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# BASELINE

ENVIRONMENTAL CONSULTING

## FAX TRANSMITTAL

Date: 8/19/97 Fax No.: 510-337-9335

Time: 2:35

To: Madhulla Logan  
Alameda county

From: J. Pettijohn

Subject: Upper San Leandro Filter Plant, ERM/D

Project No.: 9535D-00

Total Pages: 9  
(including transmittal)

Original to follow:  Yes  No



Comments: Please find the enclosed graphs you requested and corresponding memo. Please contact me at the number below if you have any questions.

Thank you

J. Pettijohn

**BASELINE****MEMORANDUM****Date:** 19 August 1997**Job No.:** 95350-00**To:** Madhulla Logan, Alameda County**From:** Julie Pettijohn, BASELINE**Subject:** EBMUD Upper San Leandro Filter Plant**Total Petroleum Hydrocarbon (TPH) as Diesel Concentration Graphs**

At your request, please find the enclosed graphs prepared on behalf of East Bay Municipal Utility District (EBMUD) for water quality data at the Upper San Leandro Filter Plant (Site). We understand that you have requested these graphical representations of data for your evaluation of the Site for case closure. The enclosed graphs reflect groundwater concentrations of Total Petroleum Hydrocarbons as diesel (TPHd) in various monitoring wells and specifically include the following:

- TPHd Concentration in Monitoring Well MW-3 versus Time (Figure 1)
- TPHd Natural Log Concentration in Monitoring Well MW-3 versus Time (Figure 2)
- TPHd Concentration versus Distance from Monitoring Well MW-1 (Figure 3)
- TPHd Natural Log Concentration versus Distance from Monitoring Well MW-1 (Figure 4)

Analytical data used for the graphs are provided in Table 1. The graphs indicate that the concentration of TPHd has decreased over time. The maximum TPHd concentration reported for MW-3 was 190 mg/L (February 1996); the diesel concentration from the last quarterly monitoring in July 1997 was 0.27 mg/L. The charts indicate that the highest TPHd concentrations were reported at the downgradient well (MW-3).

**Summary of Findings to Date**

We believe that the data collected at the Site demonstrate that criteria for a low risk groundwater case, as described in the *Regional Board Supplemental Instructions to State Water Board, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites* (SFRWQCB, 1995), have been met. The data have been presented and evaluated in several reports prepared by BASELINE over the period November 1995 to July 1997. The following criteria have been met:

- **The leak has been stopped and sources removed.** The underground tank was removed and contaminated soils excavated to the extent possible. The excavation was limited by the foundation of a storage building (to the west) and a 10-inch water line (to the east of the former tank location). Product (up to 0.02 foot) was sporadically measured in the downgradient well (MW-3). This has not been demonstrated to degrade water quality above water quality objectives; only one exceedance of the Maximum Contaminant Limit for benzene was observed during quarterly monitoring.

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- **The Site has been adequately characterized.** The extent of subsurface contamination has been defined to the extent necessary to determine if the site poses a threat to human health, the environment, or other sensitive receptors (see risk assessment evaluation below). According to the SFRWQCB memorandum, delineating plume to non-detect levels is not required at all sites (SFRWQCB, 1995).
- **The plume is stable.** As presented in BASELINE's (1997 a,b) reports, dissolved oxygen measurements at the Site suggest natural biodegradation may be occurring at the Site; groundwater pH and temperature data collected indicate that the underlying groundwater at the Site are also conducive to microbial growth. A Mann-Kendall test for trend analysis of the diesel concentrations for groundwater samples collected from MW-3 during the six quarterly monitoring events indicates that there is no upward or downward trend in the data, further suggesting a stable plume. Chemical concentrations of hydrocarbons that decrease or do not change with time are the best indicators of a stable plume (SFRWQCB, 1995).
- **No water wells, surface water, or other sensitive receptors are likely to be impacted.** A well survey was conducted in July 1996 (BASELINE, 1996). No municipal or domestic wells were identified within a one-half mile radius of the Site. In addition, no surface water bodies were identified within one mile of the Site. Transport of contaminants away from the Site to sensitive receptors is unlikely.
- **The site presents no significant risk to human health.** The ASTM Risk-Based Corrective Actions approach was used to perform a tiered analysis of the site based on soil and groundwater volatile aromatic and polynuclear hydrocarbon analytical results (BASELINE, 1997a). Potential risks to commercial site workers were found to be within acceptable limits and warrant no action to reduce potential human health risk.
- **The site presents no significant risk to the environment.** As mentioned above, the Site does not have the potential to significantly impact surface water, wetlands, or other sensitive receptors.

