SUPPLEMENTAL MIBK
CONTAMINATION ASSESSMENT
6707 BAY STREET
EMERYVILLE, CALIFORNIA
SCI 820.001

9/21/94

Prepared for:

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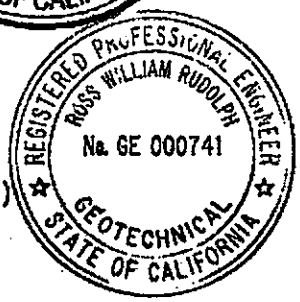

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I INTRODUCTION

This report presents the results of a supplemental investigation conducted by Subsurface Consultants, Inc. (SCI) of the previous underground storage tank area at 6707 Bay Street in Emeryville, California. The site is located on the west side of Bay Street south of the Interstate 80/Ashby Avenue Exit ramp, as shown on the Site Plan, Plate 1. The previous tank area is shown on Plate 2.

From May 1993 to August 1994, SCI monitored groundwater in the area of three previous underground storage tanks which had reportedly stored chemicals used in the manufacturing of Dymo Labels. Chemicals used at the site included methyl isobutyl ketone (MIBK) and methyl ethyl ketone (MEK). Analytical results indicated that MIBK was present at significant concentrations in soil and water in the tank area. SCI's current scope of services included characterizing the extent of MIBK contamination in soil and groundwater by performing the following tasks:

1. Drilling and sampling nine (9) test borings;
2. Converting two of the test borings to monitoring wells;
3. Conducting slug tests in four (4) selected wells,
4. Performing analytical tests on selected soil and groundwater samples, and
5. Preparing a report recording the results of the investigation.

A draft report dated May 16, 1994 was previously submitted. This final report has been updated to include the results of additional groundwater monitoring which was performed at the site on May 11 and August 8, 1994.

Our investigation indicates that soil and groundwater remedial efforts have resulted in significant source removal but have not reduced MIBK concentrations to non-detectable levels. MIBK contamination remains in a relatively small area directly downgradient of the previous tanks. Given the limited extent of soil and groundwater contamination and limited migration potential of the MIBK plume due to hydrogeologic conditions in the tank area, we propose that an "alternative compliance points" approach be adopted for the site.

II PREVIOUS INVESTIGATION/REMEDIATION IN TANK AREA

Three underground storage tanks were removed from the property in 1989. Confirmation samples obtained from the tank excavation indicated that soils beneath the tanks contained MIBK at concentrations up to 5,000,000 ug/kg. Additionally, other volatile organic compounds and petroleum hydrocarbons were also detected in the soil samples.

In January 1990, monitoring well MW-8 was installed downgradient of the previous tank area to evaluate groundwater impacts. Analytical results indicated that MIBK was present in the groundwater at a concentration of 160,000 ug/l. A treatment system

consisting of soil vapor extraction and groundwater extraction was installed to limit plume migration and remediate impacted soil and groundwater. The soil vapor treatment system operated from July 1990 to February 1991; the groundwater treatment system operated from October 1990 to March 1991. In September 1991, two test borings (PB-1 and PB-2) were drilled in the tank area, by others. Analytical results from soil samples obtained from these borings indicated that MIBK was not present at concentrations above the laboratory reporting limits which varied from 10 to 50 ug/kg.

In May 1993, SCI was retained to decommission the treatment system in accordance with a work plan approved by the Alameda County Health Care Services Agency (ACHCSA). SCI also implemented groundwater monitoring in the previous tank area. Wells MW-1, MW-3, and MW-8 were monitored on a quarterly basis from May 1993 to August 1994. Analytical results indicated that (1) significant concentrations of MIBK continue to exist in groundwater near MW-8 and (2) the extent of the MIBK plume is limited in extent, since MIBK has not been detected in MW-1 at concentrations above the reporting limits, which was previously [redacted].

III FIELD INVESTIGATION

A. Test Borings

Subsurface conditions were explored on April 13 and 14, 1994, by drilling nine (9) test borings to depths of approximately 15 feet. The test borings were drilled using truck-mounted, 8-inch-diameter hollow-stem augers. Boring locations are shown on Plate 2.

Our field engineer observed drilling operations and prepared detailed logs of the borings. Soil samples were obtained from the borings using a California Drive Sampler having an outside diameter of 2.5 inches, and an inside diameter of 2.0 inches. The sampler was driven with a 140-pound hammer having a drop of 30 inches. The blows required to drive the sampler the final 12 inches of each 18-inch penetration were recorded and are shown on the Boring Logs, Plates 3 through 8. Soils are classified in accordance with the Unified Soil Classification System described on Plate 9.

Soil samples were retained in 2-inch-diameter brass sample liners. Teflon sheeting was placed over the ends of the soil liners; the liners were subsequently capped and sealed with tape. Upon sealing and labeling, the samples were placed in an ice-filled cooler and remained refrigerated until delivery to the analytical laboratory.

The shoe sample from each drive was placed in a plastic bag and screened for volatile organic chemicals using an organic vapor meter (OVM). OVM measurements are recorded on the boring logs.

Drilling equipment was steam-cleaned prior to each use to reduce the likelihood of cross-contamination between borings. The sampling equipment was cleaned with an Alconox solution and triple rinsed with water between each use. Upon completion of drilling, Borings MW-9 and MW-10 were converted to monitoring wells. The remaining borings were backfilled with a cement grout.

B. Monitoring Wells

The monitoring wells were constructed with 2-inch-diameter, Schedule 40 PVC pipe having flush-threaded joints. No glue was used. The lower portion of the wells consist of machine-slotted well screen having 0.020-inch wide slots. The PVC pipe was steam-cleaned prior to use. The annular space around the screened section was backfilled with Lonestar No. 3 sand. A bentonite seal, approximately 12 inches thick, was placed above the sand. The annulus above the bentonite seal was backfilled with cement grout. The wells were finished below grade and are secured with locking caps. Specific details of the wells are shown on the respective boring logs.

On April 18, 1994, the wells were developed by removing water until the water became relatively free of turbidity. Approximately 12 and 24 gallons of water were removed from wells MW-9 and MW-10, respectively. The water was placed in steel drums and left on-site.

On April 21 and August 8, 1994, the monitoring wells were sampled. Additionally, monitoring well MW-8 was sampled on May 11, 1994. Prior to sampling, at least 3 well volumes were purged from each well. Purged water was placed in 55-gallon drums pending disposal at an offsite TSD Facility. Groundwater samples were obtained using pre-cleaned disposable bailers. Water samples were retained in containers pre-cleaned by the supplier and refrigerated until delivery to the analytical laboratory. Samples submitted to the laboratory were accompanied by Chain-of-Custody records, copies of which are presented in the Appendix.

