

AT
MAY 23 11:59

May 23, 1994
SCI 820.001

Ms. Susan Hugo
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, California 94621

ALCO
HAZMAT
94 MAY 31 AM 11:59

**Summary of Environmental
Investigation/Remediation
6707 Bay Street
Emeryville, California**

Dear Ms. Hugo:

This letter presents a summary prepared by Subsurface Consultants, Inc. (SCI) of the results of environmental investigation/remediation at the referenced site. The site consists of a 2.2 acre parcel which is currently occupied by two buildings; a 15,000-square foot office building and a 55,000-square foot warehouse. The buildings and site layout are shown on the attached Site Plan, Plate 1.

4.6 acre lot per permit
Site Post 3/8/94

Site History

The site was reclaimed from the San Francisco Bay, beginning in 1947, by gradually filling the low-lying marsh along the bay margin. During this time period, a municipal landfill was operated on a portion of the site and on the properties to the south.

From 1963 to 1979, Dymo Industries, Inc., a label tape and label tape puncher manufacturer owned by Esselte Pendeflex Corporation, operated on-site. Dymo reportedly used virgin methyl isobutyl ketone (MIBK, or 4-methyl-2-pentanone) and methyl ethyl ketone (MEK or 2-butanone) in their processing. Chemicals used in Dymos process were stored on-site in underground storage tanks (UST) at the approximate location shown on Plate 2.

■ **Subsurface Consultants, Inc.**

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From 1979 to 1989, Mike Roberts Color Productions (MRCP) operated on-site. MRCP manufactured and printed color postcards and expanded into color printing, lithography and off-set printing operations. These activities produced waste materials including inks, solvent cleaning compounds and color pigments. These materials were contained in 55-gallon drums, which were placed in a drum storage area located at the west side of the site, as shown on Plate 1. The drum storage area was paved with asphalt concrete. The drums were placed on metal plates which covered the asphalt concrete. MRCP was unaware of the existence of the UST's situated along Bay Street. The tanks were not used by MRCP.

Nady Systems, Inc., the current property owner, purchased the property from MRCP in 1990. Nady Systems, Inc. is a distributor and packager of communications systems, such as wireless microphones. Nady Systems, Inc. occupies the existing office building and leases the existing warehouse to a ceramic tile distributor. Reportedly, neither Nady Systems, Inc., nor the tile distributor, use or store substantial quantities of chemicals. The UST's were removed prior to Nady's occupancy of the property.

Soil Conditions

The site is underlain by up to 25 feet of heterogenous fill which consists of interbedded layers of sands, silty clays, gravels and construction debris including concrete and asphalt fragments. The construction debris is limited to the upper 10 to 15 feet of fill. The lower 10 feet of fill consists of silty clays and silty sands with organic debris. An oily substance was encountered in several of the test borings, between depths of 10 and 20 feet. Underlying the fill is about 5 feet of soft to medium stiff silty clay (Bay Mud). Underlying the Bay Mud, and extending to the maximum depths drilled, is alluvium, consisting of stiff silty and sandy clays and dense silty sands.

Groundwater Conditions

Groundwater currently exists approximately 8 to 12 feet below the ground surface. This corresponds to groundwater elevations varying from 8 to 12 feet mean sea level datum. The groundwater elevations indicate that groundwater in the tank area generally flows toward the northwest at a gradient of approximately 3.0 percent. Groundwater in the west portion of the site flows in a westerly direction. The most recent groundwater gradient is presented on Plate 1.

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Environmental Concerns

Numerous investigations and remedial activities have been performed at the site. A list of the documents reviewed is presented in Table 1. A compilation of analytical test data, is summarized in Tables 2 through 10. Test boring and well logs are attached.

Based on a review of the analytical data, the following potential environmental concerns were identified:

1. Drum storage area,
2. Drainage ditch area,
3. Sump area,
4. Underground storage tank area,
5. Landfill materials, and
6. Groundwater quality.

Conclusions regarding these concerns are summarized in the following sections.

Drum Storage Area

In March 1989, the eighty-nine (89) drums and their contents were removed from the storage area at the west side of the property. The drum contents were disposed of at the Gibson Oil & Refining Facility in Bakersfield, California.

Following drum disposal, Test Borings IS-1, IS-2 and MW-7 were drilled adjacent to the drum storage area. Analytical results indicate that the shallow soils, to a depth of 7 feet, contain oil and grease, toluene, xylene, several heavy metals, and total extractable hydrocarbons (TEH). Review of the analytical test data from the entire site indicates that the types and distribution of contaminants are similar to those found throughout the landfill materials. It is our opinion, that the soil beneath the drum storage area pavements have not been impacted by releases in the drum storage area.

3?

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Drainage Ditch Area

An unpaved drainage ditch exists along the west property boundary. Surface drainage from the Interstate 80/Ashby Avenue offramp and the west side of the site, is collected in the ditch. During a 1989 environmental assessment of the site, soil sample SS-1 was obtained from the drainage ditch. Analytical test results from SS-1 indicated that elevated levels of oil and grease, acetone, toluene, xylene, ethylbenzene, heavy metals and semi-volatile organics, and relatively low levels of PCB's were present in the drainage ditch area. In August 1989, the shallow soils to a depth of approximately 3 feet in the area shown on Plate 1, were excavated and disposed of at an off-site facility. Soil samples designated as "Soil 3" and "Soil 4", were obtained from the excavation following soil removal. The soil samples were analyzed for volatile organics and were found to contain elevated concentrations of toluene, xylene and ethylbenzene. The presence of these constituents strongly suggests the presence of gasoline as the contaminant source. Gasoline was not used by MRCP or Dymo.

Previous Sump

An exterior concrete sump was located outside the northwest corner of the warehouse. A liquid sample obtained from the sump in 1989 contained low levels of oil and grease, TEH and some heavy metals. The sump was removed in 1989. Soil samples "Soil 5" and "Sump", were obtained from the sump excavation. The soil samples contained oil and grease, some heavy metals and PCBs at concentrations typical of those found throughout the landfill. Hence, the sump is not judged to represent a source of contamination at the site.

Underground Storage Tank Area

In October 1989, three (3) UST's (one 2,000-gallon, one 1,650-gallon, and one-3,200-gallon) were removed from the site. Analytical test results following tank removal, indicated that soils in the tank area contained significantly elevated levels of MIBK, benzene, xylene and dichlorobenzene, and low levels of TEH, TVH, ethylbenzene and toluene, and semi-volatile organics.

A remediation system consisting of soil vapor extraction and groundwater extraction and treatment was installed and operated for 6 to 7 months in 1990 and 1991. The system was decommissioned in 1993 by SCI in accordance with a work plan which was approved by the ACHCSA.

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Analytical data indicates that after operation of the system, MIBK concentrations, as well as other contaminant concentrations, were significantly reduced. However, elevated levels of MIBK remain predominately within clayey landfill materials situated downgradient of the tank area.

SCI is currently conducting an assessment of the MIBK contaminated area. The data generated by the current assessment is included in the attached tables. An evaluation of remediation alternatives is planned.

