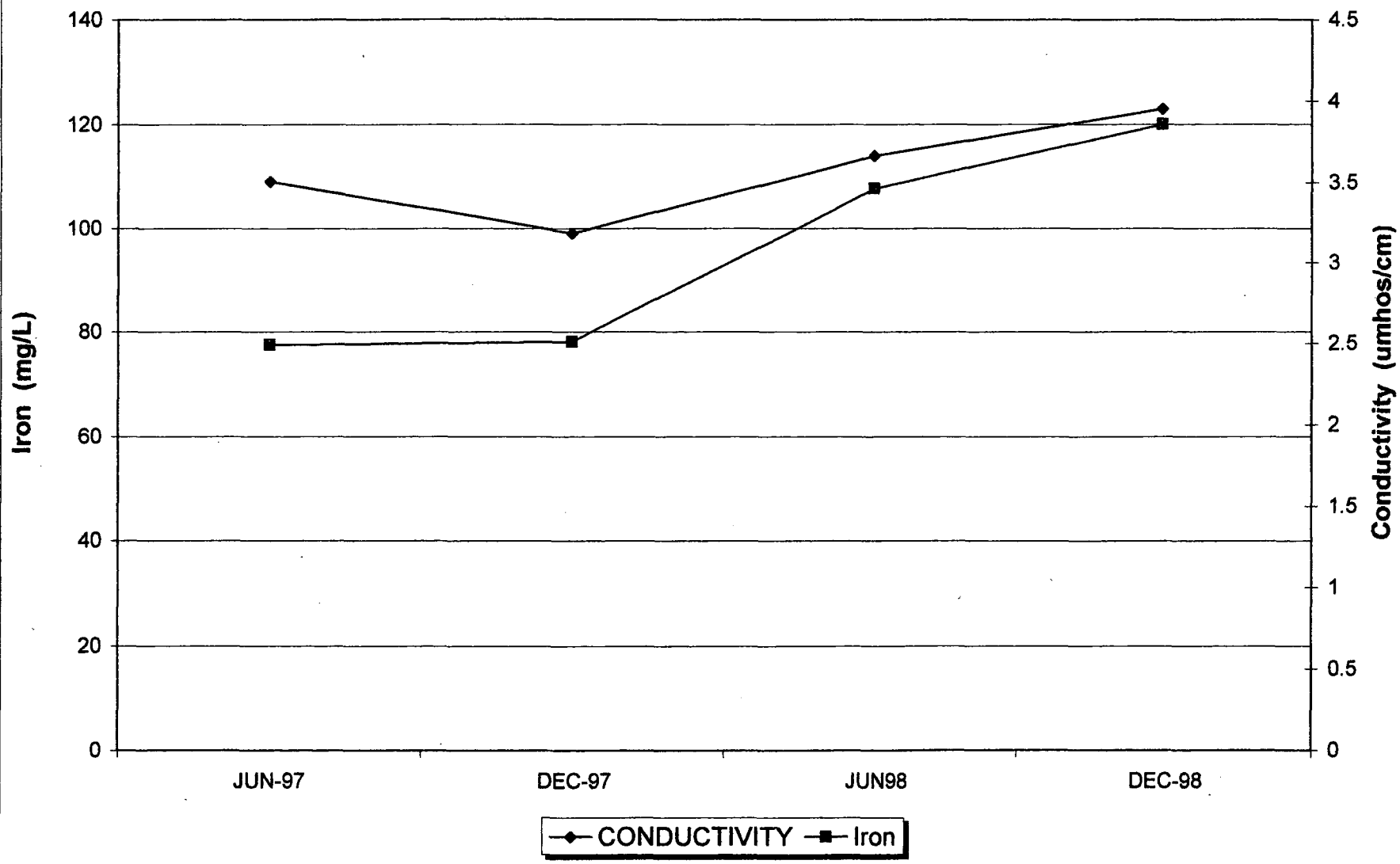
IRON VS CONDUCTIVITY (MW-5)



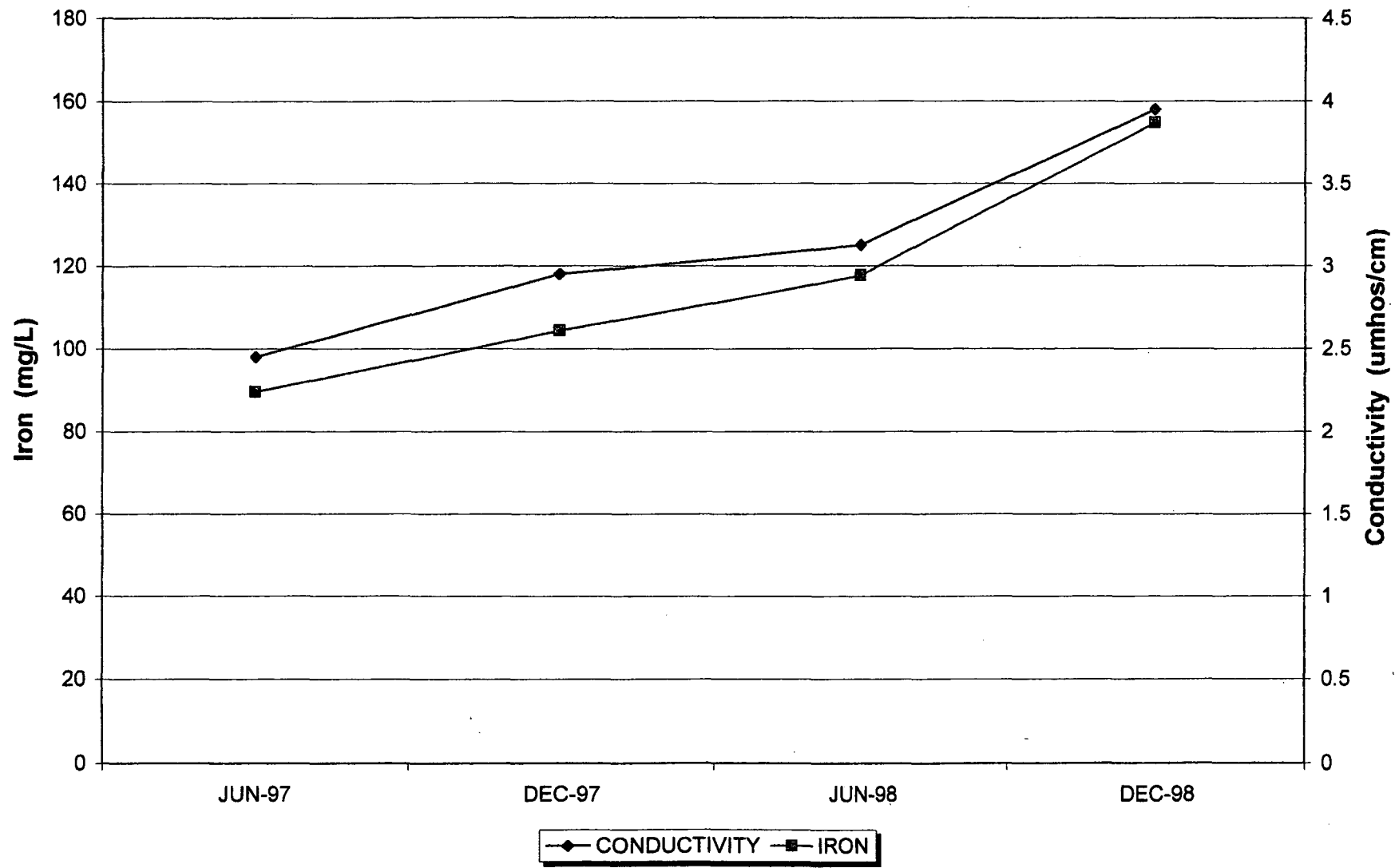
IRON VS CONDUCTIVITY (MW-5)



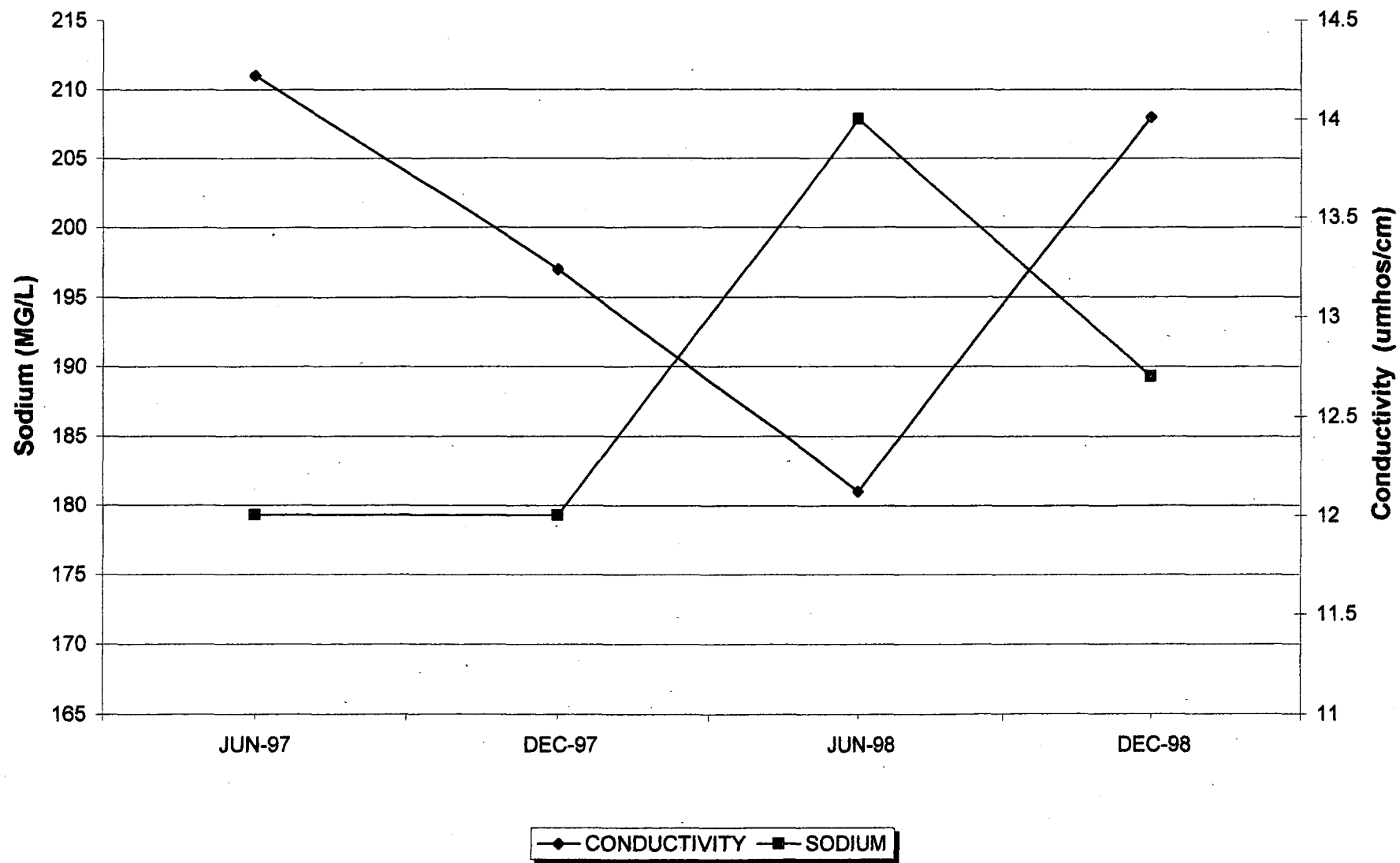
IRON VS CONDUCTIVITY (MW-6)



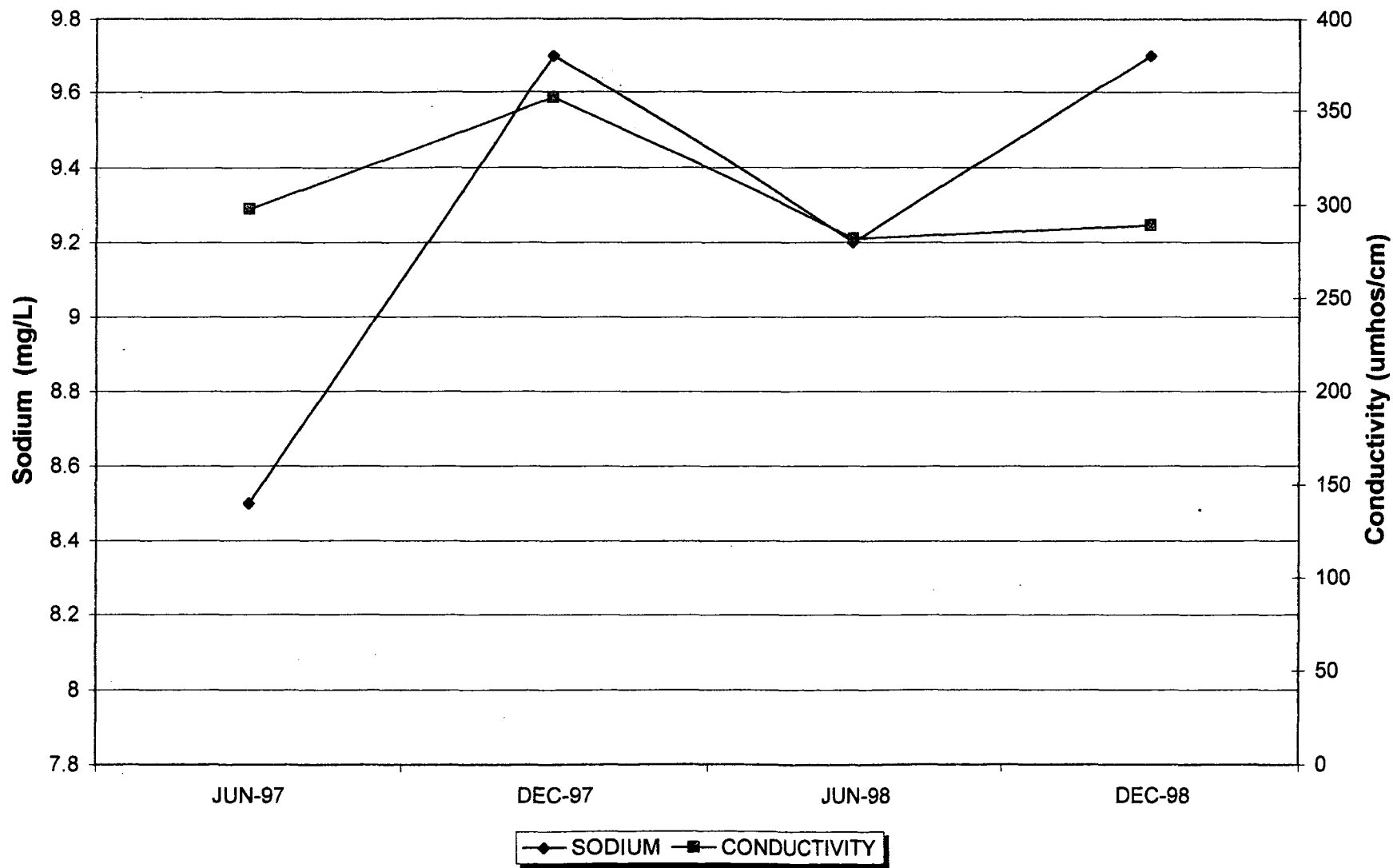
IRON VS CONDUCTIVITY (MW-7)



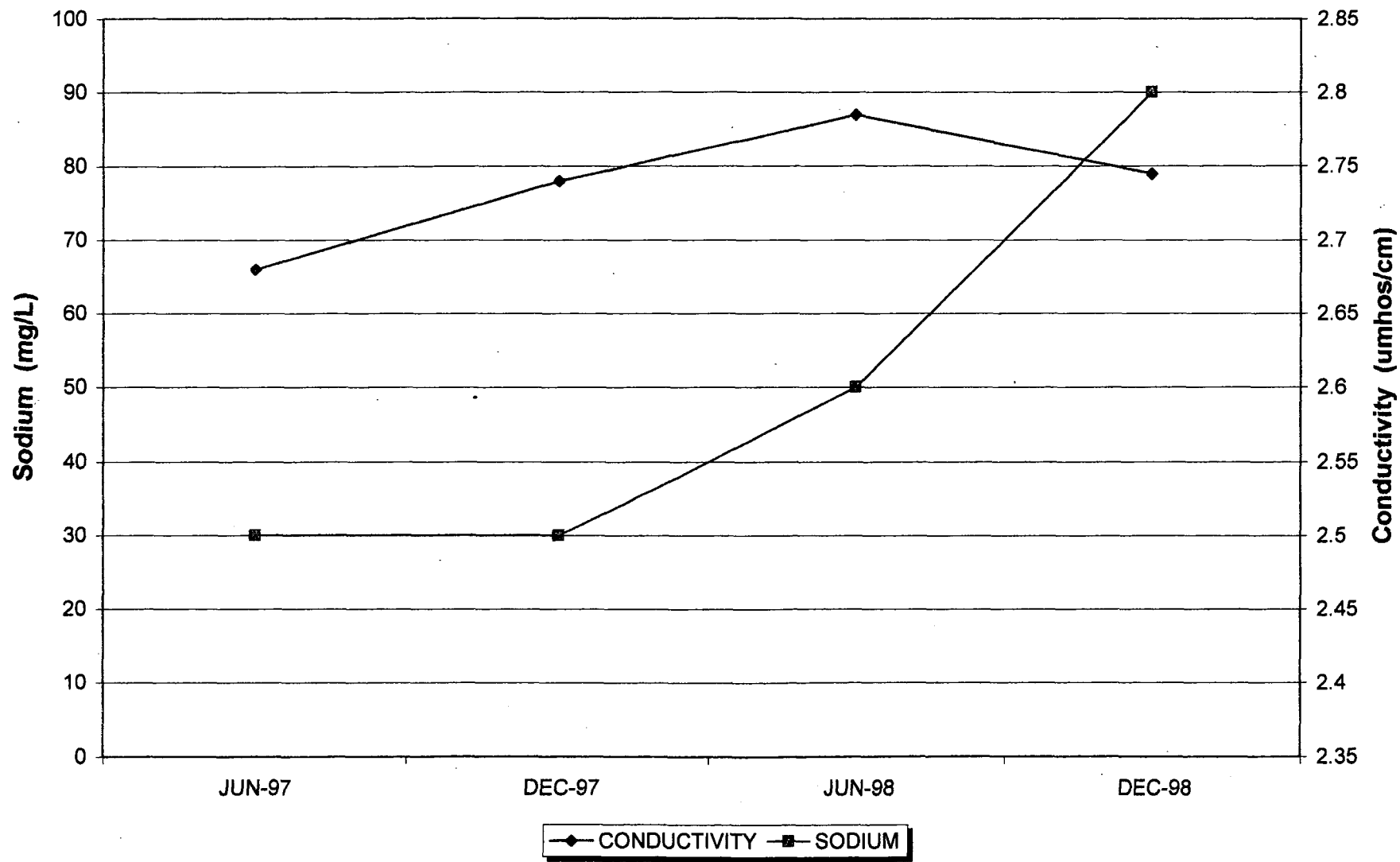
**SODIUM VS CONDUCTIVITY (MW-1)**



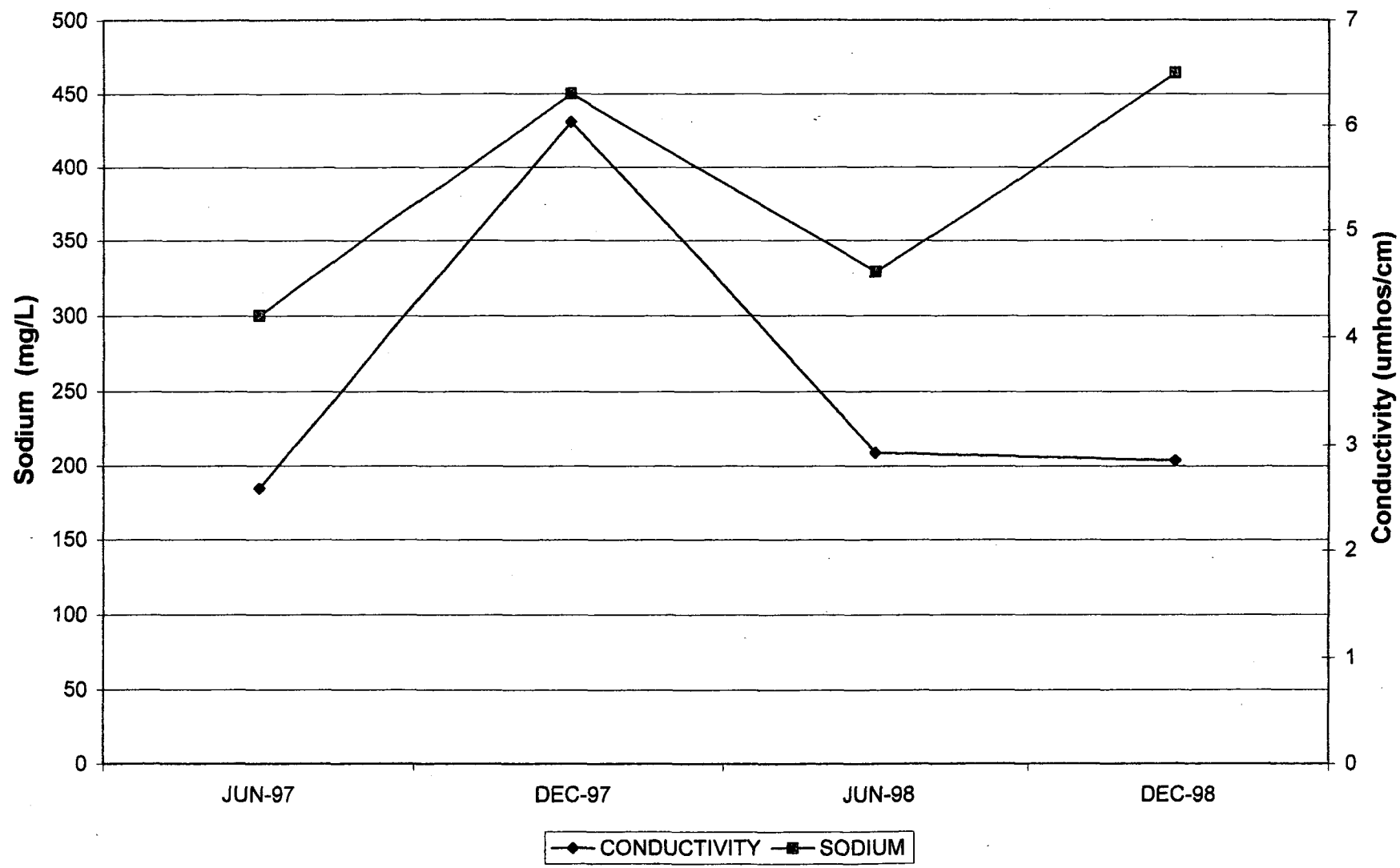
SODIUM VS CONDUCTIVITY (MW-2)