A level survey, using a City of Emeryville elevation reference, was performed to determine the top of casing elevation for each of the monitoring wells on-site. The depth to groundwater, below the TOC was periodically measured using an electronic well sounder. The TOC elevation and water level data are presented in Table 1.

C. Slug Tests

On April 26, 1994 and May 6, 1994, slug tests were performed in MW-3, MW-8, MW-9, and MW-10, to estimate the hydraulic conductivity of soils in the tank area. The slug test consisted of the following: (1) measuring the static groundwater level in the well, (2) lowering a slug into the well; the slug consisted of a 5 or 10 foot section of 1.75-inch-diameter PVC pipe with both ends capped, (3) allowing the water level in the well to stabilize at the static level, and (4) rapidly removing the slug and measuring the rate of recharge using an electronic well sounder.

The hydraulic conductivity was calculated using the Bouwer and Rice method for an unconfined aquifer. Based on the slug test results, the estimated hydraulic conductivity of the soils in the tank area ranges from 4.6 to 7.5 x 10^{-5} cm/sec. A summary of the variables used for the hydraulic conductivity calculations are presented in Table 2. Slug test data are presented on Plates 10 through 13.

IV ANALYTICAL TESTING

A. Chemical Characterization

Selected soil and groundwater samples were analyzed by Curtis & Tompkins, Ltd., a State of California Department of Health Services (DHS) certified analytical laboratory. The testing program included analyzing samples for MIBK and other volatile organics using EPA 8240. Samples were also tested for the following, to further characterize landfill contamination.

1. Total volatile hydrocarbons - EPA 5030/8015,
2. Total extractable hydrocarbons - EPA 3550/8015,
3. Oil and grease (O&G) - SMWW 17: 5520,
4. Title 26 Metals, and
5. Semi-volatile organics - EPA 8270.

The analytical results are summarized in Tables 3 through 10. MIBK concentrations are also presented on Plates 2, and 14 through 16. For completeness, pertinent data from previous investigations[1] have

[1] See Table 13 for a list of documents reviewed

been compiled and are included in the tables. The analytical test reports from the current study are presented in the Appendix.

B. Biological Characterization

Selected soil and water samples were analyzed by Environmental Technical Services to evaluate the potential for biological activity in soil and groundwater in the tank area. The samples were analyzed for the following:

1. Nutrients,
2. Total Plate Count,
3. Pseudomonads,
4. Redox potential, and
5. pH.

Additionally, water samples were analyzed for:

6. Dissolved oxygen
7. Electrical conductivity, and
8. Total dissolved solids.

The analytical results are summarized in Tables 11 and 12. The test reports are presented in the Appendix.

V SITE CONDITIONS

A. Surface Conditions

The site is occupied by two buildings which are connected by an enclosed corridor. One of the buildings is a 55,000-square foot warehouse, currently used for distribution and packing. The other building is a 15,000-square foot, two-story office building. Currently, the area around the buildings is paved with asphalt.

As shown on Plate 2, the previous tanks existed beneath an unpaved area and a portion of the asphalt paved driveway on the east side of the site. The original vent lines are visible on the north side of the warehouse.

B. Site Geology

The site was reclaimed from the San Francisco Bay beginning in about 1947, by gradually filling low-lying marsh along the bay margin. Geological mapping by Radbruch (1957) indicates that the fill is underlain by thick alluvial deposits. The alluvial deposits are mapped as the Temescal formation by Radbruch (1957). Radbruch (1969) subsequently included the Temescal Formation as the main constituent of a broader unit classified as undivided Quaternary deposits. These alluvial deposits typically consist of well-consolidated, interfingered layers of gravel, sand, silt, and clay derived from erosion of the Berkeley Hills. These deposits are generally thickest at the foot of the Berkeley Hills and become thinner toward the shoreline. The quaternary deposits are underlain by the Pleistocene Age Alameda Formation, which consists of sandy and silty clays of continental derivation (Radbruch, 1957).

C. Subsurface Conditions

The test borings reveal that the tank area is underlain by 20 to 25 feet of heterogeneous fill. The fill consists of loose to medium dense silty and clayey sands, and medium stiff silty clays and clayey silts. Construction debris was encountered in the upper 10 feet of fill.

Previous test borings by others indicate that the fill is underlain by a thin layer of soft marsh and bay soils locally referred to as Bay Mud. Beneath the Bay Mud, and extending to the maximum depth drilled of 31.5 feet, stiff silty and sandy clays were encountered. Soil profiles based on the test boring data are presented on Plates 14 through 16. The profile locations are shown on Plate 2. For completeness, logs of previous test borings in the tank area are presented in the Appendix.

D. Groundwater Condition

The groundwater surface exists approximately 8 to 12 feet below the groundsurface. This corresponds to groundwater elevations varying from 8 to 12 feet, Mean Sea Level datum. The data indicates that groundwater in the tank area flows toward the northwest at a gradient of approximately 3.0 percent. Groundwater surface contours for measurements taken on April 22, 1994, are shown on Plate 2. Based on a gradient of 3.0 percent, and hydraulic conductivities ranging from 4.6 to 7.5 x 10^{-3} cm/sec., the rate of migration through soil in the tank area is computed to range from 3.1 to 5.2 feet/year.

VI CONCLUSIONS

A. MIBK

Based on the data, it appears that a significant MIBK release occurred in the tank area prior to 1989. The release has impacted soil and groundwater within, and downgradient, of the previous tank area. Comparison of the analytical data obtained following tank removal to those recently generated, indicates that significant soil and groundwater remediation has occurred, due in large part to on-site treatment performed in 1990 and 1991. However, elevated levels of MIBK still remain, predominantly within clayey landfill soil and in groundwater downgradient of the previous tank area. Biological data suggests that microbial activity, nutrient and oxygen levels in sandy fill areas are conducive to rapid natural biodegradation of MIBK, and, as a result, are likely responsible for the observed lower levels of MIBK in the sandy soils. To the extent that limited migration occurs as contamination slowly moves from the clayey to sandy soils, the contaminants are degraded, contributing to the rapid attenuation of the plume. The approximate extent of MIBK impacted landfill soils is presented on Plate 17. The approximate limits of the MIBK groundwater plume for the April and August 1994 monitoring events are presented on Plate 18.

