



West Coast Office
Suite 370
3250 Ocean Park Blvd.
Santa Monica, CA 90405
Phone: 213-452-5078
FAX: 213-450-5787

93 FEB 22 PM 2:16

STID.337

February 19, 1993

Ms. Susan Hugo
Alameda County
Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621

**Subject: Semiannual Groundwater Monitoring
 Former Servisco Facility
 958 28th Street
 Oakland, California**

Dear Ms. Hugo:

This letter transmits results of groundwater monitoring conducted on November 4 and 5, 1992, at the Aratex Services facility located at 958 28th Street in Oakland, California.

SUMMARY OF PRIOR GROUNDWATER MONITORING

The site was first developed as a laundry in about 1906, and was operated until 1988. In 1988, three underground storage tanks were removed from the site: one 500-gallon steel boiler-fuel storage tank located near the loading dock, and two steel gasoline-storage tanks (1,000- and 7,000-gallon capacities) located on the northeast side of the property. Facility layout is shown on Figure 1. Petroleum hydrocarbons were identified in soils beneath the 500-gallon boiler-fuel tank and beneath the 7,000-gallon gasoline tank during removal operations. Following removal of the boiler-fuel tank, approximately 200 cubic yards of petroleum hydrocarbon-impacted soils were excavated, and transported off-site for disposal. This completed the boiler-fuel tank closure.

Quarterly groundwater monitoring was conducted from Spring 1989 through Spring 1990. In March of 1990, three additional groundwater monitoring wells (MW-4 through MW-6), were installed and three

soil borings, SB-1 through SB-3, were advanced to evaluate the lateral extent of impacted soil and groundwater in the vicinity of the former gasoline tank. The first round of semi-annual groundwater monitoring was conducted in November of 1990. Because MW-4 contained free product, it was not sampled. Free product, with an unconfirmed source, encountered in MW-4 appears to be present only within a sandy gravel zone situated above the water table. Therefore, MW-4 was subsequently abandoned in accordance with ACHCSA regulations, and a new well, MW-4A, was installed to replace MW-4 in July 1991. This well was sealed off from the sandy gravel zone, and has exhibited no free product since installation.

Analysis of groundwater samples from monitoring wells MW-A3 and MW-5 has consistently revealed no detectable concentrations of TPH or BTEX. Analysis of groundwater samples from MW-A2 has revealed a decrease from 5.2 mg/l of TPH-g to 0.44 mg/l, from 7.7 mg/l of TPH-d to nondetectable, and from 380 μ g/l of benzene to 90 μ g/l, from March 1989 to December 1991. Analysis of groundwater samples from MW-4A revealed a decrease from 2.60 mg/l of TPH-g to 0.29 mg/l and a decrease from 68 μ g/l of benzene to 2 μ g/l, from July 1991 to December 1991. Analysis of groundwater samples from MW-6 revealed an increase in TPH-g from nondetectable to 0.16 mg/l, and an increase in benzene from nondetectable to 8 μ g/l, from March 1990 to December 1991. Analysis of groundwater samples from MW-7 revealed an increase in concentrations of TPH-g from nondetectable to 0.18 mg/l from July 1991 to December 1991. Benzene was not detected during either sampling episode. A summary of laboratory results is presented in Table 1.

CURRENT QUARTERLY GROUNDWATER MONITORING

Groundwater sampling, conducted on November 4, 1992, included obtaining groundwater-level measurements and groundwater samples from all seven groundwater monitoring wells on site (MW-A1, MW-A2, MW-A3, MW-4A, MW-5, MW-6, and MW-7).