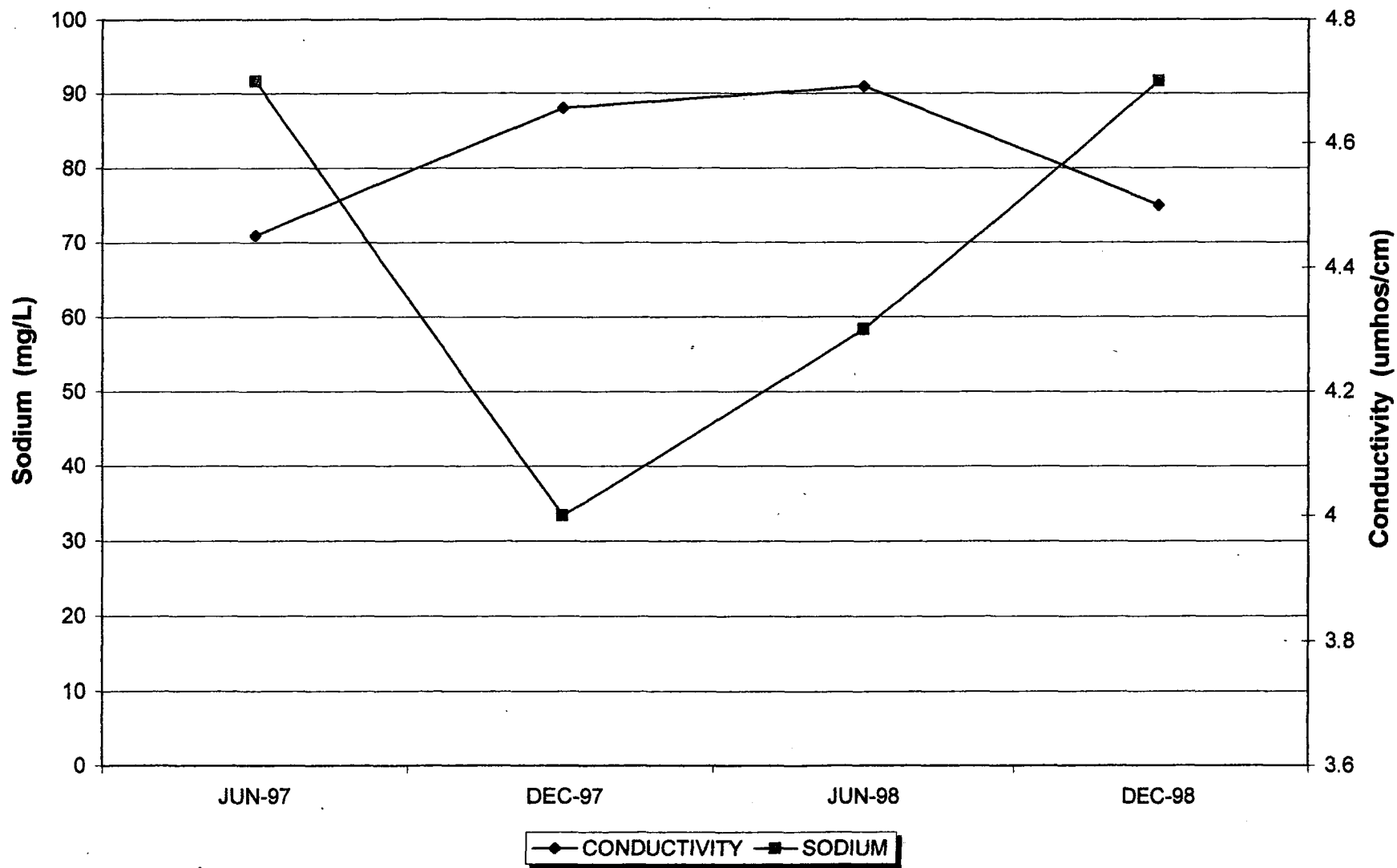
**SODIUM VS CONDUCTIVITY (MW-3)**



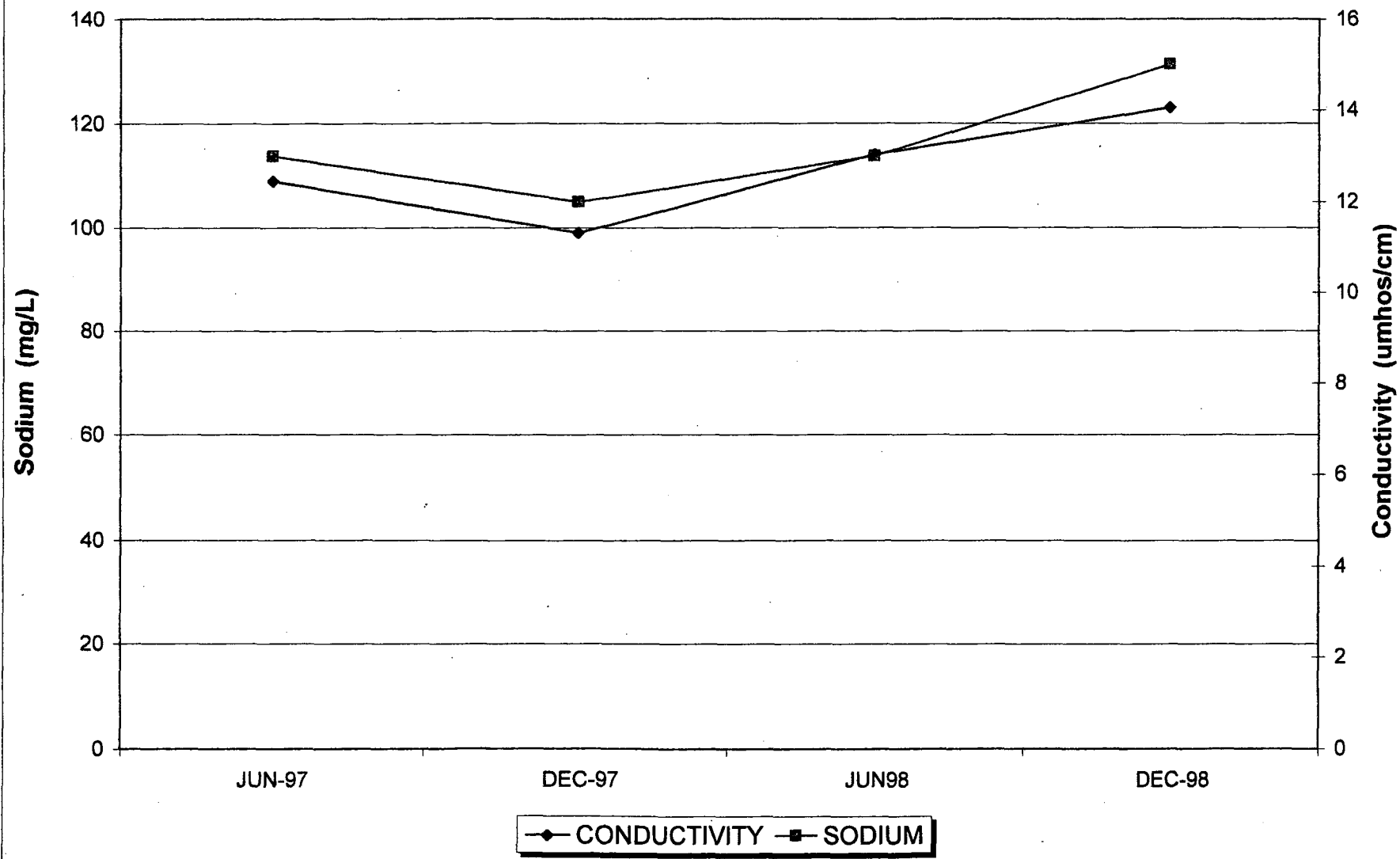
**SODIUM VS CONDUCTIVITY (MW-4)**



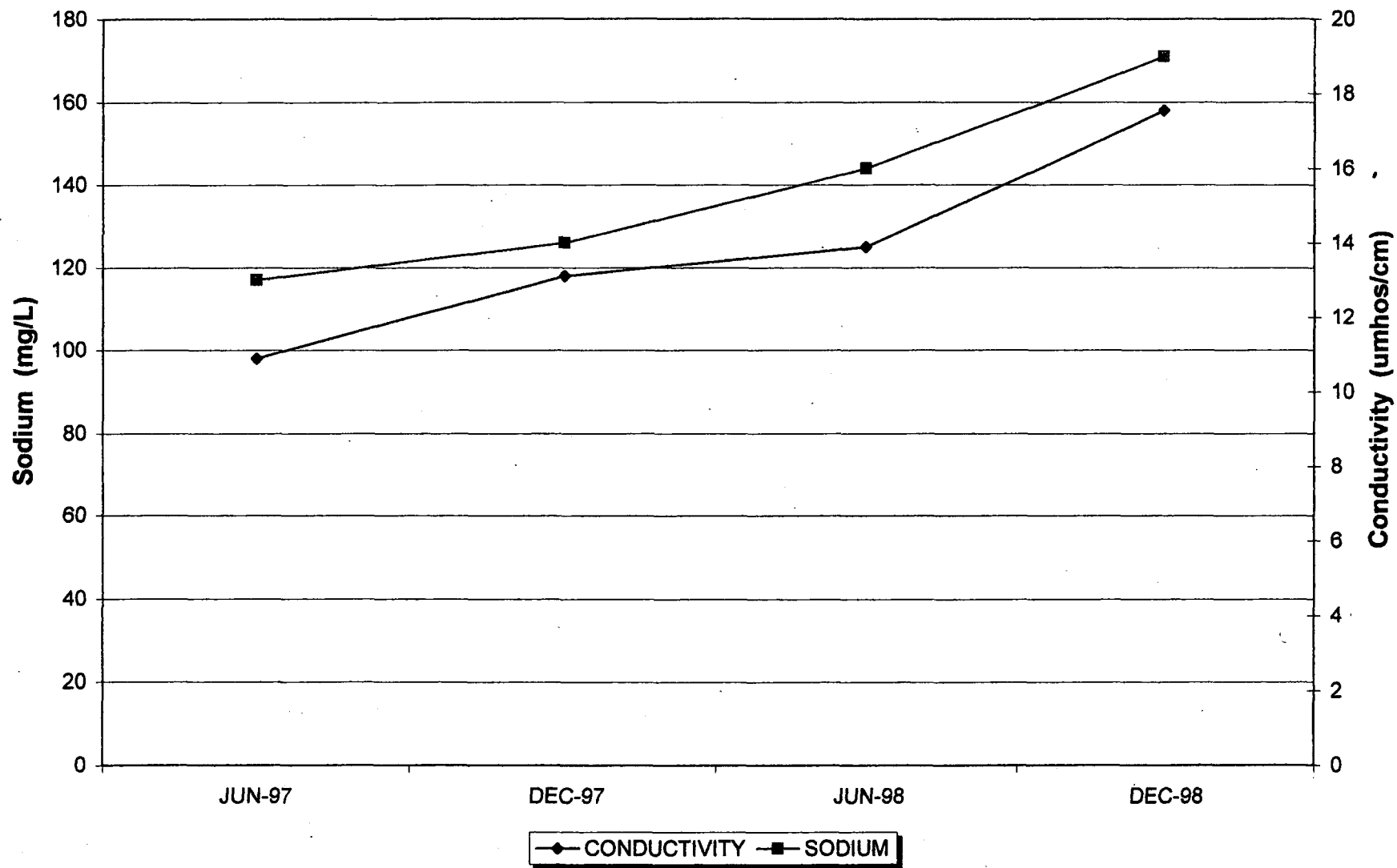
**SODIUM VS CONDUCTIVITY (MW-5)**

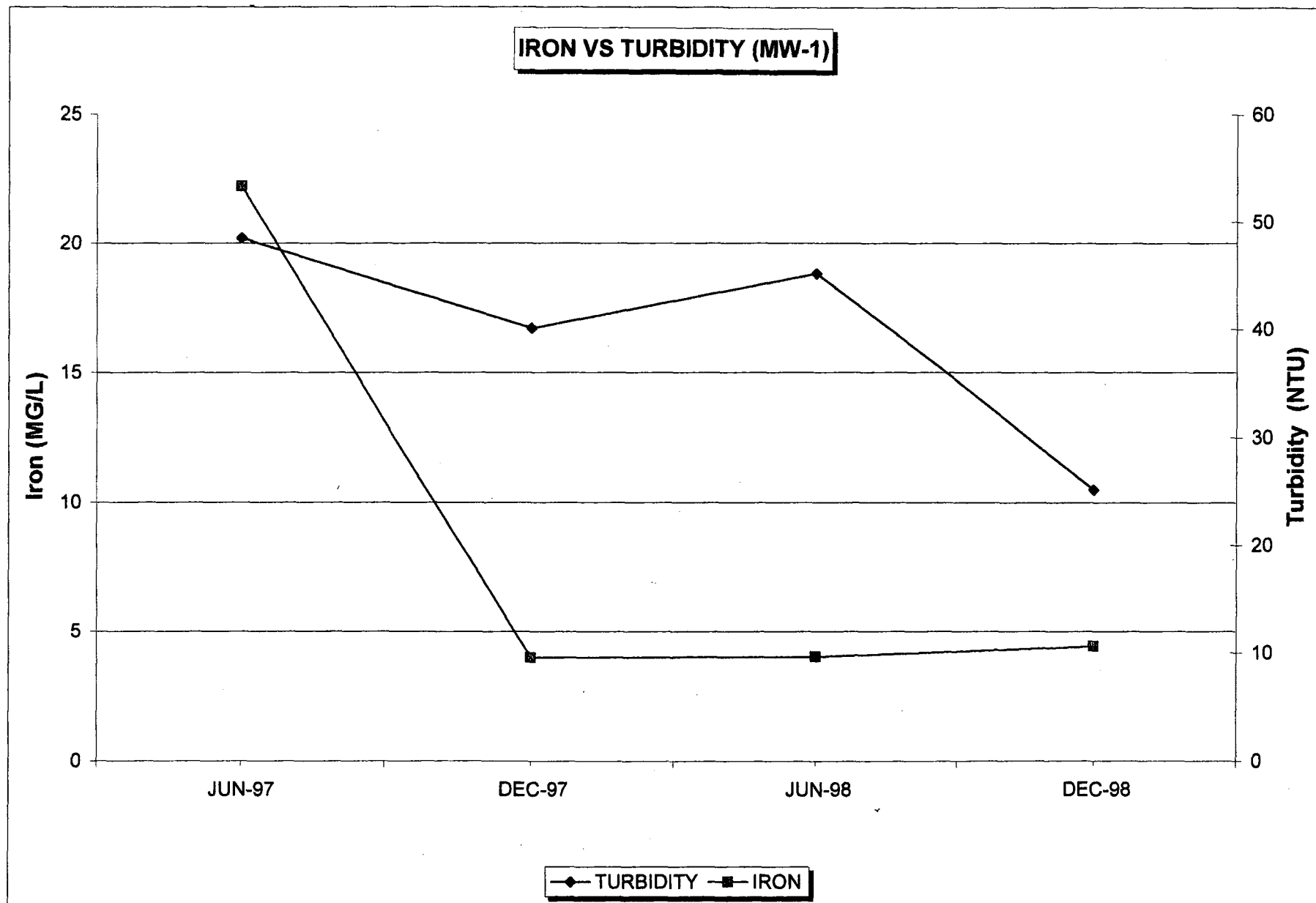


**SODIUM VS CONDUCTIVITY (MW-6)**

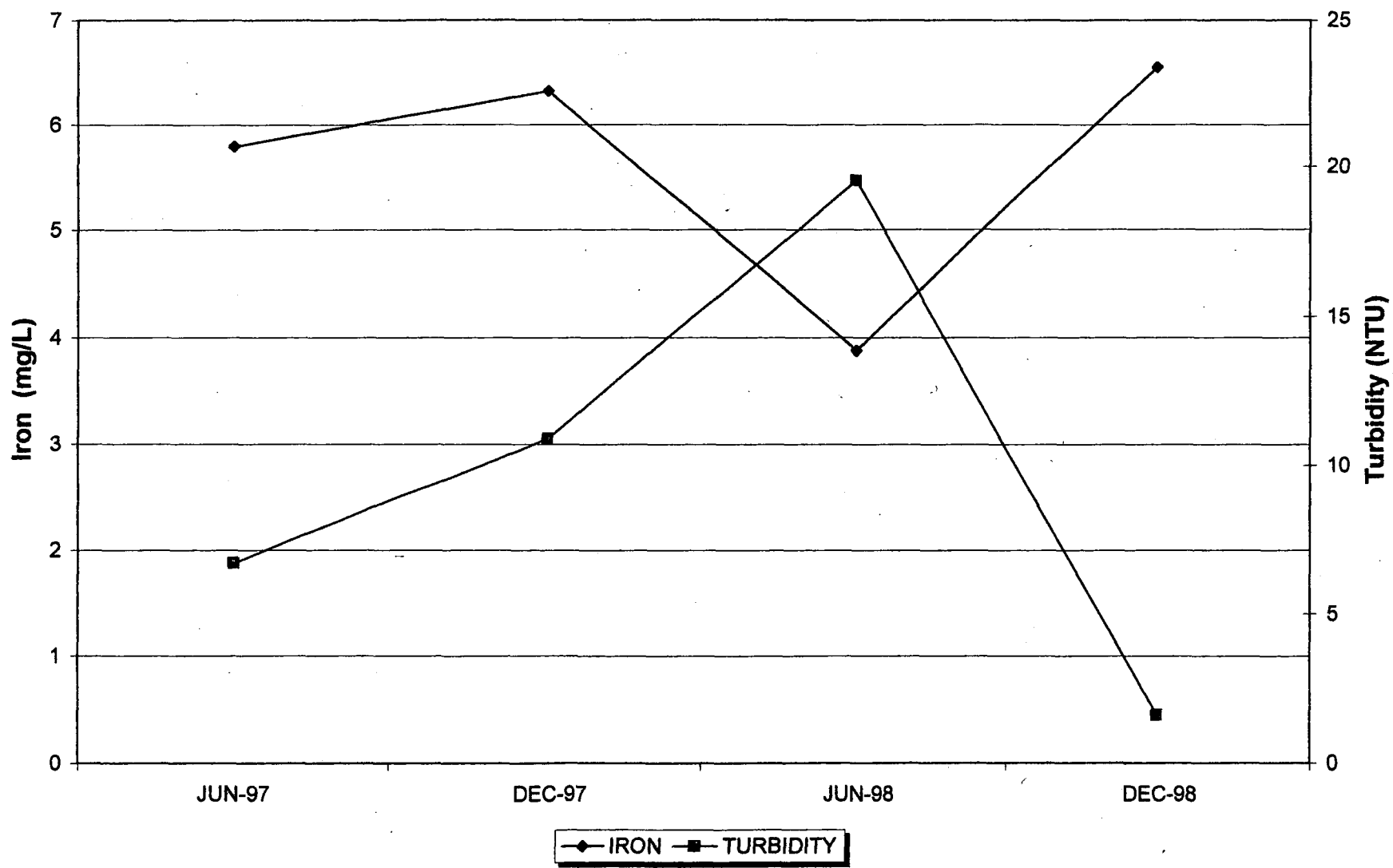


**SODIUM VS CONDUCTIVITY (MW-7)**

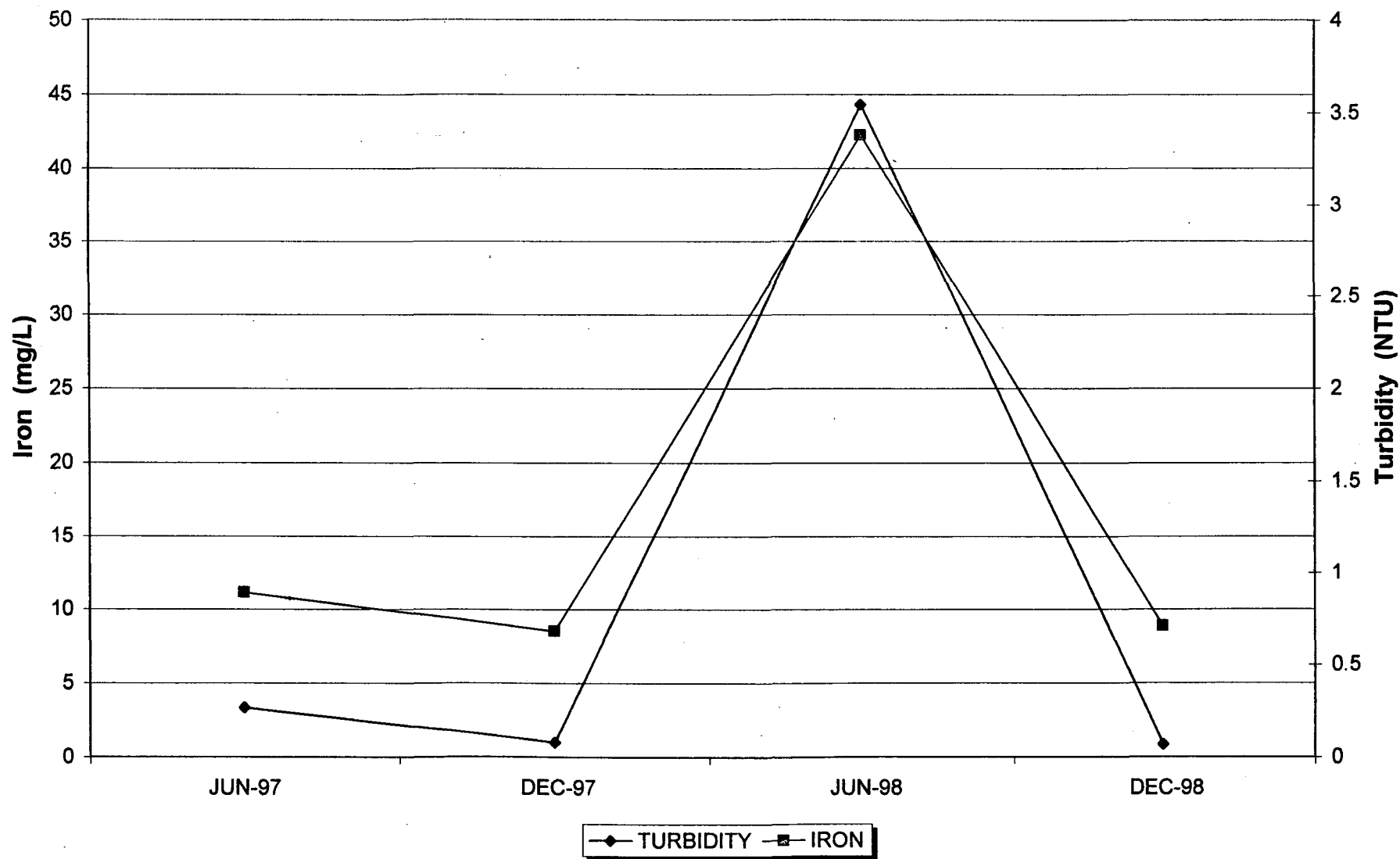




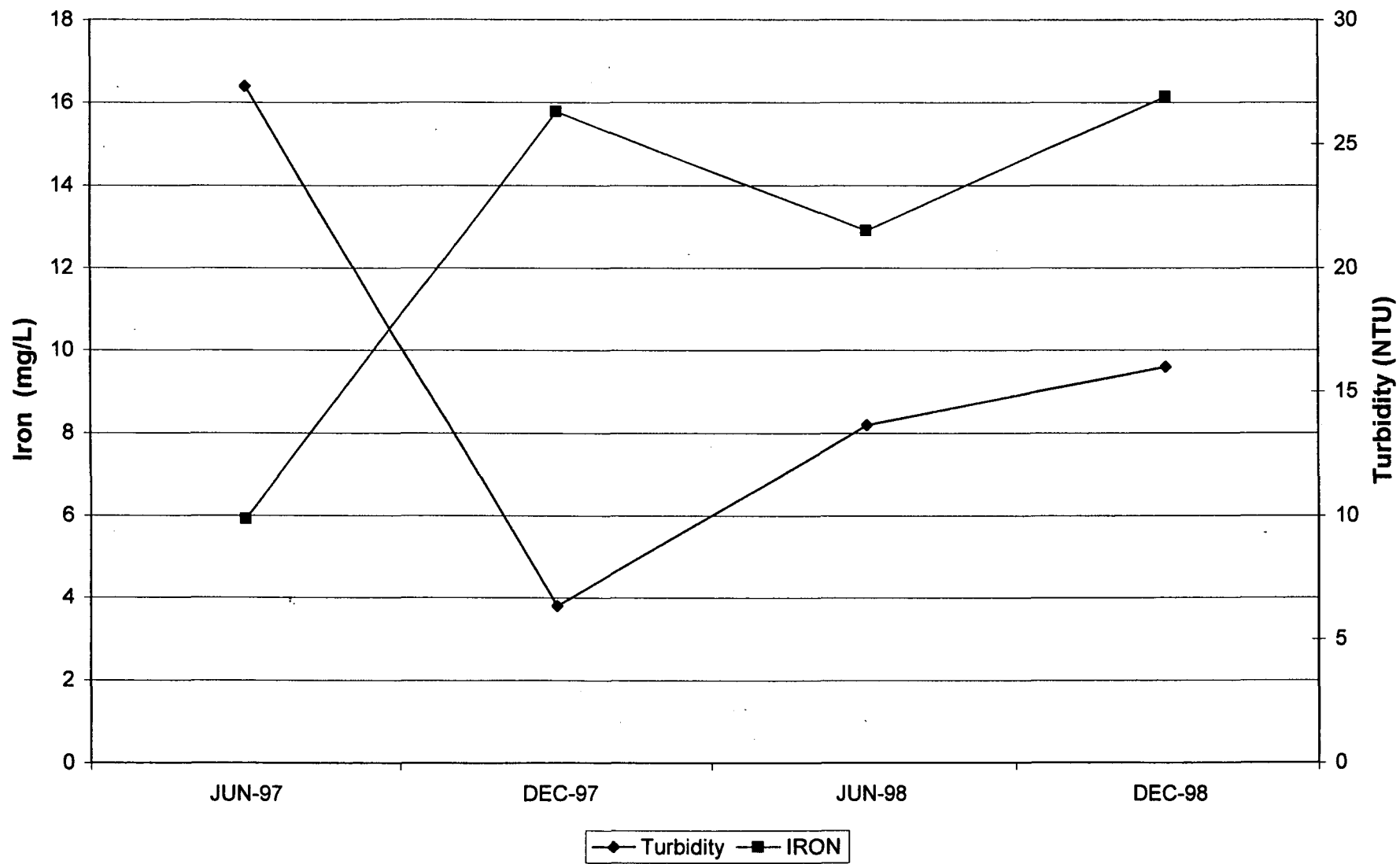
IRON VS TURBIDITY (MW-2)



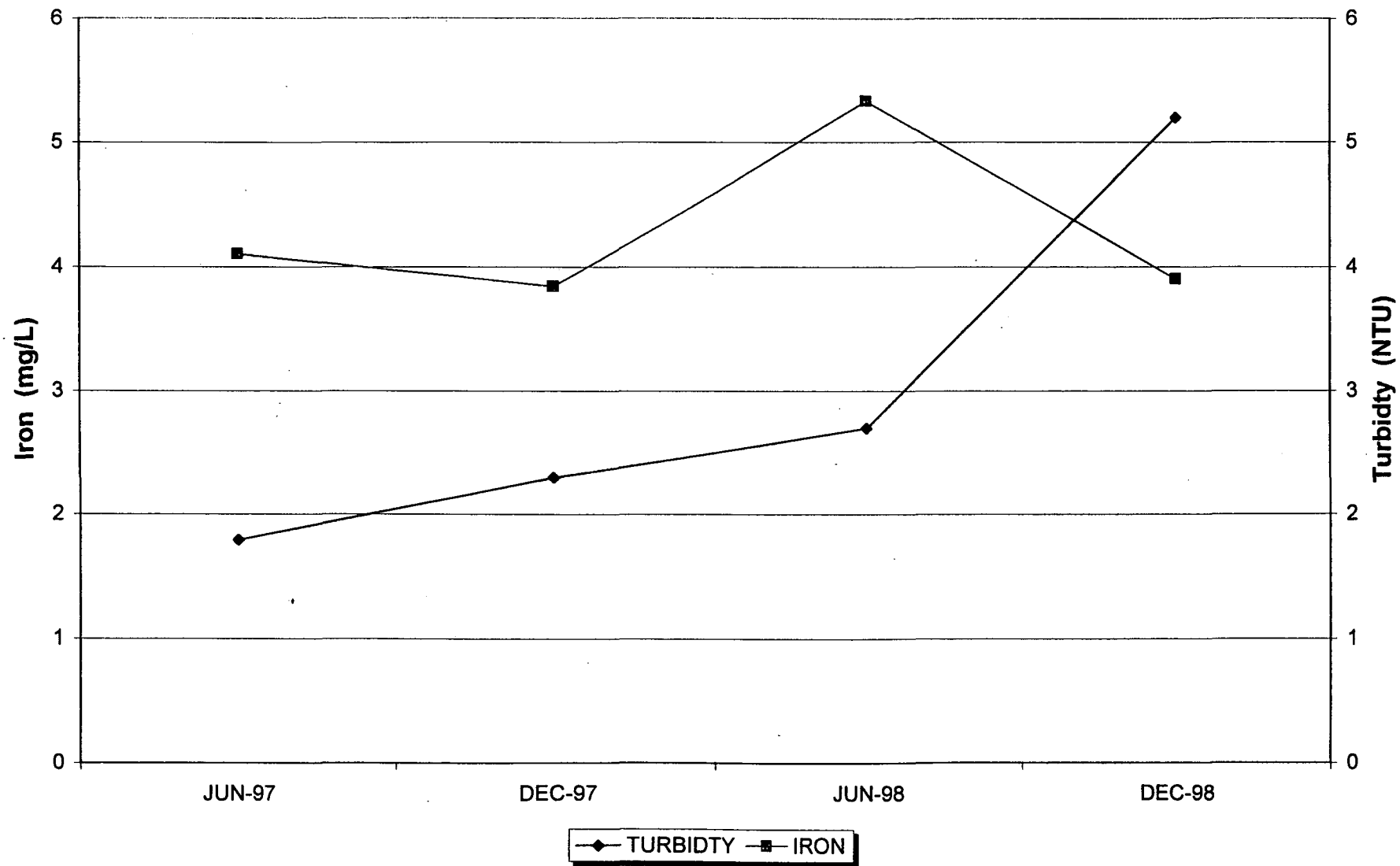
**IRON VS TURBIDITY (MW-3)**



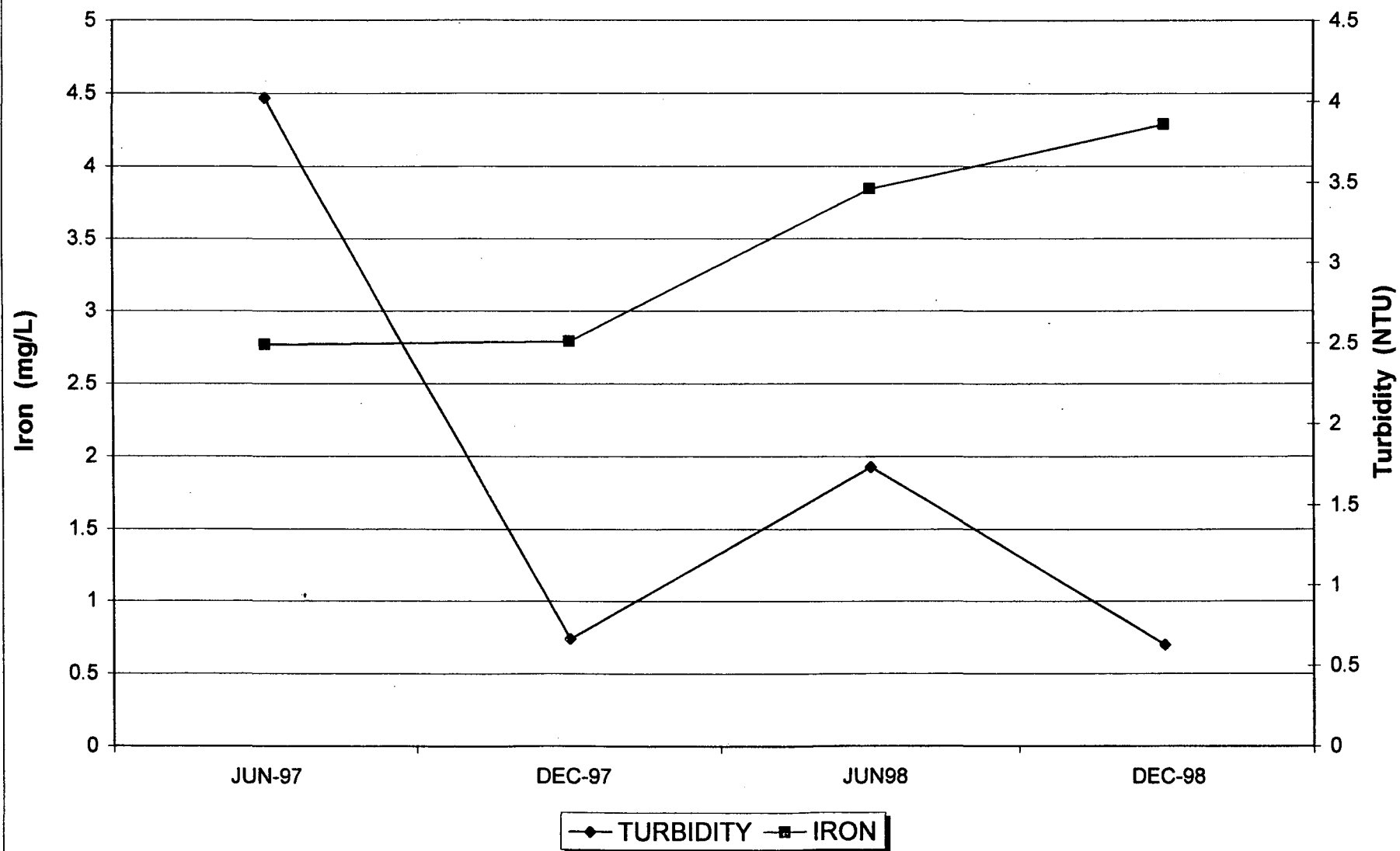
IRON VS TURBIDITY (MW-4)