Contaminated Fill

The site is underlain by up to 25 feet of heterogeneous fill of unknown origin. The fill consists of silty and clayey sands, silty clays and clayey silts. Construction debris was encountered in the upper 10 feet of fill in some areas. The fill contains oil and grease, heavy metals and volatile and semi-volatile organics. The types, distribution and concentrations of contaminants appear to be similar to those documented at other filled sites in Emeryville. It is our opinion that these contaminants are associated with wastes which were placed during filling of the site and are not associated with the developed use of the site.

Groundwater Quality

MEK?
TDC?
BTEX

Significant groundwater impact appears to be limited to the previous underground tank area where MIBK concentrations up to 19,000 ug/l currently exist. Petroleum hydrocarbons, volatile and semi-volatile organics and heavy metals have been detected at significantly lower concentrations. In our opinion, other than the MIBK, the low level groundwater contaminants are associated with contaminants in the fill rather than on-site uses.

Discussion and Conclusions

Based on the data, additional study and/or monitoring of the site other than in the tank area, is not warranted. Contaminants exist throughout the site which, in our opinion, represent background conditions within the landfill area. It does not appear that the site has been impacted by past on-site activities in areas other than the tank area.

SCI is currently assessing remedial alternatives for the tank area. Within the tank area, the extent of soil and groundwater

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contamination is well defined. The most appropriate remedial alternative will be negotiated with the ACHCSA and the Regional water Quality Control Board.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/96)

MK:RWR:JNA:clh

Attachments:	Plate 1	-	Site Plan
	Plate 2	-	Tank Area Plan
	Table 1	-	List of Documents Reviewed
	Table 2	-	Petroleum Hydrocarbon Concentrations in Soil
	Table 3	-	Volatile Organic Chemical Concentrations in Soils
	Table 4	-	Organochlorine Pesticides and PCB Concentrations in Soils
	Table 5	-	Semi-Volatile Organic Chemical Concentrations in Soils
	Table 6	-	Heavy Metal Concentrations in Soils
	Table 7	-	Petroleum Hydrocarbon Concentrations in Groundwater
	Table 8	-	Volatile Organic Chemical Concentrations in Groundwater
	Table 9	-	Semi-Volatile Organic Chemical Concentrations in Groundwater
	Table 10	-	Heavy Metal Concentrations in Groundwater

cc: Mr. James McClay, MRCP Realty
Mr. Brian Berger, Pettit & Martin
Mr. Kirk Jamieson, Pettit & Martin

May 23, 1994

Mr. James J. McClay
MRCP Realty
Scenic Art, Inc.
6262 Hollis Street
Emeryville, California 94608

Re: 6707 Bay Street, Emeryville

Dear Mr. McClay:

The purpose of this letter is to document, in response to your request, the history of the above-referenced site with respect to MRCP's status as a responsible party, and its site characterization and remediation activities there, pursuant to California Law and the directives of the Alameda County Health Care Services Agency ("ACHCSA").

From 1963 to 1979, Dymo Industries, Inc., a label tape and label tape puncher manufacturer owned by Esselte Pendaflex Corporation, operated on site, located at 6707 Bay Street, Emeryville California. During this time, virgin methyl isobutyl ketone (MIBK, or 4-methyl-2-pentanone) and methyl ethyl ketone (MEK) were used and stored on site. One or both of these chemicals were stored in underground storage tanks on site, which were abandoned after Dymo stopped operating there.

From 1979 to 1989, Mike Roberts Color Productions (MRCP) operated on-site. MRCP manufactured and printed color postcards and expanded into color printing, lithography and offset printing operations. The UST's were not used during this period.

Nady Systems, Inc. purchased the property from MRCP in 1990.

1/24/89. ACHCSA inspector Dennis J. Byrne inspected the site, noting the presence of chemical drums.

3/2/89. ACHCSA issued a Notice Of Violation to James McClay, MRCP, alleging violations of four sections of the California Code of Regulations, Title 22, including:

- Site lacks EPA identification number for hazardous wastes stored on site;
- No copies of hazardous waste manifests on site;
- On-site storage of hazardous waste for more than 90 days, and
- Hazardous waste storage areas lacked secondary containment.

MRCP was requested — and required by law — to submit a work plan to correct each violation specified.

3/9/89. MRCP submitted a work plan to the ACHCSA, describing the ways in which it intended to comply with our directives.

8/30/89. In the process of complying with the Notice Of Violation, MRCP discovered the three abandoned underground storage tanks, which still contained product. As required by California law, MRCP submitted an underground tank closure/modification plan with this agency to purge and remove the tanks. This plan was subsequently approved on August 30, 1989.

10/5/89. The underground storage tanks were removed and disposed of off-site. Prior to removal, approximately 1075 gallons of liquid were removed from the tanks with a vacuum truck and vapors were purged by adding dry ice. Holes were noted in periphery of one of the tanks. Soil samples were obtained from the tank excavation, beneath the ends of the tanks, under the direction of Dennis J. Byrne, ACHCSA. Soil samples obtained from the tank excavation detected significant concentrations of MIBK. As the property owner, MRCP was (and is) a responsible party and is required by law to remediate the MIBK contamination. Dymo, the company that used the tanks, could also be found to be a responsible party under California law.

1/30/90. SCS Engineers (SCS), environmental consultants to MRCP, installed a monitoring well, (MW-8) within 10 feet of the previous excavated underground storage tanks in the verified downgradient direction, to satisfy regulatory requirements. Initial MIBK concentration in a groundwater sample from MW-8 exceeded 160 ppm, a concentration in excess of State of California action levels. Other contaminants were also detected at the site including: Oil and grease, heavy metals, low levels of BTEX, and several semi-volatile organic chemicals, primarily coal tar derivatives. As a responsible party, MRCP was required by law to remediate the MIBK contamination. Had they refused to remediate the MIBK contamination, they would have been subject to prosecution and fines pursuant to California law.

July, 1990. Pursuant to its legal obligations, MRCP installed and operated a soil vapor extraction system, which was designed to remediate volatile contaminants within the vadose zone in the tank area.

8/20/90. SCS submitted a work plan to the ACHCSA to remediate the MIBK plume in groundwater. The work plan also described the work completed to date, and provided a preliminary assessment of the MIBK plume.

9/12/90. Site inspection by Dennis J. Byrne of ✓
ACHCSA.

October, 1990. Groundwater treatment system, ✓
designed to remediate MIBK contamination in groundwater, was
installed and operated pursuant to ACHCSA's approval.

1/30/91. ACHCSA in a letter to Nady Systems, the
new property owner, stated concerns with respect to the
disposal of treated water, ✓ further work that needed to be
done and other matters. The ACHCSA also considered Nady ✓
Systems, as the current owner of the property, to be a
responsible party.

2/25/91. SCS submitted a report to ACHCSA, ✓
indicating sampling and analysis done to conform to
requirements of ACHCSA.

12/9/91. PES Environmental, Inc. (PES), MRCP's
environmental consultant, requested, in a report to
Dennis Byrne of the ACHCSA, that the ACHCSA approve "no
further action" with respect to soil characterization or
remediation in the former underground storage tank area and
recommended that three additional quarters of ground water
monitoring data be collected.

2/26/92. Entry in file from ACHCSA, local ✓
oversight program, concerning status of MIBK and remediation
plan.

3/9/92. ACHCSA notice of requirement to reimburse ✓
noted that MRCP has been "identified as the party or parties
responsible for investigation and cleanup of" 6707 Bay ✓
Street.