Groundwater Sample Collection

Prior to sample collection, depth to groundwater was measured in each well. Each of the seven existing on-site groundwater monitoring wells was then purged, and temperature, conductivity, and turbidity were measured and recorded on logs for the purged groundwater at least once per casing volume. Tables 2 and 3 summarize these observations. On noting stabilization of these parameters, after purging approximately three casing volumes of groundwater, each well was allowed to recharge to within 80 percent of its pre-purge volume, and groundwater samples were collected utilizing a disposable Teflon bailer. A Teflon stopcock was inserted in the bottom of the bailer and used to transfer the sample to volatile organic analysis (VOA) vials. All sample containers were supplied by the laboratory. Each sample was preserved by adjusting the pH with hydrochloric acid. Following sample collection, the samples were labeled with the date, sample-point location, and sampler's name. Groundwater samples were refrigerated for transport to a California-certified laboratory according to USEPA protocol, including chain-of-custody procedures. In addition, one trip blank accompanied the samples. Chain-of-custody documents are attached.

The purging pump was decontaminated between each boring by rinsing with tap water to remove particulates, washing with a tri-sodium phosphate solution, and rinsing with deionized water.

Groundwater Sample Analysis and Results

Each groundwater sample was analyzed for aromatic hydrocarbons by gas chromatography according to USEPA test method 8020 with a minimum detection limit of 0.3 $\mu\text{g/l}$ for benzene, toluene, and ethylbenzene, and 0.5 $\mu\text{g/l}$ for total xylene isomers. In addition, each sample was analyzed for total petroleum hydrocarbons as gasoline and diesel according to the California Water Resources Board Draft Method for TPH.

Results of the analysis according to USEPA test method 8020 revealed concentrations of TPH-g in groundwater samples from wells MW-A2, MW-4A, and MW-6 ranging from 0.11 mg/l to 0.59 mg/l. Benzene concentrations were identified in groundwater samples from wells MW-A2, MW-6, and MW-7 ranging from 1 $\mu\text{g/l}$ to 150 $\mu\text{g/l}$. Laboratory data is summarized in Table 1, and laboratory reports are attached.

Ms. Susan Hugo
Alameda County Health Care Services Agency
February 19, 1993
Page 4

Disposal of Purged Groundwater

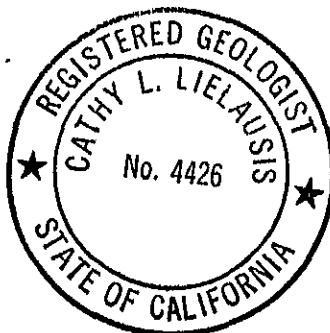
Groundwater purged during sampling operations was placed in 55-gallon D.O.T.-approved drums for on-site storage pending characterization.

We will be happy to discuss any questions you or your staff may have regarding our investigation or report.