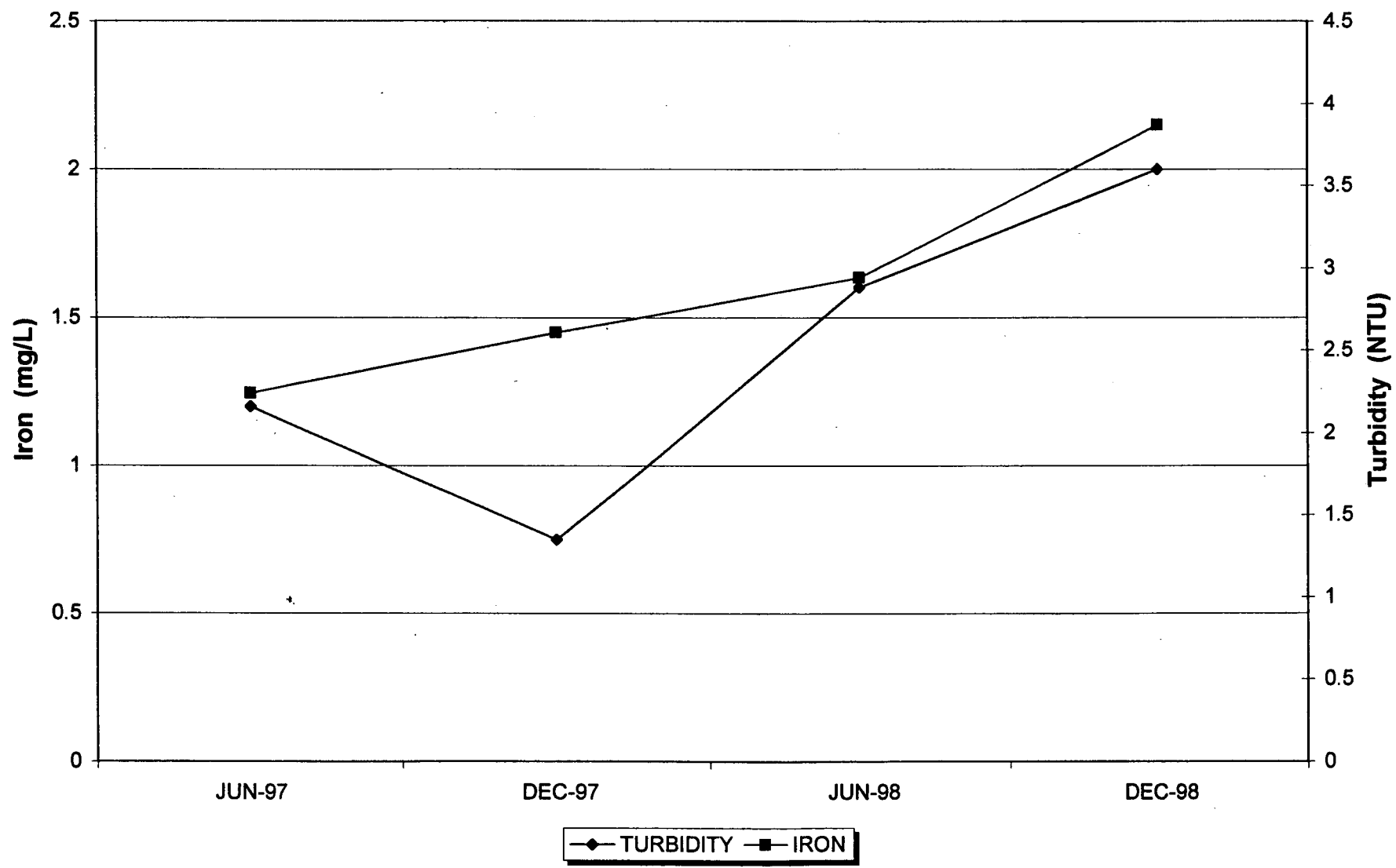
IRON VS TURBIDITY (MW-5)



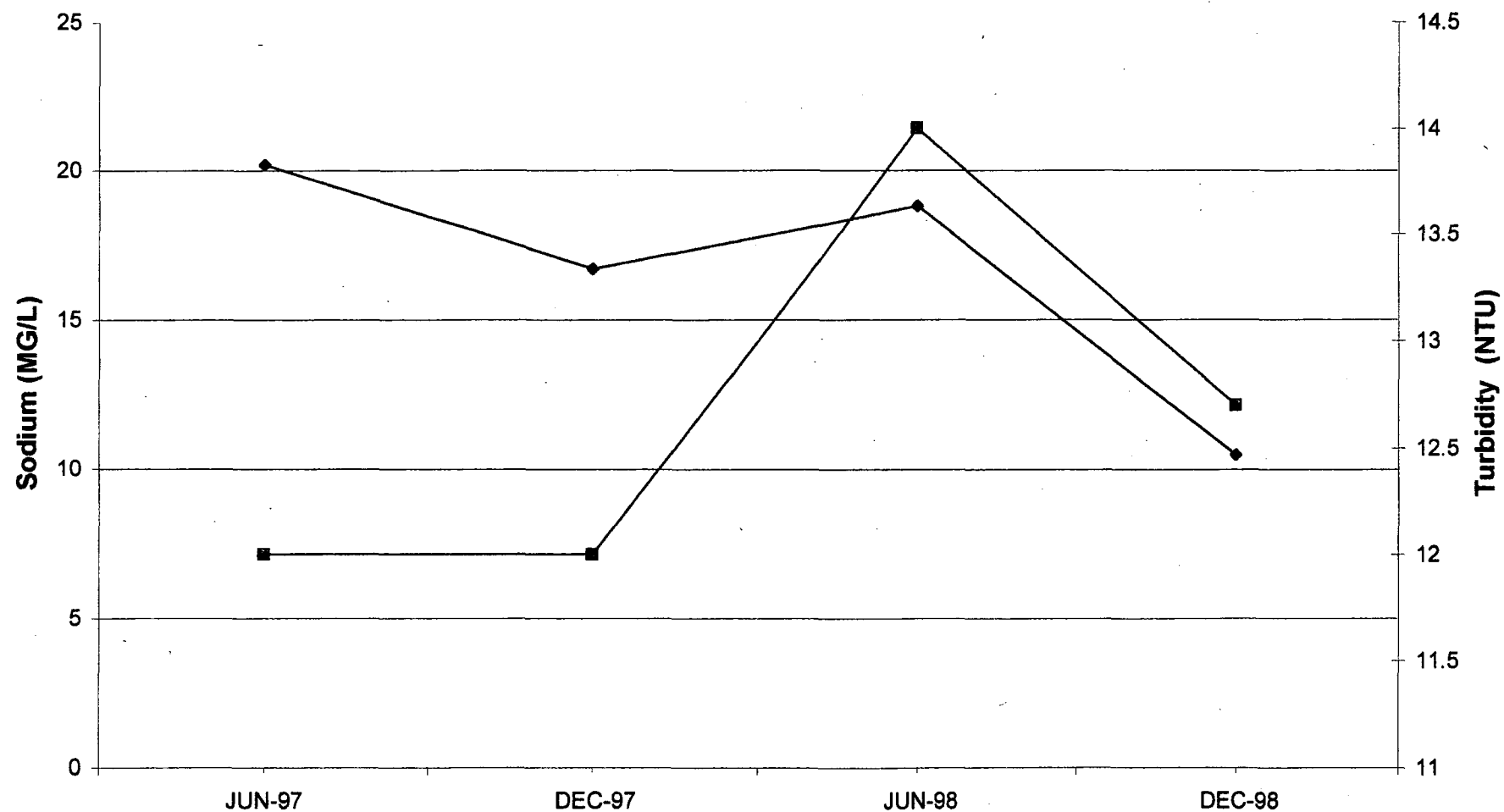
IRON VS TURBIDITY (MW-6)



IRON VS TURBIDITY (MW-7)

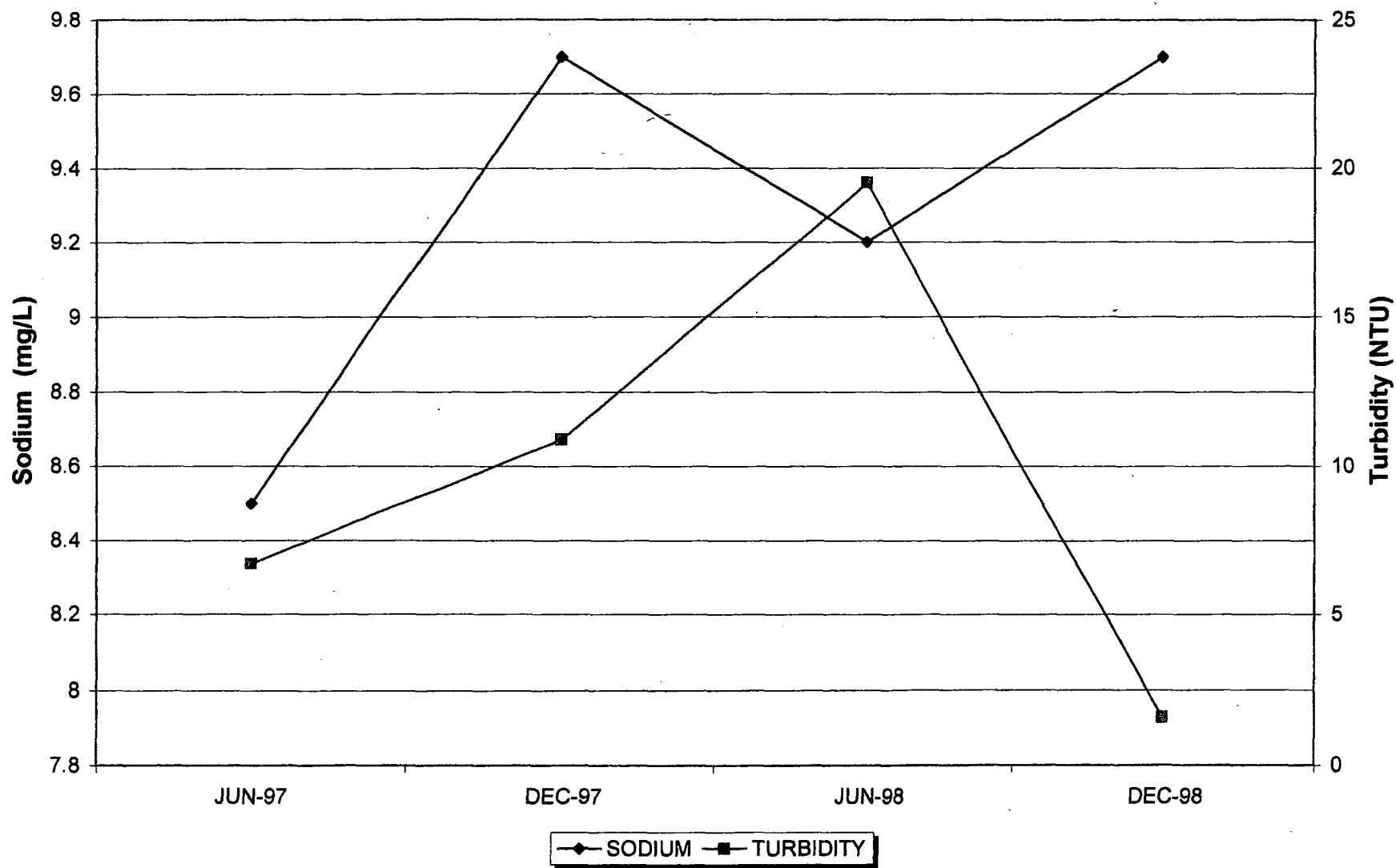


**SODIUM VS TURBIDITY (MW-1)**

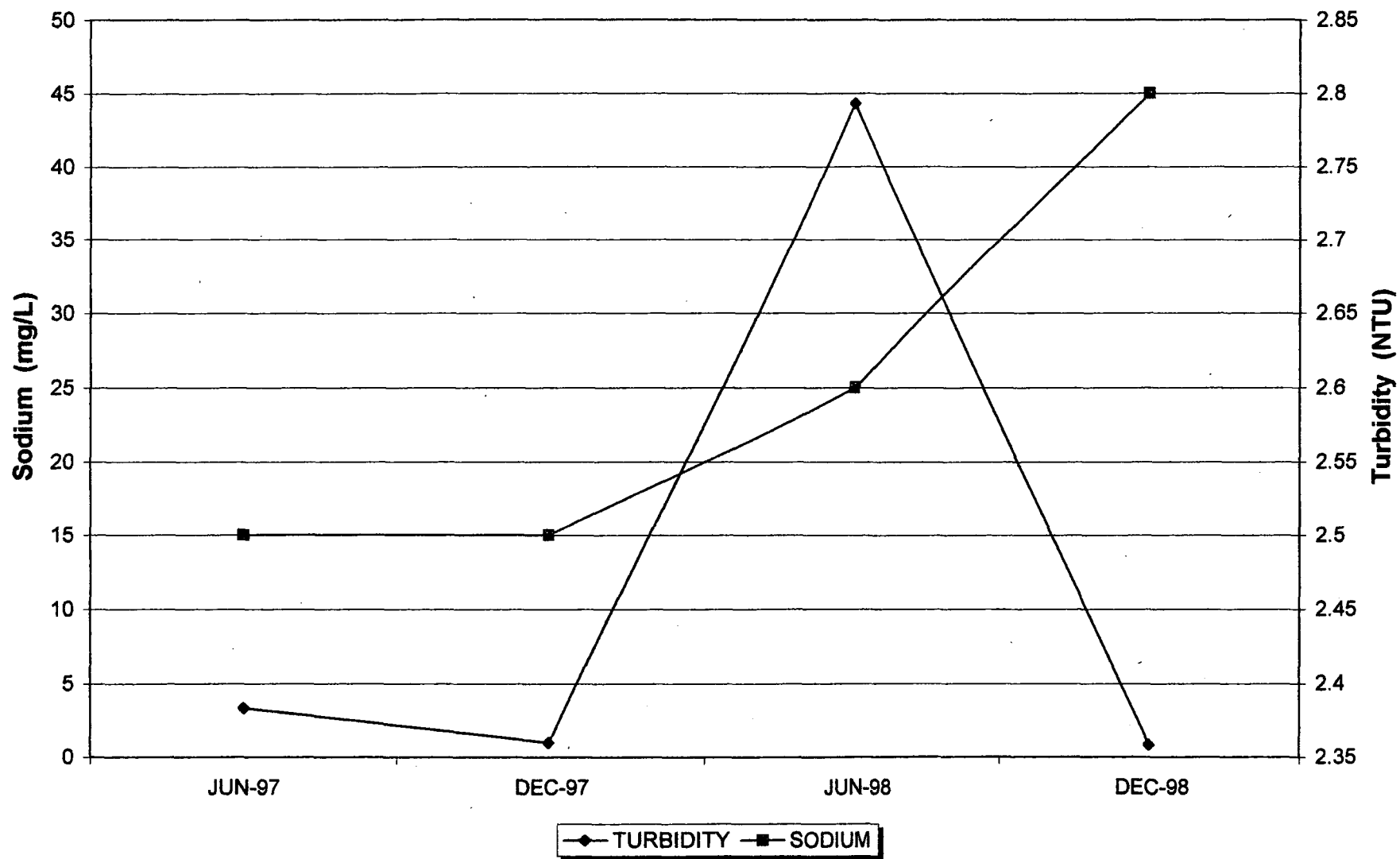


—◆— TURBIDITY —■— SODIUM

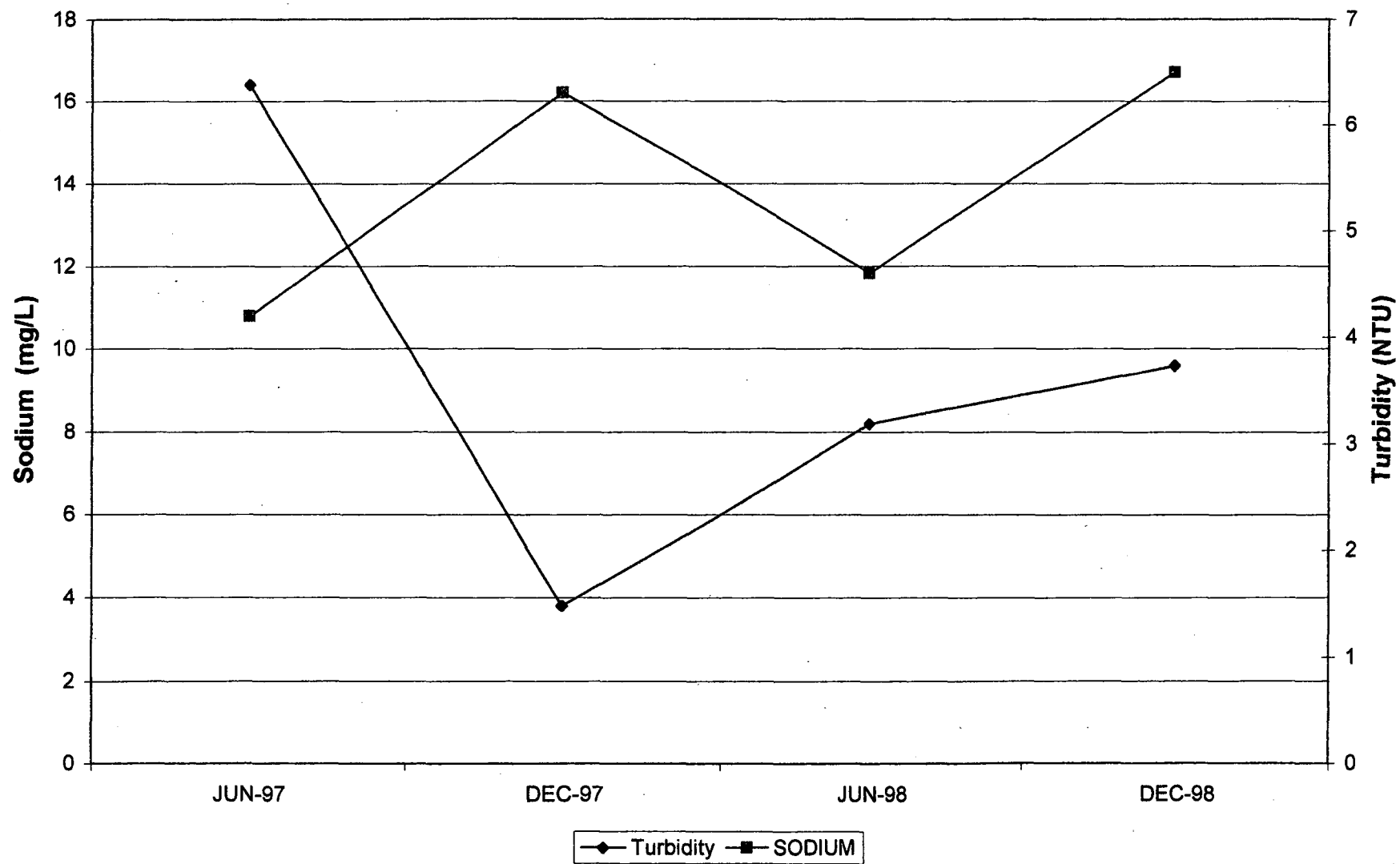
SODIUM VS TURBIDITY (MW-2)



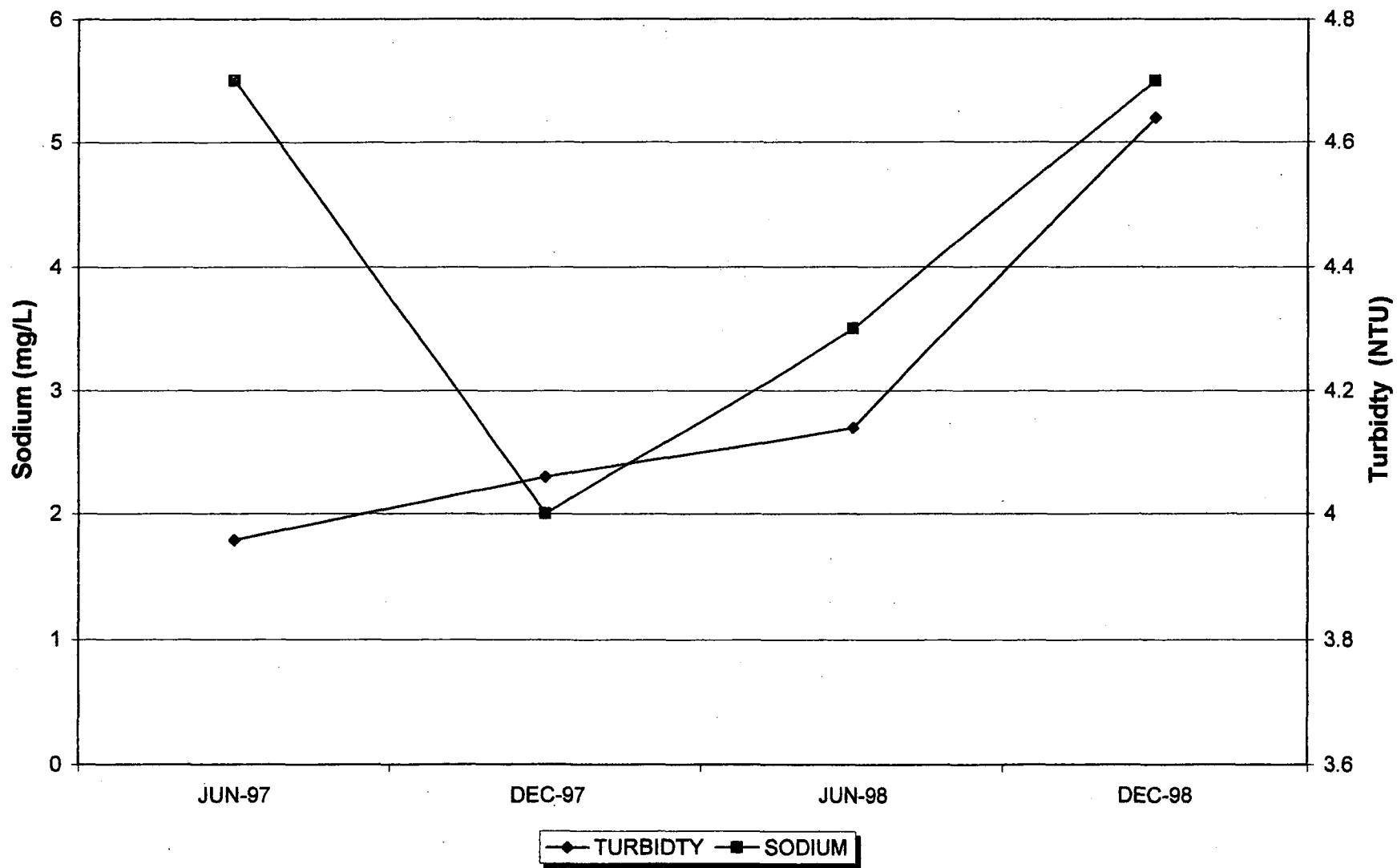
**SODIUM VS TURBIDITY (MW-3)**



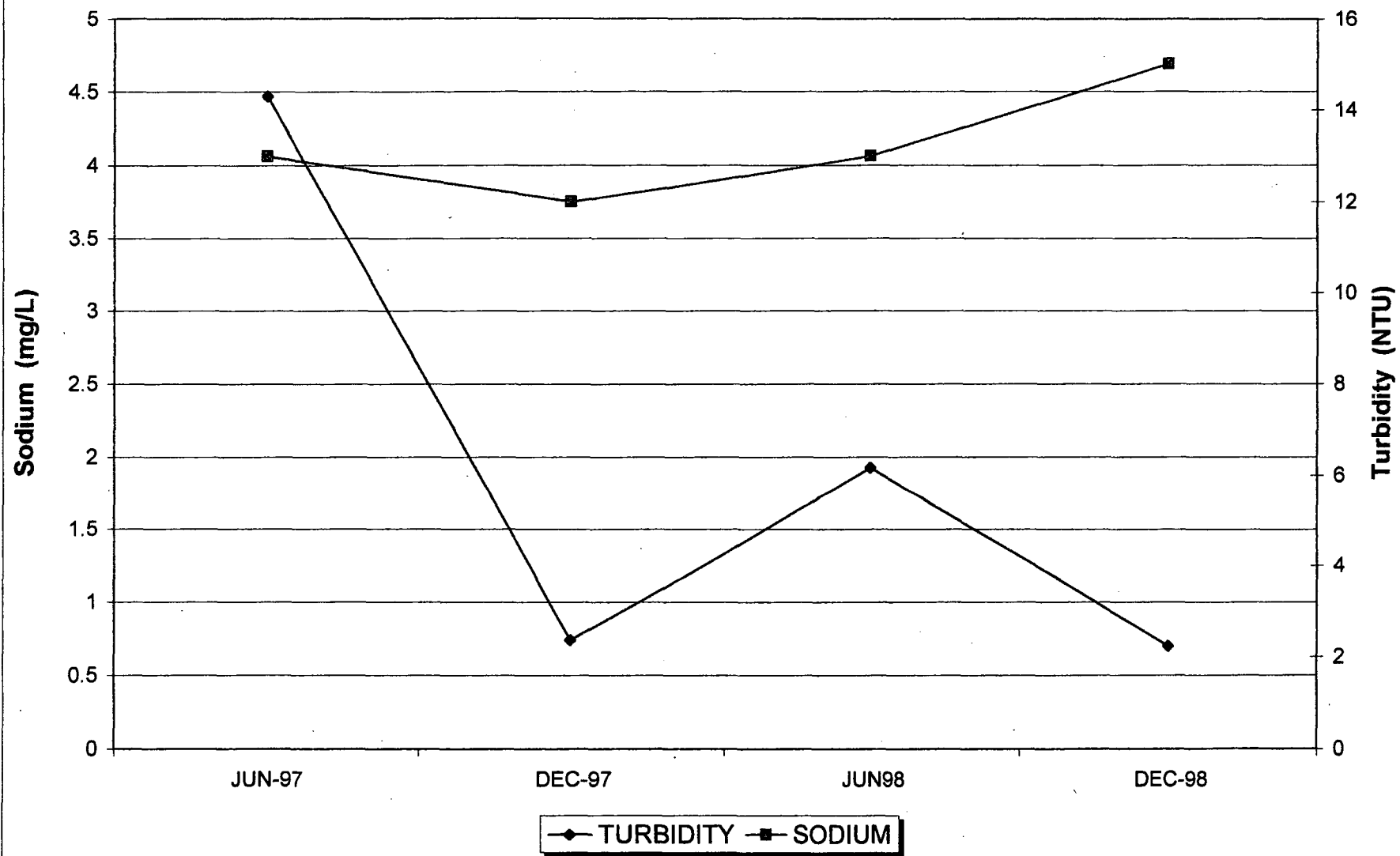
**SODIUM VS TURBIDITY (MW-4)**



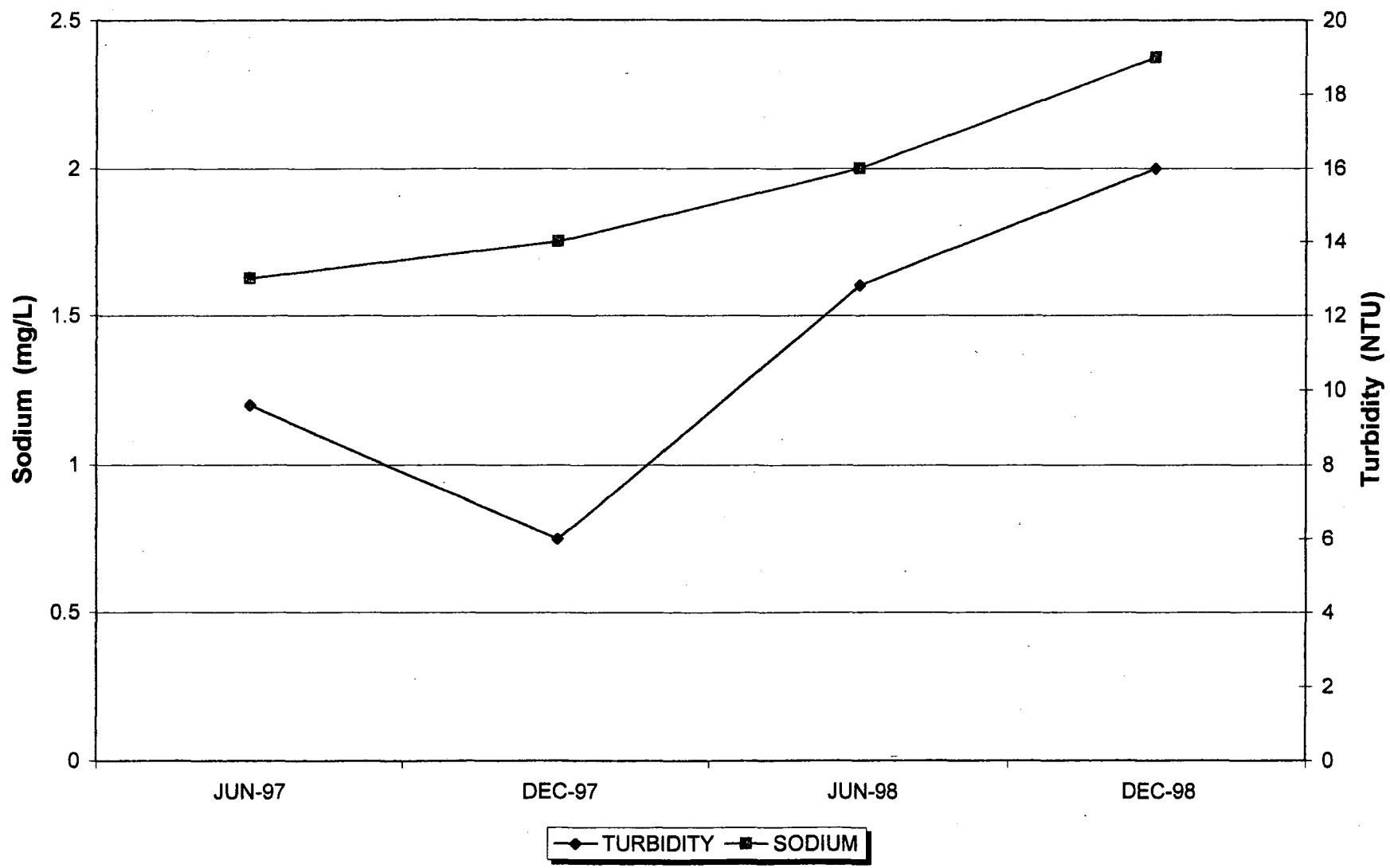
SODIUM VS TURBIDITY (MW-5)