9/29/92. ACHCSA's Brian Oliva met with PES ✓
regarding status of site. Among other things, ACHCSA sought
additional information and asked PES to contact a ✓
representative from the Regional Water Quality Control Board
(RWQCB) for an appointment regarding the levels of MIBK in
groundwater in the tank area.

4/22/93. Subsurface Consultants, Inc. (SCI), ✓
MRCP's consultant, submitted a work plan to Brian Oliva,
ACHCSA, to decommission the soil vapor extraction system and
re-initiate groundwater monitoring in the previous tank
area.

5/10/93. ACHCSA's Brian Oliva stated concerns
regarding the proposed work plan in a letter to Nady
Systems.

6/14/93. Status letter to Brian Oliva, ACHCSA, from SCI, with results of groundwater monitoring event and treatment system decommissioning performed by SSI in May, 1993. ✓

7/27/93. ACHCSA, SCI, MRCP, and Richard Hiatt, of RWQCB, met concerning the site. Hiatt indicated that additional investigation must be performed to define the extent of MIBK contamination in the soil and groundwater before the RWQCB/ACHCSA would approve long term monitoring or "no further action." ✓

9/15/93. SCI letter to ACHCSA recording the results of a groundwater monitoring event performed in August, 1993. ✓

1/8/94. SCI letter to ACHCSA recording the results of a groundwater monitoring event performed in November, 1993. ✓

3/18/94. SCI submitted a work plan to ACHCSA (Susan Hugo) to further characterize the extent of soil and ground water contamination associated with a release of MIBK from the previous tanks at the referenced site. ✓

4/5/94. SCI letter to ACHCSA recording the results of a groundwater monitoring event performed in February, 1994. ✓

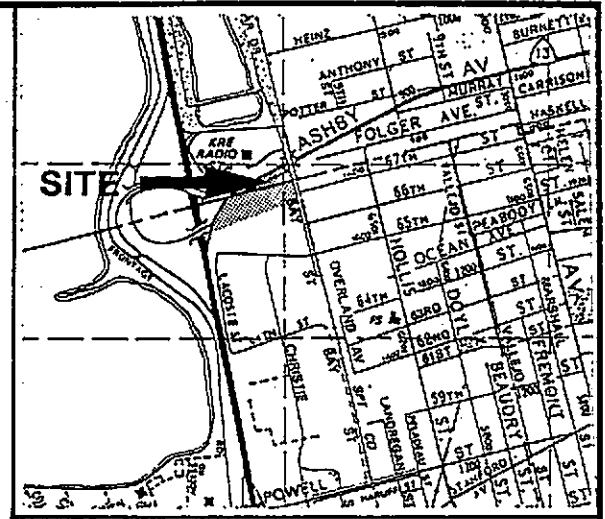
In conclusion, MRCP, as a responsible party under California law, has been and is legally required to characterize and remediate the MIBK contamination at the site since January, 1989. All work that has been performed to date has been required by California law and undertaken pursuant to the requirements, directives, and oversight of ACHCSA and the RWQCB. Further, the ACHCSA has approved all site characterization and remediation activities performed to date.

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ACHCSA is further directing the activities of MRCP, with the assistance of the RWQCB, with respect to the nature and extent of future requirements for characterization and remediation of the site that will be necessary from our point of view before we approve a "no further action" status for this site.

Very truly yours,

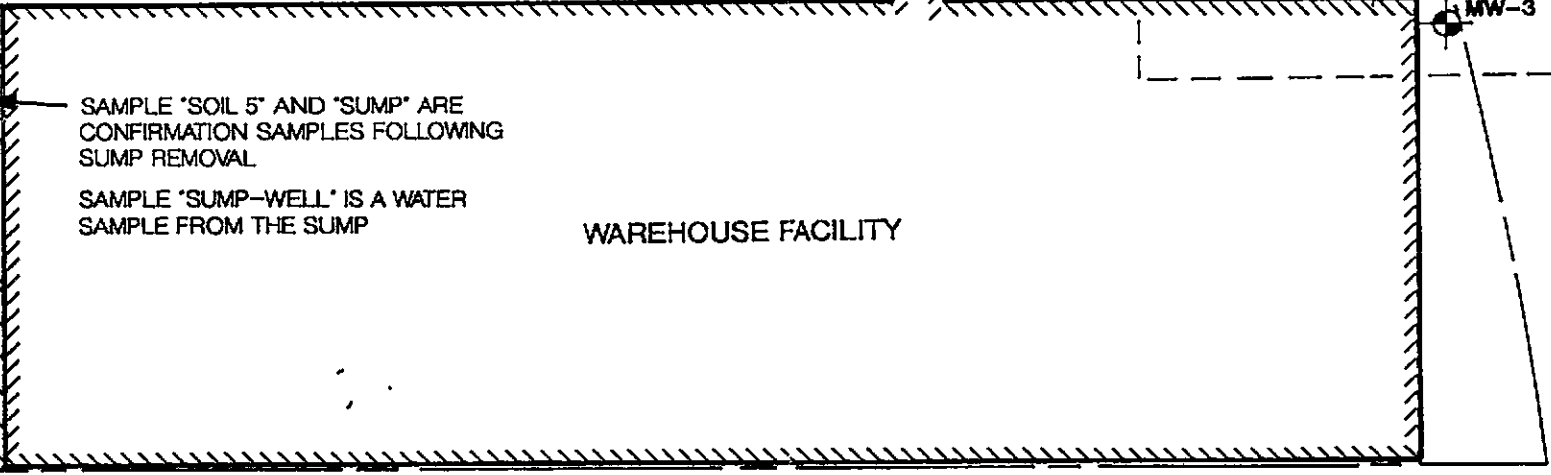
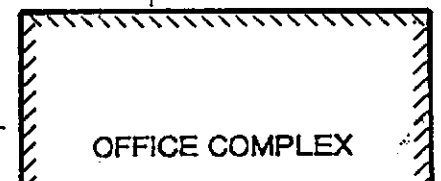
Susan Hugo



VICINITY MAP

INTERSTATE 80, ASHBY AVENUE/BAY STREET EXIT RAMP

BAY STREET



SEE PLATE 2
(INCLUDES LOCATIONS OF SAMPLES/BORINGS
SS-1 THROUGH SS-6, PB-1 AND 2
AND T-1 THROUGH T-7)

	MONITORING WELL
	TEST BORING
	SOIL EXCAVATION
	TANK EXCAVATION
	PROPERTY LINE

SAMPLES "SOIL 3" AND "SOIL 4" ARE CONFIRMATION SAMPLES OBTAINED FOLLOWING SOIL REMOVAL

SUMP EXCAVATION

SAMPLE "SOIL 5" AND "SUMP" ARE CONFIRMATION SAMPLES FOLLOWING SUMP REMOVAL

SAMPLE "SUMP-WELL" IS A WATER SAMPLE FROM THE SUMP

MW-5
IS-1
IS-2
MW-7

B-10

MW-6

B-2

B-11

B-12

B-13

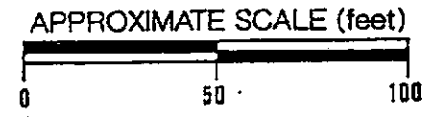
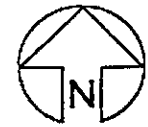
MW-1