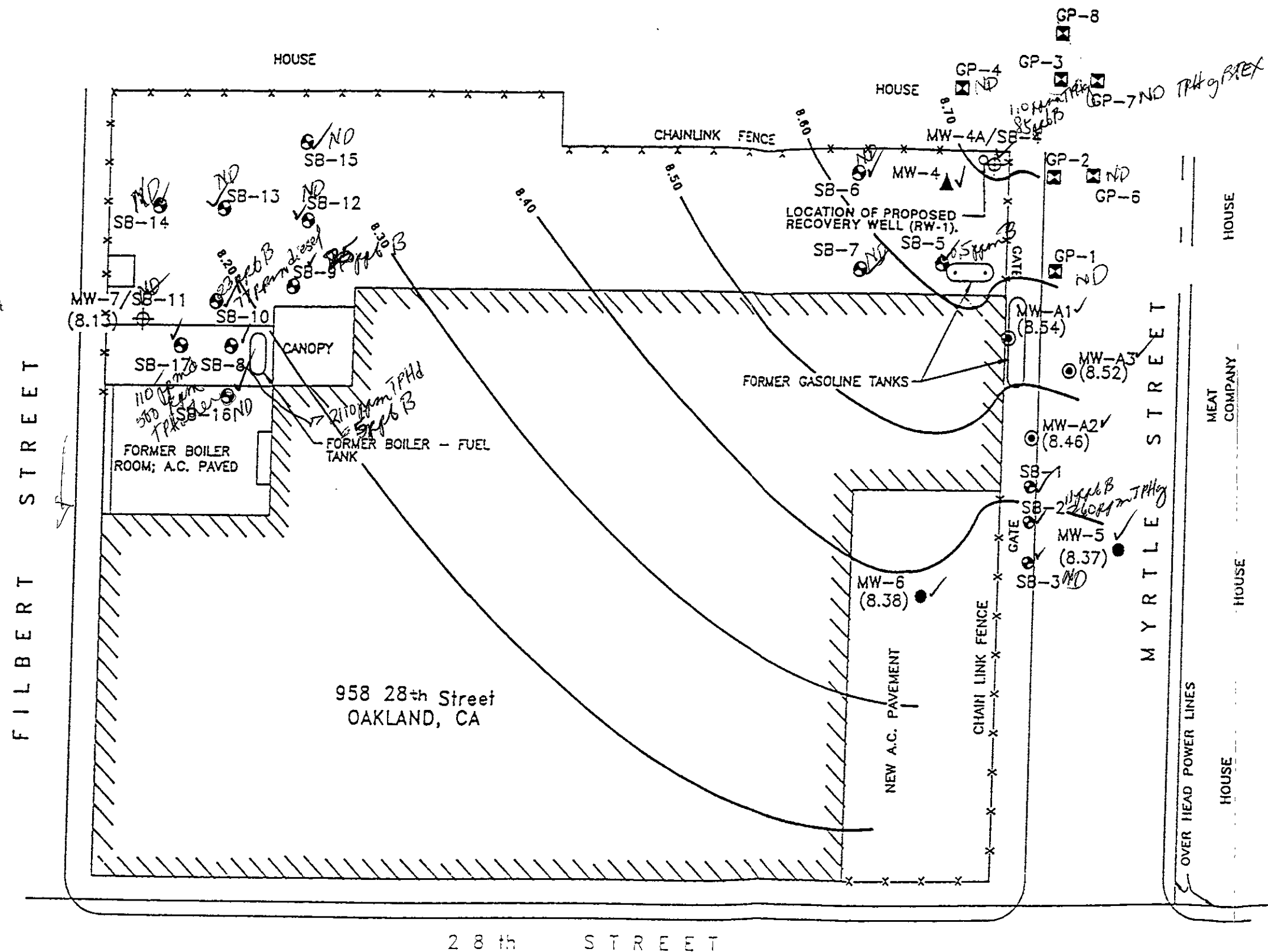
Respectfully submitted,

Cathy L. Lielausis

Cathy L. Lielausis, RG, REA
Senior Geologist



- Enc: Figure 1. Site Plan
Table 1. Summary of Groundwater Sample Analyses
Table 2. Groundwater Sample Collection Data, November 4-5, 1992
Table 3. Groundwater Level Observations, November 4, 1992
Analytical Laboratory Report/Chain-of-Custody Documents



- NOTES:**
1. Top of casing elevations based on survey relative to mean sea level.
 2. Groundwater elevations and interpretations based on measurements of December 12, 1991, by RMT, Inc.
 3. Well MW-A3 monitors interval from 23.5'-31.0'; all others monitor groundwater above 25-foot depth.
 4. Wells MW-A1 & MW-A2 may be influenced by proximity of former tank excavation which was back-filled with pea gravel that would act as a sink relative to in situ soils and geology

- Legend:**
- ⊙ Groundwater monitoring wells installed by IT corp. February 1989.
 - Groundwater monitoring wells installed by RMT, Inc: 3/90.
 - ⊕ Groundwater monitoring wells installed by RMT, Inc: 7/91
 - ▲ Abandoned groundwater monitoring well.
 - (8.25') Groundwater elevation in feet MSL as of December 12, 1991 by RMT, Inc.
 - 8.20 Top of first groundwater based on groundwater elevations and interpreted subsurface conditions.
 - ⊠ GP-1 "Geoprobe" investigation location.

