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PNM-26

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August 11, 1998

CERTIFIED MAIL: P 293 938 776

Bill Olson
Hydrologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: Hampton 4M Site
July 1998 Sampling Results

Dear Bill:

In response to your request to Maureen Gannon of PNM, enclosed are the most recent groundwater and free product recovery data collected by PNM at the Hampton 4M site. As you know, PNM has concerns regarding the effectiveness of any further remedial actions taken by PNM in the face of continuing hydrocarbon sources at this site.

Summary of PNM Activities

To update our last groundwater data report submitted to you on March 31, 1998, enclosed are groundwater potentiometric surface maps for April and July 1998 including the latest survey coordinates for monitoring wells MW-9 and MW-10. As shown on the map, groundwater flow is down-canyon towards the northwest. The hydraulic gradient is fairly steep and subparallel to the topographic gradient at approximately 0.10. This is a high energy environment, where contamination will move relatively quickly downgradient from the site of release. This is corroborated by the extent to which dissolved phase contamination is detected along the wash. The furthest downgradient monitoring well installed to date, MW-7, contains 950 ppb benzene and 4610 ppb total BTEX; benzene levels in this well have been increasing with time whereas total BTEX levels have decreased slightly. As free product has now been detected in upgradient wells MW-8 and MW-10, PNM has no downgradient wells in excess of site background concentrations (free product) when comparing downgradient water quality to water quality upgradient of PNM equipment. July 1998 sampling data are summarized in Table 1.

Hydrographs and contaminant trends with time are provided for wells with no free product and are presented in Attachment A. Contaminant trend graphs were not provided for monitoring wells MW-2, MW-6, MW-8, or MW-10 due to the presence of free product. Trend graphs were also not provided for MW-3, as it remains below standards, and for MW-9, as this well has only been sampled once since installation. The privately-owned EB well is located cross-gradient (north-northeast). No hydrocarbon constituents above the 0.2 ppb detection limit were detected in this well on original sampling; PNM has not resampled this well.

PNM installed a free product recovery well, MW-6, in November 1997 and initiated free product recovery in January 1998. Initial free product thickness in MW-6 was 4.71 feet on January 12, 1998.

Approximately 820 gallons of free product were recovered from MW-6, with an accompanying 2.3-foot drop in free product thickness, between January 12 and July 31, 1998. The sheer volume of free product recovered by PNM suggests that sources other than the former PNM pit have contributed free product to the subsurface. Free product thickness in MW-2 has remained relatively stable since April 1998 while free product recovery continues at a constant rate. Again, this suggests a large volume of product and/or intermittent or continuing sources of free product. Attachment B provides a figure illustrating free product thickness over the course of free product recovery.

As free phase is now detected in several upgradient wells, MW-10 (2 foot of accumulation) and MW-8 (0.37 feet of accumulation), it is clear that continued operation of the limited PNM free product recovery system will not offer environmental benefits until additional source removal and remediation are performed by the party(ies) responsible for upgradient contamination.

The presence of significant free phase in the subsurface is also the most likely cause of dissolved phase groundwater contamination detected at this site. Burlington, PNM, and NMOCD are aware of continuing hydrocarbon surface discharges in the area of the hydrocarbon seep along the northwestern area of the well pad. While dissolved hydrocarbon concentrations at the seep are below NMWQCC standards, this seep continues to visibly impact soils along the wash. As PNM did not discharge free product at this site, PNM maintains it is not the responsible party for dissolved phase groundwater contamination associated with ongoing free phase hydrocarbon discharges.

In addition to sampling groundwater monitoring wells, PNM also obtained samples from the temporary well TMP-1, soil and water samples from the Burlington excavation, and water samples from the hydrocarbon seep. Results of these analyses are provided in Table 1; analytical laboratory data are provided in Attachment C. Surface water samples showed relatively low levels of BTEX constituents (below NMWQCC standards); however, soil samples collected at the water table within the Burlington excavation showed over 2,000 ppm BTEX constituents remaining.