MW-8

MW-9

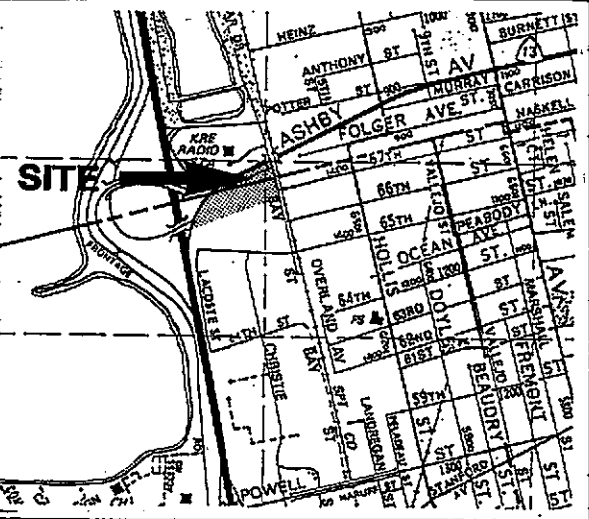
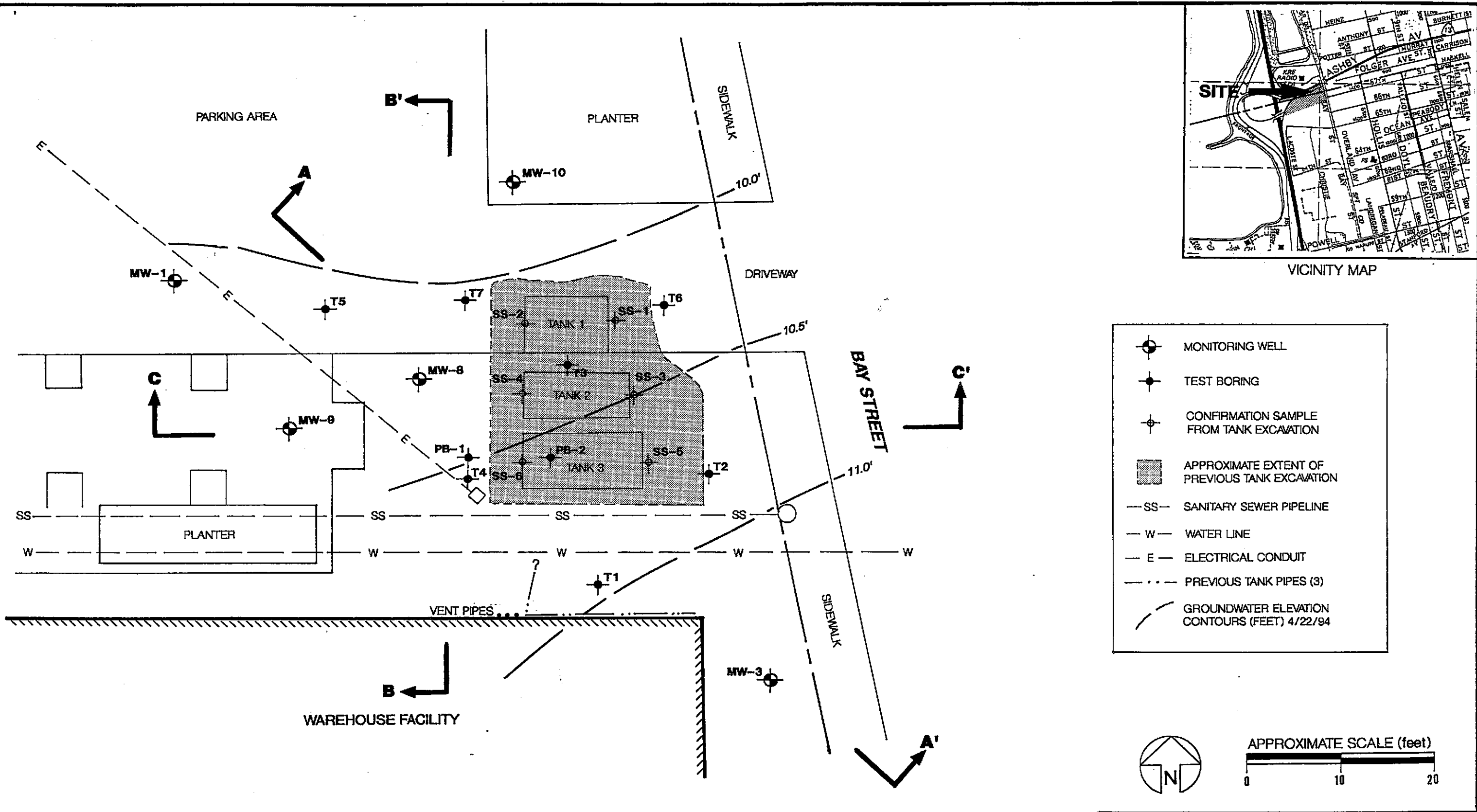
MW-10

MW-3



SITE PLAN

Subsurface Consultants	6707 BAY STREET - EMERYVILLE, CA		PLATE
	JOB NUMBER 820.001	DATE 4/27/94	APPROVED <i>Me</i>
			1



- MONITORING WELL
- TEST BORING
- CONFIRMATION SAMPLE FROM TANK EXCAVATION
- APPROXIMATE EXTENT OF PREVIOUS TANK EXCAVATION
- SS SANITARY SEWER PIPELINE
- W WATER LINE
- E ELECTRICAL CONDUIT
- PREVIOUS TANK PIPES (3)
- GROUNDWATER ELEVATION CONTOURS (FEET) 4/22/94



TANK AREA PLAN

Subsurface Consultants	6707 BAY STREET - EMERYVILLE, CA		PLATE
	JOB NUMBER 820.001	DATE 4/27/94	APPROVED <i>Me</i>

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**Table 1
List of Documents Reviewed**

Reference No.	Date	Document	Company
1	7/10/89	Environmental Site Assessment and Subsurface Evaluation	L & W Environmental Services, Inc.
2	8/11/89	Preliminary Environmental Assessment and Soil Quality Investigation	Kaldveer Associates
3	8/21/89	Chain of Custody and Analytical Test Reports	L & W Environmental Services, Inc.
4	9/13/89	Analytical Test Report	Clayton Environmental Consultants,
5	9/26/89	Environmental Site Assessment - Phase 2 Subsurface Evaluation	L & W Environmental Services, Inc.
6	11/3/89	Final Report/Tank Removal	L & W Environmental Services, Inc.
7	1/30/90	Environmental Assessment Report	SCS Engineers
8	2/26/90	Soil Vapor Recovery and Groundwater Remediation Systems Report	SCS Engineers
9	1/7/91	Groundwater Analysis	SCS Engineers
10	12/9/91	Letter Report	PES Environmental
11	9/18/89 12/13/89	Tank Excavation Sample Analytical Test Reports	L & W Environmental Services, Inc.
12	6/14/93 9/15/93 1/8/94 4/5/94 5/16/94	Quarterly Groundwater Monitoring and Treatment System Decommissioning Quarterly Groundwater Monitoring Quarterly Groundwater Monitoring Quarterly Groundwater Monitoring Supplemental MIBK Contamination Assessment (Draft)	Subsurface Consultants, Inc.