B. Landfill Contaminants

Elevated levels of oil and grease, and total extractable hydrocarbons, and low levels of total volatile hydrocarbons, and volatile and semi-volatile organic chemicals exist in the soil in the previous tank area. Petroleum hydrocarbon concentrations in soil are presented on Plate 19. The concentrations of these chemicals in the tank area are similar to those found within the landfill soil throughout the site, and at other landfill sites in Emeryville. As a result, it is our opinion that these contaminants are representative of contaminated landfill materials and unrelated to tank releases, or any industrial activity of MRCP or its predecessor Dymo Industries.

Petroleum hydrocarbons were also detected in groundwater in the tank area. In general, concentrations were relatively low and consistent with the presence of petroleum hydrocarbons in the landfill soils. As a result, we conclude that the presence of petroleum hydrocarbons in groundwater is also unrelated to the tank release, or any industrial activity of MRCP or its predecessor Dymo Industries.

VI LIMITATIONS

This study was intended to evaluate the extent of on-site shallow soil and groundwater contamination, based on limited subsurface investigation and analytical testing. If areas of contamination exist on other portions of the property, away from the areas investigated, it is possible that they would not have been detected during this study.

Environmental sampling studies are by nature non-comprehensive and subject to limitations. This study was not designed to identify all potential concerns nor eliminate all risks.

SCI has performed the assessment in accordance with generally accepted standards of care which currently exist is Northern California. It should be recognized that the definition and evaluation of environmental conditions is difficult and inexact. Judgements leading to conclusions and recommendations are generally made with an incomplete knowledge of subsurface and/or historic conditions applicable to the site. In addition, the conclusions recorded herein reflect site conditions at the time of the investigation. These conditions may change with time, and as such, our conclusions may also change.

List of Tables:

List of Plates:

Appendix:

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MK:JNA:RWR:sld

Table 1
Groundwater Elevation Data

Well	Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1	9/7/89	20.61	11.60	9.01
	5/20/93		10.25	10.36
	6/4/93		11.45	9.16
	8/25/93		11.20	9.41
	11/18/93		11.65	8.96
	2/25/94		10.04	10.57
	4/20/94		10.54	10.07
	4/22/94		10.56	10.05
	4/26/94	20.39	10.38	10.01
	8/8/94			9.37
MW-3	9/7/89	20.09	9.83	10.26
	5/20/93		8.55	11.54
	6/4/93		9.36	10.73
	8/25/93		9.42	10.67
	11/18/93		10.03	10.06
	2/25/94		7.29	12.80
	4/20/94		8.56	11.53
	4/22/94		8.65	11.44
	4/26/94		8.21	11.88
	8/8/94		9.31	10.78
MW-5	9/7/89	18.06	10.27	7.79
	4/22/94		9.26	8.80
	4/26/94		9.24	8.82
	8/8/94		9.96	.10
MW-7	6/4/93	20.36	12.67	7.69
	8/25/93		12.44	7.92
	11/18/93		13.13	7.23
	2/25/94		11.80	8.56
	4/20/94		12.21	8.15
	4/22/94		12.26	8.10
	4/26/94		12.21	8.15
	8/8/94		12.65	7.71
MW-8	5/20/93	20.72	9.55	11.17
	6/4/93		10.81	9.91
	8/25/93		10.93	9.79
	11/18/93		11.72	9.00
	2/25/94		9.05	11.67
	4/20/94		10.18	10.54
	4/22/94		10.48	10.24
	4/26/94		10.13	10.59
	5/11/94		9.80	10.92
	8/8/94		10.99	9.73
MW-9	4/20/94	20.69	10.26	10.43
	4/22/94		10.31	10.38
	4/26/94		10.26	10.43
	8/8/94		11.24	9.45
MW-10	4/20/94	20.42	10.72	9.70
	4/22/94		10.73	9.69
	4/26/94		10.72	9.70
				8.82

Reference Elevation: MSL

TABLE 2
SUMMARY OF SLUG TEST CALCULATIONS

MONITORING WELL	MW - 3	MW - 8	MW - 9	MW - 10
DATE	4/26/94	4/26/94	5/6/94	4/26/94
INITIAL DEPTH TO GROUNDWATER	8.21	10.12	10.2	10.77
CASING INTERVAL	0 to 5	0 to 7	0 to 5	0 to 5
SCREEN INTERVAL	5 to 25	5 to 21.5	5 to 15	5 to 15
CASING RADIUS (rc)-(feet)	0.0833	0.1667	0.0833	0.0833
LENGTH OF SCREEN (L) - (feet)	16.79	11.38	1.8	4.23
RADIUS OF WELL BORE (rw) - (feet)	0.3333	0.4375	0.3333	0.3333
EFFECTIVE RADIUS OF WELL (Rc) - (feet)				
INITIAL HEAD (Yo) - (feet)	0.6	0.8	0.5	0.1
HEAD AT A GIVEN TIME (Yt) - (feet)	0.1	0.5	0.3	0.05
TIME (t) - (Seconds)	640	565	580	480
DISTANCE FROM WATER TABLE TO BOTTOM OF SCREEN (H) - (feet)	16.79	11.38	1.8	4.23
SATURATED AQUIFER THICKNESS (D) - (feet)	16.79	11.38	11.8	11.23
COEFFICIENT A	3.1	2.35	1.75	1.9
COEFFICIENT B	0.5	0.4	0.25	0.3
COEFFICIENT C	2.75	1.9	0.95	1.35
L/Rw	50.38	26.01	5.40	12.69
HYDRAULIC CONDUCTIVITY - (feet/sec) (H=D)	1.73E-06	2.47E-06		
HYDRAULIC CONDUCTIVITY - (cm/sec) (H=D)	5.26E-05	7.54E-05		
HYDRAULIC CONDUCTIVITY - (feet/sec) (D>H)			1.50E-06	1.81E-06
HYDRAULIC CONDUCTIVITY - (cm/sec) (D>H)			4.56E-05	5.52E-05
GRADIENT (ft/ft)	0.03	0.03	0.03	0.03
MIGRATION RATE (feet/sec)	1.15E-07	1.65E-07	9.98E-08	1.21E-07
MIGRATION RATE (feet/year)	3.63	5.20	3.15	3.80