ARATEX SERVISCO
SITE PLAN / GROUNDWATER CONTOUR MAP

RMT INC.	DATE: DEC., 1992
	PROJECT: 12012.13
	FILE #: 12012131
	DRAWN BY: PAS

FIGURE 1

TABLE 1.
SUMMARY OF SOIL AND GROUNDWATER SAMPLE ANALYSES

Boring	Date	Depth (feet)	8020				TPH-g	TPH-d	TPH-other
			Benzene	Toluene	Ethylbenzene	Xylenes			
SB-2	3-5-90	10	<5.0 µg/kg	8.5 µg/kg	<5.0 µg/kg	47 µg/kg	18 mg/kg	<10 mg/kg	*
	3-5-90	15	11 µg/kg	290 µg/kg	<5.0 µg/kg	510 µg/kg	260 mg/kg	<10 mg/kg	--
SB-3	3-5-90	9.5	<5.0 µg/kg	<5.0 µg/kg	<5.0 µg/kg	<10 µg/kg	<10 mg/kg	<10 mg/kg	--
	3-5-90	13	<5.0 µg/kg	<5.0 µg/kg	<5.0 µg/kg	<10 µg/kg	<10 mg/kg	<10 mg/kg	--
SB-4	7-16-91	9	<25 µg/kg	<25 µg/kg	<25 µg/kg	<25 µg/kg	<1.0 mg/kg	<1.0 mg/kg	150 mg/kg ¹
	7-16-91	12	130 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	15	85 µg/kg	5 µg/kg	30 µg/kg	55 µg/kg	1.07 mg/kg	<1.0 mg/kg	ND
	7-16-91	17.5	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-5	7-15-91	5.5	<2.5 µg/kg	5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-15-91	8	500 µg/kg	100 µg/kg	450 µg/kg	750 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-15-91	12.5	5 µg/kg	4 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-6	7-15-91	9	<2.5 µg/kg	5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-15-91	10.5	<2.5 µg/kg	8 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-15-91	12	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-7	7-15-91	7.5	<2.5 µg/kg	5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-15-91	9.5	<2.5 µg/kg	10 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-15-91	12.5	<2.5 µg/kg	13 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-8	7-17-91	2.5	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	65 µg/kg	<1.0 mg/kg	24 mg/kg	98 mg/kg ²
	7-17-91	9	5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	2110 mg/kg	ND
	7-17-91	10	40 µg/kg	10 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	310 mg/kg	ND
SB-9	7-16-91	2	10 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	6	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	9.5	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	12	25 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-10	7-16-91	6	<5.0 µg/kg	<5.0 µg/kg	<5.0 µg/kg	<5.0 µg/kg	<1.0 mg/kg	<1.0 mg/kg	344 mg/kg ¹
	7-16-91	9.5	23 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	14	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	77 mg/kg	ND
SB-11	7-17-91	2	<25 µg/kg	<25 µg/kg	<25 µg/kg	<25 µg/kg	<1.0 mg/kg	120 mg/kg	23 mg/kg ²
	7-17-91	9	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-12	7-16-91	2	<2.5 µg/kg	4 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	8	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	9.5	<2.5 µg/kg	5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-16-91	14	<2.5 µg/kg	10 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-13	7-17-91	2	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-17-91	7	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-17-91	9	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-14	7-17-91	2	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-17-91	7	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-17-91	11	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-15	7-17-91	4	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-17-91	8.5	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-16	7-17-91	9	<2.5 µg/kg	330 µg/kg	<2.5 µg/kg	410 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
	7-17-92	11	<2.5 µg/kg	70 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND
SB-17	7-17-91	3.5	<25 µg/kg	100 µg/kg	<25 µg/kg	450 µg/kg	<1.0 mg/kg	20 mg/kg	120 mg/kg ²
	7-17-91	5	<25 µg/kg	80 µg/kg	<25 µg/kg	380 µg/kg	<1.0 mg/kg	110 mg/kg	500 mg/kg ²
	7-17-91	10.5	<2.5 µg/kg	40 µg/kg	<2.5 µg/kg	<2.5 µg/kg	<1.0 mg/kg	<1.0 mg/kg	ND