Table 2
Petroleum Hydrocarbon Concentrations in Soils

Reference No.	Date	Boring	Depth (feet)	O&G ¹ (mg/kg) ⁴	TEH ² (mg/kg)	TVH ³ (mg/kg)
1	4/26/89	IS1	3.5	1,915	46	<10
			7.0	3,390	200	<10
			10.0	36,535	<10	<10
1	4/26/89	IS2	3.0	1,305	50	<10
			8.5	2,185	<10	300 ⁷
5	7/5/89	B1	5.5	845	12	<10
			10.5	<50	<10	<10
			16.0	1,600	63	<10
			20.5	80	<10	<10
			25.5	95	<10	<10
			30.5	<50	<10	<10
5	7/5/89	B2	6.0	1,160	19	<10
			10.0	14,900	172	20
			16.0	<50	<10	<10
			0.5	<50	<10	<10
2	7/13/89	SS-1	1.0	8,100	-- ⁵	<4,000
5	8/28/89	B3	5.0	1,845	30	<10
			12.0	95	20	<10
			15.0	625	260	120
			20.0	<20	<10	<10
			25.0	20	<10	<10
5	8/28/89	B4	4.5	6,685	<10	<10
			10.0	25,470	170	<10
			14.5	<20	<10	<10
5	8/31/89	B5	6.0	330	<10	<10
			11.0	3,580	15	25
			15.5	1,200	15	20
			22.5	110	20	<10
			25.5	115	<10	<10
5	8/31/89	B6	20.5	100	<10	<10
			25.5	190	<10	<10
6	10/5/89	SS-1-E		--	12	12
		SS-2-W		--	11	<10
		SS-3-E		--	<10	<10
		SS-4-W		--	60	240
		SS-5-E		--	35	115
		SS-6-W		--	700	460
7	1/3/90	MW7	4.0	9,000	<10	<10
			9.0	8,800	788	<10
7	1/3/90	MW8	4.0	2,000	<10	<10
			9.0	20,000	<10	<10

Table 2
Petroleum Hydrocarbon Concentrations In Soils
 (Continued)

Reference No.	Date	Boring	Depth (feet)	O&G (mg/kg)	TEH (mg/kg)	TVH (mg/kg)
7	1/4/90	[REDACTED]	4.0	[REDACTED]	<10	<10
			9.0	15,000	5,000	<10
7	1/4/90	[REDACTED]	4.0	9,500	380	<10
			9.0	6,300	<10	<10
7	1/4/90	[REDACTED]	4.0	[REDACTED]	<10	<10
			9.0	38,400	<10	<10
7	1/4/90	[REDACTED]	4.0	4,000	<10	<10
			9.0	38,400	<10	<10
7	1/4/90	B13	[REDACTED]	[REDACTED]	<10	<10
			[REDACTED]	0	<10	<10
7	1/5/90	SUMP	[REDACTED]	10,500	<10	<10
12	4/13/94	T1	14.0	--	96	<1
12	4/13/94	T2	5.0	160	40	--
			8.5	--	--	<1
12	4/13/94	T3	8.0	--	--	<1
12	4/14/94	T4	9.0	--	--	<1
12	4/14/94	T5	5.0	[REDACTED]	<10	<1
			9.0	<50	<1	<1
12	4/14/94	T7	7.5	[REDACTED]	<10	<1
			14.0	--	<20	160
12	4/13/94	MW9	[REDACTED]	70	<1	--
12	4/14/94	MW10	[REDACTED]	[REDACTED]	7300	2

- 1 Oil & Grease
- 2 Total extractable hydrocarbons
- 3 Total volatile hydrocarbons
- 4 Milligrams per kilogram
- 5 Test not requested

Table 3
MIBK Volatile Organic Chemical Concentrations in Soils **MCK**

Reference No.	Date	Boring	Depth (feet)	Acetone (µg/kg) ¹	Benzene (µg/kg)	Ethylbenzene (µg/kg)	Toluene (µg/kg)	Total Xylenes (µg/kg)	4-Methyl-2-Pentanone (µg/kg)	1,2-Dichlorobenzene (µg/kg)	1,3-Dichlorobenzene (µg/kg)	1,4-Dichlorobenzene (µg/kg)	1,2-Dichloroethane (µg/kg)	Trichloroethene (µg/kg)	Chlorobenzene (µg/kg)	2-Butanone (µg/kg)	Carbon Disulfide (µg/kg)	Methylene Chloride (µg/kg)	Trichlorofluoromethane (µg/kg)	1,1,1-Trichloroethane (µg/kg)	Freon 113 (µg/kg)	Other Volatile Organic Compounds ² (µg/kg)			
1	4/26/89	IS1	3.5	<30	<30	<30	60	40	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR ⁴	ND ⁵		
			7.0	<30	<30	<30	200	70	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND	
			10.0	240	1,800	1,300	11,000	<30	<60	<60	500	300	110	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND		
1	4/26/89	IS2	3.0	<30	<30	<30	250	100	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND		
			8.5	140	1,400	100	4,500	<30	<150	<150	<150	<150	<150	<150	<150	<150	<150	<150	<150	<150	<150	NR	ND		
5	7/5/89	B1 (MW1)	5.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND		
			10.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND	
			16.0	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND	
			20.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND	
			25.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND
			30.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND
5	7/5/89	B2	6.0	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND		
			10.0	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND	
			16.0	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND	
			20.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NR	ND	
2	7/13/89	SS-1	1.0	150,000	<1,000	34,000	200,000	390,000	<30,000	NR	NR	NR	<3,000	<3,000	<3,000	<50,000	<5,000	NR	NR	<3,000	NR	ND			
5	8/21/89	Soil 3	1.0	<40,000	<8,000	20,000	80,000	360,000	<40,000	<20,000	<20,000	<20,000	<8,000	<20,000	<8,000	<40,000	<20,000	<20,000	<8,000	<8,000	<8,000	<8,000	ND		
5	8/21/89	Soil 4	3.0	<20,000	<4,000	20,000	<4,000	77,000	<20,000	<10,000	<10,000	<10,000	<4,000	<10,000	<4,000	<20,000	<8,000	<10,000	<4,000	<4,000	<4,000	<4,000	ND		
5	8/21/89	Soil 5	1.0	<20	<3	<3	<2	<3	<20	<3	<3	<3	<3	<4	<3	<20	<3	<10	<3	<3	<3	ND			
5	8/31/89	B5	6.0	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	ND		
			11.0	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	ND	
			15.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	ND
			22.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	ND
			25.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	ND
5	8/31/89	B6	20.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	ND		
			25.5	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	ND	
8.11	10/5/89	SS-1-E		<200,000	1,300	40	NR	300	600,000	<30	120	260	<30	<30	<30	<200,000	<80,000	<30	<30	<30	<30	<30	ND		
		SS-2-W		<20	230	30	60	50	20	<30	<3	<3	<3	<4	<3	<20	<3	<30	<3	<3	3	<3	ND		
		SS-3-E		40	<2	<3	50	35	<20	<30	<3	<3	4	<3	<4	<3	<30	<3	<30	9	6	6	ND		
		SS-4-W		<2,000,000	1,400	110	NR	1,100	3,300,000	70	2,000	2400	<30	<30	<30	<30	<2,000,000	<800,000	<30	<30	<30	<30	<30	ND	
		SS-5-E		<400,000	<300	<300	NR	1,000	180,000	<30	<30	<30	<30	<30	<30	<30	<40,000	<20,000	<30	<30	<30	<30	<30	ND	
		SS-6-W		<2,000,000	4,600	<1,500	NR	7,500	5,000,000	<30	<30	<30	<30	<30	<30	<30	<2,000,000	<800,000	<30	<30	<30	<30	<30	ND	
7	1/3/90	MW7	4.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	NR	ND			
			9.0	<50	<10	250	61	1,020	<30	<10	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	NR	ND	
7	1/3/90	MW8	4.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	NR	ND		
			9.0	<50	<100	<100	<100	<100	8,300	<100	<100	<100	<100	<100	<100	<100	<500	<100	<50	<10	<10	<10	NR	ND	