1 Bouwer & Rice Method

Table 3
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)
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	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
6	10/5/89	SS-1-E		-- [5]	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	MW8	4.0	2,000	<10	<10
			9.0	20,000	<10	<10
12	4/13/94	T1	14.0	--	96	<1
12	4/13/94	T2	6.0	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	710	<10	<1
			9.0	<50	<1	<1
12	4/14/94	T7	7.5	68	<10	<1
			14.0	--	<20	160
12	4/13/94	MW9	15.5	470	<1	--
12	4/14/94	MW10	15.5	9400	7300	2

1 Oil & Grease

2 Total extractable hydrocarbons, as Diesel

3 Total volatile hydrocarbons, as Gasoline

4 Milligrams per kilogram

5 Test not requested

Table 4
Volatile Organic Chemical Concentrations in Soil

Reference No.	Date	Boring	Depth (feet)	Acetone (µg/kg)[1]	Benzene (µg/kg)	Ethyl-benzene (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)	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[2] (µg/kg)
5	7/5/89	B1	5.5	–[3]	–	–	–	–	–	–	–	–	–	–	<30	<30	<30	NR[4]	ND[5]
		(MW1)	10.5	–	–	–	–	–	–	–	–	–	–	–	<30	<30	<30	NR	ND
			15.0	–	–	–	–	–	–	–	–	–	–	–	<30	<30	<30	NR	ND
			20.5	–	–	–	–	–	–	–	–	–	–	–	<30	<30	<30	NR	ND
			25.5	–	–	–	–	–	–	–	–	–	–	–	<30	<30	<30	NR	ND
			30.5	–	–	–	–	–	–	–	–	–	–	–	<30	<30	<30	NR	ND
8,11	10/5/89	SS-1-E		<200,000	1,300	40	NR	300	600,000	<30	120	250	<200,000	<80,000	<30	<30	<30	<30	ND
		SS-2-W		<20	230	30	60	50	20	<30	<3	<3	<20	<3	<30	<3	3	<3	ND
		SS-3-E		40	<2	<3	50	35	<20	<30	<3	4	<20	<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	<2,000,000	<800,000	<30	<30	<30	<30	ND
		SS-5-E		<400,000	<300	<300	NR	1,000	180,000	<30	<30	<30	<40,000	<20,000	<30	<30	<30	<30	ND
		SS-6-W		<2,000,000	4,600	<1,500	NR	7,500	5,000,000	<30	<30	<30	<2,000,000	<800,000	<30	<30	<30	<30	ND
7	1/3/90	MW8	4.0	<50	<10	<10	<10	<10	<30	<10	<10	<10	<50	<10	<50	<10	<10	NR	ND
			9.0	<50	<100	<100	<100	<100	8,300	<100	<100	<100	<500	<100	<50	<10	<10	NR	ND
10	9/5/91	PB-1	6.0	<20	<5	<5	<5	<5	<10	<5	<5	2	<20	<5	<5	<5	<5	NR	ND
			8.5	<20	<5	<5	<5	<5	<10	<5	3	4	<20	<5	<5	<5	<5	NR	ND
10	9/5/91	PB-2	5.5	<20	<5	<5	<5	<5	<10	<5	<5	<5	<20	<5	<5	<5	<5	NR	ND
			8.0	<20	5	<5	<5	<5	<10	<5	4	4	<20	<5	<5	<5	<5	NR	ND
12	4/13/94	T1	8.0	<20	<5	<5	<5	<5	<10	NR	NR	NR	<10	<5	<10	<5	<5	<5	ND
12	4/13/94	T2	8.5	110	<5	<5	<5	<5	<10	NR	NR	NR	20	<5	<10	<5	<5	<5	ND
12	4/13/94	T3	8.0	70	4	<5	<5	<5	<10	NR	NR	NR	10	<5	<10	<5	<5	<5	ND
			14.5	100	<5	<5	<5	<5	<10	NR	NR	NR	20	<5	<10	<5	<5	<5	ND
12	4/14/94	T4	9.0	50	<5	<5	<5	<5	10	NR	NR	NR	8	4	<10	<5	<5	<5	ND
			14.5	160	<5	<5	<5	<5	<10	NR	NR	NR	40	<5	<10	<5	<5	<5	ND
12	4/14/94	T5	9.0	20	<5	<5	<5	<5	<10	NR	NR	NR	<10	<5	<10	<5	<5	<5	ND
			14.5	<20	12	<5	<5	<5	<10	NR	NR	NR	10	<5	<10	<5	<5	<5	ND
12	4/14/94	T6	7.5	100	<5	<5	<5	<5	6	NR	NR	NR	10	<5	<10	<5	<5	<5	ND
			14.0	<100	<30	<30	<30	<30	<50	NR	NR	NR	<50	<30	<50	<30	<30	<30	ND
12	4/14/94	T7	7.5	30	<5	<5	<5	<5	<10	NR	NR	NR	9	<5	<10	<5	<5	<5	ND
			14.0	<1,000	600	<300	<300	500	7,800	NR	NR	NR	<500	<300	<600	<300	<300	<300	ND
12	4/13/94	MW9	8.5	70	<5	<5	<5	<5	6	NR	NR	NR	10	<5	<10	<5	<5	<5	ND
			15.5	140	4	<5	<5	<5	<10	NR	NR	NR	20	<5	<10	<5	<5	<5	ND
12	4/14/94	MW10	9.5	30	<5	<5	<5	<5	<10	NR	NR	NR	<10	<5	<10	<5	<5	<5	ND
			15.5	320	<10	<10	<10	<10	11	NR	NR	NR	120	20	40	<10	<10	<10	ND

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 5
Semi Volatile Organic Chemical Concentrations in Soils

Reference No.	Date	Boring	Depth (feet)	Benzo(k) Fluor-anthene (µg/kg)[1]	2-Methyl-Naphthalene (µg/kg)	Naphthalene (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)
11	10/5/89	SS-1-E		<200	<200	<200	<200	<200	<2,000	<200	<200	ND[2]
		SS-2-W		<30	<30	<30	<30	<30	<300	<30	<30	ND
		SS-3-E		<30	<30	<30	<30	<30	<300	200	200	ND
		SS-4-W		<200	<200	<200	<200	<200	<2,000	<200	<200	ND
		SS-5-E		<200	1,000	300	<200	<200	<2,000	<200	<200	ND
		SS-6-W		<200	<200	<200	<200	<200	<2,000	<200	<200	ND
7	1/3/90	MW8	4.0	<300	<300	<300	<300	<300	<2,000	<300	<300	ND
			9.0	<300	<300	<300	<300	410	<2,000	<300	<300	ND
12	4/13/94	T2	6.0	200	<300	<300	<300	<300	<300	<300	<300	ND
12	4/14/94	T5	5.0	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	<3,000	ND
			9.0	<300	<300	<300	<300	<300	400	<300	<300	ND
12	4/14/94	T7	7.5	<300	<300	<300	<300	<300	<300	<300	<300	ND
12	4/14/94	MW9	15.5	<300	<300	<300	<300	<300	400	<300	<300	ND
12	4/14/94	MW10	15.5	<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[1] in Soils