Note: -- - Not analyzed for this constituent
* - Free product present

1. TPH as jet fuel
2. TPH as hydraulic oil

GW - Groundwater Sample

**TABLE 1.
SUMMARY OF SOIL AND GROUNDWATER SAMPLE ANALYSES**

Boring	Date	Depth (feet)	8020				TPH-g	TPH-d	TPH- other
			Benzene	Toluene	Ethylbenzene	Xylenes			
MW-A1	2-16-89	17.5	<50 µg/kg	<100 µg/kg	<100 µg/kg	300 µg/kg	<5 mg/kg	<10 mg/kg	--
	3-8-89	GW	120 µg/l	150 µg/l	60 µg/l	2100 µg/l	7.2 mg/l	12 mg/l	--
	5-31-89	GW	250 µg/l	57 µg/l	11 µg/l	210 µg/l	5.8 mg/l	5.07 mg/l	--
	9-13-89	GW	16 µg/l	12 µg/l	8.9 µg/l	37 µg/l	2.7 mg/l	1.0 mg/l	--
	12-5-89	GW	3.6 µg/l	<0.2 µg/l	4.7 µg/l	24.3 µg/l	0.5 mg/l	<0.5 mg/l	--
	3-21-90	GW	3.6 µg/l	<0.2 µg/l	4.7 µg/l	24.3 µg/l	1.3 mg/l	<0.5 mg/l	--
	11-13-90	GW	1.3 µg/l	<0.5 µg/l	<0.5 µg/l	35.3 µg/l	0.296 mg/l	--	--
	7-18-91	GW	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.05 mg/l	<0.05 mg/l	ND
	12-11-91	GW	0.3 µg/l	<0.3 µg/l	<0.3 µg/l	1 µg/l	0.092 mg/l	<0.01 mg/l	--
MW-A2	2-17-89	5.5	50 µg/kg	100 µg/kg	<100 µg/kg	300 µg/kg	33 mg/kg	180 mg/kg	--
	2-17-89	9.5	1400 µg/kg	6000 µg/kg	11000 µg/kg	58000 µg/kg	390 mg/kg	310 mg/kg	--
	2-17-89	14.5	22000 µg/kg	190000 µg/kg	67000 µg/kg	420000 µg/kg	4000 mg/kg	4100 mg/kg	--
	2-17-89	19.5	1000 µg/kg	800 µg/kg	200 µg/kg	1000 µg/kg	8 mg/kg	<10 mg/kg	--
	3-8-89	GW	380 µg/l	200 µg/l	<0.3 µg/l	10 µg/l	5.2 mg/l	7.7 mg/l	--
	5-31-89	GW	150 µg/l	4 µg/l	<0.3 µg/l	11 µg/l	<0.5 mg/l	<0.5 mg/l	--
	9-13-89	GW	56 µg/l	4.4 µg/l	4.8 µg/l	11 µg/l	1.9 mg/l	0.6 mg/l	--
	12-5-89	GW	63 µg/l	10 µg/l	21 µg/l	2.9 µg/l	3.5 mg/l	<0.5 mg/l	--
	3-21-90	GW	35 µg/l	2.4 µg/l	<0.2 µg/l	18.9 µg/l	1.1 mg/l	<0.5 mg/l	--
	11-13-90	GW	32.5 µg/l	2.4 µg/l	<0.5 µg/l	3.4 µg/l	0.719 mg/l	--	--
	7-18-91	GW	28 µg/l	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.05 mg/l	<0.05 mg/l	ND
	12-11-91	GW	90 µg/l	3 µg/l	2 µg/l	2 µg/l	0.44 mg/l	<0.01 mg/l	--
	MW-A3	2-17-89	4.5	<50 µg/kg	<100 µg/kg	<100 µg/kg	<300 µg/kg	<5 mg/kg	<10 mg/kg
2-17-89		9.5	420 µg/kg	<100 µg/kg	<100 µg/kg	<300 µg/kg	<5 mg/kg	<10 mg/kg	--
2-17-89		14.5	<50 µg/kg	<100 µg/kg	<100 µg/kg	<300 µg/kg	<5 mg/kg	<10 mg/kg	--
3-8-89		GW	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 mg/l	<0.5 mg/l	--
5-31-89		GW	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 mg/l	0.93 mg/l	--