PNM is continuing to collect data and prepare for the NMOCC hearing on this site scheduled for August 20 and 21, 1998. If you have any questions related to the data summary provided for the Hampton 4M site or other project-related activities, please contact me at 505.241.2974.

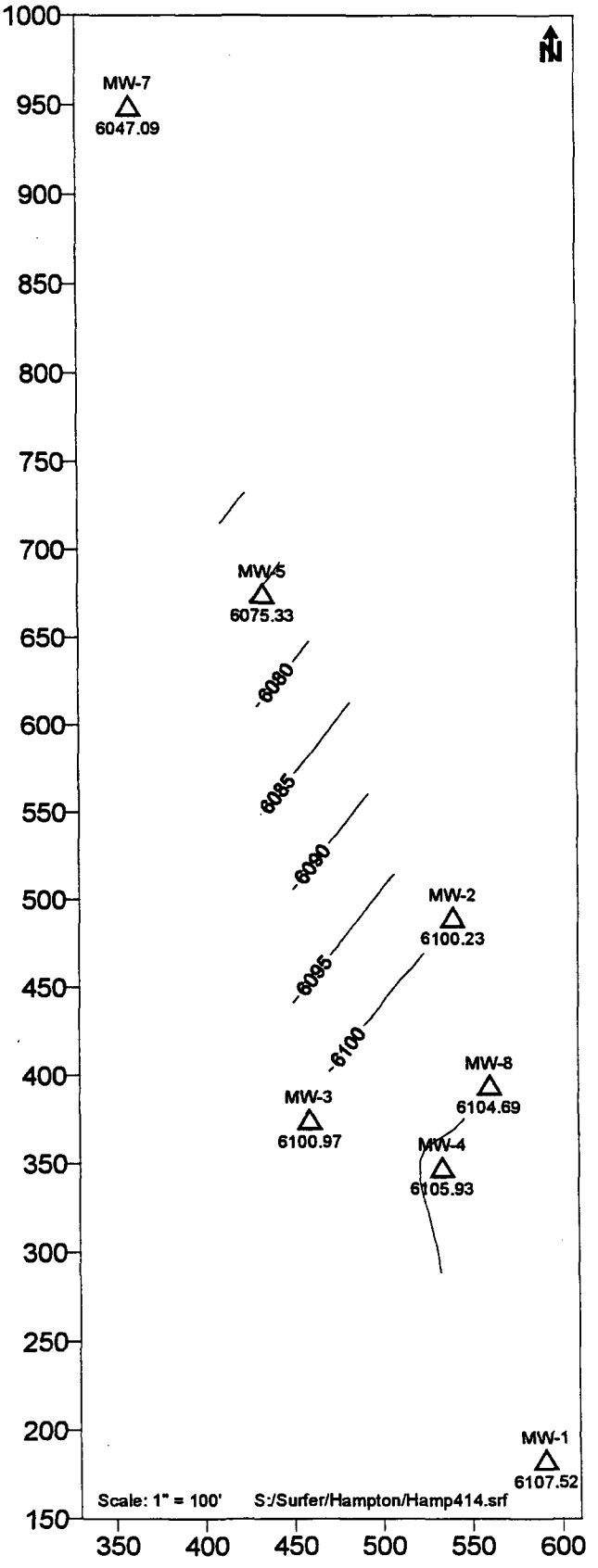
Sincerely,

Maureen Gannon

Maureen Gannon
Project Manager

cc: Roger Anderson, NMOCD
Ed Haseley, Burlington Resources
Ingrid Deklau, Williams Field Services
Bill Von Drehle, Williams Field Services
Colin Adams, PNM
Denny Foust, NMOCD - Aztec

Hampton 4M Groundwater Contour Map
(April, 1998)



Hampton 4M Groundwater Contour Map
(July, 1998)