Reference No.	5	5	5	5	5	5	12	12	12	12	7	7	12	12
	B1-5.5	B1-10.5	B1-16.0	B1-20.5	B1-25.5	B1-30.5	T2-6.0	T5-5.0	T5-9.0	T7-7.5	MW8-4.0	MW8-9.0	MW9-15.5	MW10-15.5
Antimony	<1	<1	4	<1	<1	<1	5.1	<2.9	<3	<3	<10	<10	<3	4.4
Arsenic	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	9.3	6	<2.5	4.2	<16	<16	4.2	19
Barium	92	21	78	61	67	23	170	130	41	150	42	85	190	140
Beryllium	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.23	0.31	<0.10	0.45	0.16	0.15	0.43	0.21
Cadmium	1.4	0.6	12	2.4	2	1.2	1	0.27	<0.25	0.28	<0.7	<0.7	<0.25	3.3
Chromium	13	12.5	42	15	10	9.9	25	25	23	27	27	9.6	26	59
Cobalt	5.7	2.6	12.4	4.5	8	3.6	8.7	9.2	4.2	10	2.8	<2	12	10
Copper	28	4	15.3	23	13	7.4	2,100	60	14	40	18	41	30	330
Lead	61	3	160	77	8	4.5	330	61	1.5	6.1	<12	24	19	250
Mercury	<5	<5	<5	<5	<5	<5	<0.087	0.21	<0.087	<0.087	<0.009	0.36	<0.083	0.77
Molybdenum	<1	<1	2.4	<1	<1	<1	1.5	<0.98	<1	<0.99	<1	<1	<1	3.1
Nickel	14	12.7	30	19	24	22	55	28	19	37	18	6.8	36	37
Selenium	<5	<5	<5	<5	<5	<5	<2.5	<2.5	<2.5	<2.5	<0.2	<0.2	<2.5	<2.5
Silver	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.49	<0.5	<0.5	<0.4	<0.4	<0.5	1.1
Thallium	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.5	<2.5	<2.5	<2.5	<10	<10	<2.5	<2.5
Vanadium	15	7	32	12	12	6.7	26	26	15	27	15	8.5	27	24
Zinc	94	5.4	6,040	106	27	15	580	88	18	62	75	120	61	530

1 Concentrations in micrograms per kilogram

Table 7
Petroleum Hydrocarbon Concentrations in Groundwater

Reference No.	Date	Well	Total Recoverable Hydrocarbons (mg/l)	Oil and Grease (mg/l)	TEH (mg/l)	TVH (mg/l)
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	--	--
	8/8/94		--	<5	<0.05	<0.05
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
	8/8/94		--	<5	1.2	<0.05
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
	8/8/94		--	<5	3.6	7.2
12	4/21/94	MW-9	--	<5	0.68	0.92
	8/8/94		--	<5	1.2	0.86
12	4/21/94	MW-10	--	<5	2.1	0.68
	8/8/94		--	<5	4.4	0.61

TEH = Total extractable hydrocarbons
TVH = Total volatile hydrocarbons
mg/L = milligrams per liter
-- = test not requested

Volatile Organic Chemical Concentrations in Groundwater

Reference No.	Well	Date	4-Methyl-2 Pentanone (µg/l)[1]	Vinyl Chloride (µg/l)	Acetone (µg/l)	2-Butanone (µg/l)	4-Methyl-2 Pentanol (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl benzene (µg/l)	Xylene (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	3	<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	ND
		8/8/94	<10	<10	<10	<10	NR	<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	ND
12		2/25/94	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
		8/8/94	<10	<10	<20	<10	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	<1000	<1000	<1000	<1000	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	ND
		5/11/94	140,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
		8/8/94	61,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
12	MW9	4/21/94	120	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
		8/8/94	—	<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
		8/8/94	—	<10	<20	<10	NR	14	<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

Refernce 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
8	1/10/90	MW8	<150	<150	<150	<750	ND

1 micrograms per liter

2 Not detected at concentrations above the reporting limits

Table 10
Heavy Metal Concentrations in Groundwater

Reference No.	5
	MW1 (7/6/89) [1] (mg/l) [2]
Antimony	<0.04
Arsenic	<0.088
Barium	0.6
Beryllium	<0.001
Cadmium	0.013
Chromium	0.064
Cobalt	0.021
Copper	0.04
Lead	0.063
Mercury	<0.2
Molybdenum	<0.04
Nickel	0.1
Selenium	0.2
Silver	0.022
Thallium	<0.088
Vanadium	0.06
Zinc	0.18

1 Sample Date
2 Milligrams per liter

Table 11
Nutrient Concentrations in Soil

	T4 - 8.5 (4/14/94)[1]	T5 - 8.5 (4/14/94)	T7 - 13.5 (4/14/94)
Ammonia (ppm)[2]	41	18	33
Nitrate (ppm)	10	7	6
Phosphorous (ppm)	160	14	19
Potasium (ppm)	269	115	46
pH	6.9	8.4	8.6
Redox (mV)[3]	263.6	286.1	293.9
Spread plate count (cfu/gm)[4]	6880	1060	51300
Pseudomonad count (cfu/gm)	3510	354	16000
Moisture content (%)	18.7	3.69	22.08

1 Sample Date
2 parts per million
3 millivolts
4 Colony forming units/gram

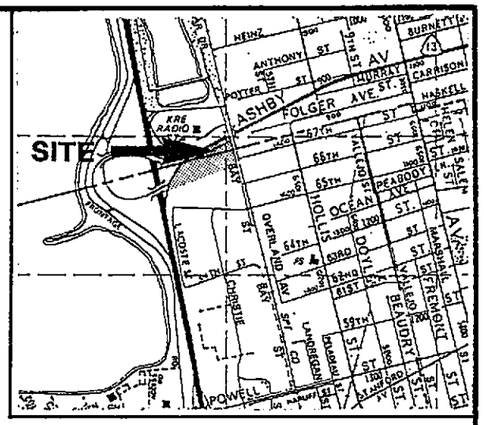
Table 12
Nutrient Concentrations in Grounwater