During our 13 August 1997 telephone conversation, you mentioned that you would discuss the plots provided in this Memorandum and the work completed to date at the Site with other County staff for consideration of the Site for case closure. You suggested that if case closure were not granted, perhaps two hydropunch borings located downgradient of MW-3 could be performed in support of closure. We believe that the site has been adequately characterized to support case closure (see discussion above), and the completion of hydropunch borings would not be cost-effective for the information that would be obtained from their completion. However, we respectfully request that if case closure is not granted based on the information provided to date, the County provide specific criteria, in writing, regarding future site activities, which, if met, will result in Site closure.

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**References**

BASELINE, 1996, *Fourth Quarterly Groundwater Monitoring Report and Request for Site Closure, EBMUD Upper San Leandro Filter Plant, 7700 Greenly Drive, Oakland, California, 29 July.*

BASELINE, 1997a, *Fifth Quarterly Groundwater Monitoring Report, EBMUD Upper San Leandro Filter Plant, 7700 Greenly Drive, Oakland, California, 30 April.*

BASELINE, 1997b, *Sixth Quarterly Groundwater Monitoring Report, EBMUD Upper San Leandro Filter Plant, 7700 Greenly Drive, Oakland, California, 22 July.*

San Francisco Regional Water Quality Control Board (SFRWQCB), 1995, *Memorandum to San Francisco Bay Area Agencies Overseeing UST Cleanup and Other Interested Parties, Regional Board Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites, 5 January.*