Handwritten notes:
 P3 (ppm) TADg, d
 13, 12, 11, 10, 11, 12
 0.25, 210, 410, 60, 35, 700
 2603, 410, 410, 60, 35, 700
 4.4, 460, 460, 700

Handwritten note:
 Util. Manual

Table 3
Volatile Organic Chemical Concentrations in Soils
(Continued)

Reference No.	Date	Boring	Depth (feet)	Acetone (µg/kg)	Benzene (µg/kg)	Ethylbenzene (µg/kg)	Toluene (µg/kg)	Total xylenes (µg/kg)	4-Methyl-2-Pentanone (µg/kg)	1,2 Dichloro benzene (µg/kg)	1,3 Dichloro benzene (µg/kg)	1,4 Dichloro benzene (µg/kg)	1,2 Dichloro ethane (µg/kg)	Trichloro ethene (µg/kg)	Chloro benzene (µg/kg)	2-Butanone (µg/kg)	Carbon Disulfide (µg/kg)	Methylene Chloride (µg/kg)	Trichloro Fluoromethane (µg/kg)	1,1,1-Trichloro ethane (µg/kg)	Freon 113 (µg/kg)	Other Volatile Organic Compounds (µg/kg)
7	1/4/90	B9	4.0	<50	<10	<10	12	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
			9.0	<50	54	140	26	380	<30	<10	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR
7	1/4/90	B10	4.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
			9.0	<100	<20	<20	<20	<20	<60	<10	<10	<10	<20	<20	<20	<100	<20	<100	<10	<10	NR	ND
7	1/4/90	B11	4.0	<50	<10	<10	15	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
			9.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
7	1/4/90	B12	4.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
			9.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
7	1/4/90	B13	4.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
			9.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
7	1/5/90	SUMP		<50	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND	
10	9/5/91	PB-1	6.0	<20	<5	<5	<5	<5	<10	<5	<5	2	<5	<5	<5	<20	<5	<5	<5	<5	NR	ND
			8.5	<20	<5	<5	<5	<5	<10	<5	3	4	<5	<5	<5	<20	<5	<5	<5	<5	NR	ND
10	9/5/91	PB-2	5.5	<20	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<20	<5	<5	<5	<5	NR	ND
			8.0	<20	5	<5	<5	<5	<10	<5	4	4	<5	<5	<5	<20	<5	<5	<5	<5	NR	ND
12	4/13/94	T1	8.0	<20	<5	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	<10	<5	<10	<5	<5	<5	ND
12	4/13/94	T2	8.5	110	<5	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	20	<5	<10	<5	<5	<5	ND
12	4/13/94	T3	8.0	70	4	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	10	<5	<10	<5	<5	<5	ND
			14.5	100	<5	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	20	<5	<10	<5	<5	<5	ND
12	4/14/94	T4	9.0	50	<5	<5	<5	<5	10	NR	NR	NR	<5	<5	<5	8	4	<10	<5	<5	<5	ND
			14.5	160	<5	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	40	<5	<10	<5	<5	<5	ND
12	4/14/94	T5	9.0	20	<5	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	<10	<5	<10	<5	<5	<5	ND
			14.5	<20	12	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	10	<5	<10	<5	<5	<5	ND
12	4/14/94	T6	7.5	100	<5	<5	<5	<5	6	NR	NR	NR	<5	<5	<5	10	<5	<10	<5	<5	<5	ND
			14.0	<100	<30	<30	<30	<30	<50	NR	NR	NR	<30	<30	<30	<50	<30	<50	<30	<30	<30	ND
12	4/14/94	T7	7.5	30	<5	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	9	<5	<10	<5	<5	<5	ND
			14.0	<1,000	600	<300	<300	500	7,800	NR	NR	NR	<300	<300	<300	<500	<300	<600	<300	<300	<300	ND
12	4/13/94	MW9	8.5	70	<5	<5	<5	<5	6	NR	NR	NR	<5	<5	<5	10	<5	<10	<5	<5	<5	ND
			15.5	140	4	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	20	<5	<10	<5	<5	<5	ND
12	4/14/94	MW10	9.5	30	<5	<5	<5	<5	<10	NR	NR	NR	<5	<5	<5	<10	<5	<10	<5	<5	<5	ND
			15.5	320	<10	<10	<10	<10	11	NR	NR	NR	<10	<10	<10	120	20	40	<10	<10	<10	ND

505

1 micrograms per kilogram
 2 Analysis include one or more of the following: EPA 8010, EPA 8020, or EPA 8240
 3 Test not requested
 4 Not reported
 5 Not detected at concentrations above the reporting limits

Table 4
Organochlorine Pesticides
and
PCB Concentrations in Soils

Reference No.	Date	Boring	Depth (feet)	PCB-1260 (mg/kg) ¹	Other 8080 Compounds (mg/kg)
2	7/13/89	SS-1	1.0	1.3	ND ²
7	1/3/90	MW7	4.0 9.0	<1.0 <1.0	ND ND
7	1/3/90	MW8	4.0 9.0	<1.0 2.3	ND ND
7	1/4/90	B9	4.0 9.0	<1.0 <1.0	ND ND
7	1/4/90	B10	4.0 9.0	<1.0 <1.0	ND ND
7	1/4/90	B11	4.0 9.0	2.2 <1	ND ND
7	1/4/90	B12	4.0 9.0	<1 <1	ND ND
7	1/4/90	B13	4.0 9.0	3.1 <1	ND ND
7	1/5/90	SUMP		4.2	ND