	MW-3 (4/21/94)[1]	MW-8 (4/21/94)	MW-10 (4/21/94)
Ammonia (ppm)[2]	0.65	14.15	12.18
Potassium (ppm)	5.6	28.07	17.84
Sodium (ppm)	50.7	134.2	72.4
Calcium (ppm)	233.6	108	84
Magnesium (ppm)	68.04	53.46	58.32
Iron (ppm)	9.55	9.8	7.2
Maganese (ppm)	4.11	0.71	0.77
Total Cations (meq/l)[3]	20.453	17.749	13.788
Bicarbonate (ppm)	952	1332	1468
Carbonate (ppm)	<1	<1	<1
Chloride (ppm)	352	928	524
Nitrate (ppm)	1.33	4.43	2.22
Phosphate (ppm)	4.36	6.25	5.13
Sulfate (ppm)	36	17	10
Boron (ppm)	1.3	2.8	1.4
Total Anions (meq/l)	26.515	48.892	39.381
pH	7.1	7.5	7.7
Total Dissolved Solids (ppm)	1718.6	2624.7	2251.3
Electrical Conductivity (mnhos/cm)[4]	3.02	5.12	3.76
Dissolved Oxygen (mg/l)	2.41	1.3	0.81
Redox (mV)	356.2	148.5	285.2
Heterotrophic plate count (cfu/ml)[5]	850	11300	57000
Pseudomonad count (cfu/ml)	92	2900	43000

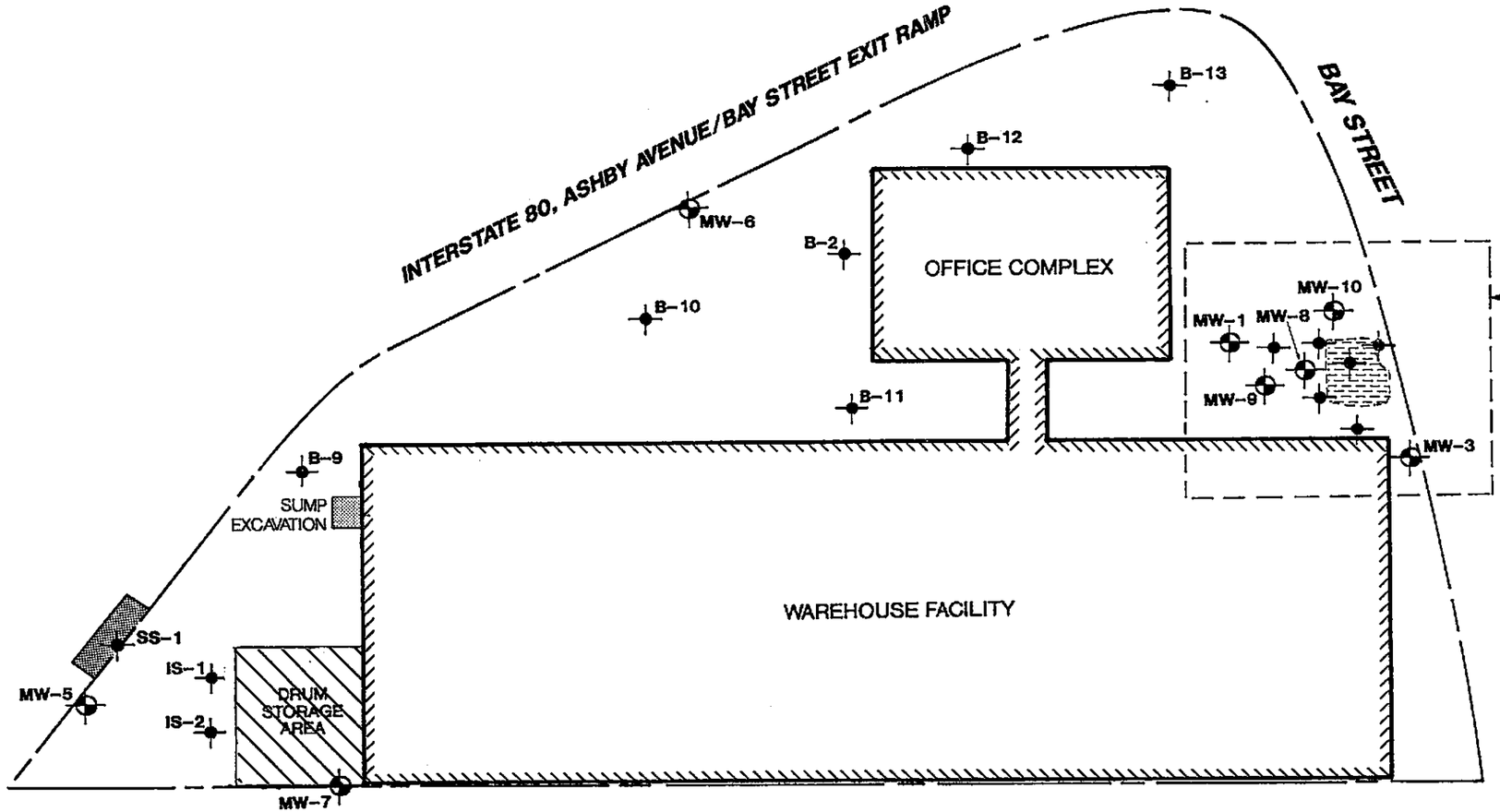
1 Sample Date
2 parts per million
3 milliequivalents per liter
4 millimhos/centimeter
5 colony forming units/milliliter

Table 13
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	Quarterly Groundwater Monitoring and Treatment System Decomissioning	Subsurface Consultants, Inc.
	9/15/93	Quarterly Groundwater Monitoring	
	1/8/94	Quarterly Groundwater Monitoring	
	4/5/94	Quarterly Groundwater Monitoring	
	5/16/94	Supplemental MIBK Contamination Assessment (Draft)	