JP:cr  
Attachments

cc: Cynthia Adkisson, EBMUD  
Kevin Graves, SFRWQCB

**BASELINE**

TABLE 1

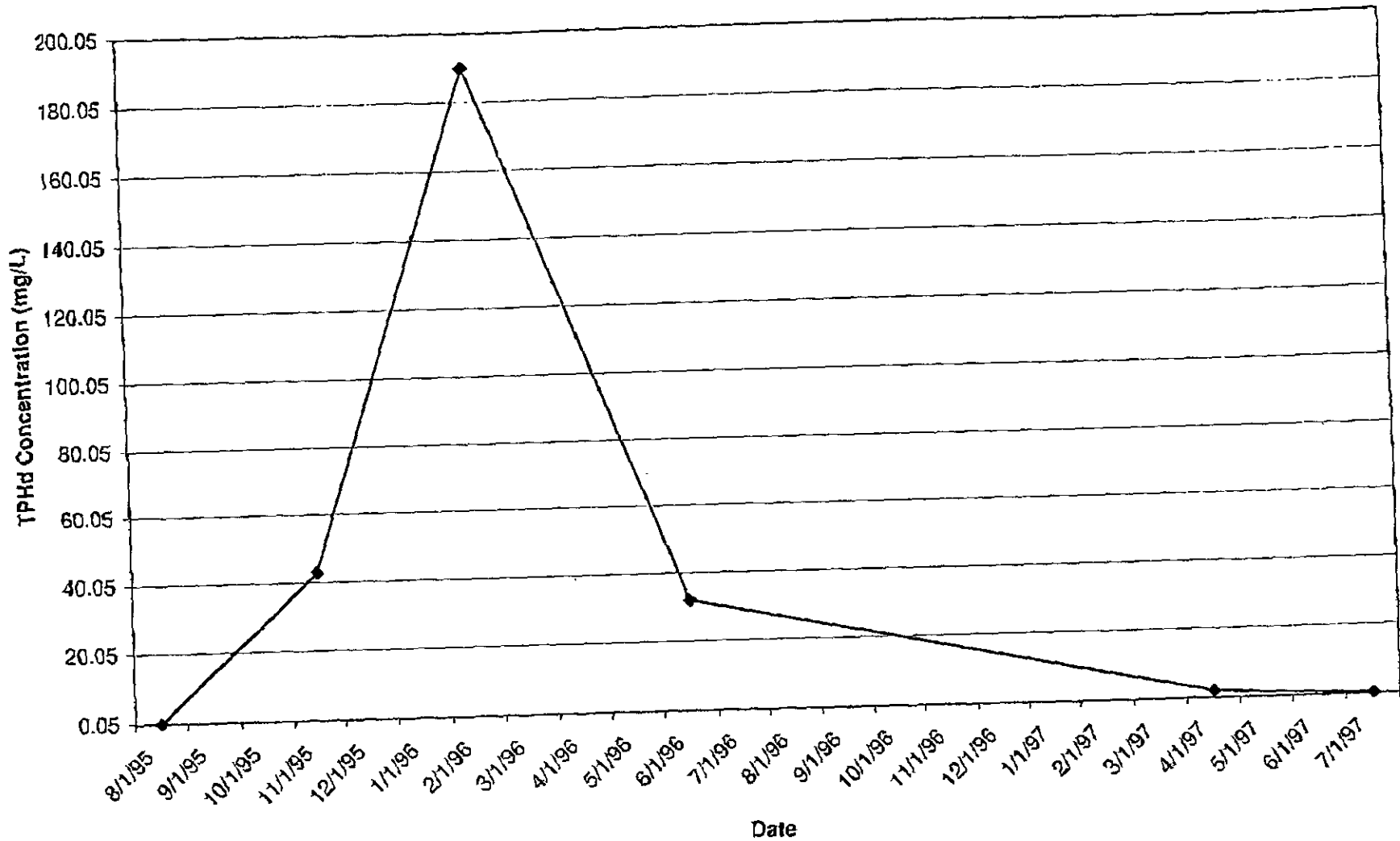
**SUMMARY OF ANALYTICAL RESULTS, GROUNDWATER**  
**EBMUD Upper San Leandro Filter Plant**  
**7700 Greenly Drive, Oakland, California**  
 (mg/L)

Sample ID	Date	TPH as Diesel <sup>1</sup>	Benzene <sup>2</sup>	Toluene <sup>2</sup>	Ethyl-benzene <sup>2</sup>	Xylenes <sup>2</sup>
<u>Monitoring Wells</u>						
MW-1	08/31/95	.. <sup>3</sup>	<0.0002	<0.0002	<0.0002	<0.0002
	11/16/95	<b>0.081</b>	<b>0.0003<sup>5</sup></b>	<0.0002	<0.0002	<b>0.0003<sup>5,6</sup></b>
	02/29/96	<b>0.38</b>	<0.0002	<0.0002	<0.0002	<0.0002
	06/04/96	<0.049	<0.0002	<0.0002	<0.0002	<0.0002
MW-2	08/31/95	<0.05	<0.0002	<0.0002	<0.0002	<0.0002
	11/16/95	<0.05	<0.0002	<0.0002	<0.0002	<0.0002