SODIUM VS TURBIDITY (MW-6)



**SODIUM VS TURBIDITY (MW-7)**

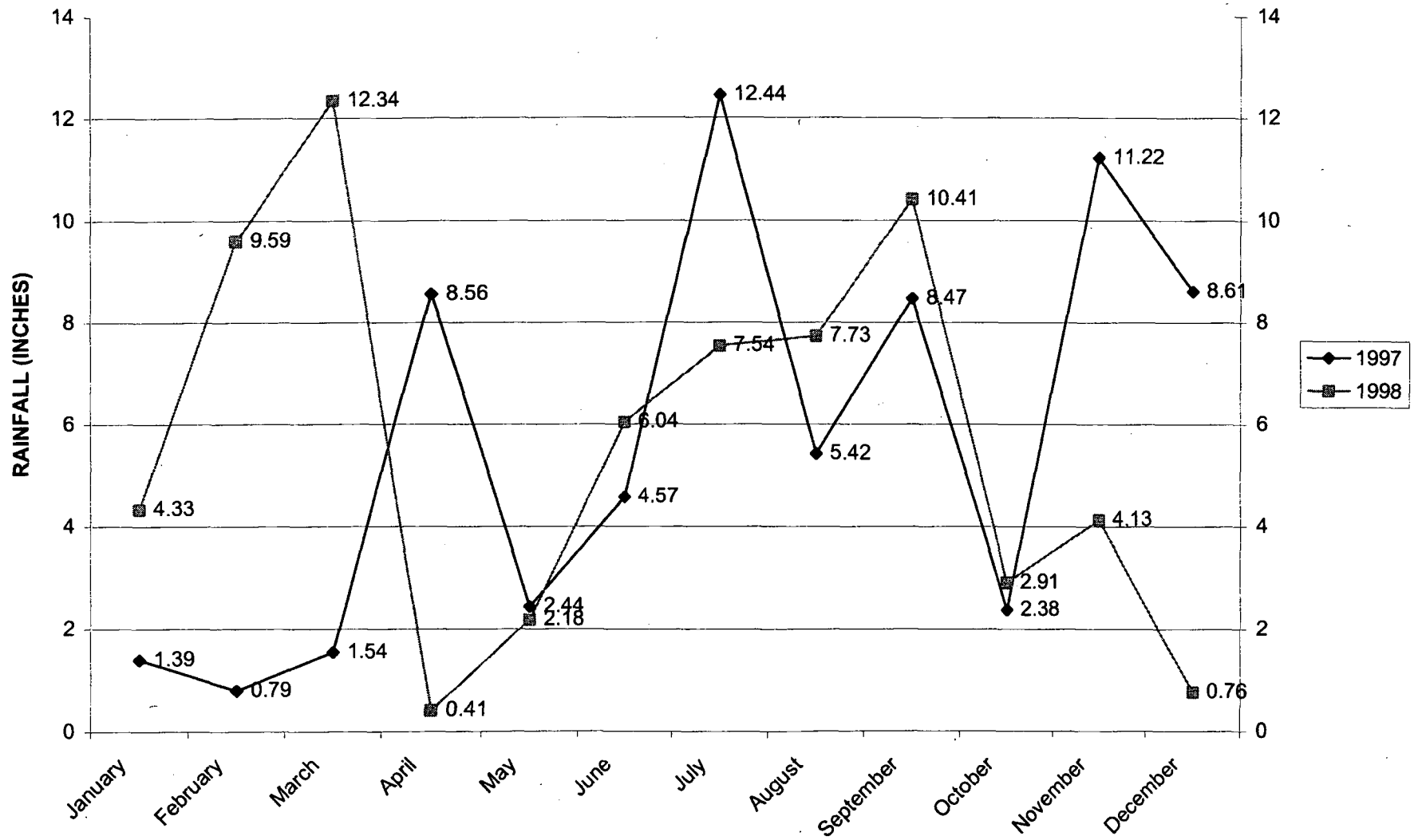


**Section 5**

**HARDEE COUNTY SOLID WASTE MANAGEMENT FACILITY**

**RAINFALL DATA**

# RAINFALL VS TIME



**Section 6**

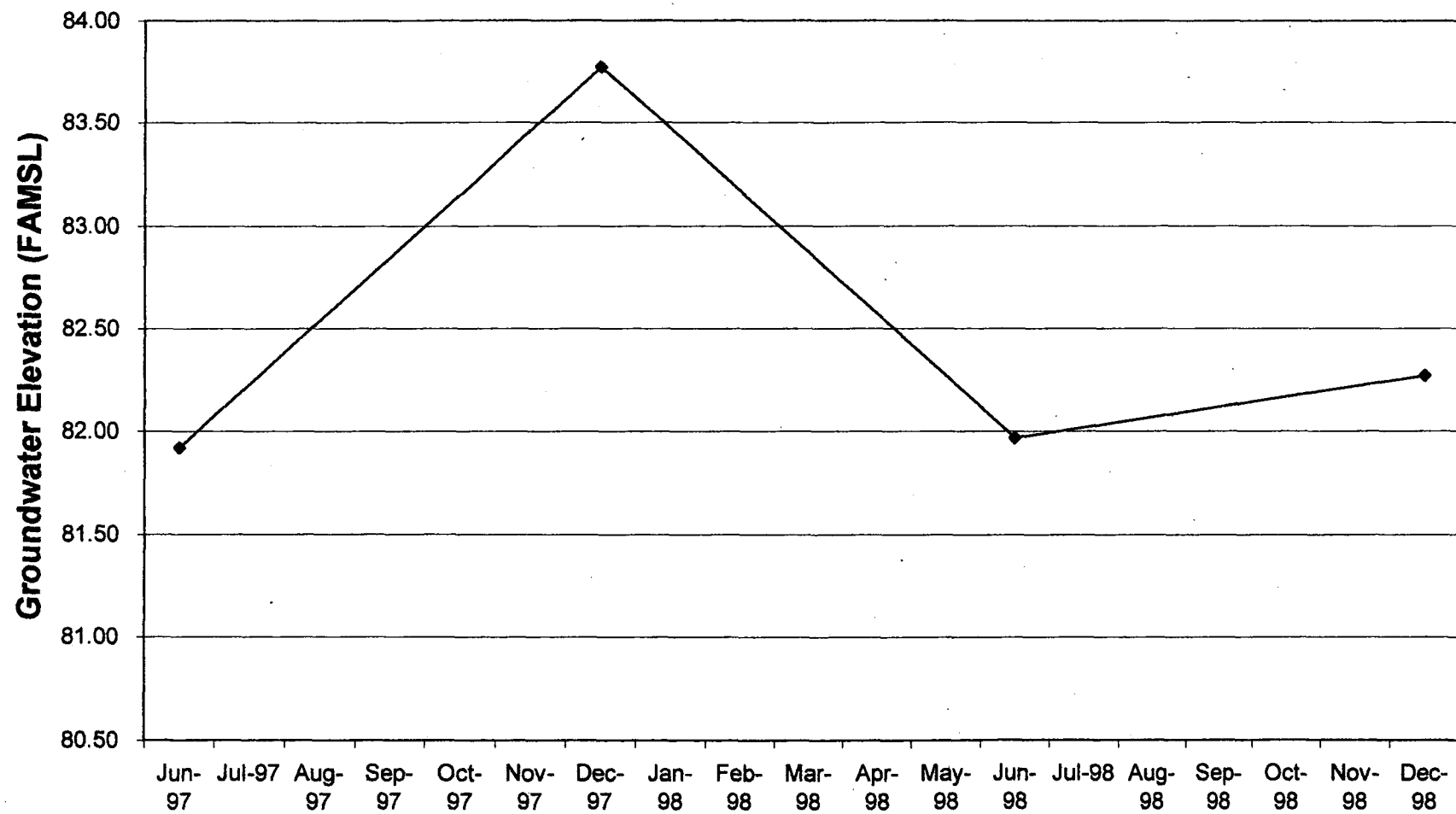
**GROUNDWATER LEVEL ELEVATION DATA**

**Water Level Elevation Data**  
(Feet Above Mean Sea Level)

Monitor Well	Collection Date			
	10-Jun-97	08-Dec-97	01-Jun-98	08-Dec-98
MW-1	81.92	83.77	81.97	82.27
MW-2	78.91	81.89	80.26	78.66
MW-3	79.45	84.25	81.45	80.45
MW-4	79.76	82.86	80.21	80.16
MW-5	79.26	82.91	81.21	80.01
MW-6	78.84	83.24	79.04	78.74
MW-7	78.61	82.66	78.91	78.11
P-1	80.37	NA*	88.97	80.77
P-2	79.21	NA*	NA*	79.86
P-3	79.65	NA*	80.75	80.05
P-4	79.89	NA*	80.39	79.94
P-5	79.75	NA*	81.15	80.80
P-6	78.69	NA*	78.54	79.69
P-7	77.59	NA*	76.14	75.44
P-8	77.89	NA*	76.94	76.04
P-9	78.41	NA*	79.51	78.26
P-10	78.96	NA*	79.86	79.36
P-11	79.26	NA*	79.61	79.26
P-12	79.41	NA*	80.21	79.41
P-13	78.65	NA*	79.10	78.30
P-14	78.25	NA*	77.70	77.35