VICINITY MAP



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

N

APPROXIMATE SCALE (feet)
0 50 100

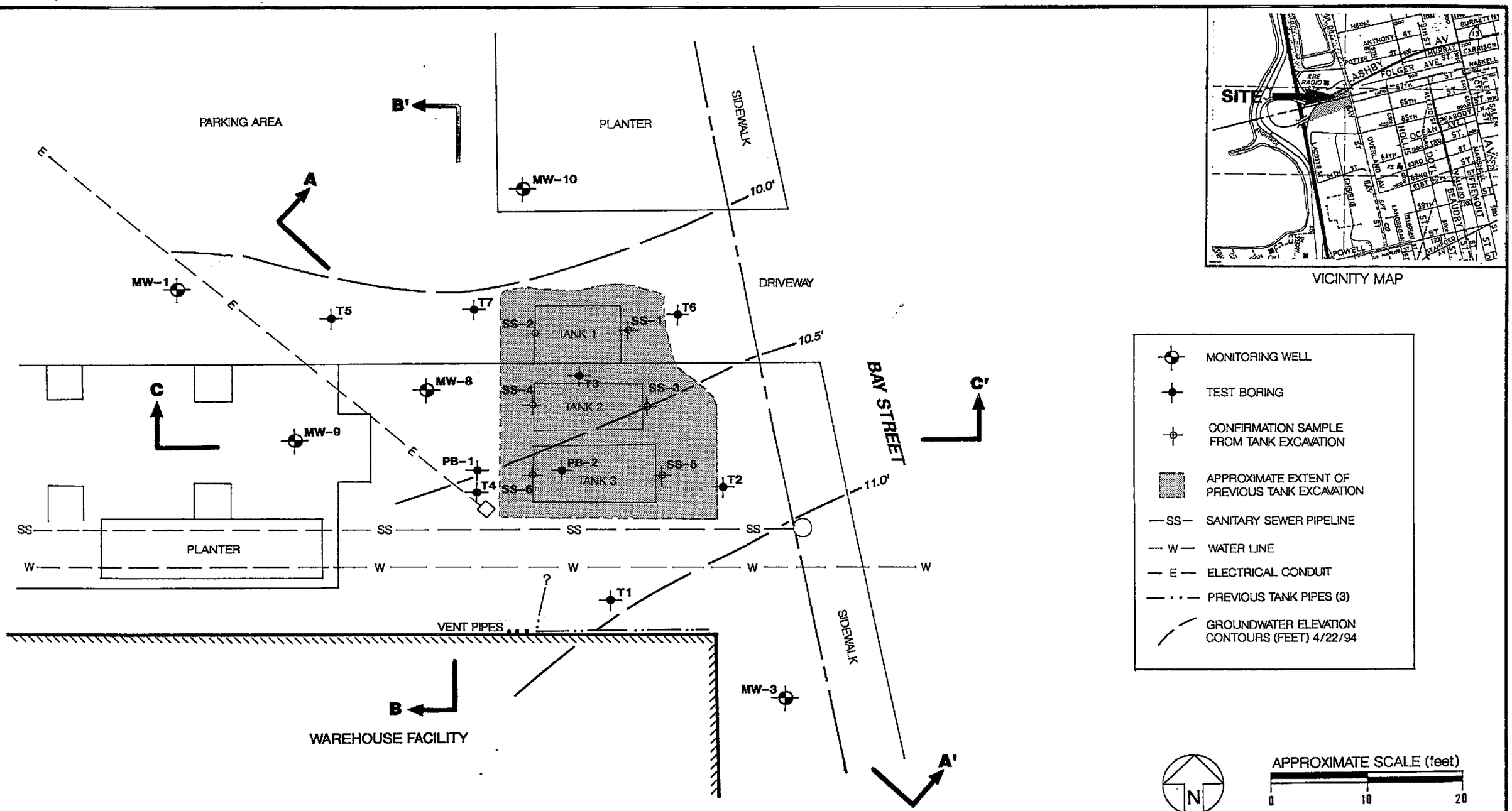
SITE PLAN

Subsurface Consultants

6707 BAY STREET – EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 1



TANK AREA PLAN

Subsurface Consultants

6707 BAY STREET – EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 2

LOG OF TEST BORING T 1

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/13/94
ELEVATION - -

LABORATORY TESTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT	
				0			DARK BROWN SILTY SANDY CLAY (CL) medium stiff, moist, with gravel (fill)
			0				YELLOW BROWN SANDY GRAVEL (GP) medium dense, moist (fill)
						17	MOTTLED BROWN CLAYEY SANDY GRAVEL (GC)
			0	5		7	medium dense, moist, with asphalt and concrete fragments (fill)
			0				DARK GRAY BROWN SILTY CLAY (CL/CH)
						11	stiff, moist, with glass fragments (fill)
			0	▼		4	GROUNDWATER LEVEL DURING DRILLING
			10	10		4	GRAY CLAYEY SILTY SAND (SM) loose to medium dense, moist, with gravel (fill)
						3	
				15			Boring backfilled with cement grout

LOG OF TEST BORING T 2

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/13/94
ELEVATION - -

LABORATORY TESTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT	
				0			BROWN SILTY SAND (SM) loose to medium dense (fill)
							GRAY BROWN SANDY GRAVEL (GM)
						36	medium dense, moist (fill)
			0	5			BROWN CLAYEY SAND (SC)
			10			18	medium dense, moist (fill)
							OLIVE GRAY SANDY SILTY CLAY (CL)
			0			7	soft, moist (fill)
				▼			GROUNDWATER LEVEL DURING DRILLING
				10		4	
			0			2	
							BROWN AND BLACK SILTY SAND (SM) loose, wet
				15		2	Boring backfilled with cement grout

Subsurface Consultants

6707 BAY STREET - EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 3

LOG OF TEST BORING T 3

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/13/94
ELEVATION - -

LABORATORY TESTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT	
				0			BROWN SILTY SAND (SM) loose, moist (fill)
						7	BROWN CLAYEY SAND (SC) medium dense, moist, with gravel and concrete fragments and plastic (fill)
				5		8	asphalt at 5 feet
							BLACK CLAYEY SAND (SC) loose, wet (fill)
						2	GROUNDWATER LEVEL DURING DRILLING
			25			4	
			3	10		5	MOTTLED GRAY SANDY SILTY CLAY (CL) soft to medium stiff, moist, with organic material
			0				
			0				
				15		3	Boring backfilled with cement grout

LOG OF TEST BORING T 4

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/14/94
ELEVATION - -

LABORATORY TESTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT	
				0			BROWN CLAYEY SAND (SC) medium dense, moist, with concrete fragments and gravel (fill)
			0			35	
				5		14	
							GRAY SILTY CLAY (CL) medium stiff, moist, with sand (fill)
						8	
						15	GROUNDWATER LEVEL DURING DRILLING
			6	10		23	GRAY AND BROWN CLAYEY SILTY SAND (SM) medium dense, moist, with gravel, glass and wood fragments (fill)
						5	BLACK CLAYEY SAND (SC) loose, wet (fill)
			4	15			Boring backfilled with cement grout