	02/29/96	<b>0.13</b>	<0.0002	<0.0002	<0.0002	<0.0002
	06/04/96	<0.049	<0.0002	<0.0002	<0.0002	<0.0002
MW-3	08/31/95	<0.05	<0.0002	<0.0002	<0.0002	<0.0002
	11/16/95	<b>43</b>	<b>0.001</b>	<b>0.0002<sup>5,6</sup></b>	<0.0002	<b>0.0042<sup>6</sup></b>
	02/29/96	<b>190</b>	<b>0.0003<sup>5</sup></b>	<0.0002	<b>0.0008</b>	<b>0.010</b>
	06/04/96	<b>32</b>	<b>0.0022</b>	<0.0002	<b>0.0087</b>	<b>0.028</b>
	04/04/97 <sup>8</sup>	<b>2<sup>9</sup></b>	--	--	--	--
07/01/97	<b>0.27<sup>9</sup></b>	--	--	--	--	
Travel Blank	08/31/95	--	<0.0002	<0.0002	<0.0002	<0.0002
	11/16/95	--	<0.0002	<0.0002	<0.0002	<0.0002
	05/10/96 <sup>7</sup>	--	<0.0002	<0.0002	<0.0002	<0.0002
<u>Tank Excavation</u>						
USL50 <sup>4</sup>	7/25/94	<b>100</b>	<b>0.0063</b>	<b>0.038</b>	<b>0.0088</b>	<b>0.13</b>
MCL			<b>0.001</b>	<b>0.15</b>	<b>0.7</b>	<b>1.75</b>