¹ milligrams per kilogram

² Not detected at concentrations above the reporting limits

Table 5
Semi Volatile Organic Chemical Concentrations in Soils

Reference No.	Date	Boring	Depth (feet)	Benzo(a) Anthracene (µg/kg) ¹	Benzo(a) Pyrene (µg/kg)	Benzo(k) Fluor-anthene (µg/kg)	Chrysene (µg/kg)	Fluor-anthene (µg/kg)	Isophorone (µg/kg)	2-Methyl-Naphthalene (µg/kg)	Naphthalene (µg/kg)	Nitrobenzene (µg/kg)	Phen-anthrene (µg/kg)	Pyrene (µg/kg)	Bis (2-ethylhexyl) Phthalate (µg/kg)	4-Methyl Phenol (µg/kg)	1,2,4 Tri chloro benzene (µg/kg)	Other EPA 8270 Compounds (µg/kg)
2	7/18/89	SS-1	1.0	<1,700	<1,700	2600	<1,700	<1,700	2,100	4300	3700	3200	<1,700	2000	<1,700	<1,700	<1,700	ND ²
11	10/5/89	SS-1-E		<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	<200	<2,000	<200	<200	ND
		SS-2-W		<30	<30	<30	<70	<30	<30	<30	<30	<30	<30	<30	<300	<30	<30	ND
		SS-3-E		<30	<30	<30	<70	<30	<30	<30	<30	<30	<30	<30	<300	200	200	ND
		SS-4-W		<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	<200	<2,000	<200	<200	ND
		SS-5-E		<200	<200	<200	<400	<200	<200	<200	1,000	300	<200	<200	<2,000	<200	<200	ND
		SS-6-W		<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	<200	<2,000	<200	<200	ND
7	1/3/90	MW7	4.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
			9.0	<300	<300	<300	390	320	<300	1500	750	<300	530	360	<2,000	<300	<300	ND
7	1/3/90	MW8	4.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
			9.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	410	<2,000	<300	<300	ND
7	1/4/90	B9	4.0	<300	<300	<300	390	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
			9.0	<300	<300	<300	630	340	<300	1100	6800	<300	590	550	<2,000	<300	<300	ND
7	1/4/90	B10	4.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
			9.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
7	1/4/90	B11	4.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	320	<2,000	<300	<300	ND
			9.0	590	<300	<300	820	1100	<300	<300	<300	<300	560	1800	<2,000	<300	<300	ND
7	1/4/90	B12	4.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	370	<2,000	<300	<300	ND
			9.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
7	1/4/90	B13	4.0	<300	470	<300	390	<300	<300	<300	<300	<300	<300	320	<2,000	<300	<300	ND
			9.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
7	1/5/90	SUMP		<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
12	4/13/84	T2	6.0	<300	<300	200	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	ND
12	4/14/84	T5	5.0	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	ND
			9.0	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	400	<300	<300
12	4/14/84	T7	7.5	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	ND
12	4/14/84	MW9	15.5	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	400	<300	<300	ND
12	4/14/84	MW10	15.5	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	1,600	<2000	<2,000	<2,000	<2,000	ND

¹ micrograms per kilogram

² Not detected at concentrations above the reporting limits

Table 6
Heavy Metal Concentrations In Soils

Reference No.	1	1	1	1	1	7	5	5	5	5	5	5	5	5	5	5	2	5	5	5	5	5
	IS1-3.5	IS1-7.0	IS1-10.5	IS2-3.0	IS2-8.5	SUMP	B1-5.5	B1-10.5	B1-16.0	B1-20.5	B1-25.5	B1-30.5	B2-6.0	B2-10.0	B2-16.0	B2-20.5	SS-1	B5-6.0	B5-11.0	B5-15.5	B5-22.5	B5-25.5
Antimony	6.5	1.4	1.6	<1	<1	<10	<1	<1	4	<1	<1	<1	1.2	<1	1.2	<1	<5	<1	1.05	3.85	<1	<1
Arsenic	<2.2	<2.2	<2.2	<2.2	<2.2	<16	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	4	<2.2	<2.2	<2.2	<2.2	<2.2
Barium	110	130	255	90	35.7	180	92	21	78	61	67	23	109	41	95	35	--	29.2	167.1	661	1,150	158
Beryllium	0.05	<0.025	<0.025	<0.025	<0.025	0.48	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.4	<0.025	<0.025	<0.025	<0.025	<0.025
Cadmium	4.1	4.2	10.2	3.2	1.5	<0.7	1.4	0.6	12	2.4	2	1.2	1.6	<0.3	2.4	1.4	1.4	0.5	2.15	4.5	3.8	3.1
Chromium	20.1	21.5	63.8	18.5	6.6	95	13	12.5	42	15	10	9.9	11.8	12.7	43	7.8	39	13.5	15.2	22.4	19	21
Cobalt	5.6	6.4	11.4	6	2.8	10	5.7	2.6	12.4	4.5	8	3.6	5	2.7	12	1.9	--	3.4	8.7	8.2	40	12.3
Copper ^{75*}	70	104	1042	56.7	13.8	49	28	4	15.3	23	13	7.4	92	22.5	10	9	140	13.3	64	200	44.2	22.6
Lead	100	130	4,300	90	5.3	62	61	3	160	77	8	4.5	167	1,360	11	8.7	470	9.7	164	1,270	24	12
Mercury	<5	<5	<5	<5	<5	0.022	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.4	<5	<5	<5	<5	<5
Molybdenum	1.2	<1	3.7	1.2	<1	<1	<1	<1	2.4	<1	<1	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1
Nickel	32.1	31.5	42.6	30.9	15.5	135	14	12.7	30	19	24	22	18.5	12.5	79	16.6	47	18	22	26.8	151	54
Selenium	<5	<5	<5	<5	<5	<0.2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<5	<5	<5	<5
Silver	15.2	<0.1	<0.1	<0.1	<0.1	<0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1
Thallium	<2.2	<2.2	<2.2	<2.2	<2.2	<10	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<3	<2.2	<2.2	<2.2	<2.2	<2.2
Vanadium	15.4	17.3	17.3	15.6	6.7	39	15	7	32	12	12	6.7	9.7	13	10	17	--	12	23.4	20	58.3	31
Zinc	200	48.9	5,400	270	22.9	150	94	5.4	6,040	106	27	15	67	532	23	11	660	52	200	1,420	58.6	42

Reference No.	5	5	7	7	7	7	7	7	7	7	7	7	12	12	12	12	7	7	7	7	12	12
	B6-20.5	B6-25.5	B9-4.0	B9-9.0	B10-4.0	B10-9.0	B11-4.0	B11-9.0	B12-4.0	B12-9.0	B13-4.0	B13-9.0	T2-6.0	T5-5.0	T5-9.0	T7-7.5	MW7-4.0	MW7-9.0	MW8-4.0	MW8-9.0	MW9-15.5	MW10-15.5
Antimony	<1	<1	<10	<16	<10	<16	<10	<10	<10	<28	<10	<10	5.1	<2.9	<3	<3	<10	<10	<10	<10	<3	4.4
Arsenic	<2.2	<2.2	<16	<16	<16	21	<16	<16	<16	38	<16	<16	9.3	6	<2.5	4.2	<16	<16	<16	<16	4.2	19
Barium	250	56.5	140	610	33	590	240	160	89	540	160	37	170	130	41	150	140	24	42	85	190	140
Beryllium	<0.025	<0.025	0.41	0.31	0.05	0.33	0.36	0.31	0.23	0.26	0.36	0.15	0.23	0.31	<0.10	0.45	0.48	0.13	0.16	0.15	0.43	0.21
Cadmium	3.5	3.3	<0.7	44	<0.7	1.3	1	0.7	<0.7	7.7	<0.7	<0.7	1	0.27	<0.25	0.28	<0.7	<0.7	<0.7	<0.7	<0.25	3.3
Chromium	23	25	33	180	23	34	22	21	36	190	62	29	25	25	23	27	32	21	27	9.6	26	59
Cobalt	19	11	7.4	15	<2	6.9	5.4	3.6	3.4	28	6.5	2.9	8.7	9.2	4.2	10	8.6	<2	2.8	<2	12	10
Copper	22.5	22	55	2,300	39	140	44	>4,500	170	2,200	120	4.9	2,100	60	14	40	27	3.6	18	41	30	330
Lead	15.3	15	41	980	42	1,500	72	55	120	3,000	520	12	330	61	1.5	6.1	<12	<12	<12	24	19	250
Mercury	<5	<5	0.45	0.66	0.1	0.62	0.092	0.012	<0.009	<0.009	<0.009	<0.009	<0.087	0.21	<0.087	<0.087	<0.09	0.088	<0.009	0.36	<0.083	0.77
Molybdenum	<1	<1	<1	27	<1	<1	<1	<1	20	<1	<1	<1	1.5	<0.98	<1	<0.99	<1	<1	<1	<1	<1	3.1
Nickel	48	54	32	350	10	24	25	24	29	110	42	18	55	28	19	37	28	16	18	6.8	36	37
Selenium	<5	<5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2.5	<2.5	<2.5	<2.5	<0.2	<0.2	<0.2	<0.2	<2.5	<2.5
Silver	<0.1	<0.1	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	0.5	<0.49	<0.5	<0.5	<0.4	<0.4	<0.4	<0.4	<0.5	1.1
Thallium	<2.2	<2.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.5	<2.5	<2.5	<2.5	<10	<10	<10	<10	<2.5	<2.5
Vanadium	53	25	31	26	5	28	21	17	21	23	27	15	26	26	15	27	36	12	15	8.5	27	24
Zinc	47	42.6	120	6,200	95	410	940	160	150	3,600	300	210	580	88	18	62	79	310	75	120	61	530