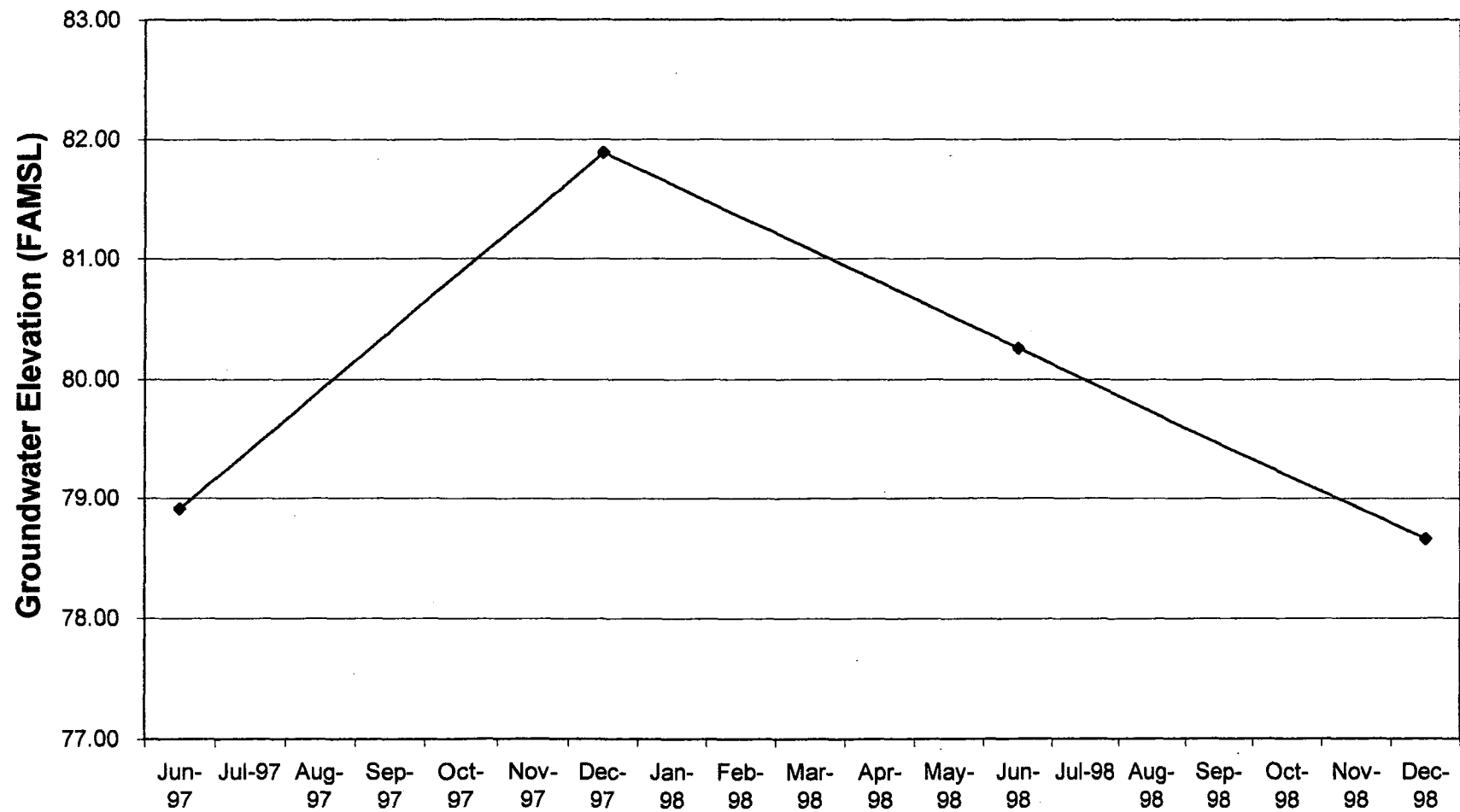
NA = Not Available

## GROUNDWATER ELEVATION DATA



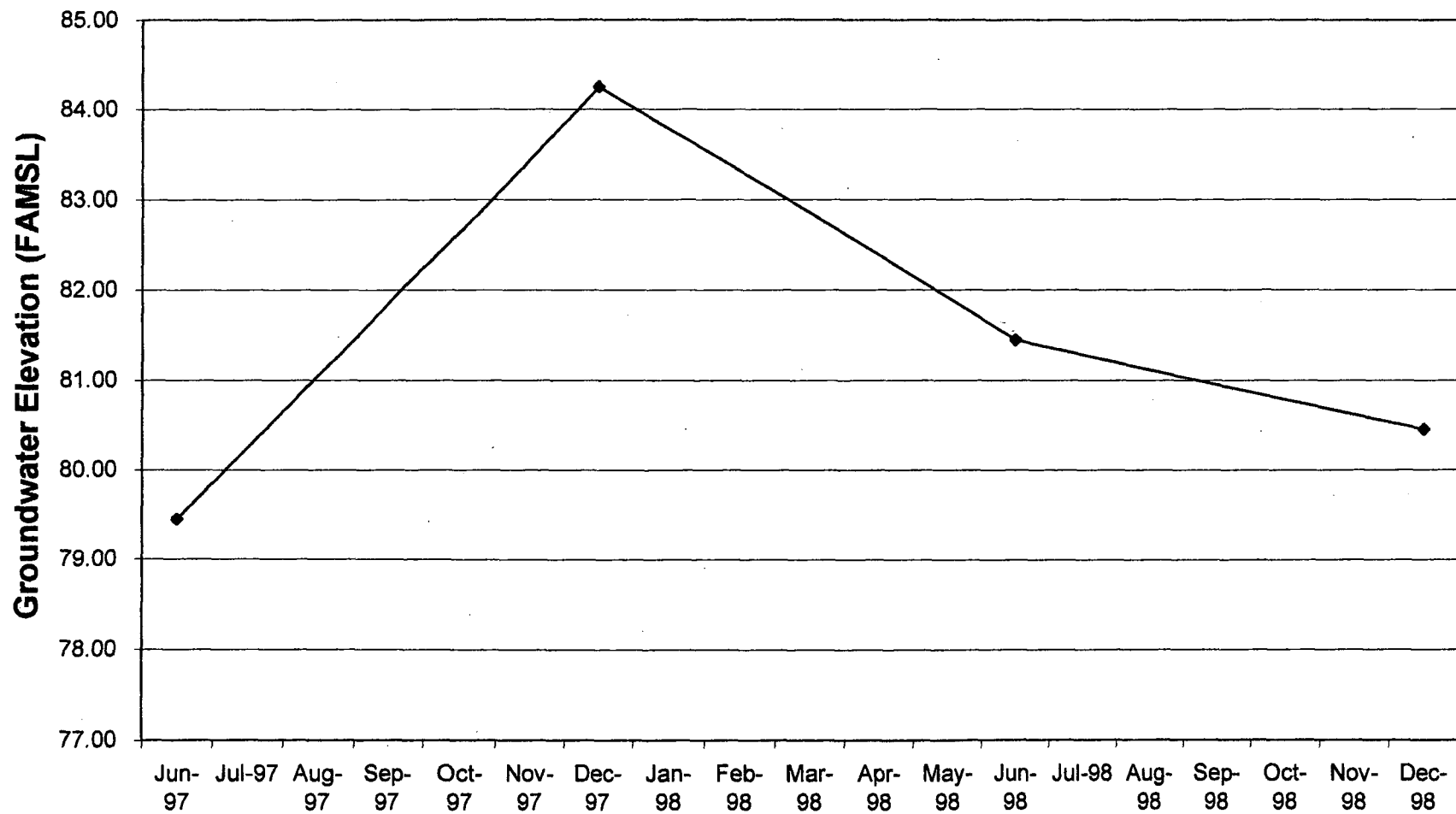
—◆— MW-1

## GROUNDWATER ELEVATION DATA



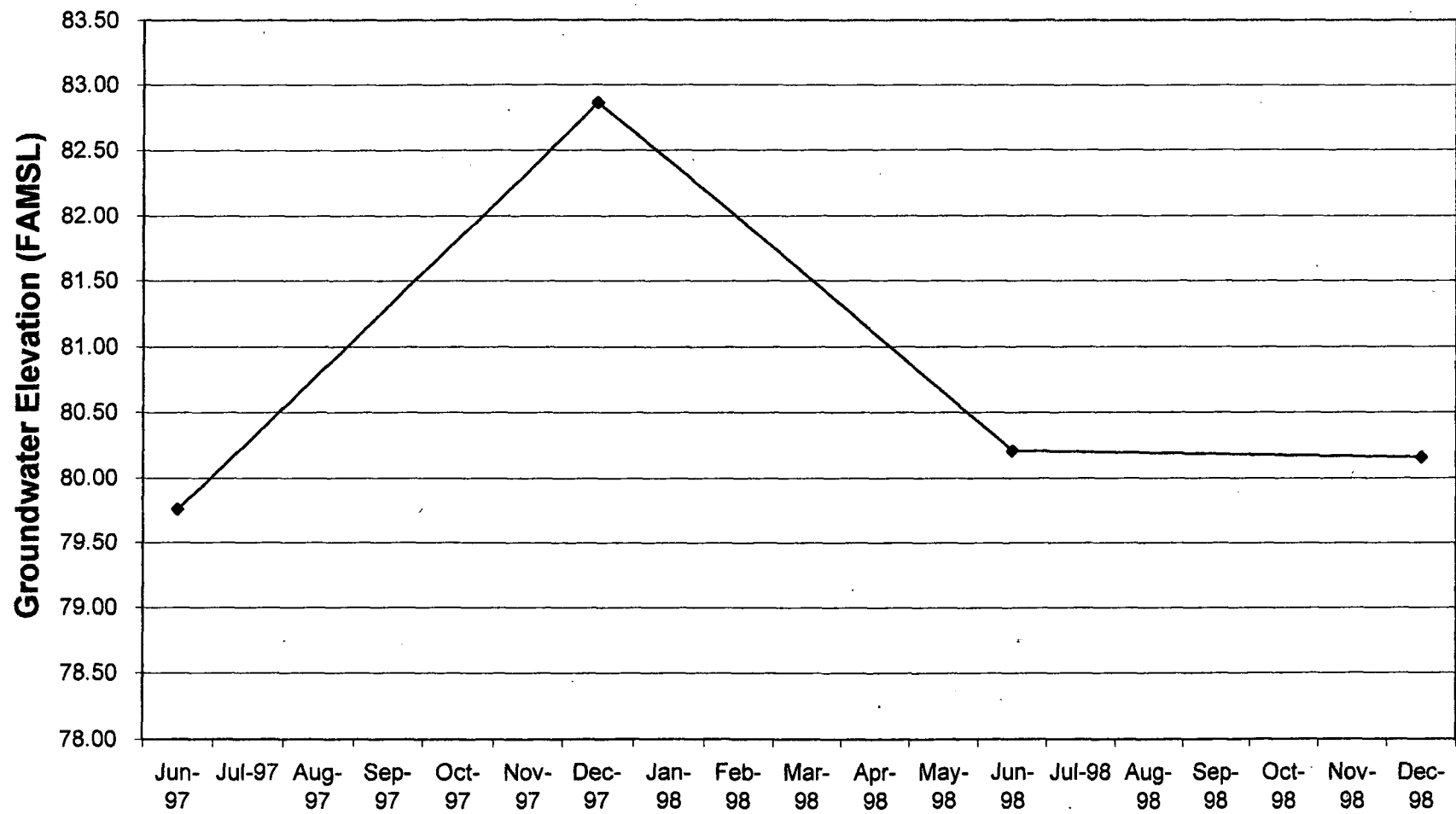
—◆— MW-2

## GROUNDWATER ELEVATION DATA



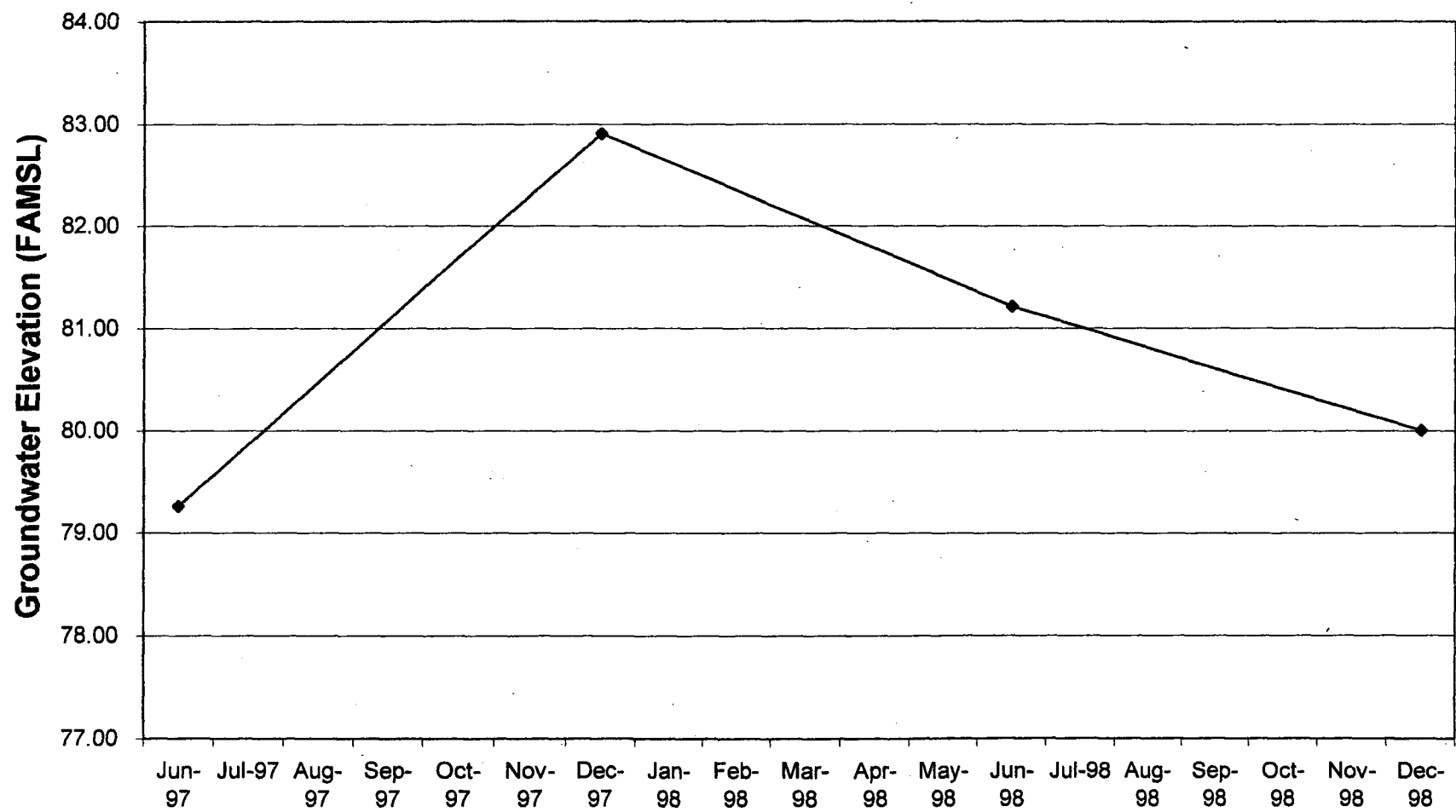
—◆— MW-3

## GROUNDWATER ELEVATION DATA



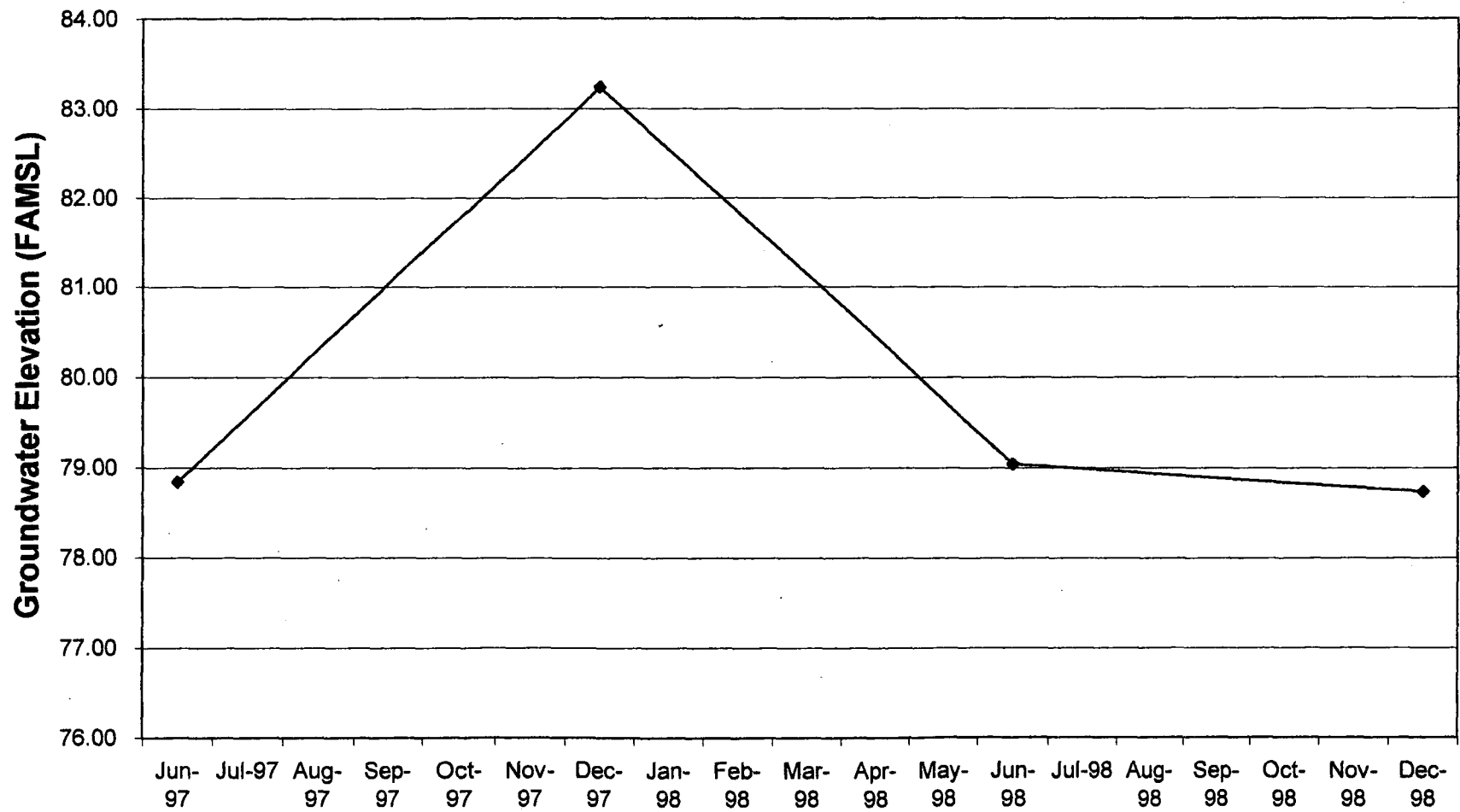
—●— MW-4

## GROUNDWATER ELEVATION DATA



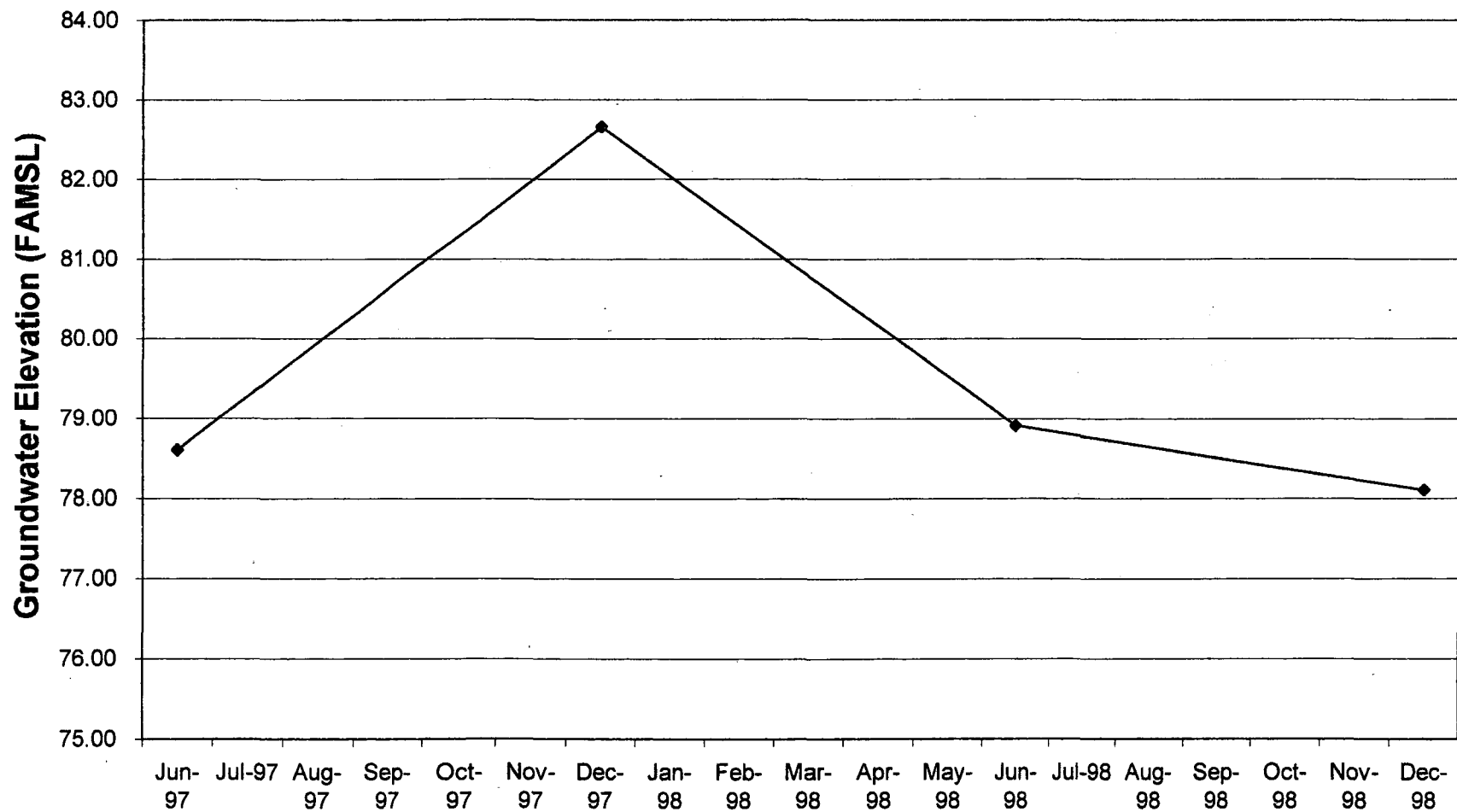
—●— MW-5

## GROUNDWATER ELEVATION DATA



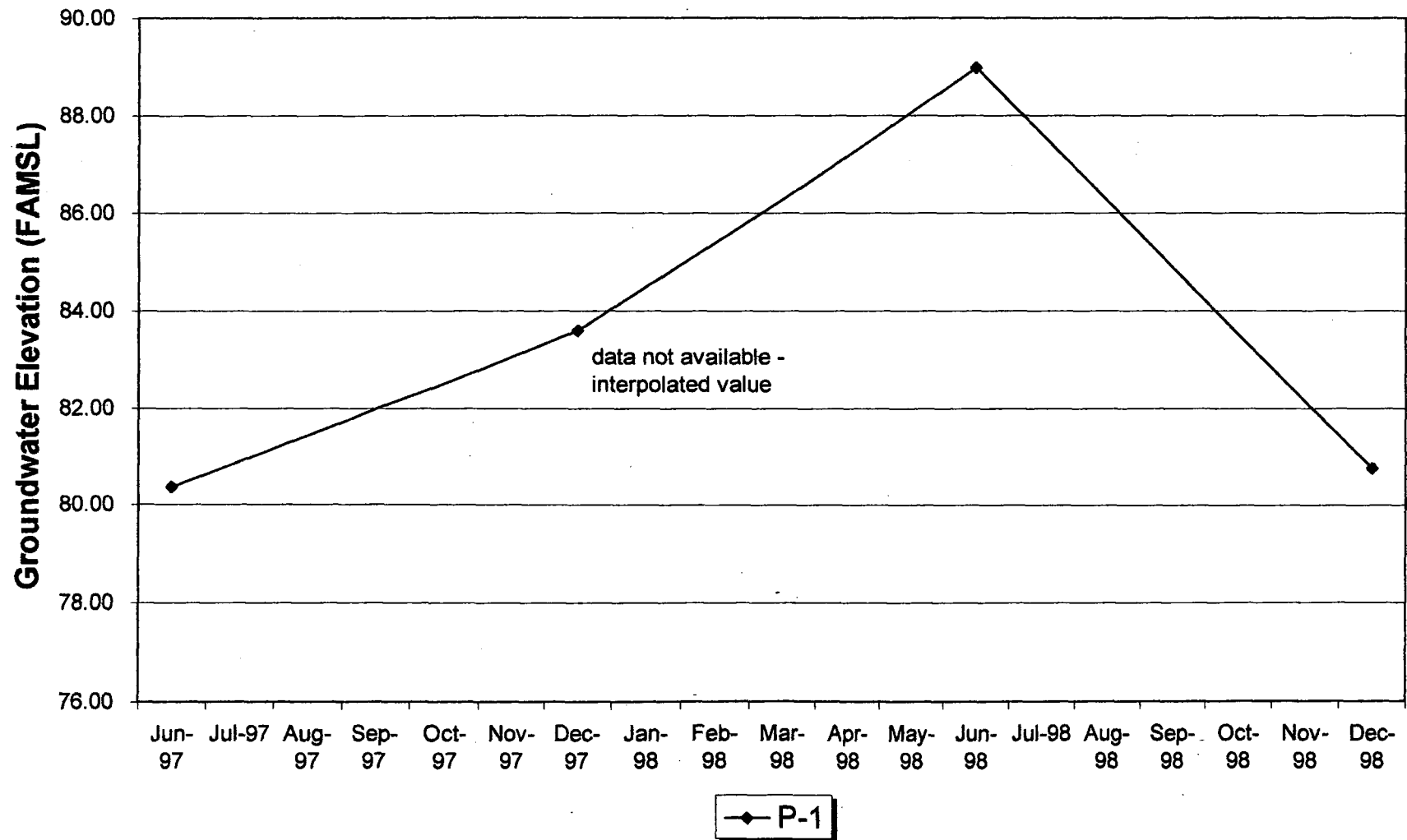
—◆— MW-6

## GROUNDWATER ELEVATION DATA

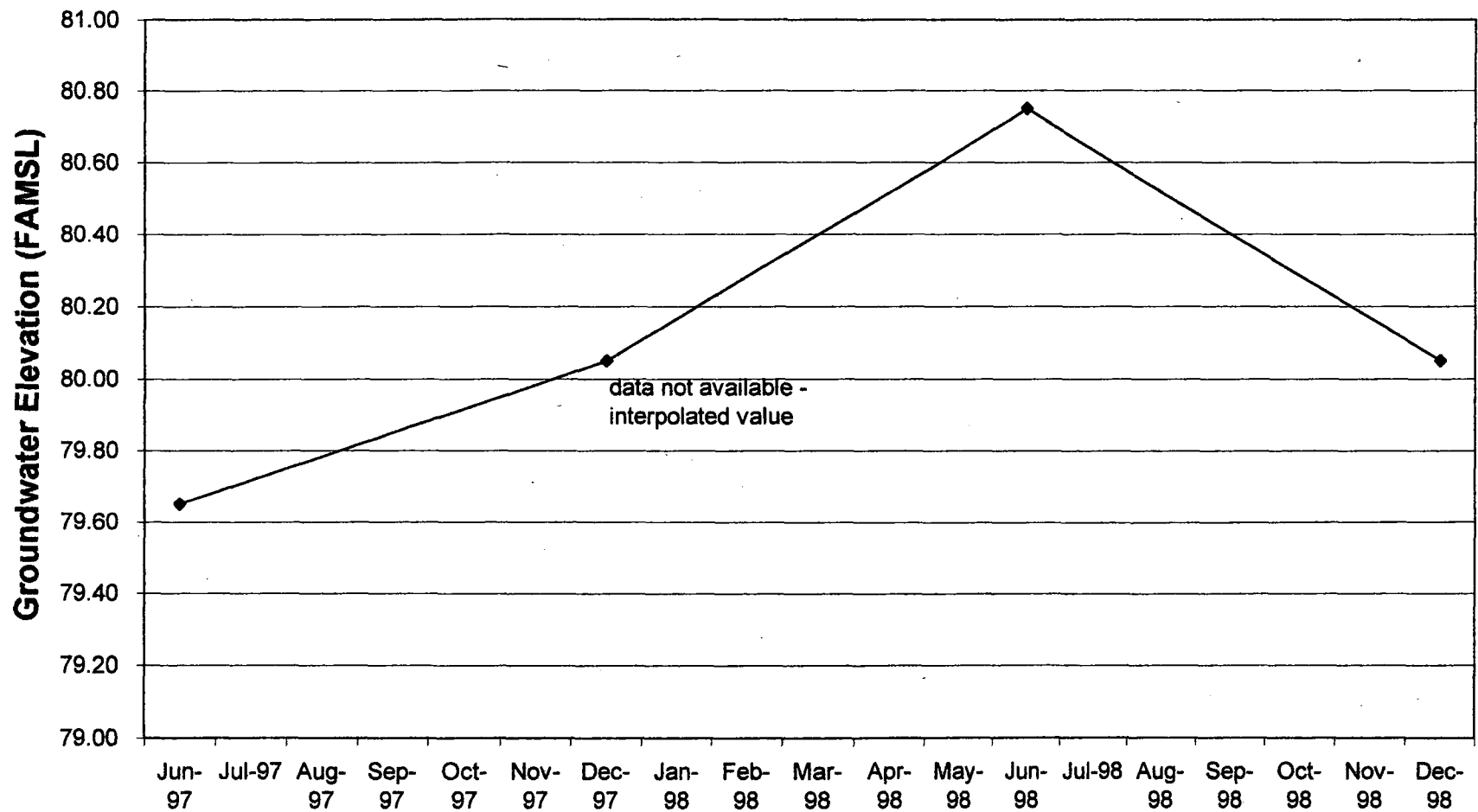


—◆— MW-7

## GROUNDWATER ELEVATION DATA

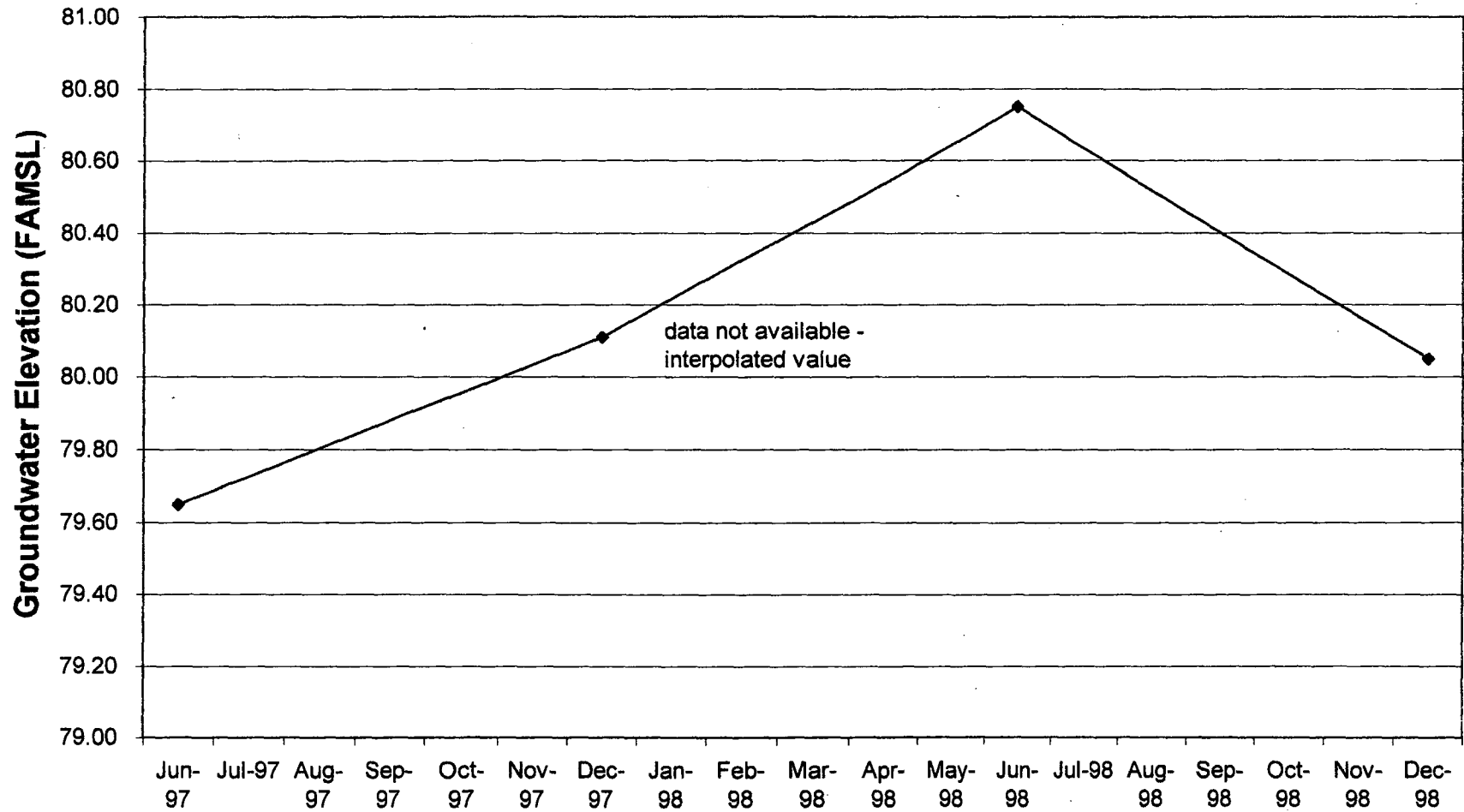


## GROUNDWATER ELEVATION DATA



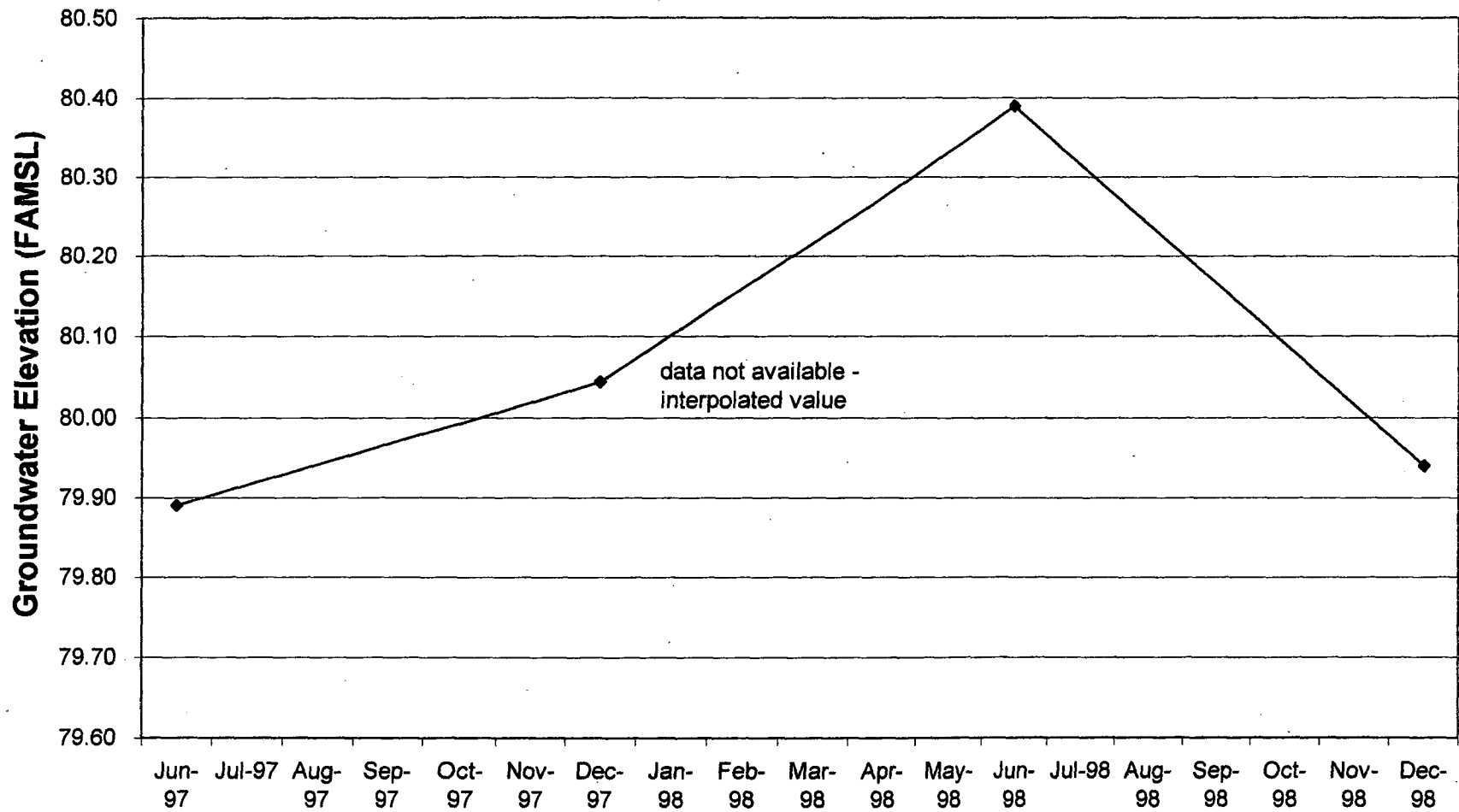
—◆— P-2

## GROUNDWATER ELEVATION DATA



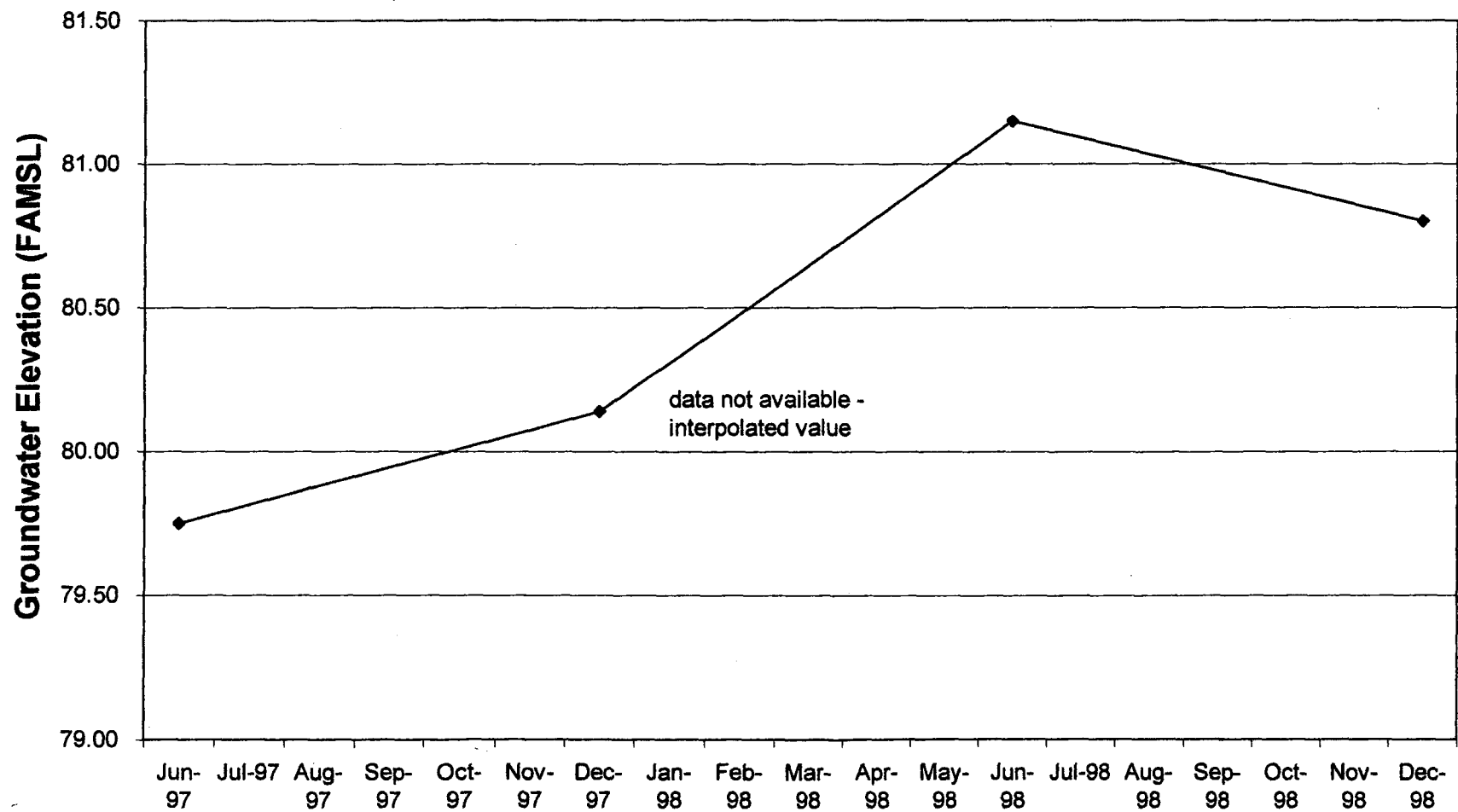
—●— P-3

## GROUNDWATER ELEVATION DATA



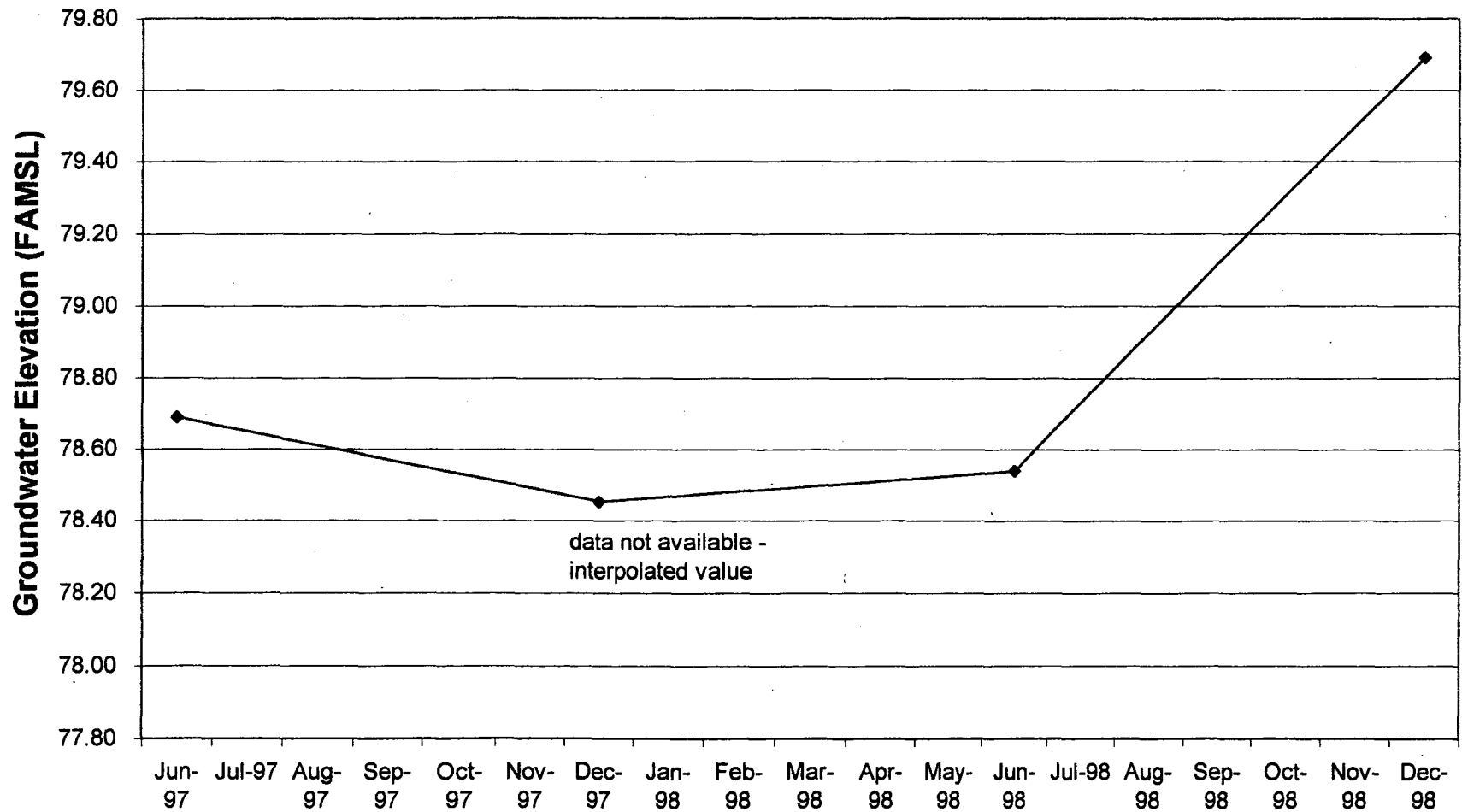
—●— P-4

## GROUNDWATER ELEVATION DATA



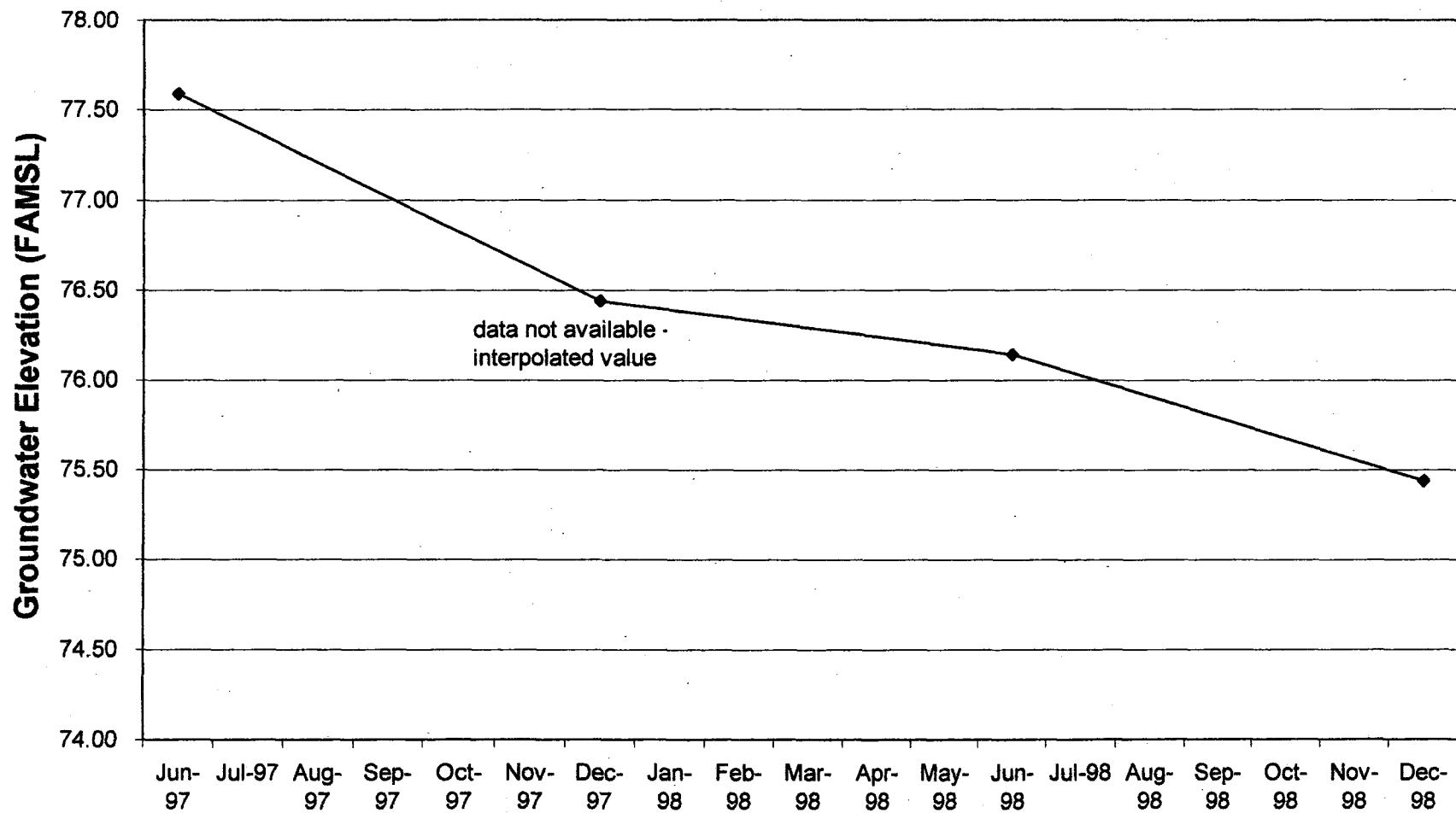
◆ P-5

## GROUNDWATER ELEVATION DATA



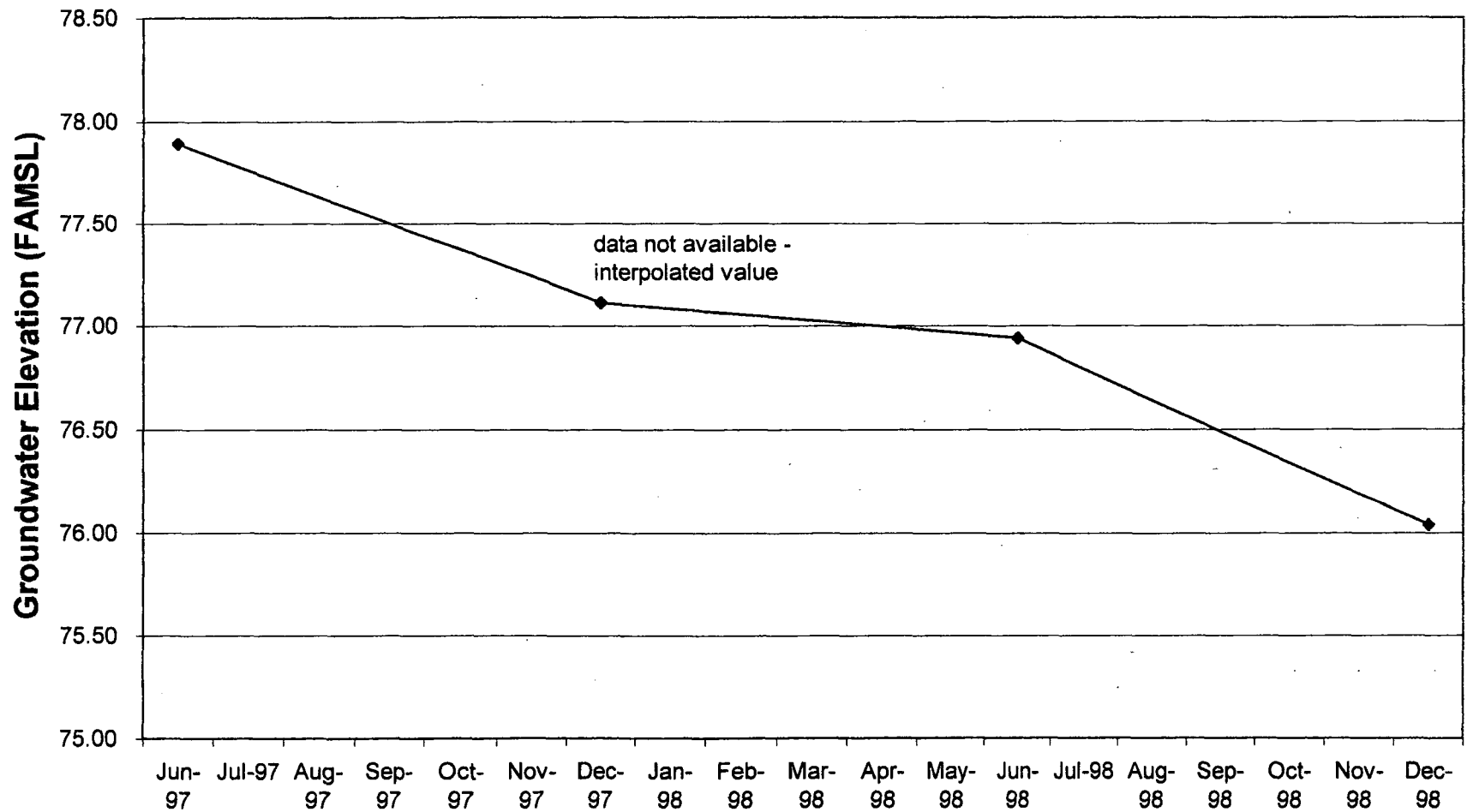
—●— P-6

## GROUNDWATER ELEVATION DATA



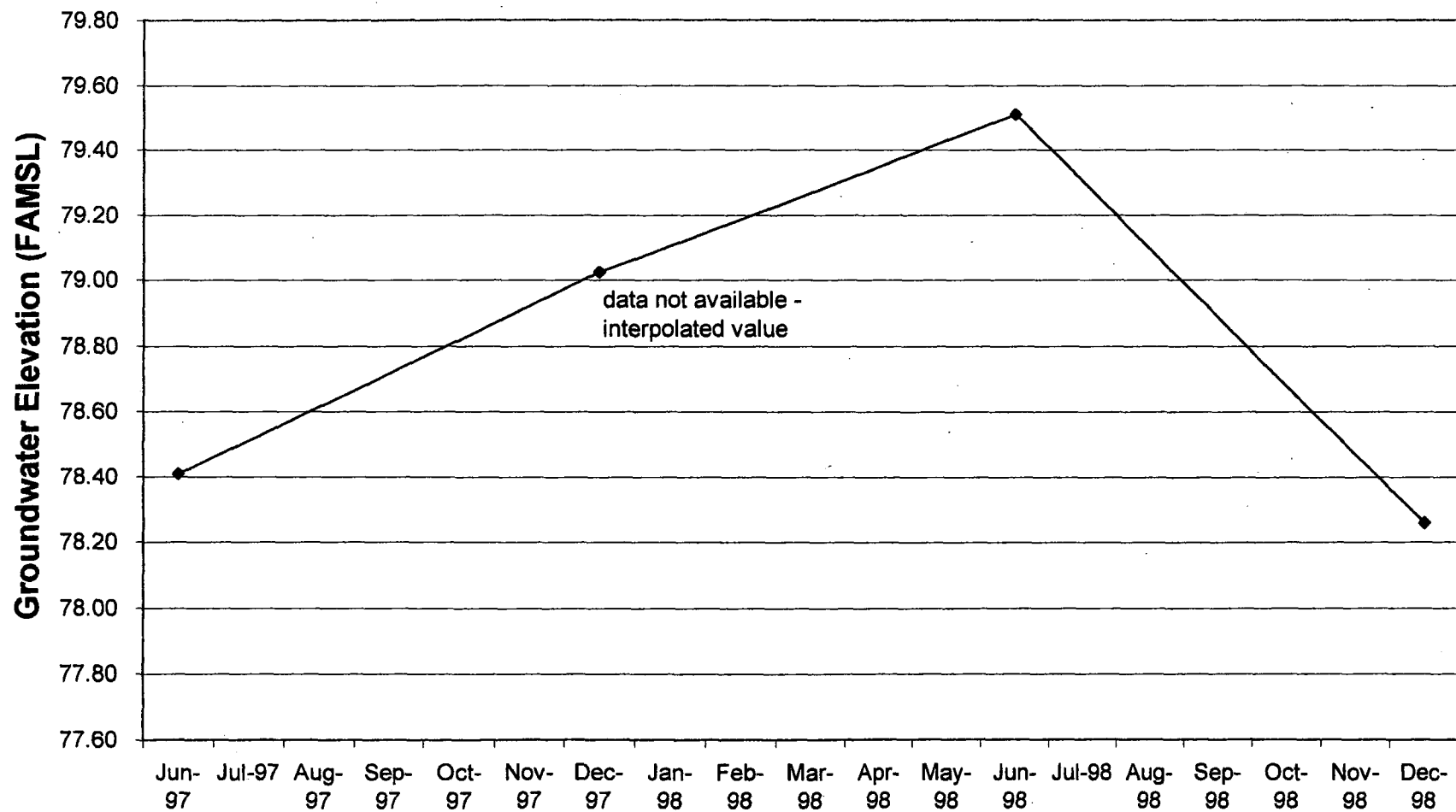
—◆— P-7

## GROUNDWATER ELEVATION DATA



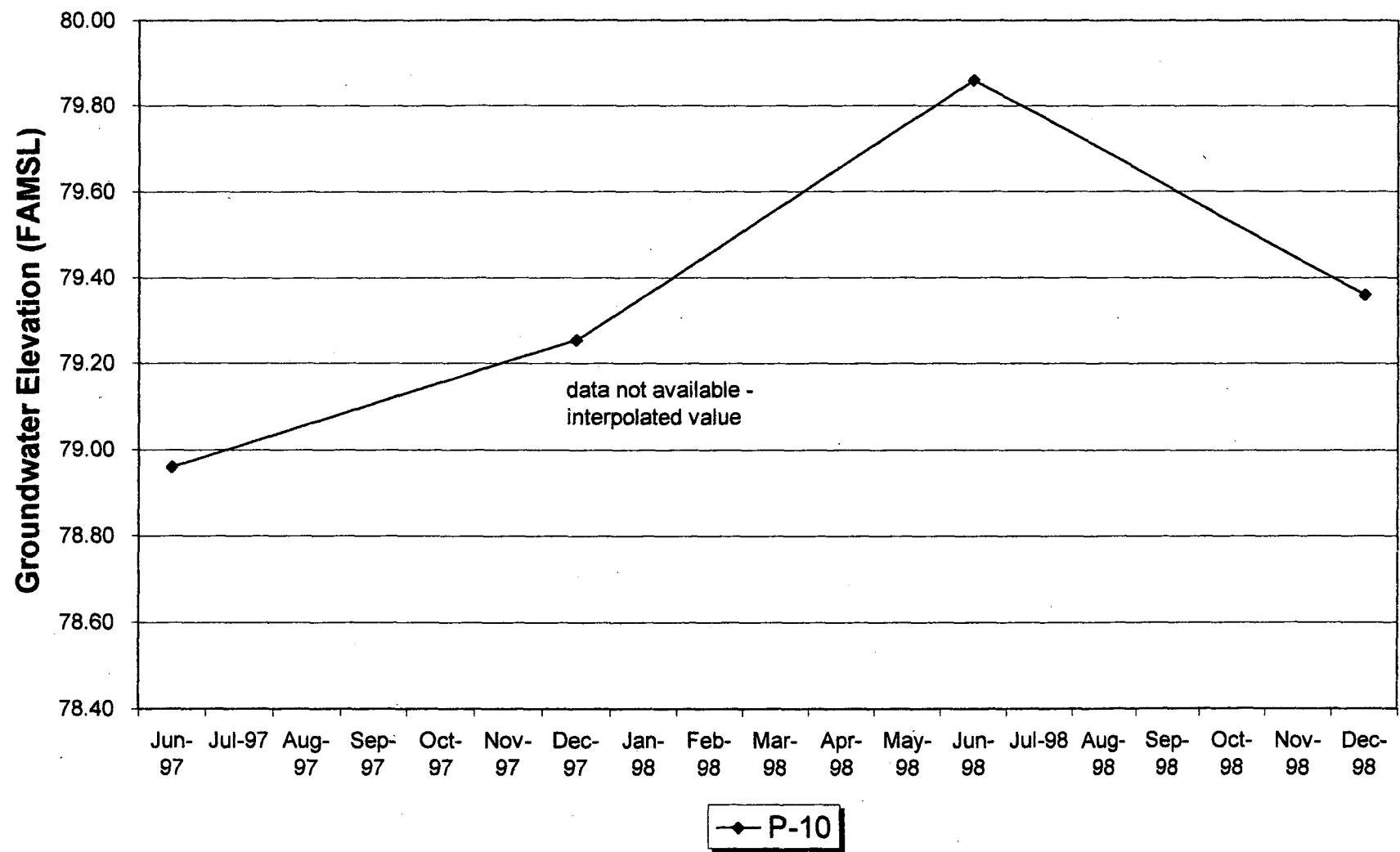
—◆— P-8

## GROUNDWATER ELEVATION DATA

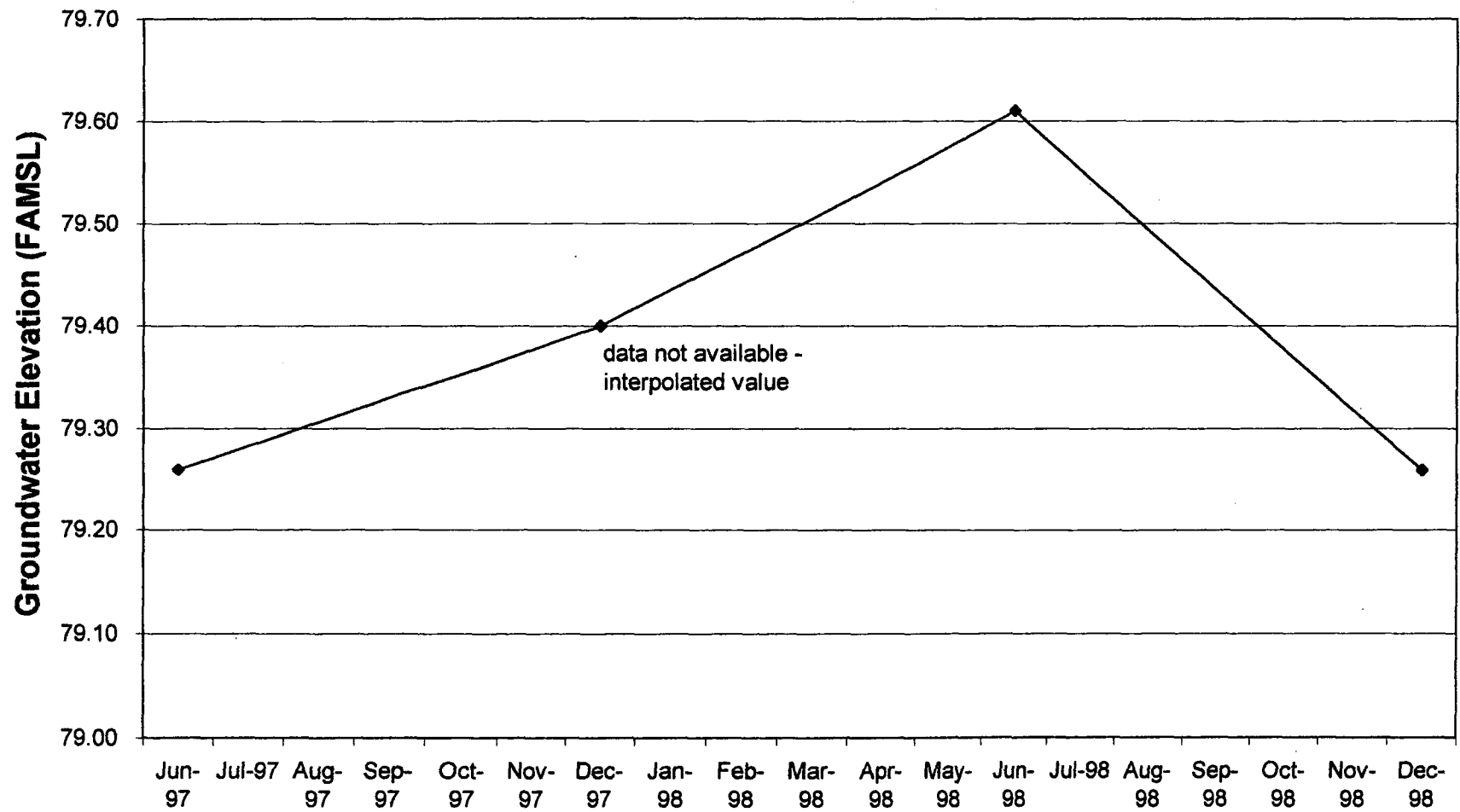


—◆— P-9

## GROUNDWATER ELEVATION DATA

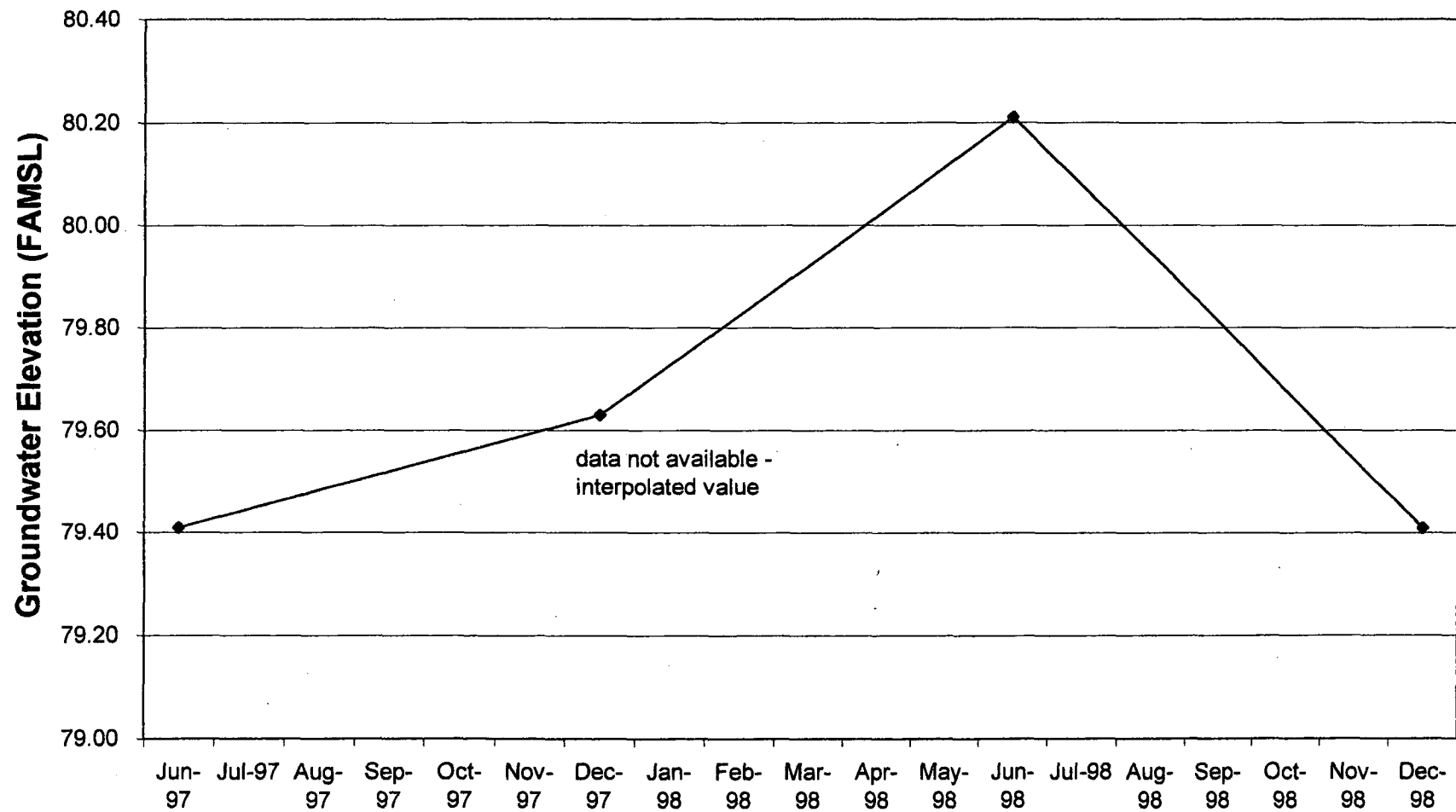


## GROUNDWATER ELEVATION DATA



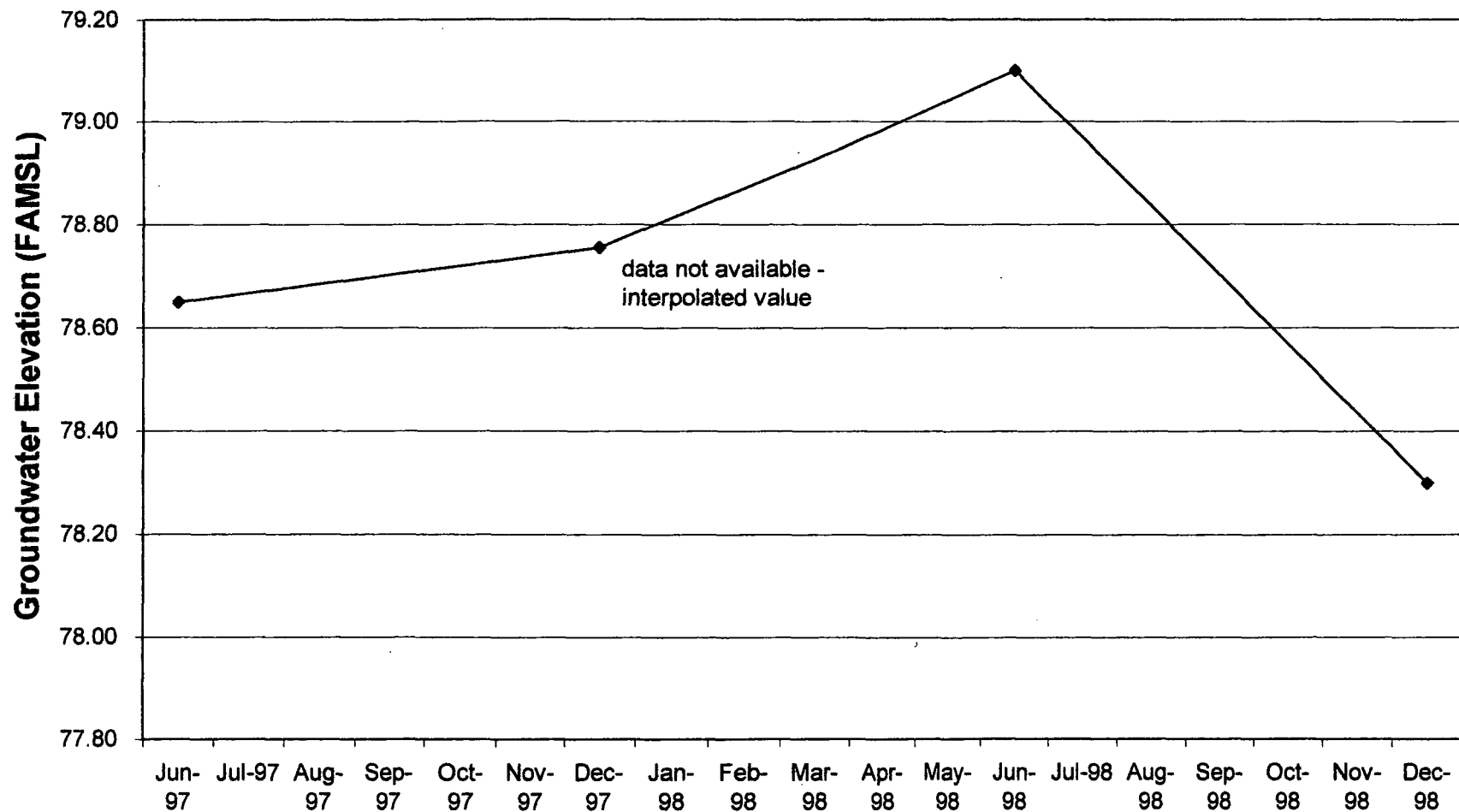
—●— P-11

## GROUNDWATER ELEVATION DATA



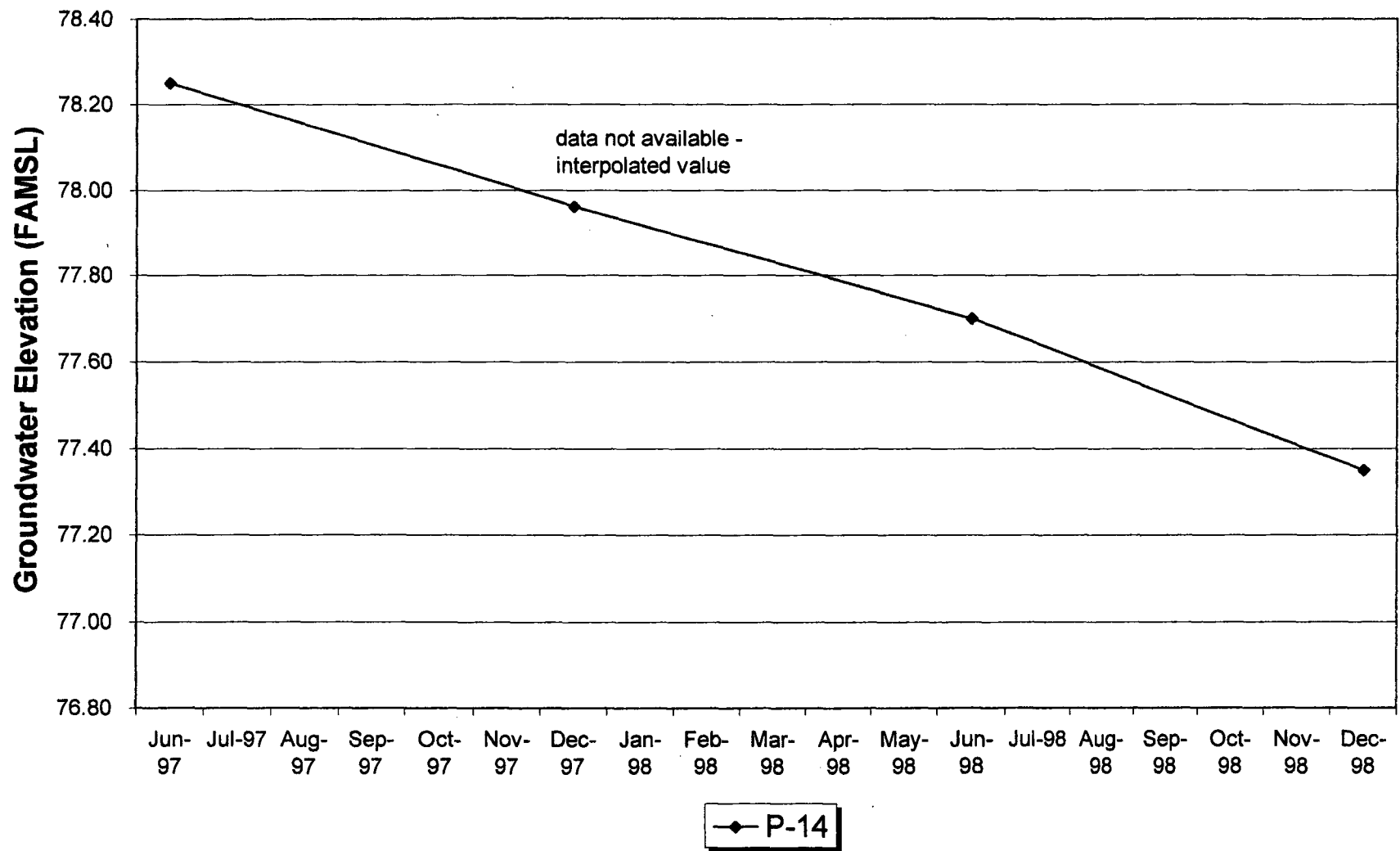
—◆— P-12

## GROUNDWATER ELEVATION DATA

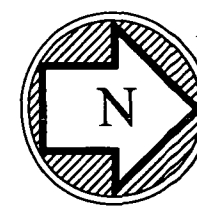
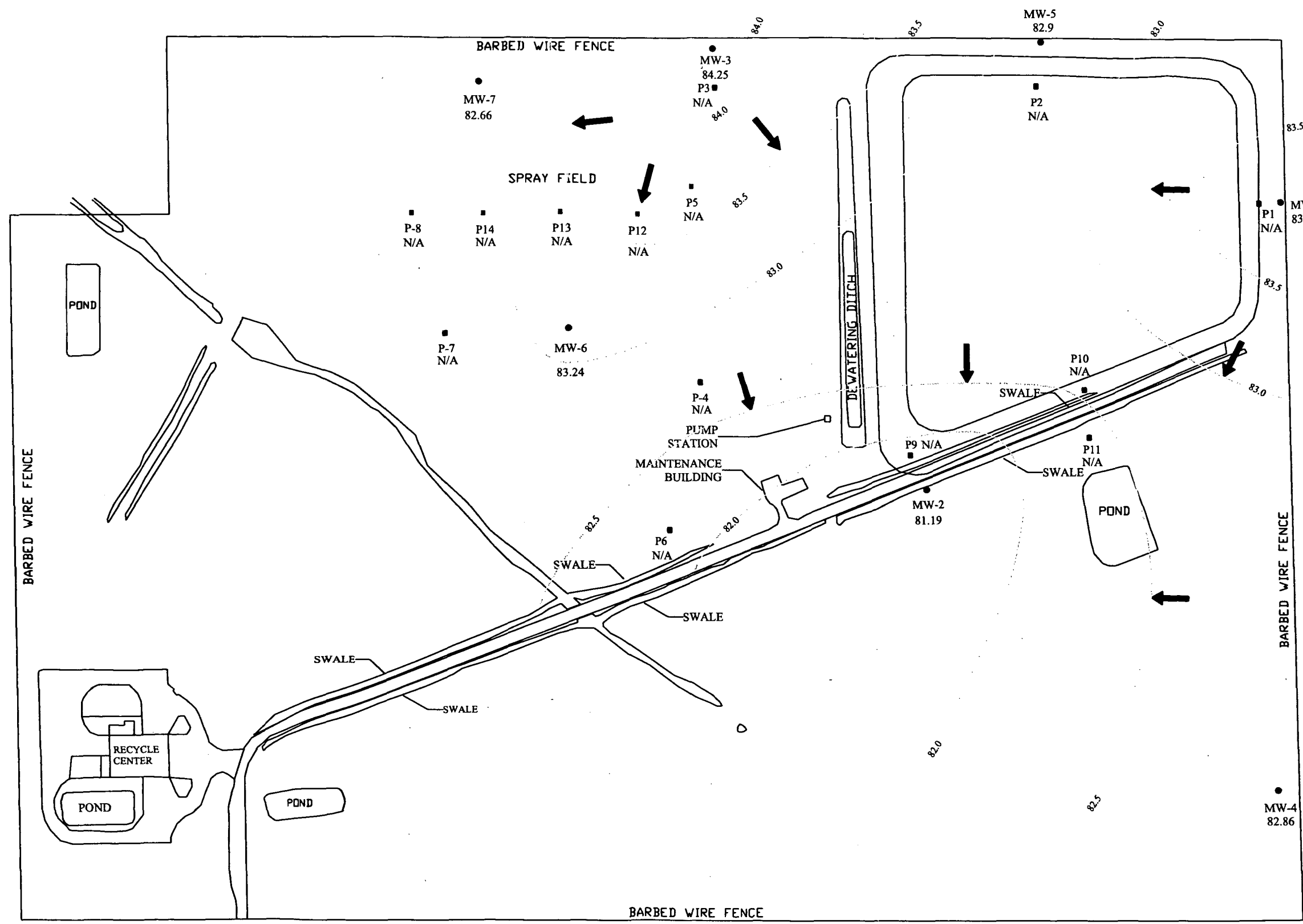


—◆— P-13

## GROUNDWATER ELEVATION DATA



**APPENDIX A**



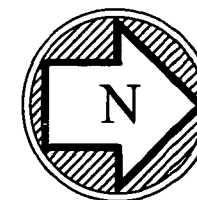
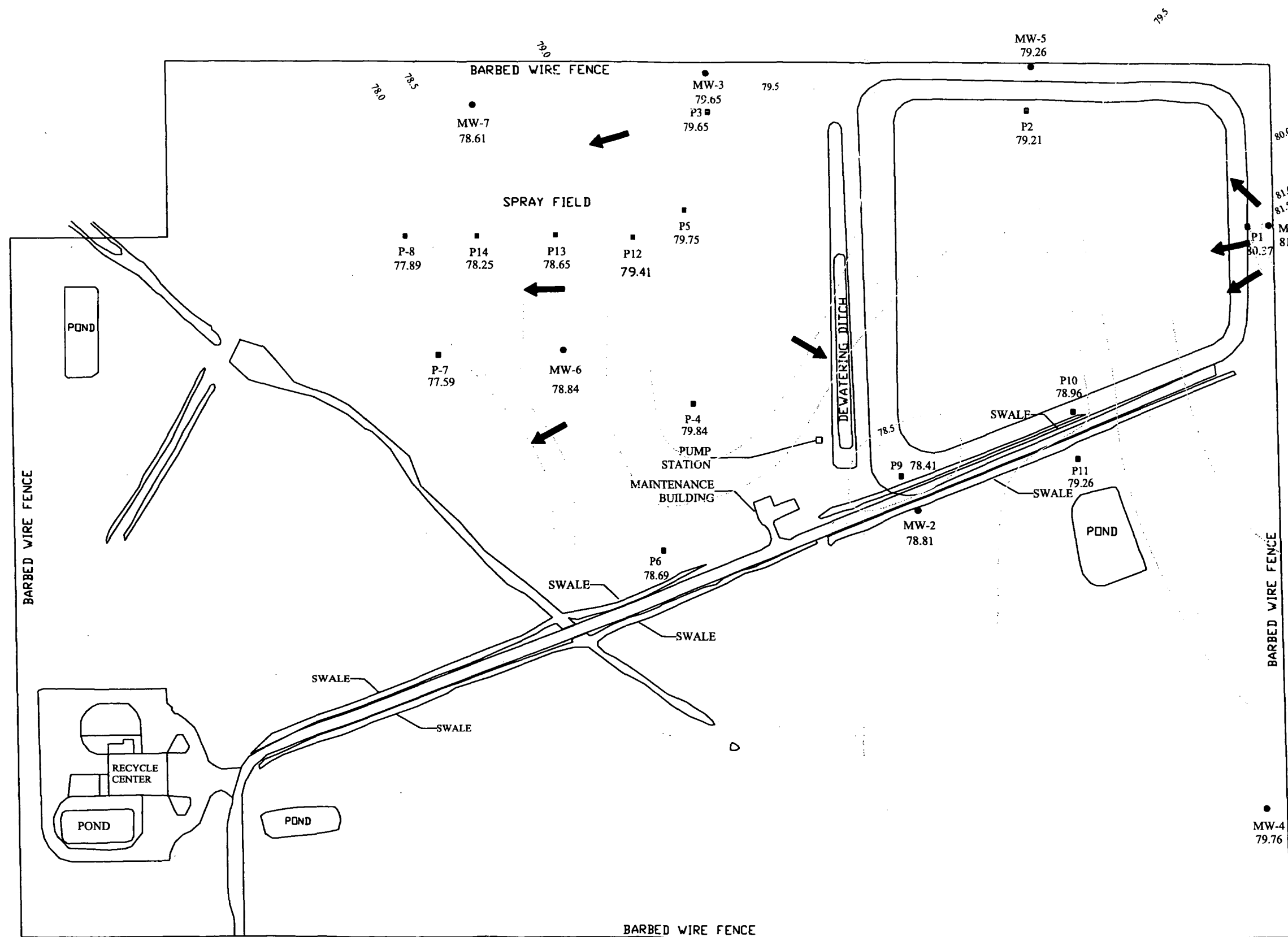
Scale: 1" = 200'

Legend	
●	MW-4 Monitorwell
■	P-11 Piezometer
N/A	Not Available

Hardee County Solid Waste Management Facility  
Groundwater Elevation Contour Map  
(December 8, 1997)

Hardee County Mining Department  
110 S. Ninth Avenue  
Wauchula, FL 33873

Figure  
1



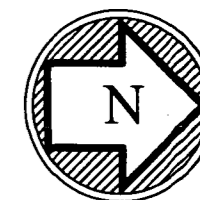
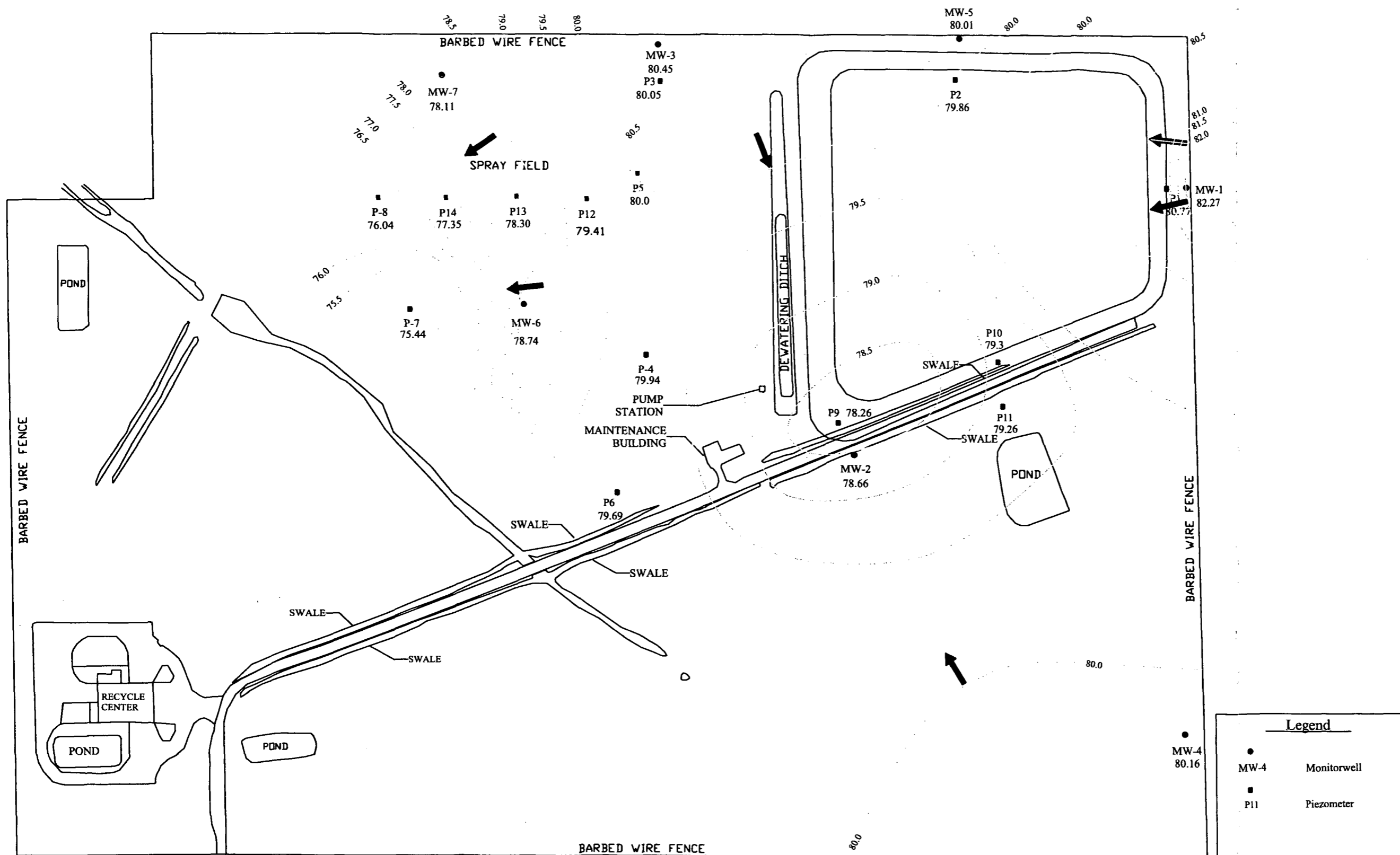
Scale: 1" = 200'

Legend	
●	MW-4 Monitorwell
■	P-11 Piezometer

Hardee County Solid Waste Management Facility  
Groundwater Elevation Contour Map  
(June 10, 1997)

Hardee County Mining Department  
110 S. Ninth Avenue  
Wauchula, FL 33873

Figure  
2

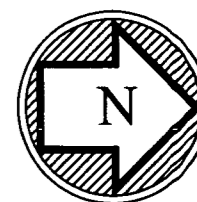
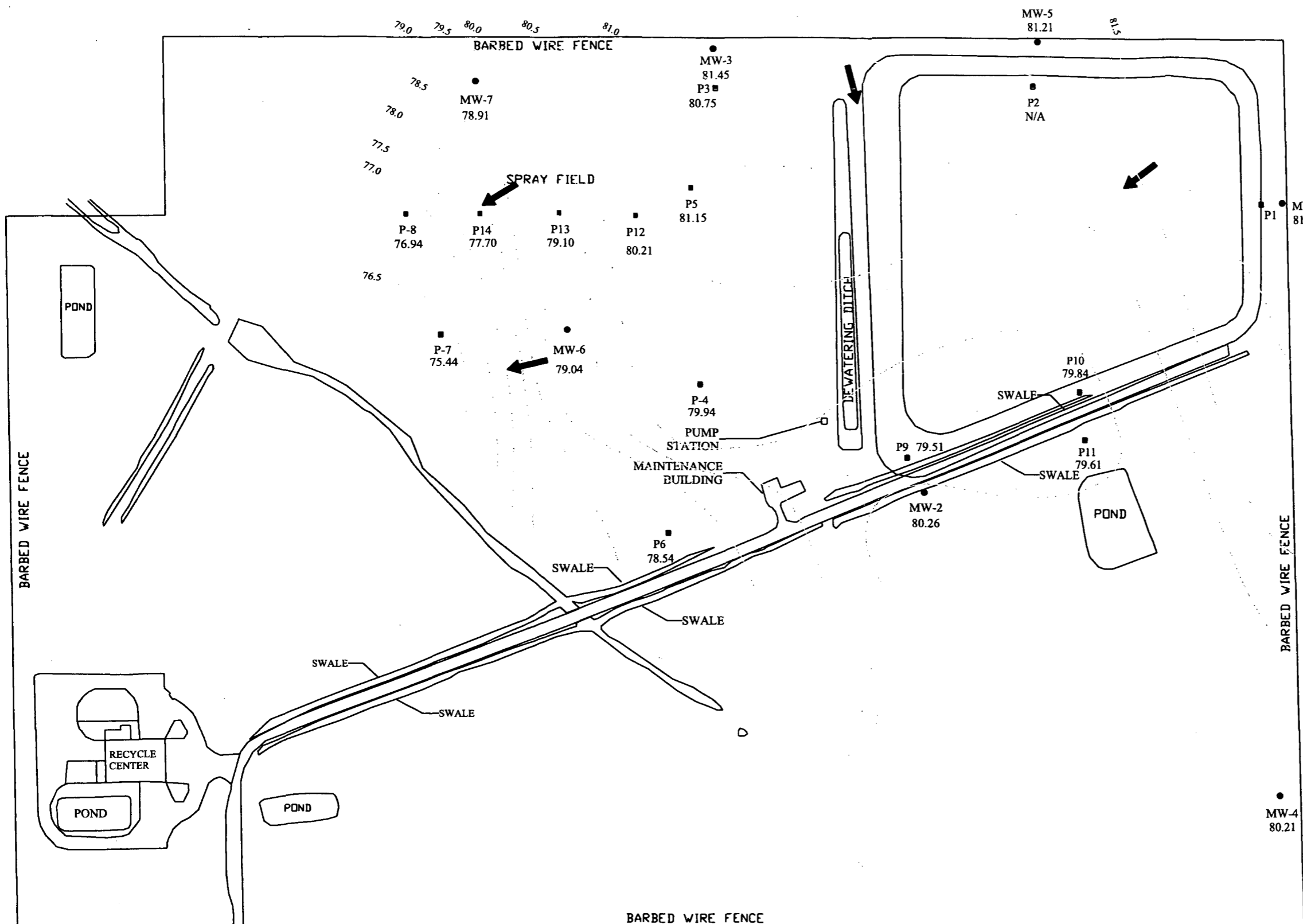


Scale: 1" = 200'

Hardee County Solid Waste Management Facility  
Groundwater Elevation Contour Map  
(December 8, 1998)

Hardee County Mining Department  
110 S. Ninth Avenue  
Wauchula, FL 33873

Figure  
3



Scale: 1" = 200'

Legend	
●	Monitorwell
■	Piezometer
N/A	Not Available

Hardee County Solid Waste Management Facility  
Groundwater Elevation Contour Map  
(June 1, 1998)

Hardee County Mining Department  
110 S. Ninth Avenue  
Wauchula, FL 33873

Figure  
4

**APPENDIX B**

**HARDEE COUNTY SOLID WASTE MANAGEMENT FACILITY**

**OPERATING PERMIT**

**(Replaces SO25-214306)**



# Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

## PERMITTEE

Hardee County Board of  
County Commissioners  
Mr. J.R. Prestridge,  
Solid Waste Superintendent  
685 Airport Road  
Wauchula, Fl 33873

## PERMIT/CERTIFICATION

GMS ID No: 4025C30001  
Permit No: 38414-002-SO  
Date of Issue: 11/19/1998  
Expiration Date: 06/10/2002  
County: Hardee  
Lat/Long: 27°34'10"N  
81°47'01"W  
Sec/Town/Rge: 35/33S/25E  
Project: Hardee County  
Class I Landfill  
Operation

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 62-3, 62-4, 62-302, 62-330, 62-520, 62-522, and 62-701. The above named permittee is hereby authorized to perform the activities shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

To operate a Class I landfill and related facilities (approximately 12.5 acres), referred to as the Hardee County Regional Landfill, subject to the specific and general conditions attached, located at 675 Airport Road, east of the City of Wauchula, Hardee County, Florida. The specific conditions attached are for the operation of:

1. Class I Landfill Disposal Facility
2. Special Waste Management

## General Information - Active Site:

Maximum elevation (including cover): +140 feet NGVD [Sheet 7, SC#2.i(2)]  
Disposal Acreage: 12.5ac.  
Est. Date of Closure: March 2004 [SC#2.d., page 3-4]  
Bottom Liner, Leachate Collection System:  
In-situ clay bottom w/geosynthetic sidewalls.  
Perimeter leachate collection system.

Replaces Permit No.: S025-214306

This permit contains compliance items summarized in Attachment 1 that shall be complied with and submitted to the Department by the dates noted. If the compliance dates are not met and submittals are not received by the Department on the dates noted, enforcement action may be initiated to assure compliance with the conditions of this permit.

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.161, 403.727, or 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of rights, nor any infringement of federal, State, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

**GENERAL CONDITIONS:**

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

- (a) Have access to and copy any records that must be kept under conditions of the permit;
- (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- (a) A description of and cause of noncompliance; and
- (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