Notes: TPH = Total Petroleum Hydrocarbons.  
 -- = Compound not analyzed.  
 <x.x = Compound not detected above reporting limit.  
 xx = Bolded numbers indicate compounds identified above the level of detection.  
 Monitoring well locations are shown on Figure 2.  
 Laboratory report for the 1 July 1997 sampling event is included in Attachment B.

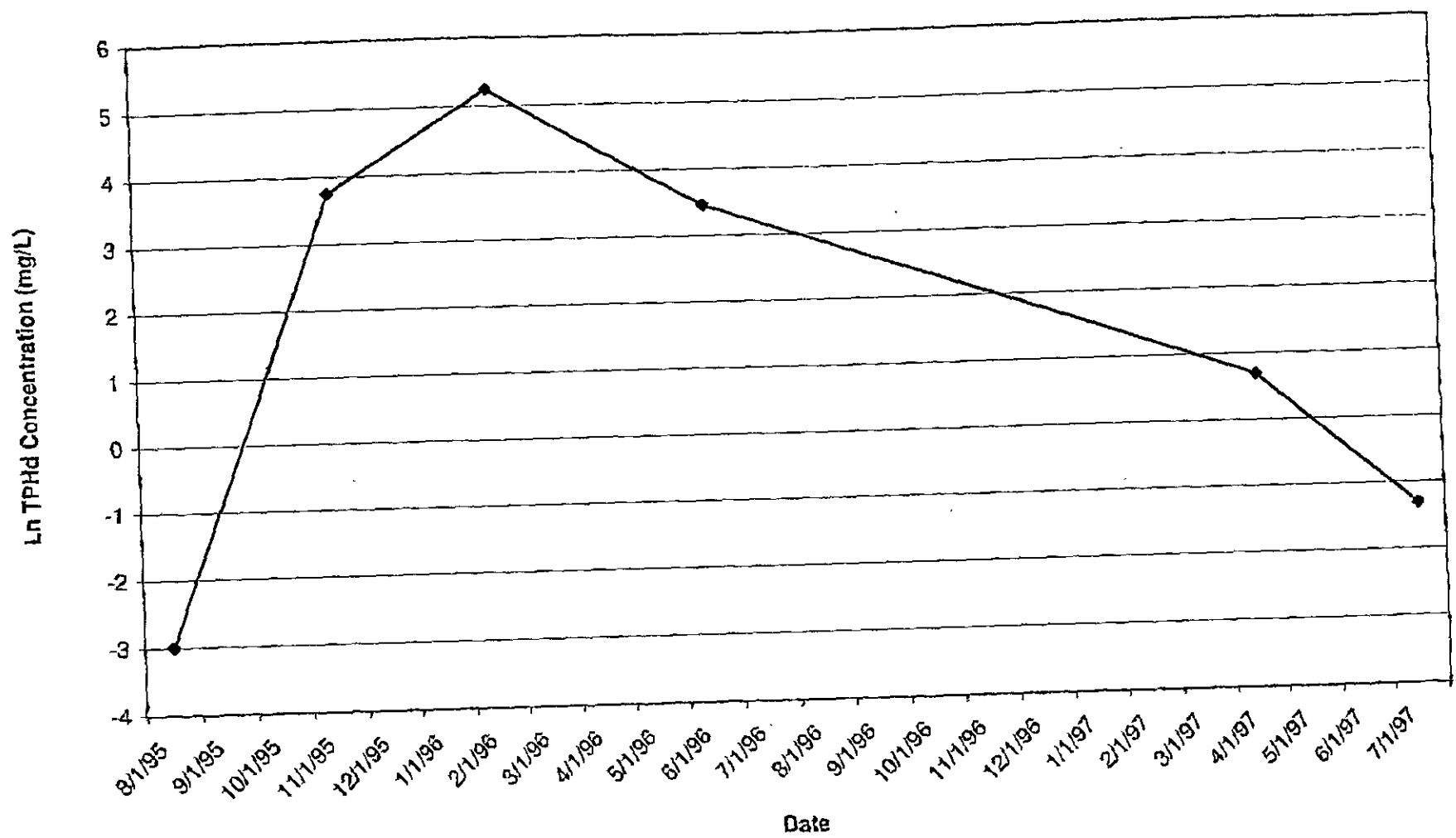
- <sup>1</sup> Test Method = California LUFT method 3510/8015M or 3520/8015M.
- <sup>2</sup> Test Method = EPA 8020.
- <sup>3</sup> Sample bottle broken in laboratory; compound not analyzed.
- <sup>4</sup> Sample collected by Cottle Engineering.
- <sup>5</sup> Laboratory reported concentration outside calibration range.
- <sup>6</sup> Laboratory reported compound also detected in laboratory blank sample.
- <sup>7</sup> Travel blank was prepared by the EBMUD laboratory on 10 May 1996; this travel blank was obtained by BASELINE staff one day prior to sampling and submitted with samples collected on 4 June 1996 for analysis. Air bubbles were observed by the lab in the travel blank.
- <sup>8</sup> The sample was also analyzed for polynuclear aromatic hydrocarbons (PNAs) (EPA Method 8270). All PNAs were reported below the laboratory reporting limit of 0.01 mg/L.
- <sup>9</sup> Sample was subjected to silica gel clean up prior to analysis for diesel (EPA Method 3630).