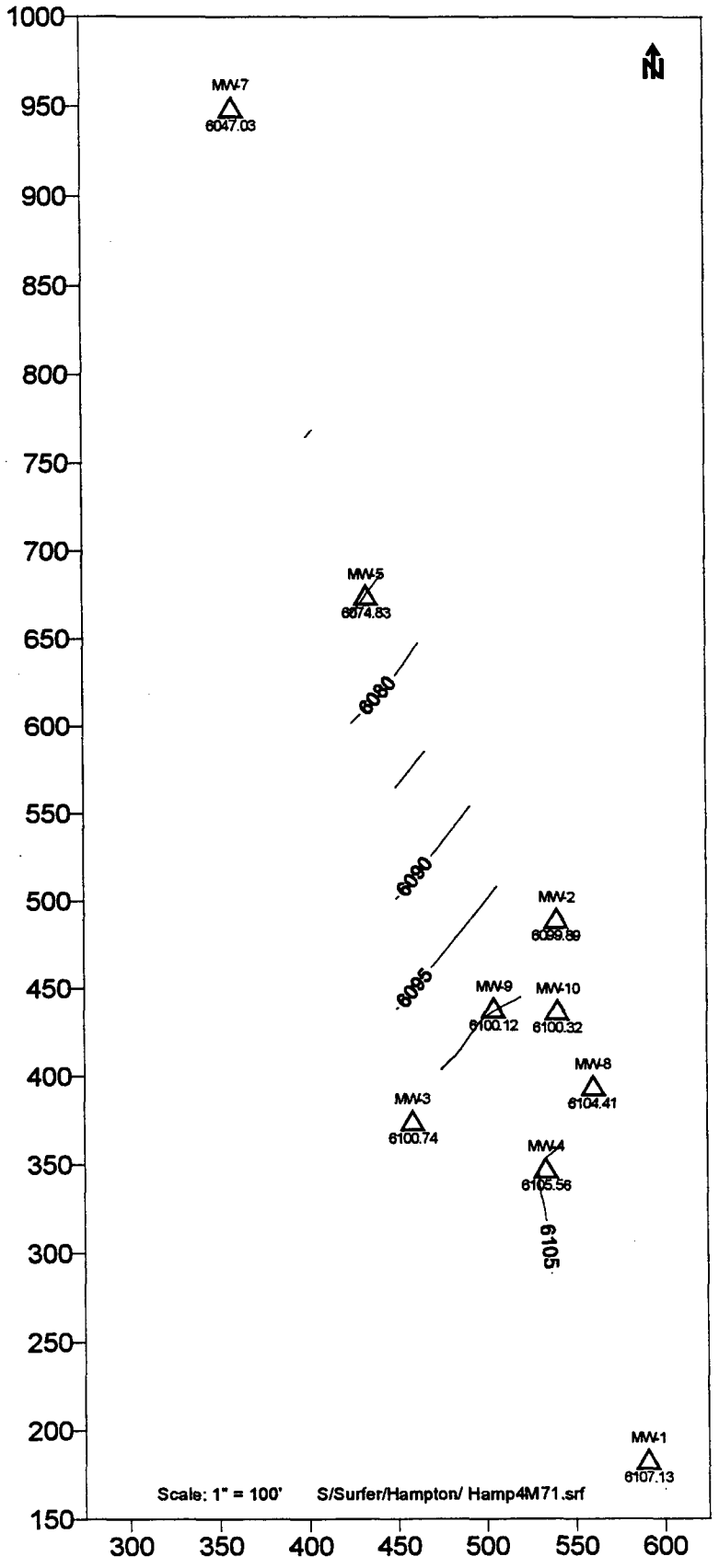


Table 1: SUMMARY OF ANALYTICAL RESULTS

GROUNDWATER MONITORING DATA - collected by PNM, except as noted

Well		Date Sampled	GWEL (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)	2-MethylPentane (ug/L)
MW-1		10/30/97	6110.10	2.4	2.3	<0.2	1.1	5.8	--	NA
Upgradient well		01/12/98	6107.47	4.3	3.3	0.2	1.0	8.8	--	NA
		04/14/98	6107.52	1.0	1.3	<0.5	<0.5	2.3	--	NA
		07/01/98	6107.13	1.3	1.0	<0.5	3.7	6.0	--	42.0
MW-2		01/04/96	6097.88	NA	NA	NA	NA	NA	4.40	NA
PNM drip pit well		12/16/96	NM	3840.0	7960.0	896.0	7920.0	20616.0	NM	NA
		08/27/97	6097.87	NA	NA	NA	NA	NA	4.75	NA
		10/29/97	6098.08	NA	NA	NA	NA	NA	4.58	NA
		01/12/98	6098.10	NA	NA	NA	NA	NA	4.41	NA
		04/14/98	6100.88	NA	NA	NA	NA	NA	2.59	NA
		07/01/98	6102.14	NA	NA	NA	NA	NA	2.25	NA
MW-3		1/4/96	6101.06	NA	NA	NA	NA	NA	--	NA
Up & cross-gradient to PNM		1/31/97	NM	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
		5/5/97	NM	NA	NA	NA	NA	NA	--	NA
	(Burlington)	10/29/97	6101.19	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
		1/12/98	6101.11	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
		4/14/98	6100.97	<0.5	<0.5	<0.5	<0.5	<0.5	--	NA
		7/1/98	6101.14	0.03 JB	0.05 JB	<0.5	<0.5	0.08 JB	--	<30.0
MW-4		1/3/96	6106.16	NA	NA	NA	NA	NA	--	NA
Upgradient PNM; downgradient Burlington		1/31/97	NM	811.7	1420.5	31.0	388.1	2651.3	--	NA
	(Burlington)	5/1/97	NM	1162.0	1797.0	41.0	486.0	3486.0	--	NA
		8/27/97	6106.87	NA	NA	NA	NA	NA	--	NA
		10/29/97	6106.73	NA	NA	NA	NA	NA	--	NA
		1/12/98	6105.88	1251.0	6.0	82.0	24.0	1363.0	--	NA
		4/14/98	6105.93	1100.0	7.2	28.0	12.0	1147.2	--	NA