* Concentrations in micrograms per kilogram

Table 7
Petroleum Hydrocarbon Concentrations in Groundwater

Reference No.	Date	Well	Total Recoverable Hydrocarbons (mg/l) ³	Oil and Grease (mg/l)	TEH ¹ (mg/l)	TVH ² (mg/l)
3	8/21/89	Sump-Well	-- ⁴	50	0.7	<0.5
5	7/6/89	MW-1	--	--	<0.5	<0.5
5	9/7/89		--	<10	<0.5	<0.5
8	1/10/90		0.5	--	<10	<10
12	5/20/93		--	<5	--	--
12	8/25/93		--	<5	--	--
12	11/18/93		--	<5	--	--
12	2/25/94		--	<5	--	--
5	9/7/89	MW-3	--	<10	<0.5	<0.5
8	1/10/90		0.6	--	<10	<10
12	5/20/93		--	<5	--	--
12	8/25/93		--	<5	--	--
12	11/18/93		--	<5	--	--
12	2/25/94		--	<5	--	--
12	4/21/94		--	<5	0.43	0.06
5	9/7/89	MW-5	--	<10	<0.5	<0.5
8	1/10/90		0.7	--	<10	<10
5	9/7/89	MW-6	--	<10	<0.5	<0.5
8	1/10/90		1.2	--	<10	<10
8	1/10/90	MW-7	0.8	--	<10	<10
9	12/10/90		<0.5	2	--	--
8	1/10/90	MW-8	103	--	<10	<10
9	12/10/90		10.5	--	--	--
12	5/20/94		--	<5	--	--
12	8/25/93		--	<5	--	--
12	11/18/93		--	14	--	--
12	2/25/94		--	<5	--	--
12	4/21/94		--	<5	2.8	5.9
12	4/21/94	MW-9	--	<5	0.68	0.92
12	4/21/94	MW-10	--	<5	2.1	0.68

¹ Total extractable hydrocarbons

² Total volatile hydrocarbons

³ milligrams per liter

⁴ Test not requested

Table 8
Volatile Organic Chemical Concentrations in Groundwater

Reference No.	Well	Date	<i>MIBK</i> 4-Methyl-2-Pentanone (µg/l) ¹	Vinyl Chloride (µg/l)	Acetone (µg/l)	<i>MEK</i> 2-Butanone (µg/l)	4-Methyl-2-Pentanol (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl benzene (µg/l)	Total Xylenes (µg/l)	Trans-1,2-Dichloro-ethene (µg/l)	Other EPA 8240 Compounds (µg/l)	
3	Sump-Well	8/21/89	<20	<4	<20	<20	NR ²	<2	<2	<3	<3	<3	ND ³	
5	MW1	7/6/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND	
5		9/7/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND	
8		1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND	
10		9/5/91	<10	<10	<20	<20	NR	7	8	<5	<5	<5	ND	
12		5/20/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
12		8/25/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
12		11/18/93	<10	<10	<40	<10	NR	<5	<5	<5	<5	<5	ND	
12	2/25/94	<10	<10	<10	<10	NR	<5	<5	<5	<5	<5	<5	ND	
5	MW3	9/7/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND	
8		1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND	
10		9/5/91	<10	<10	<20	<20	NR	<5	<5	<5	<5	<5	ND	
12		5/20/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
12		8/25/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
12		11/18/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	<5	ND
12		2/25/94	<10	<10	<10	<10	NR	<5	<5	<5	<5	<5	<5	ND
5	MW5	9/7/89	<20	4	<20	<20	NR	8	<2	6	<3	8	ND	
8		1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND	
5	MW6	9/7/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND	
8		1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND	
8	MW7	1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND	
8	MW8	1/10/90	160,000 ⁴	<6,000	NR	NR	NR	2,100	<1,000	<1,000	<1,000	<1,000	ND	
9		12/10/90	47,000 ⁴	<150	3,200 ⁴	10,000 ⁴	130,000 ⁴	160	<25	<25	<25	<25	ND	
10		9/5/91	150,000	<10,000	<5,000	<20,000	NR	<10,000	<10,000	<5,000	<5,000	<5,000	ND	
12		5/20/93	100,000	<5,000	<10,000	<5,000	NR	<3,000	<3,000	<3,000	<3,000	<3,000	ND	
12		8/25/93	48,000	<3,000	<5,000	<3,000	NR	<1,000	<1,000	<1,000	<1,000	<1,000	ND	
12		11/18/93	840	<50	<100	<50	NR	<25	<25	<25	<25	<25	ND	
12		2/25/94	14,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND	
12		4/21/94	19,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	<500	ND
12	MW9	4/21/94	120	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
12	MW10	4/21/94	23	<10	<20	<10	NR	22	<5	<5	<5	<5	ND	

¹ micrograms per liter

² Not reported

³ Not detected at concentrations above the reporting limits

⁴ Tentatively identified compound concentrations

Table 9
Semi-Volatile Organic Chemical Concentrations in Groundwater

Reference No.	Date	Well	2,4 Dimethylphenol (µg/l) ¹	Naphthalene (µg/l)	2-Methyl Naphthalene (µg/l)	Bis (2-Ethylhexyl) Phthalate (µg/l)	Other EPA 625 Chemicals (µg/l)
5	9/7/89	MW1	<1	<1	<1	40	ND ²
8	1/10/90		<20	<20	<20	<100	ND
5	9/7/89	MW3	<1	<1	<1	80	ND
8	1/10/90		<20	<20	<20	<100	ND
5	9/7/89	MW5	6	5	16	30	ND
8	1/10/90		<20	<20	<20	<100	ND
5	9/7/89	MW6	<1	<1	<1	20	ND
8	1/10/90		<20	<20	<20	<100	ND
8	1/10/90	MW7	<20	<20	<20	<100	ND
8	1/10/90	MW8	<150	<150	<150	<750	ND

¹ micrograms per liter

² Not detected at concentrations above the reporting limits