Figure 1  
TPHd Concentration in Monitoring Well MW-3 versus Time  
EBMUD Upper San Leandro Filter Plant



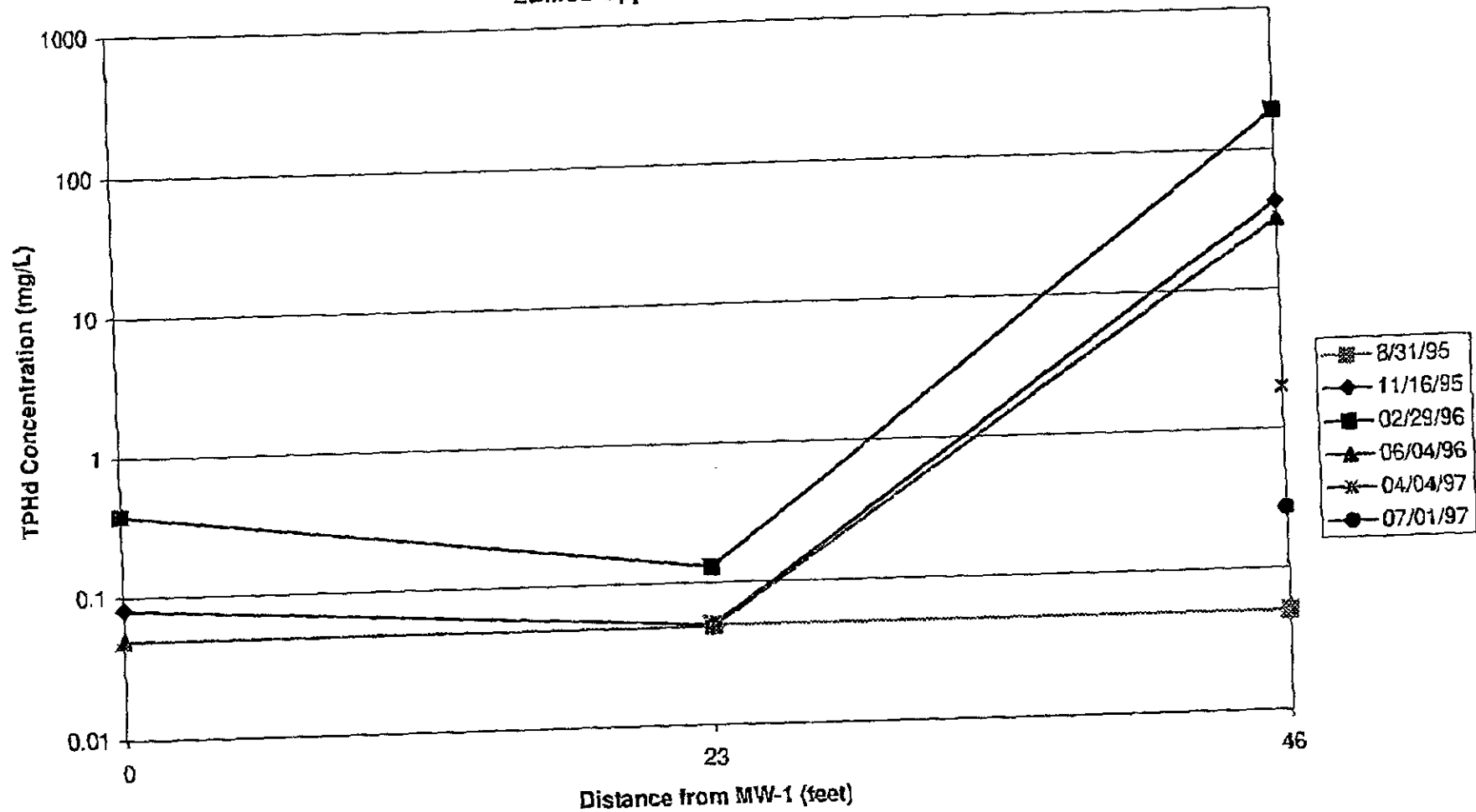
Notes:  
TPHd=Total petroleum hydrocarbons as diesel.  
Detection limit used for diesel below laboratory reporting limit.  
Silica gel cleanup performed on samples collected in April and July 1997.  
See Table 1 for analytical results.

Figure 2  
TPHd Natural Log Concentration in Monitoring Well MW-3 versus Time  
EBMUD Upper San Leandro Filter Plant



Notes:  
TPHd=Total petroleum hydrocarbons as diesel.  
Detection limit used for diesel below laboratory reporting limit.  
Silica gel cleanup performed on samples collected in April and July 1997.  
See Table 1 for analytical results.