		7/1/98	6106.14	1400.0	50.0	120.0	124.0	1694.0	--	10.0 J
MW-5		10/29/97	6075.23	5934.0	10024.0	709.0	8188.0	24855.0	--	NA
Downgradient along wash		1/12/98	6075.09	7521.0	11213.0	779.0	8436.0	27949.0	--	NA
		4/14/98	6075.33	7000.0	11000.0	720.0	7800.0	26520.0	--	NA
		7/1/98	6075.43	6500.0	10000.0	780.0	7500.0	24780.0		800.0
MW-6		11/12/97	6098.08	NA	NA	NA	NA	NA	4.80	NA
PNM drip pit/product recovery		1/12/98	6097.43	NA	NA	NA	NA	NA	4.71	NA
		4/14/98	NM	NA	NA	NA	NA	NA	pumping	NA
		7/1/98	NM	NA	NA	NA	NA	NA	pumping	NA
MW-7		1/12/98	6047.12	780.0	246.0	258.0	3942.0	5226.0	--	NA
Downgradient along wash; adj pipeline		04/14/98	6047.09	820.0	340.0	190.0	2450.0	3800.0	--	NA
		07/01/98	6047.03	950.0	440.0	200.0	3020.0	4610.0		200.0
MW-8		1/12/98	6104.71	6410.0	17301.0	693.0	9397.0	33801.0	Sheen	NA
Upgradient PNM; downgradient Burlington		4/14/98	6104.41	NA	NA	NA	NA	NA	0.37	NA
		7/1/98	6105.14	NA	NA	NA	NA	NA	0.37	
MW-9		7/1/98	6100.51	12.0	0.2	0.6	1.3	14.1	--	<30.0
Upgradient PNM, crossgradient Burlington										
MW-10		7/1/98	NM	NA	NA	NA	NA	NA	2.00	NA
Upgradient PNM, downgradient Burlington										
TMP-1		11/11/97	NM	2171.0	4185.0	190.0	2856.0	9402.0	--	NA
Temporary well; wash midway MW-5, MW-7		7/1/98	6057.61	2000.0	4300.0	180.0	2700.0	9180.0	--	80.0
EB WELL		11/25/97	5959.74	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
Downgradient private well										
Burlington Excavation	Soil - @ water	7/1/98	NM	36000.0	560000.0	100000.0	1430000.0	2126000.0	--	NA
	Surface Water	7/1/98	6106.26	10.0	0.4	0.1	1.5	12.0	rainbow	<30.0
Hydrocarbon Seep	Surface Water	7/1/98	6098.72	1.6	0.7	0.6	0.36	3.26	rainbow	6.0 J