9-13-89		GW	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 mg/l	<0.5 mg/l	--
12-5-89		GW	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 mg/l	<0.5 mg/l	--
3-21-90		GW	<0.2 µg/l	<0.2 µg/l	<0.2 µg/l	<1.0 µg/l	<0.5 mg/l	<0.5 mg/l	--
11-13-90		GW	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.05 mg/l	--	--
7-18-91		GW	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.05 mg/l	<0.05 mg/l	ND
12-11-91		GW	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 µg/l	<0.01 mg/l	<0.01 mg/l	--
MW-4	3-5-90	10	350 µg/kg	570 µg/kg	1500 µg/kg	4600 µg/kg	3300 mg/kg	145 mg/kg	--
	3-5-90	15	29 µg/kg	22 µg/kg	66 µg/kg	239 µg/kg	12 mg/kg	<10 mg/kg	--
	3-22-90	GW*	1500 µg/l	17 µg/l	<10 µg/l	2020 µg/l	20 mg/l	<0.5 mg/l	--
MW-4A	7-19-91	GW	68 µg/l	3.0 µg/l	8.0 µg/l	31 µg/l	2.60 mg/l	<0.05 mg/l	ND
	12-11-91	GW	2 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 µg/l	0.29 mg/l	<0.01 mg/l	--
MW-5	3-5-90	10	<5.0 µg/kg	8.2 µg/kg	<5.0 µg/kg	<10 µg/kg	<10 mg/kg	<10 mg/kg	--
	3-5-90	15	<5.0 µg/kg	6.2 µg/kg	<5.0 µg/kg	<10 µg/kg	<10 mg/kg	<10 mg/kg	--
	3-22-90	GW	<0.2 µg/l	<0.2 µg/l	<0.2 µg/l	<1.0 µg/l	<0.5 mg/l	<0.5 mg/l	--
	11-13-90	GW	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.05 mg/l	--	--
	7-19-91	GW	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.05 mg/l	<0.05 mg/l	ND
12-11-91	GW	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 µg/l	<0.01 mg/l	<0.01 mg/l	--	
MW-6	3-5-90	10	5.5 µg/kg	74 µg/kg	<5.0 µg/kg	130 µg/kg	38 mg/kg	<10 mg/kg	--
	3-5-90	15	26 µg/kg	80 µg/kg	<5.0 µg/kg	95 µg/kg	44 mg/kg	<10 mg/kg	--
	3-22-90	GW	<0.2 µg/l	<0.2 µg/l	<0.2 µg/l	<1.0 µg/l	<0.5 mg/l	<0.5 mg/l	--
	11-13-90	GW	7.9 µg/l	<0.5 µg/l	<0.5 µg/l	1.8 µg/l	0.07 mg/l	--	--
	7-19-91	GW	42 µg/l	1.0 µg/l	3.0 µg/l	9.0 µg/l	0.30 mg/l	<0.05 mg/l	ND
12-11-91	GW	8 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 µg/l	0.16mg/l	<0.01 mg/l	--	
MW-7	7-19-91	GW	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.5 µg/l	<0.05 mg/l	<0.05 mg/l	ND
	12-11-91	GW	<0.3 µg/l	<0.3 µg/l	<0.3 µg/l	<0.5 µg/l	0.18 mg/l	<0.01 mg/l	--
SB-1	3-5-90	10	13 µg/kg	10 µg/kg	<5.0 µg/kg	35 µg/kg	15 mg/kg	<10 mg/kg	--
	3-5-90	15	10 µg/kg	6.2 µg/kg	37 µg/kg	68 µg/kg	<10 mg/kg	<10 mg/kg	--