**GENERAL CONDITIONS:**

11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, Florida Administrative Code, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- (a) Determination of Best Available Control Technology (BACT)
- (b) Determination of Prevention of Significant Deterioration (PSD)
- (c) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)
- (d) Compliance with New Source Performance Standards

14. The permittee shall comply with the following:

- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- (c) Records of monitoring information shall include:
  - 1. the date, exact place, and time of sampling or measurements;
  - 2. the person responsible for performing the sampling or measurements;
  - 3. the dates analyses were performed;
  - 4. the person responsible for performing the analyses;
  - 5. the analytical techniques or methods used;
  - 6. the results of such analyses.

**GENERAL CONDITIONS:**

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

16. In the case of an underground injection control permit, the following permit conditions also shall apply:

(a) All reports or information required by the Department shall be certified as being true, accurate and complete.

(b) Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(c) Notification of any noncompliance which may endanger health or the environment shall be reported verbally to the Department within 24 hours and again within 72 hours, and a final written report provided within two weeks.

1. The verbal reports shall contain any monitoring or other information which indicate that any contaminant may endanger an underground source of drinking water and any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

2. The written submission shall contain a description of and a discussion of the cause of the noncompliance and, if it has not been corrected, the anticipated time the noncompliance is expected to continue, the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance, and all information required by Rule 62-28.230(4)(b), F.A.C.

(d) The Department shall be notified at least 180 days before conversion or abandonment of an injection well, unless abandonment within a lesser period of time is necessary to protect waters of the State.

GENERAL CONDITIONS:

17. The following conditions also shall apply to a hazardous waste facility permit.

(a) The following reports shall be submitted to the Department:

1. Manifest discrepancy report. If a significant discrepancy in a manifest is discovered, the permittee shall attempt to rectify the discrepancy. If not resolved within 15 days after the waste is received, the permittee shall immediately submit a letter report, including a copy of the manifest, to the Department.
2. Unmanifested waste report. The permittee shall submit an unmanifested waste report to the Department within 15 days of receipt of unmanifested waste.
3. Biennial report. A biennial report covering facility activities during the previous calendar year shall be submitted by March 1 of each even numbered year pursuant to Chapter 62-730, F.A.C.

(b) Notification of any noncompliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be reported verbally to the Department within 24 hours, and a written report shall be provided within 5 days. The verbal report shall include the name, address, I.D. number, and telephone number of the facility, its owner or operator, the name and quantity of materials involved, the extent of any injuries, an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain:

1. A description and cause of the noncompliance.
2. If not corrected, the expected time of correction, and the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

(c) Reports of compliance or noncompliance with, or any progress reports on, requirements in any compliance schedule shall be submitted no later than 14 days after each schedule date.

(d) All reports or information required by the Department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

**SPECIFIC CONDITIONS:**

1. **Landfill Designation.** This site shall be classified as a Class I landfill and shall be operated in accordance with all applicable requirements of Chapters 62-3, 62-4, 62-302, 62-330, 62-520, 62-522, and 62-701, Florida Administrative Code (F.A.C.), and all applicable requirements of Department Rules.

2. **Permit Application Documentation.** This permit is valid for operation of the Class I landfill and related facilities in accordance with Department rules, the conditions of this permit, and the reports, plans and other information, submitted by Post, Buckley, Schuh and Jernigan, Inc. (PBSJ) (or as otherwise noted) as follows:

a. Hardee County Regional Landfill, Application for Renewal of Operation Permit, dated March 1997 (received March 11, 1997);

b. Additional information dated April 29, 1997 (received April 30, 1997);

c. Additional information (concerning groundwater contour maps) dated May 8, 1997 (received May 9, 1997);

d. Response to Request for Additional Information dated May 28, 1997 for the Renewal of Operations Permit..., dated June 1997 (received June 27, 1997);

e. Additional information (concerning evaluation of existing LCS) dated November 24, 1997 (received December 1, 1997);

f. Response to Request for Additional Information dated July 25, 1997 for the Renewal of Operations Permit..., dated December 31, 1997 (received January 2, 1998);