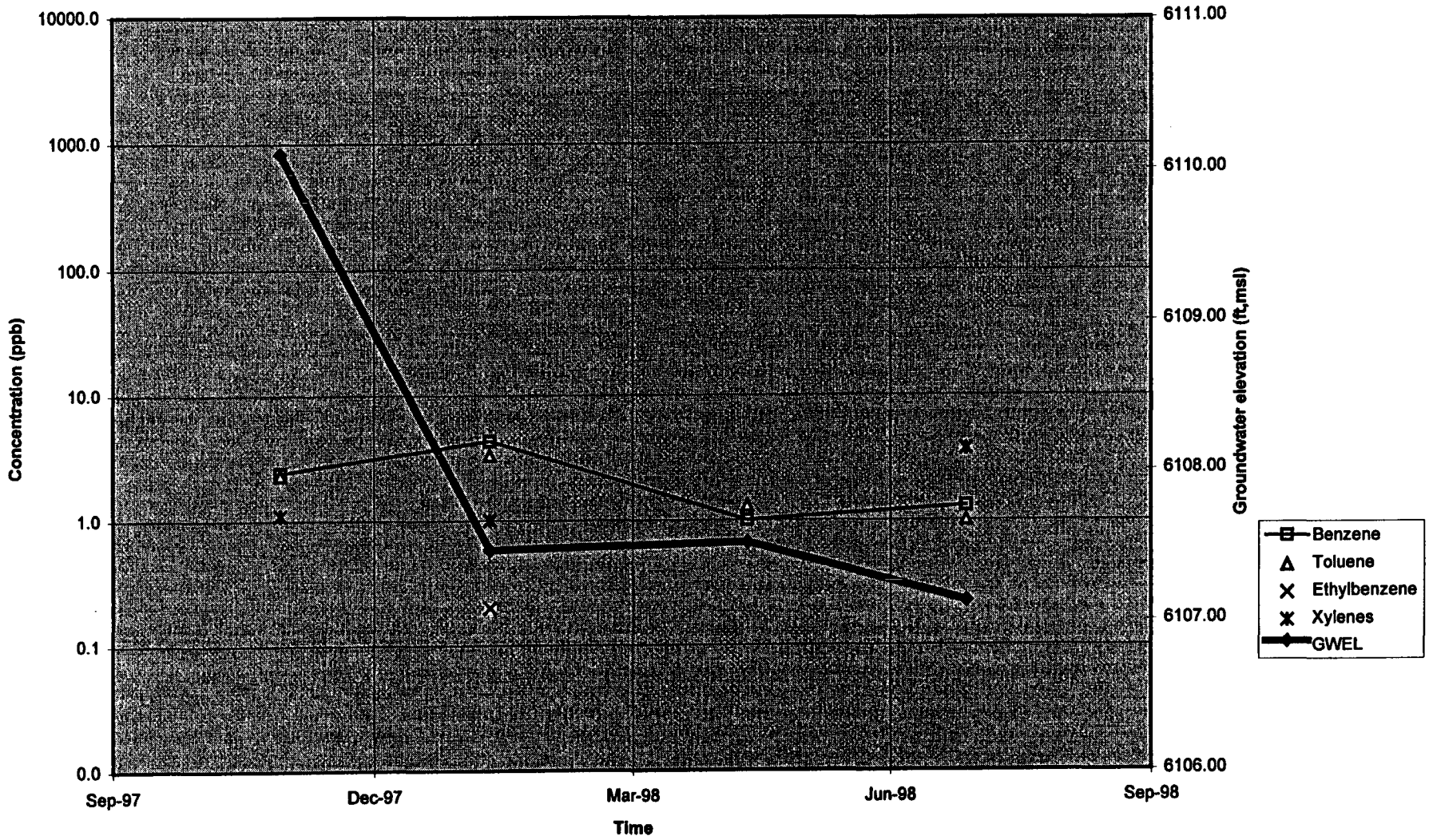
Notes:

J = Analyte detected below Practical Quantitation Limit
B = Analyte detected in the associated Method Blank
NM = Not measured
NA = Not analyzed

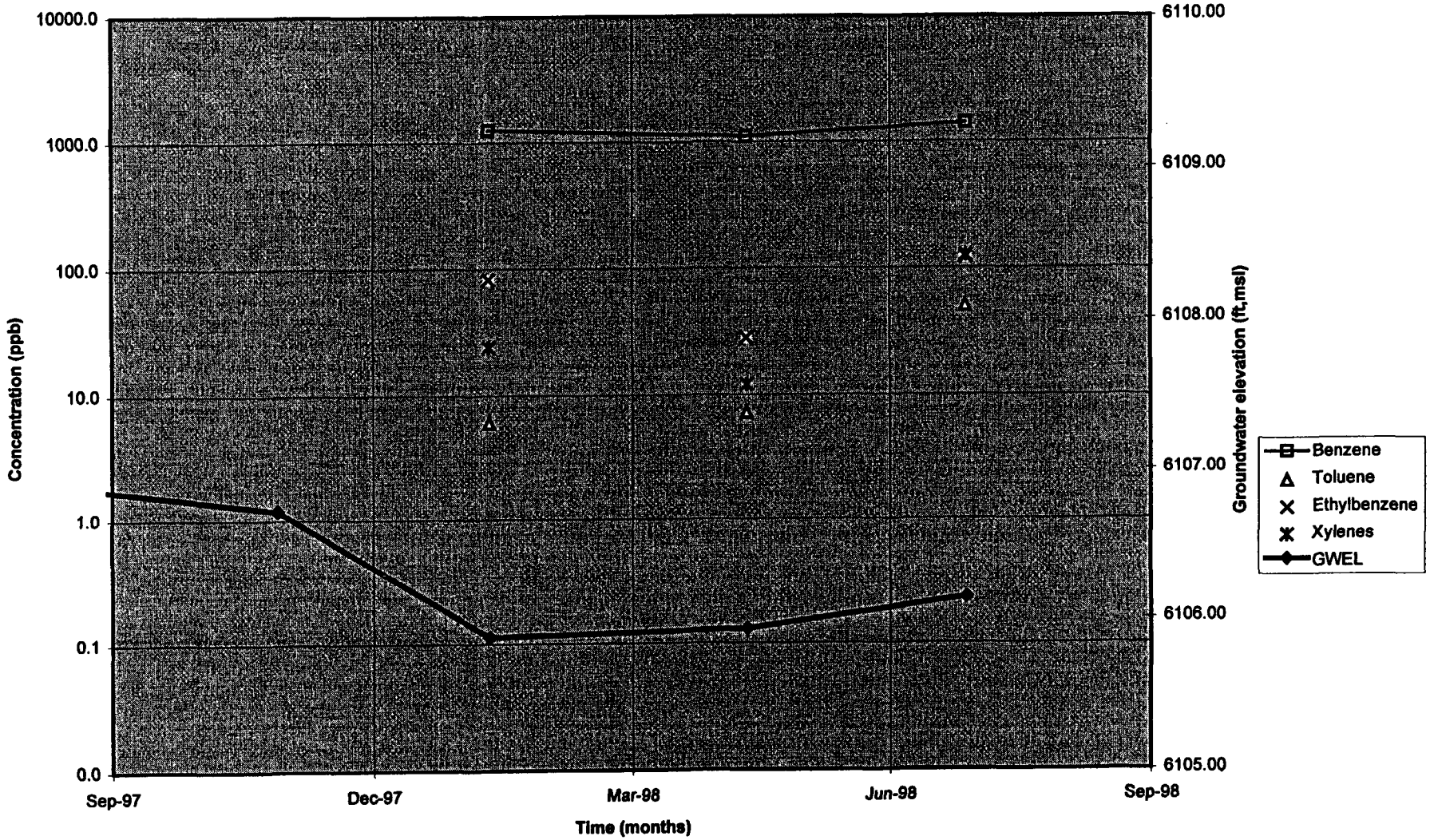