1992

N
↑
Gravel

TABLE 1. SUMMARY OF GROUNDWATER SAMPLE ANALYSES								
Boring	Date	8020 µg/l				TPH-g (mg/l)	TPH-d (mg/l)	TPH- other
		Benzene	Toluene	Ethylbenzene	Xylenes			
MW-A1	3-8-89	120	150	60	2100	7.2	12	--
	5-31-89	250	57	11	210	5.8	5.07	--
	9-13-89	16	12	8.9	37	2.7	1.0	--
	12-5-89	3.6	<0.2	4.7	24.3	0.5	<0.5	--
	3-21-90	3.6	<0.2	4.7	24.3	1.3	<0.5	--
	11-13-90	1.3	<0.5	<0.5	35.3	0.296	--	--
	7-18-91	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	ND
	12-11-91	0.3	<0.3	<0.3	1	0.092	<0.01	--
5/12/93	11-4-92	<0.3	<0.3	<0.3	<0.5	<0.01	<0.01	--
MW-A2	3-8-89	380	200	<0.3	10	5.2	7.7	--
	5-31-89	150	4	<0.3	11	<0.5	<0.5	--
	9-13-89	56	4.4	4.8	11	1.9	0.6	--
	12-5-89	63	10	21	2.9	3.5	<0.5	--
	3-21-90	35	2.4	<0.2	18.9	1.1	<0.5	--
	11-13-90	32.5	2.4	<0.5	3.4	0.719	--	--
	7-18-91	28	<0.5	<0.5	<0.5	<0.05	<0.05	ND
	12-11-91	90	3	2	2	0.44	<0.01	--
	11-4-92	150	65	10	9	0.41	0.48	<0.01
MW-A3	3-8-89	<0.3	<0.3	<0.3	<0.3	<0.5	<0.5	--
	5-31-89	<0.3	<0.3	<0.3	<0.3	<0.5	0.93	--
	9-13-89	<0.3	<0.3	<0.3	<0.3	<0.5	<0.5	--
	12-5-89	<0.3	<0.3	<0.3	<0.3	<0.5	<0.5	--
	3-21-90	<0.2	<0.2	<0.2	<1.0	<0.5	<0.5	--
	11-13-90	<0.5	<0.5	<0.5	<0.5	<0.05	--	--
	7-18-91	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	ND
	12-11-91	<0.3	<0.3	<0.3	<0.5	<0.01	<0.01	--
	11-04-92	<0.3	<0.3	<0.3	<0.5	<0.01	<0.01	<0.01
MW-4	3-22-90*	1500	17	<10	2020	20	<0.5	--
MW-4A	7-19-91	68	3.0	8.0	31	2.60	<0.05	ND
	12-11-91	2	<0.3	<0.3	<0.5	0.29	<0.01	--
	11-4-92	<0.3	0.5	0.5	1	0.59	<0.01	--
MW-5	3-22-90	<0.2	<0.2	<0.2	<1.0	<0.5	<0.5	--
	11-13-90	<0.5	<0.5	<0.5	<0.5	<0.05	--	--
	7-19-91	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	ND
	12-11-91	<0.3	<0.3	<0.3	<0.5	<0.01	<0.01	--
	11-5-92	<0.3	<0.3	<0.3	<0.5	<0.01	<0.01	<0.01
MW-6	3-22-90	<0.2	<0.2	<0.2	<1.0	<0.5	<0.5	--
	11-13-90	7.9	<0.5	<0.5	1.8	0.07	--	--
	7-19-91	42	1.0	3.0	9.0	0.30	<0.05	ND
	12-11-91	8	<0.3	<0.3	<0.5	0.16	<0.01	--
	11-4-92	8	<0.3	2	1	0.11	<0.01	<0.01
MW-7	7-19-91	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	ND
	12-11-91	<0.3	<0.3	<0.3	<0.5	0.18	<0.01	--
	11-4-92	1	<0.3	<0.3	<0.5	<0.01	<0.01	<0.01