g. Response to Request for Additional Information dated January 30, 1998 for the Renewal of Operations Permit..., dated April 24, 1998 (received April 27, 1998), including, but not limited to, Section 7, "Landfill Operation Requirements";

h. Response to Request for Additional Information dated January 30, 1998 for the Application for Construction Permit..., dated April 24, 1998 (received April 27, 1998), including the following information as appropriate:

1) Information concerning Section 8, "Water Quality and Leachate Monitoring Requirements" and Appendix D, "Water Quality Monitoring Plan Modification,"

2) Section 5, "Landfill Construction Requirements" (Attachment B), and

**SPECIFIC CONDITIONS:**

(Specific Condition #2.h. cont'd)

3) Proposed Surface Water Sampling Point (Attachment S);

i. Plan Sheets entitled, Hardee County Regional Landfill Operations Permit Renewal, dated March 1997 including the following sheets:

1) Aerial Surveys received April 30, 1997:

- a) Sheet 2A of 5
- b) Sheet 2B of 5
- c) Sheet 3A of 5
- d) Sheet 3B of 5

2) The following sheets signed and sealed June 26, 1997 (received June 27, 1997):

- a) Sheet 6, "Sequencing Plan, Sequence 1 through Sequence 6";
- b) Sheet 7, "Sequencing Plan, Sequence 7 and Details";
- c) Sheet 8, "Cross Sections".

3) Sheet 4 of 5, "Site Plan" as revised June 1997 (received June 27, 1997); and

4) Sheet 5 of 5, including revisions April, June and August 1997, "Gas Management System and Miscellaneous Details at Closure" (received January 2, 1998).

**3. Permit Modifications.**

a. Any activities not previously approved as part of this permit shall require a separate Department permit unless the Department determines a permit modification to be more appropriate. Permits shall be modified in accordance with the requirements of Rule 62-4.080, F.A.C. A modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review by the Department is considered a substantial modification.

b. This permit does not authorize the operation of the leachate storage tanks system until the Certification of Construction Completion and supporting documentation has been specifically approved, in writing, by the Department. Operation of this system shall require a minor modification of this permit.

**SPECIFIC CONDITIONS:**

4. **Permit Renewal.** No later than **one hundred eighty (180) days** before the expiration of this Operation Permit, the permittee shall apply for a renewal of a permit on forms and in a manner prescribed by the Department, in order to assure conformance with all applicable Department rules. Permits shall be renewed at least every five years as required by Rule 62-701.330(3), F.A.C.

5. **Prohibitions.** The prohibitions of Rule 62-701.300, F.A.C., shall not be violated by the activities at this facility.

6. **Special Wastes.**

a. The design, operation, and monitoring of disposal or control of any "special wastes" shall be in accordance with the information listed in Specific Condition #2.g., Section 7; Rules 62-701.300(8) and 62-701.520, F.A.C.; and any other applicable Department rules, to protect the public safety, health and welfare.

b. Large items such as mattresses, televisions, microwaves, sofas, other furniture, etc. shall be baled and disposed with other baled wastes or disposed in the loose waste active face. [ref. Specific Conditions (SC)#2.f., page 2, and #2.d., page 4] In the event that special handling of bulky wastes is required, the Department shall be notified and a minor modification of the Operations Plan may be required to incorporate those management procedures.

c. **Household hazardous waste (HHW) management.** HHW shall be managed as indicated in the information submitted in Specific Condition #2.g., above, and the conditions below.

- 1) At least weekly, spillage at the HHW Collection Center Facility shall be removed and properly packaged for disposal.
- 2) Liquids shall not be discharged outside of the containment structures of the HHW Collection Center.
- 3) Non-latex paints shall not be air dried.
- 4) Materials shall be stored within containment areas at all times.
- 5) Records on the quantities of HHW collected and removed for disposal shall be compiled monthly and maintained at the facility and copies provided to the Department upon request.

**SPECIFIC CONDITIONS:**

(Specific Condition #6. cont'd)

d. **White Goods.** White goods which may contain chlorofluorocarbons (CFCs, such as freon), shall be stored and managed in a manner such that the CFCs are not discharged to the atmosphere. White goods which have had the refrigerant appropriately removed shall be clearly marked.

e. **Scrap Metal.** Scrap metals which may include residual contaminants such as gasoline, oil, paint, antifreeze, PCBs, etc., shall be stored and managed such that the residues or constituents thereof are not spilled, leaked, dumped, or otherwise discharged onto the soil or into surface or groundwaters. Scrap metals shall be stored on an impervious surface. [ref. SC#2.d., page 5]

f. **Lawn Mowers.** Lawn mowers which contain oil or gasoline shall not be accepted. [ref. SC#2.g., page 7-3]

g. **Asbestos.** Asbestos shall be managed in accordance with Rule 62-701.520(4), F.A.C.; the information listed in Specific Condition #2.d., Section 9; and all other applicable federal and Department rules.

h. **C&D Debris.** Construction and demolition debris may be disposed within the lined, Class I disposal cell, subject to the following:

- 1) The C&D debris shall be disposed in a separate area of the Class I cell, as indicated in the Sequencing Plan Sheets [ref. SC#2.i(2), above].