Attachment A

Hydrographs and Concentrations versus Time

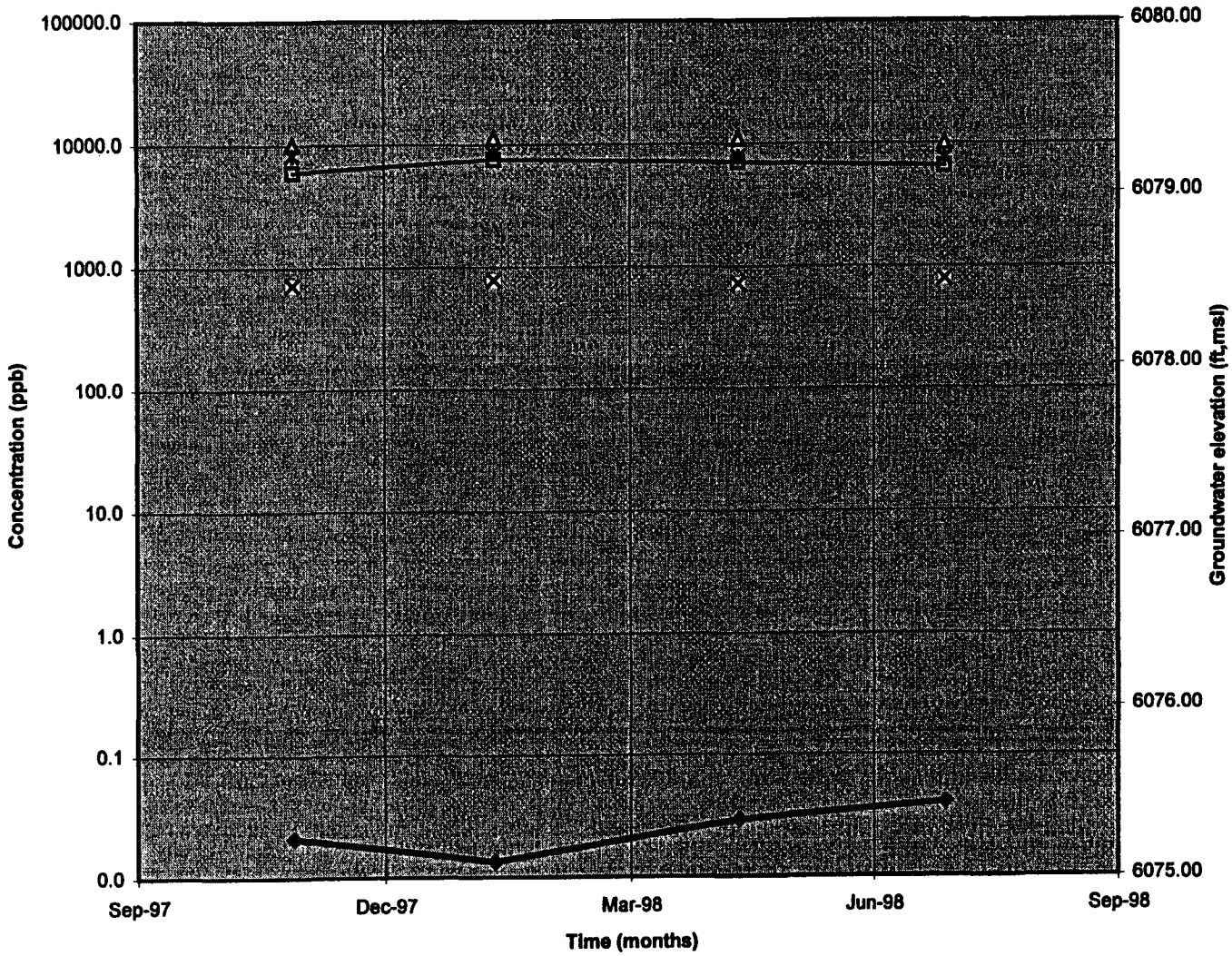
MW-1: Concentration vs. Time



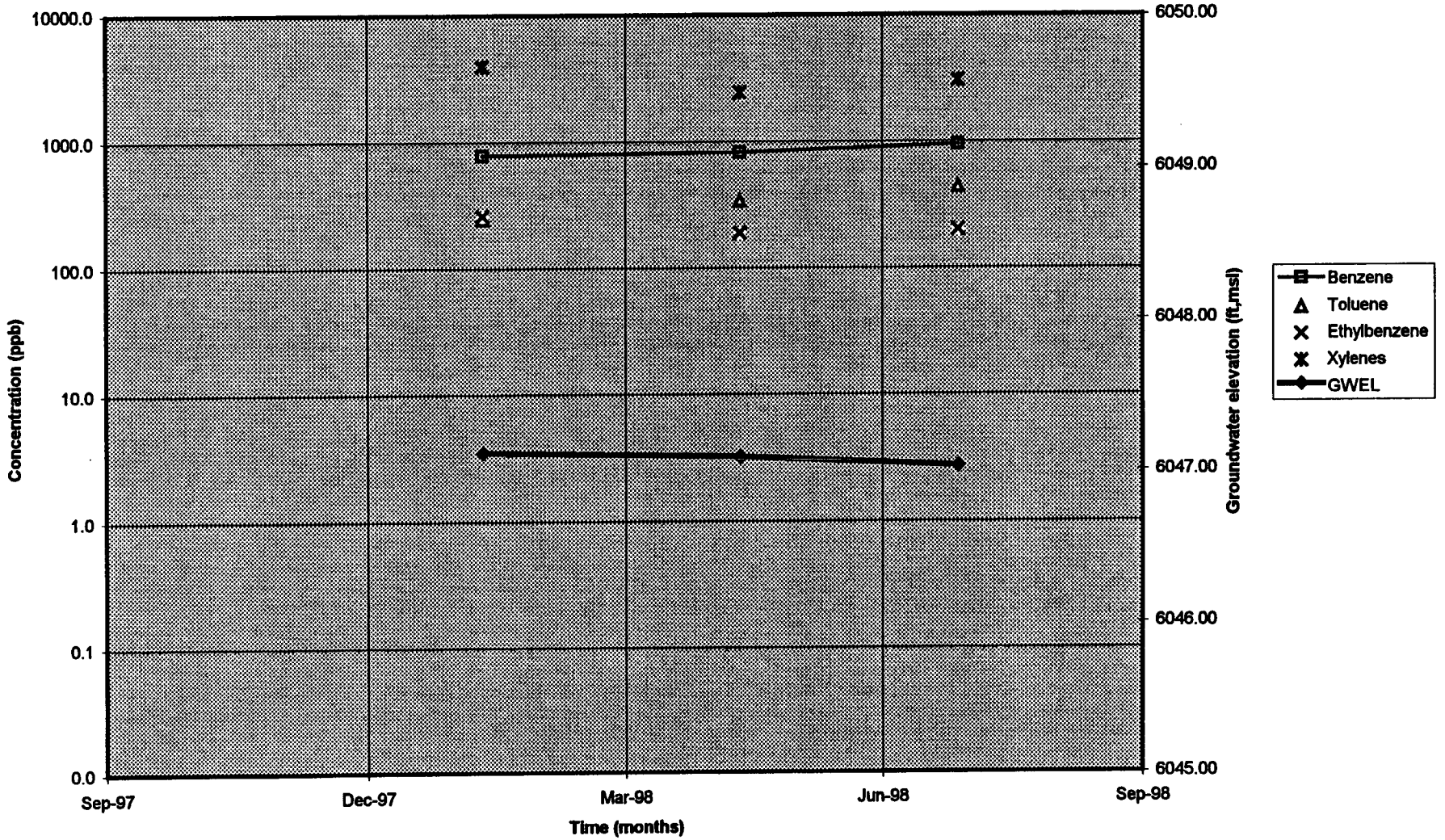
MW-4: Trends with Time



MW-5: Trends with Time



MW-7: Trends with Time



Attachment B

Free Product Recovery Response

Hampton 4M Free Product Recovery