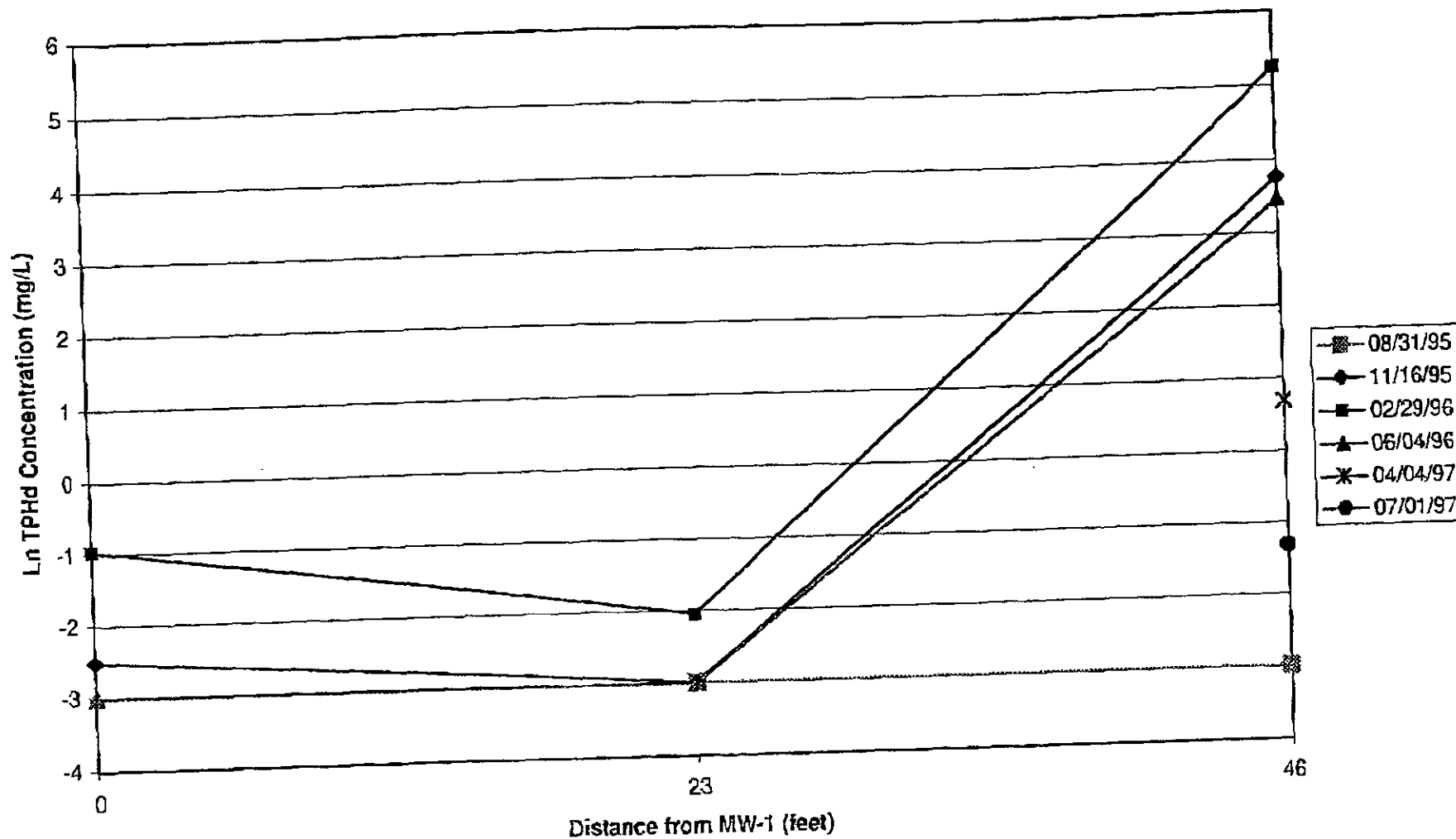
Figure 3  
TPHd Concentration versus Distance from Monitoring Well MW-1  
EBMUD Upper San Leandro Filter Plant



Notes:  
TPHd=Total petroleum hydrocarbons as diesel.  
Detection limit used for diesel below laboratory reporting limit.  
Distance 0=MW-1; MW-2 approximately 23 feet downgradient from MW-1; MW-3 approximately 46 feet downgradient from MW-1.



Figure 4  
 TPHd Natural Log Concentration versus Distance from Monitoring Well MW-1  
 Upper San Leandro Filter Plant



Notes:  
 TPHd=Total petroleum hydrocarbons as diesel.  
 Detection limit used for diesel below laboratory reporting limit.  
 Distance 0=MW-1; MW-2 approximately 23 feet downgradient from MW-1; MW-3 approximately 46 feet downgradient from MW-1.