- 2) C&D debris shall be compacted and sloped in a manner consistent with the final design grades and elevations of the Class I cell.

- 3) **Within 90 days** of issuance of this permit, the previous C&D debris disposal area shall be covered with a minimum of 24 inches of soil, compacted and sloped to promote drainage and a vegetative cover shall be established. The permittee shall notify the Department when these activities are complete.

- 4) No C&D debris shall be placed in Sequence #7 [ref. SC#2.i(2), and #2.f.(page 2)].

**SPECIFIC CONDITIONS:**

(Specific Condition #6.h. cont'd)

5) C&D debris shall not be placed in areas with ponded leachate. The C&D debris disposal area within the Class I disposal cell (shown in the Sequencing Plans, SC#2.i(2)) shall be dry prior to the disposal of any C&D debris. [ref. SC#2.d., page 2, and #2.g., page 7-2,]

i. **Yard Trash.** Yard trash shall be processed at least once every six months. [ref. SC#2.d, page 5 and #2.g., page 7-3] Processed yard trash and wood wastes which do not include painted or treated wood may be used for sideslope stabilization and erosion control in the Class I Landfill. Yard trash shall not be disposed in the Class I Landfill.

**7. Landfill Operation Requirements.**

a. The permittee shall operate this facility in accordance with Rule 62-701.500, F.A.C.; the information submitted in the references listed in Specific Condition #2, above; and applicable Department rules.

b. Leachate shall not be deposited, injected, dumped, spilled, leaked, or discharged in any manner to soils, surface water or groundwater outside the liner system at any time during the construction or operation of this facility.

c. The permittee shall clearly stake/mark the location of the edge of the liner and maintain the locations as the landfill increases in elevation.

d. Litter shall be collected and disposed in the Class I Landfill at least weekly, or more frequently if necessary.

**8. Operating Personnel.** As required by Rules 62-701.500(1) and 62-701.730(8), F.A.C., at least one trained operator shall be at the Class I and C&D landfills at all times when the landfill receives waste. At least one trained spotter shall be at each working face (i.e. C&D and loose waste) when waste is received. Training documentation shall be maintained at the landfill site, and copies shall be provided to the Department upon request.

**9. Operation Plan and Operating Record.** Each landfill owner or operator shall have an operational plan which meets the requirements of Rules 62-701.500(2) and 62-701.730, F.A.C. A copy of the Department approved permit, operational plan, construction reports and record drawings, and supporting information shall be kept at the facility at all times for reference and inspections. Operating records as required by Rules 62-701.500(3) and 62-701.730, F.A.C., are part of the operations plan, and shall also be maintained at the site.

**SPECIFIC CONDITIONS:**

10. **Method and Sequence of Filling.** The method and sequence of filling shall be in accordance with the Sequencing Plans [ref. SC#2.i(2), above].

11. **Waste Records.**

a. Records shall be maintained as required by Rules 62-701.500(4), and 62-701.500(13), F.A.C., and the conditions of this permit. These records shall be maintained onsite, and copies provided to the Department upon request.

b. The owner or operator shall conduct a survey of the Class I disposal area, and shall estimate the remaining disposal capacity and site life as required by Rule 62-701.500(13)(c). **Annually, no later than April 15th,** a copy of this survey, and supporting capacity calculations, signed and sealed by a registered professional engineer or land surveyor, as appropriate, shall be submitted to the Department. A topographic survey shall be conducted, and submitted with the permit renewal application required by Specific Condition #4.

12. **Control of Access.** Access to, and use of, the facility shall be controlled as required by Rule 62-701.500(5), F.A.C. Pursuant to Rule 62-701.500(12), F.A.C., the landfill shall have onsite roads which are maintained to allow access to monitoring devices and stormwater controls, for landfill inspections and for fire fighting.

13. **Monitoring of Waste.** Wastes shall be monitored as required by Rule 62-701.500(6), F.A.C. The permittee shall not accept hazardous waste or any hazardous substance at this site. Hazardous waste is a waste as defined in Chapter 62-730, F.A.C. Hazardous substances are those defined in Section 403.703, Florida Statute or in any other applicable state or federal law or administrative rule. Sludges or other wastes which may be hazardous should be disposed of in accordance with Rules 62-701.300(4) and 62-701.500(6)(b), F.A.C.

14. **Waste Handling Requirements.**

a. All solid waste disposed of in the Class I area shall be covered as required by Rule 62-701.500(7), F.A.C. Initial cover shall be applied and maintained daily in accordance with Rule 62-701.500(7)(e), F.A.C., so as to protect the public health and welfare. Intermediate cover shall be applied and maintained in accordance with Rules 62-701.500(7)(a) and (f), F.A.C.

b. Alternate daily cover materials shall be approved by the Department prior to use at the facility. For those areas where solid waste will be deposited on the working face within 18 hours, initial cover may consist of a temporary cover or tarpaulin.

**SPECIFIC CONDITIONS:**

(Specific Condition #14. cont'd)

- c. Areas which have significant vegetation shall be mowed as needed to provide adequate access for inspection and sampling activities.
- d. The owner or operator shall conduct three random load checks per week on wastes which are not processed at the MRF and will be disposed in the "loose waste" working face. Documentation of the three random load checks, including descriptions (type and quantity) of unacceptable wastes discovered, shall be maintained on-site, and copies provided to the Department upon request. [ref. SC#2.g., pages 7-8 and 7-12]
- e. Soil materials which have been previously used for intermediate or initial cover shall not be re-used for intermediate cover. These materials may be re-used as initial cover provided the runoff from these areas is managed as leachate.
- f. Contaminated soils shall not be used for intermediate cover. These materials may be used for initial cover provided the runoff from these areas is managed as leachate. Analyses of the contaminated soils which demonstrate that the soils are not hazardous shall be maintained on-site, and copies provided to the Department upon request.

**15. Working Face.**

- a. During Sequences #1 through #6 [ref. SC#2.i(2)], the site may have three working faces; 1-C&D, 1-"loose waste" and 1-baled waste. [ref. SC#2.b., page 8] However, as required by Rule 62-701.500(7)(d), F.A.C., the owner or operator shall minimize the size of each working face to minimize leachate and the unnecessary use of cover material.
- b. Berms and swales as shown on the Sequencing Plans [ref. SC#2.i(2)] shall be maintained to prevent leachate runoff from the working face from entering the stormwater management system. Runoff from outside the bermed working face area will not be considered stormwater if the flow passes over areas which have not been intermediately covered as defined by Rule 62-701.200(55), F.A.C., and stabilized to prevent erosion.

**16. Final Cover.** Portions of the landfill which have been filled with waste to the extent of designed dimensions shall be closed **within 180 days** of reaching design dimensions in accordance with Rule 62-701.500(7)(g), F.A.C., and all applicable requirements of Department rules.

**SPECIFIC CONDITIONS:**

**17. Leachate Management.**

- a. Leachate shall be managed in accordance with the requirements of Rule 62-701.500(8), F.A.C., and the information submitted in the references listed in Specific Condition #2, above.
- b. No later than **thirty (30) days** prior to the expiration of any contracts or agreements for the disposal of leachate at wastewater treatment facilities, the permittee shall provide a copy of the contract renewal or the issuance of a new contract for leachate disposal. Since the current agreement expires January 11, 1999 [ref. SC#2.b., Attachment 7-4], this renewal information shall be submitted **initially, no later than December 12, 1998.**
- c. In the event that the primary leachate disposal facility (i.e. City of Wauchula POTW) becomes unable or unwilling to accept leachate for disposal, **within three (3) days** of the cessation of leachate acceptance by the POTW, the landfill owner or operator shall notify the Department and shall explain the contingency measures which will be implemented. The contingency measures shall be implemented **within seven (7) days** of the cessation of leachate acceptance at the POTW [ref. SC#2.g., page 7-24], or in accordance with an alternate schedule approved by the Department.
- d. Leachate generation reports shall be compiled monthly and submitted to the Department **quarterly, by January 15th, April 15th, July 15th and October 15th** each year.
  - 1) Leachate generation reports shall include precipitation amounts, the number of open, intermediate and closed acres, and the quantities of leachate collected, stored or impounded, recirculated, and hauled off-site to a wastewater treatment facility.
- e. As part of the submittal for the Certification of Construction Completion for the new leachate storage tanks system (required by Specific Condition #13 of Permit Number 38414-001-SC), the permittee shall request a modification to this operating permit to include specific conditions for the operation of the new leachate storage tanks system.
- f. Leachate which has accumulated in low areas within the disposal area shall be removed **daily**, for off-site disposal or storage in the leachate storage tanks system.

**SPECIFIC CONDITIONS:**

(Specific Condition #17. cont'd)

g. **Prior to permit renewal**, an inspection, videotape or other appropriate assessment as approved by the Department, of the leachate collection system (LCS) shall be conducted. A report summarizing the results of this inspection shall be submitted to the Department **with the permit renewal application**. The inspection report shall include an evaluation of the effectiveness of the system, the location (indicated on a Site Plan) and cause of obstructions encountered, proposed corrective actions and schedule for implementation of corrective actions as appropriate. The permittee shall retain the videotape at the facility for reference and shall provide a copy to the Department upon request.

h. For normal operations when both tanks are in use, each leachate storage tank shall contain no greater than 50% of the maximum capacity for each tank. In the event that the storage tanks contain greater than 50% of the maximum capacity for each tank, the owner or operator shall increase the quantity of leachate which is removed for off-site disposal each day in order to restore sufficient storage capacity and resume normal operations.

i. In the event of an emergency (i.e. substantial rainfall event), the maximum capacity of the tanks may temporarily be utilized. However, **within 2 weeks** of the emergency event, the operator shall ensure that sufficient storage capacity has been restored in the storage tanks system to resume normal operations.

j. **Tank Manufacturer's Inspection.**

1) The leachate storage tanks shall be inspected as required by Rule 62-701.400(6)(c)9., F.A.C.

2) Additionally, the permittee shall arrange for the tank manufacturer's initial inspection of the tank. This inspection shall be conducted **no later than one (1) year** after the tank's initial use. A copy of the manufacturer's inspection report shall be submitted to the Department **within 30 days** of the inspection. In the event that deficiencies are noted in the inspection report, the permittee shall propose corrective measures (including a schedule for implementation) to the Department. The deficiencies shall be corrected in accordance with the schedule approved by the Department.

k. The leachate storage tanks and LCRS shall be inspected at least weekly [ref. SC #2.h(2), pages 5-7 and 5-8].

**SPECIFIC CONDITIONS:**

**18. Landfill Gas - NSPS and Title V Air Requirements.**

a. This solid waste permit will meet the statutory requirement to obtain an air construction permit before modifying or constructing a source of air pollution, except for those landfills that are subject to the prevention of significant deterioration (PSD) requirements of Chapter 62-212, F.A.C. Facilities that are subject to the PSD requirements shall obtain an air construction permit from the Bureau of Air Regulation prior to beginning construction or modification pursuant to Rule 62-210.400, F.A.C.

b. The permittee shall comply with any applicable Title V air operation permit application requirements of Chapter 62-213, F.A.C., and 40 CFR 60, Subparts WWW and Cc, as adopted by reference at Rule 62-204.800, F.A.C. Title V Permit applications shall be submitted to the District Air Program Administrator or County Air Program Administrator with air permitting authority for the landfill.

c. The permittee shall submit to the Division of Air Resources Management, Department of Environmental Protection, Mail Station 5500, 2600 Blair Stone Road, Tallahassee, FL 32399-2400 any amended design capacity report and any Non-Methane Organic Compound (NMOC) emission rate report, as applicable, pursuant to 40 CFR 60.757(a)(3) and (b).

**19. Gas Management and Monitoring.**

a. Landfill gas shall be monitored as required by Rule 62-701.500(9), F.A.C. Landfill gas collection, monitoring and recovery systems shall be operated to comply with Rules 62-701.400(10) and (11), F.A.C., respectively.

b. The results of the quarterly monitoring as required by Rule 62-701.400(10)(c)2, F.A.C., shall be submitted by the following dates:

Quarter 1	April 15th
Quarter 2	July 15th
Quarter 3	October 15th
Quarter 4	January 15th

**SPECIFIC CONDITIONS:**

20. **Gas Monitoring Locations.** The gas monitoring probes GP-1 through GP-9 are shown on Sheet 5 of 5 in the Plan Sheets entitled, "Gas Management System and Miscellaneous Details at Closure," as revised April, June and August 1997 (received January 2, 1998), prepared by PBS&J. These probes, and the following structures shall be sampled **quarterly** for the Lower Explosive Limit (LEL) of methane, as described in Rule 62-701.400(10)(c), F.A.C.:

Maintenance Building  
Materials Recovery Facility  
Scalehouse/Administrative Offices  
Kennel

21. **Gas Remediation.** If the Lower Explosive Limit (LEL) is greater than 25% inside structures both on or off of the landfill site, or greater than 100% at the property boundary, the owner shall submit to the Department **within 7 days** a remediation plan detailing the nature and extent of the problem and the proposed remedy. The remedy shall be completed **within 60 days** of detection unless otherwise approved by the Department.

22. **Waste Burning.** Open burning of solid waste is prohibited except in accordance with Rule 62-701.520(2), F.A.C. Controlled burning of solid waste is prohibited at this site except for clean vegetative and wood wastes which may be burned in a permitted air curtain incinerator in accordance with Rule 62-2.500(1)(e), F.A.C. Any accidental fires which require longer than one (1) hour to extinguish must be promptly reported to the Department of Environmental Protection.

23. **Closure Permit Requirements.** The landfill owner or operator shall submit a closure permit application to the Department, on DEP Form 62-701.900(1), for those portions of the landfill which have reached design dimensions and grades. The permit application shall be submitted either (whichever occurs first):

a. At least **90 days prior** to the date when wastes will no longer be accepted for active portions of the landfill, as required by Rule 62-701.600(3), F.A.C., or

b. **Within sixty (60) days** of completion of Sequence #4 [ref. SC#2.i(2)].

**SPECIFIC CONDITIONS:**

24. **Financial Assurance.** The permittee shall provide financial assurance for this landfill site in accordance with Rule 62-701.630, F.A.C.

a. All costs for closure and long-term care shall be adjusted and submitted **annually, by September 1st** each year, to: Solid Waste Manager, Solid Waste Section, Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

b. Proof that the financial assurance has been funded adequately shall be submitted **annually, no later than March 31st each year** to: Financial Coordinator, Solid Waste Section, Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

25. **Control of Nuisance Conditions.** The operating authority shall be responsible for the control of odors and fugitive particulates arising from this operation. Such control shall minimize the creation of nuisance conditions on adjoining property. Complaints received from the general public, and confirmed by Department personnel upon site inspection, shall constitute a nuisance condition, and the permittee must take immediate corrective action to abate the nuisance. The owner or operator shall control mosquitoes and rodents or request such control measures from the local mosquito control office, so as to protect the public health and welfare.

26. **Facility Maintenance and Repair.** The site shall be properly maintained including erosion control, maintenance of grass cover, prevention of ponding, gas venting and monitoring systems repairs, groundwater monitoring system repairs, and repair and maintenance of leachate collection and removal systems, including leachate storage tanks system.

a. In the event of damage to any portion of the landfill site facilities or failure of any portion of the landfill systems (except routine equipment maintenance), the permittee shall **immediately (within 24 hours)** notify the Department of Environmental Protection explaining such occurrence and remedial measures to be taken and time needed for repairs. Written detailed notification shall be submitted to the Department **within seven (7) days** following the occurrence.

b. In the event that any portion of the groundwater monitoring system is damaged, remedial measures shall be completed within **sixty (60) days** of the written notification specified in Specific Condition #26.a. above, unless otherwise approved by the Department.

**SPECIFIC CONDITIONS:**

(Specific Condition #26. cont'd)

c. In the event that the stormwater or leachate management systems are damaged or are not operating effectively, corrective actions shall be implemented within **thirty (30) days** of the written notification specified in Specific Condition #26.a. above, unless otherwise approved by the Department.

d. Repairs shall be initiated within 48 hours of detection of significant erosion in intermediately covered areas, or areas which discharge to the stormwater management system [ref. SC#2.6., page 10]. For the purposes of compliance with this Specific Condition, "significant" means that either:

- 1) the soil cover materials have eroded such that greater than 50% of the soil in that location has been eroded, or
- 2) waste is exposed.

27. **Stormwater System Management.** The landfill shall have a surface water management systems designed, constructed, operated, and maintained to prevent surface water from running onto waste filled areas, and a stormwater runoff control system designed, constructed, operated, and maintained to collect and control stormwater to meet the requirements of Chapter 62-330, F.A.C., and the requirements for management and storage of surface water in accordance with Rule 62-701.500(10), F.A.C., to meet applicable standards of Chapters 62-3, 62-302, and 62-330, F.A.C.

28. **Water Quality Requirements.** Landfills shall be designed, constructed, operated, maintained, closed, and monitored throughout its design period to control the movement of waste and waste constituents into the environment so that groundwater and surface water quality standards and criteria of Chapters 62-4, 62-302, and 62-520, F.A.C., will not be violated beyond the zone of discharge specified for the landfill.

29. **Water Quality Monitoring Quality Assurance.**

a. The field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with methods approved by the Department in accordance with Rule 62-4.246 and Chapter 62-160, F.A.C. Approved methods published by the Department or as published in Standard Methods, A.S.T.M., or EPA methods shall be used.

**SPECIFIC CONDITIONS:**

(Specific Condition #29. cont'd)

b. All field and laboratory work done in connection with the facility's Water Quality Monitoring Plan shall be conducted by a firm possessing a Quality Assurance Project Plan or a Comprehensive Quality Assurance Plan approved by the Department to meet the requirements of Chapter 62-160, F.A.C. The Quality Assurance Plan must specifically address the types of sampling and analytical work that is required by the permit. The Quality Assurance Plan shall be required of all persons performing sampling or analysis, and shall be followed by all persons collecting or analyzing samples related to this permit. Documentation of an approved QAP shall be submitted with the first water quality reports conducted by either a new sampling organization or a new laboratory. Documentation shall include the completed signature page and the Table of Contents of the approved plan.

**30. Zone of Discharge.**

a. The zone of discharge for this site shall extend horizontally 100 feet from the limits of the landfill closure or to the property boundary, whichever is less, and shall extend vertically to the bottom of the surficial aquifer.

b. The permittee shall ensure that the water quality standards and minimum criteria for Class G-II groundwaters will not be exceeded at the boundary of the zone of discharge according to Rules 62-520.400 and 62-520.420, F.A.C.

**31. Leachate Sampling.** Leachate shall be sampled from Manhole 1 (see Sheet 4 of 5, ref. SC#2.i(3)) of the leachate collection system, and analyzed **every 6 months** for the following monitoring parameters:

Field parameters

Specific Conductivity  
pH  
Dissolved oxygen  
Colors, sheens  
(by observation)

Laboratory parameters

Total Ammonia - N  
Bicarbonate  
Chlorides  
Iron  
Mercury  
Nitrate  
Sodium  
Total Dissolved Solids (TDS)  
Those parameters listed in  
40 CFR Part 258, Appendix I

**SPECIFIC CONDITIONS:**

(Specific Condition #31. cont'd)

In addition, leachate shall be sampled and analyzed **annually** for the parameters listed in 40 CFR Part 258, Appendix II. If this annual analysis indicates that a contaminant listed in 40 CFR 261.24 exceeds the regulatory level listed therein, the permittee shall initiate a monthly sampling and analysis program. If in any three consecutive months the same listed contaminant exceeds the regulatory level, the permittee shall, within 90 days, initiate a program designed to identify the source and reduce the presence of the contaminant in the leachate so that it no longer exceeds the regulatory level. This program may include additional monitoring of waste received and additional up-front separation of waste materials. Any leachate which is not recirculated or taken to a permitted industrial or domestic wastewater treatment facility shall be treated or managed so that no contaminant exceeds the regulatory level.

If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the permittee may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

**32. Surface Water Sampling.** Samples shall be collected **every 6 months** from location **SW-1**, (see Attachment S, ref. SC#2.h(3)). The samples shall be analyzed for the following parameters:

Field parameters

Specific Conductivity  
pH  
Dissolved Oxygen  
Turbidity

Temperature  
Colors and sheens  
(by observation)

Laboratory parameters

Zinc  
Unionized Ammonia  
Total Hardness  
Biochemical Oxygen Demand (BOD<sub>5</sub>)  
Copper  
Iron  
Mercury  
Nitrate

Total Dissolved Solids (TDS)  
Total Organic Carbon (TOC)  
Fecal Coliform  
Total Phosphorous  
Chlorophyll A  
Total Nitrogen  
Chemical Oxygen Demand(COD)  
Total Suspended Solids (TSS)  
Those parameters listed in  
40 CFR Part 258, Appendix I

Additional samples, monitoring points, and parameters may be required based upon subsequent analysis.

**SPECIFIC CONDITIONS:**

33. **Groundwater Monitoring Well and Piezometer Locations.** The groundwater monitoring wells shall be located as shown on the Site Plan, Attachment S [ref. SC#2.h(3)] (attached to this permit). All existing site wells and piezometers shall be kept in working condition in case they may be useful at a later date. The following monitoring wells are required to be sampled:

<u>Well No.</u>	<u>Aquifer</u>	<u>Designation</u>	<u>Location</u>
MW-1	Surficial	Detection	See Attached Site Plan
MW-2	Surficial	Detection	"
MW-4	Surficial	Background	"
MW-5	Surficial	Detection	"
MW-8*	Surficial	Detection	"
MW-9*	Surficial	Detection	"

<u>Piezometer</u>	<u>Location</u>
P-1	See Attached Site Plan
P-2	"
P-3	"
P-4	"
P-5	"
P-6	"
P-9	"
P-10	"
P-11	"
P-15*	"
P-16*	"

\*Well/Piezometer to be constructed.

All wells and piezometers are to be clearly labeled and easily visible at all times.

**SPECIFIC CONDITIONS:**

34. **Groundwater Sampling.** All wells listed in Specific Condition No. 33 shall be sampled and analyzed **semi-annually** for the groundwater monitoring parameters listed as follows:

<u>Field parameters</u>	<u>Laboratory parameters</u>
Static Water Level before purging	Total Ammonia - N
Specific Conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Mercury
Turbidity	Nitrate
Temperature	Sodium
Colors and sheens (by observation)	Total Dissolved Solids (TDS)
	Those parameters listed in 40 CFR Part 258, Appendix I

**Semi-annually**, Monitoring wells MW-6 and MW-7 shall be measured for groundwater elevations and specific conductivity only.

**Semi-annually**, all piezometers listed in Specific Condition No. 33 shall be measured for ground water and leachate elevations. [ref. SC #2.g, page 7-17]

Additional samples, wells, and parameters may be required based upon subsequent analysis. Compliance with groundwater standards will be based on analysis of unfiltered samples.

35. **Groundwater Monitoring Well Construction.** New wells MW-8 and MW-9, and new piezometers P-15 and P-16 must be constructed and documentation submitted in accordance with Permit No. 38414-001-SC. Any other new wells must be approved by the DEP in a permit modification, and the following information submitted:

a. Documentation of the following for each well installed:

Well Identification	Boring (Lithology) Log
Aquifer monitored	Total depth of well
Screen type and slot size	Casing diameter
Screen length	Casing type and length
Screen diameter	SWFWMD well construction permit Nos.
Elevation at top of casing	Elevation at ground surface

b. **Within one week of well completion** and development, each new well shall be sampled for the parameters listed in F.A.C. Rules 62-701.510(8)(a) and (d).

**SPECIFIC CONDITIONS:**

(Specific Condition #35. cont'd)

c. A surveyed drawing shall be submitted in accordance with Rule 62-701.510(3)(d)(1), F.A.C., showing the location of all monitoring wells (active and abandoned) and surface water monitoring stations horizontally located in degrees, minutes and seconds of latitude and longitude, the Universal Transverse Mercator coordinates, and the elevation of the top of the well casing to the nearest 0.01 foot, National Geodetic Vertical Datum. The surveyed drawing shall include the surface water and monitor well identification numbers, locations and elevations of all permanent benchmarks and/or corner monument markers at the site. The survey shall be conducted by a Florida Registered Surveyor.

d. All wells not a part of the approved Water Quality Monitoring Plan are to be plugged and abandoned in accordance with Rule 62-532.440, F.A.C., and the Southwest Florida Water Management District. The permittee shall submit a written report to the Department providing verification of the well abandonment. A written request for exemption to the abandonment of a well must be submitted to the Department's Solid Waste Section for approval.

36. **Assessment Monitoring.** If at any time monitoring parameters are detected at concentrations significantly above background water quality, or exceed the Department's water quality standards or criteria at the edge of the zone of discharge, the permittee has 15 days to resample the monitor well(s) to verify the original analysis. Should the permittee choose not to resample, the Department will consider the water quality analysis representative of current groundwater conditions at the facility, and assessment monitoring/corrective action as described in Rule 62-701.510(7), F.A.C., shall be initiated.

37. **Water Quality Reporting Requirements.** All leachate, surface water and groundwater quality monitoring shall be reported on the Department Form 62-522.900(2), Groundwater Monitoring Report (attached). This report shall contain all items listed in Rule 62-701.510(9)(a), F.A.C. The permittee shall submit to the Department the results of the analysis by **January 15th and July 15th**. The results shall be sent to: Solid Waste Section, Department of Environmental Protection, Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

**SPECIFIC CONDITIONS:**

38. **Groundwater Monitoring Plan Evaluation.** Every two years and prior to 90 days before the expiration of the Department Permit, the permittee shall submit an evaluation of the Groundwater Monitoring Plan as per Rule 62-701.510(9)(b), F.A.C. The evaluation shall include the applicable information as required by Rule 62-701.510(9), F.A.C., and shall include assessment of the effectiveness of the existing landfill design and operation as related to the prevention of groundwater contamination. Any groundwater contamination that may exist, shall be addressed as part of a groundwater investigation for the landfill assessment. The Groundwater Monitoring Plan shall be adequate to monitor any modifications to the existing landfill site including but not limited to closure. The first evaluation shall be submitted to the Solid Waste Section of the Department by July 1, 2000.

39. **Professional Certification.** Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.), Florida Statutes, applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

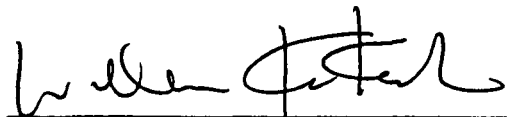
40. **General Conditions.** The permittee shall be aware of and operate under the "General Conditions". General Conditions are binding upon the permittee and enforceable pursuant to Chapter 403, Florida Statutes.

41. **Permit Acceptance.** By acceptance of this Permit, the Permittee certifies that he/she has read and understands the obligations imposed by the Specific and General Conditions contained herein and also including date of permit expiration and renewal deadlines. It is a violation of this permit to fail to comply with all conditions and deadlines.

42. **Regulations.** Rule 62-701, F.A.C., effective April 23, 1997, is incorporated into this permit by reference.

Executed in Tampa, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
for Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District

ATTACHMENT 1

SPECIFIC CONDITION	SUBMITTAL DUE DATE	REQUIRED ITEM
4.	180 days prior to permit expiration (December 1, 2001)	Permit Renewal Application
6.h(3)	Within 90 days of permit issuance	Complete Final Closure of old C&D disposal area
11.	Annually, by April 15th	Survey and capacity calculations
17.b.	30 days prior to expiration of contract	Submit copy of new or renewal contract with WWTP for leachate disposal
17.b.	December 12, 1998	Submit renewal to current leachate disposal agreement
17.d., 19.b., 20	Quarterly, by January 15th, April 15th, July 15th, and October 15th	Leachate generation reports, and Gas monitoring reports
17.j.	1 year after initial use	Tank Manufacturer's Inspection
17.j.	Within 30 days of inspection	Submit tank manufacturer's inspection report
21.	Within 60 days of detection	Completion of gas remediation
23.	90 days prior to date of final waste acceptance OR within 60 days of completion of Sequence #4	Closure Permit Application
24.	Annually, by September 1st	Financial assurance cost estimates
24.	Annually, by March 31st	Submit proof of funding