H2O Table
Elevation
(ft)

0.12

0.02

0.05

Note: -- Not analyzed for this constituent
* - Free product present



Table 2.
Groundwater Sample Collection Data, November 4-5, 1992

Groundwater Monitoring Well MW-A1					
Time	Gallons Purged	Temperature (°C)	Conductivity	pH	Turbidity
3:45 pm	8	18.8	0.61	6.41	slightly turbid
3:47 pm	16	18.5	0.60	6.43	slightly turbid
3:50 pm	24	18.5	0.60	6.43	slightly turbid
4:55 pm	sample				25.0 NTU

Groundwater Monitoring Well MW-A2					
Time	Gallons Purged	Temperature (°C)	Conductivity	pH	Turbidity
3:24 pm	10	18.5	0.59	6.54	slightly turbid
3:27 pm	20	18.6	0.58	6.54	slightly turbid
3:30 pm	30	18.5	0.59	6.56	almost clear
3:40 pm	sample				85.7 NTU

Groundwater Monitoring Well MW-A3					
Time	Gallons Purged	Temperature (°C)	Conductivity	pH	Turbidity
8:22 am	14	18.4	0.58	6.24	clear
8:26 am	28	18.3	0.58	6.32	clear
8:30 am	42	18.3	0.58	6.33	clear
8:45 am	sample				12.1 NTU

Groundwater Monitoring Well MW-4A					
Time	Gallons Purged	Temperature (°C)	Conductivity	pH	Turbidity
5:27 pm	8	18.7	0.93	6.20	turbid
5:37 pm	16	18.7	1.09	6.15	very turbid
5:55 pm	17	18.9	1.05	6.65	very turbid
6:20 pm	sample				1000 NTU

Groundwater Monitoring Well MW-5					
Time	Gallons Purged	Temperature (°C)	Conductivity	pH	Turbidity
7:35 am	11	18.8	0.83	6.15	slightly turbid
7:42 am	22	18.6	0.68	6.30	slightly turbid
7:47 am	33	18.6	0.66	6.33	slightly turbid
8:05 am	sample				52.2 NTU

Table 2 (cont.)
Groundwater Sample Collection Data, November 4-5, 1992

Groundwater Monitoring Well MW-6					
Time	Gallons Purged	Temperature (°C)	Conductivity	pH	Turbidity
4:04 pm	11	19.8	0.75	6.41	clear
4:12 pm	22	19.1	0.76	6.46	clear
4:15 pm	33	19.1	0.76	6.48	clear
4:30 pm	sample				5.09 NTU

Groundwater Monitoring Well MW-7					
Time	Gallons Purged	Temperature (°C)	Conductivity	pH	Turbidity
2:54 pm	12	19.2	0.97	6.58	turbid
2:57 pm	24	18.5	0.87	6.43	very turbid
3:00 pm	36	18.5	0.83	6.48	very turbid
5:10 pm	sample				9.82 NTU

Table 3.
Groundwater Level Observations
November 4, 1992

Monitoring Well	Time	Depth to Water (feet)	Top of Casing Elevation (feet above MSL)	Groundwater Elevation (feet above MSL)
MW-A1	2:26 pm	14.65	23.50	8.85
MW-A2	2:24 pm	14.10	22.87	8.77
MW-A3	2:17 pm	14.25	23.08	8.83
MW-4A	2:30 pm	15.15	24.13	8.98
MW-5	2:12 pm	14.20	22.89	8.69
MW-6	2:27 pm	14.65	23.37	8.72
MW-7	2:37 pm	12.68	21.37	8.69