Subsurface Consultants

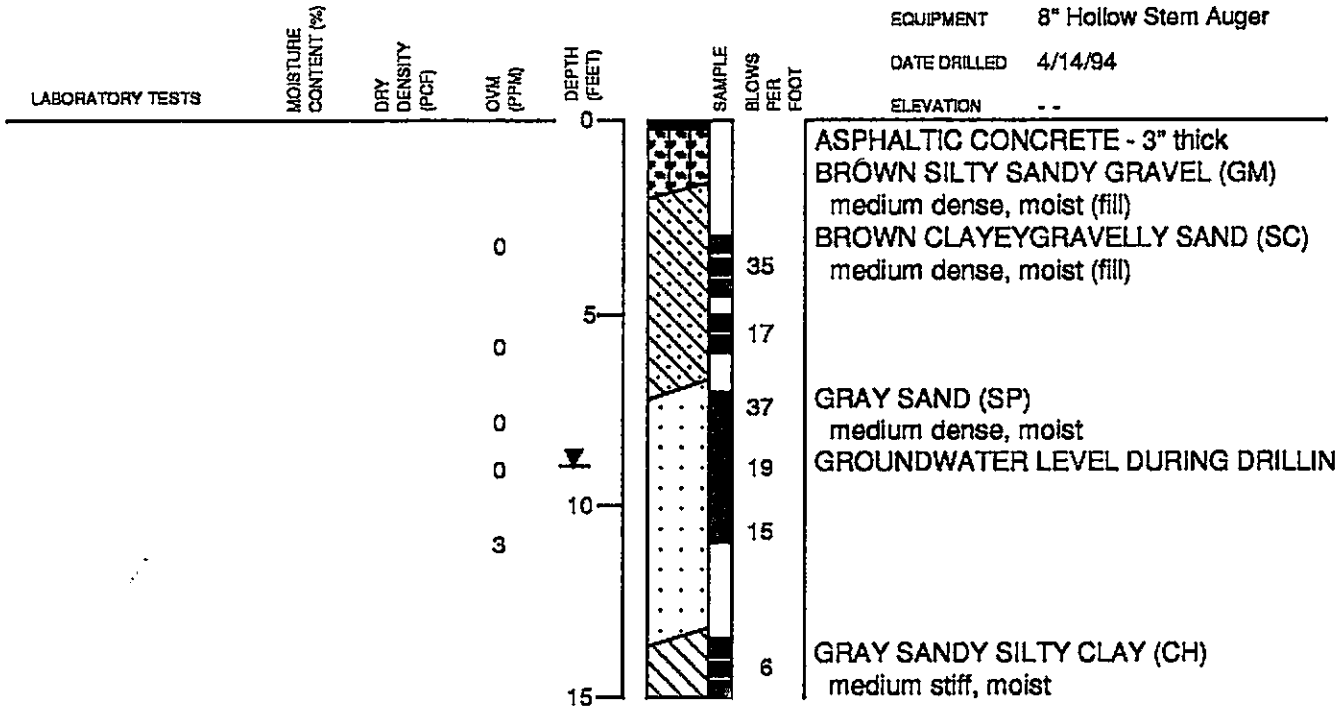
6707 BAY STREET - EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 4

LOG OF TEST BORING T 5

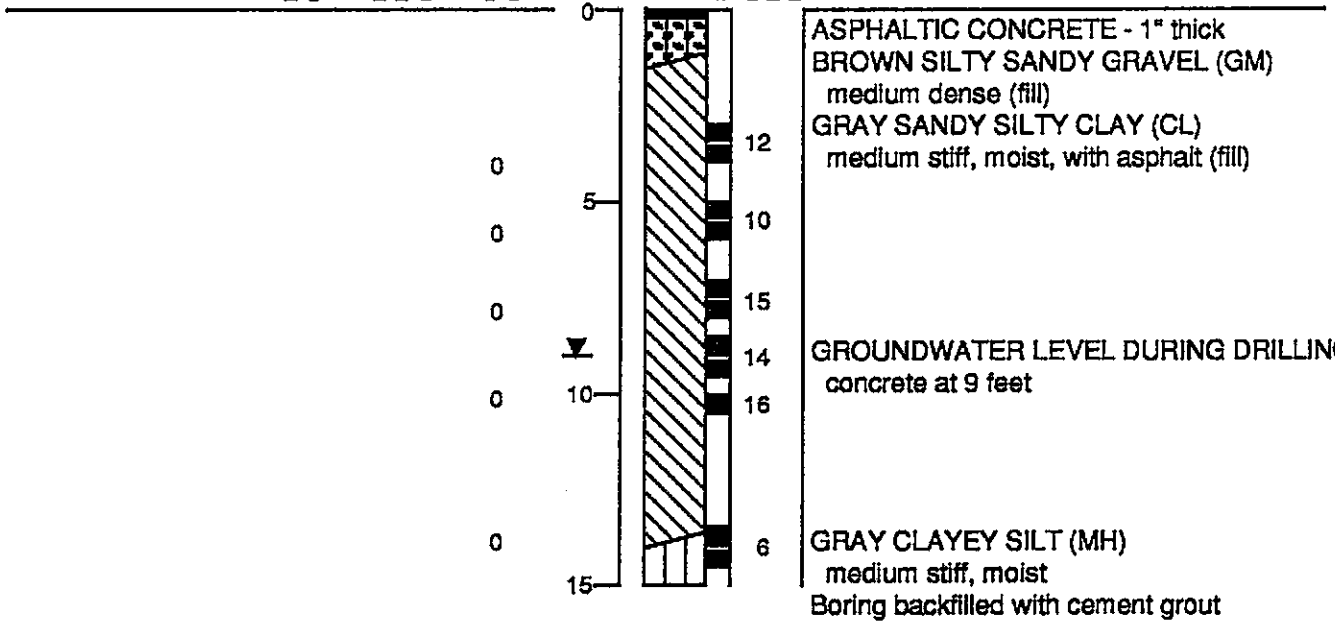
EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/14/94
ELEVATION - -



Boring backfilled with cement grout

LOG OF TEST BORING T 6

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/14/94
ELEVATION - -

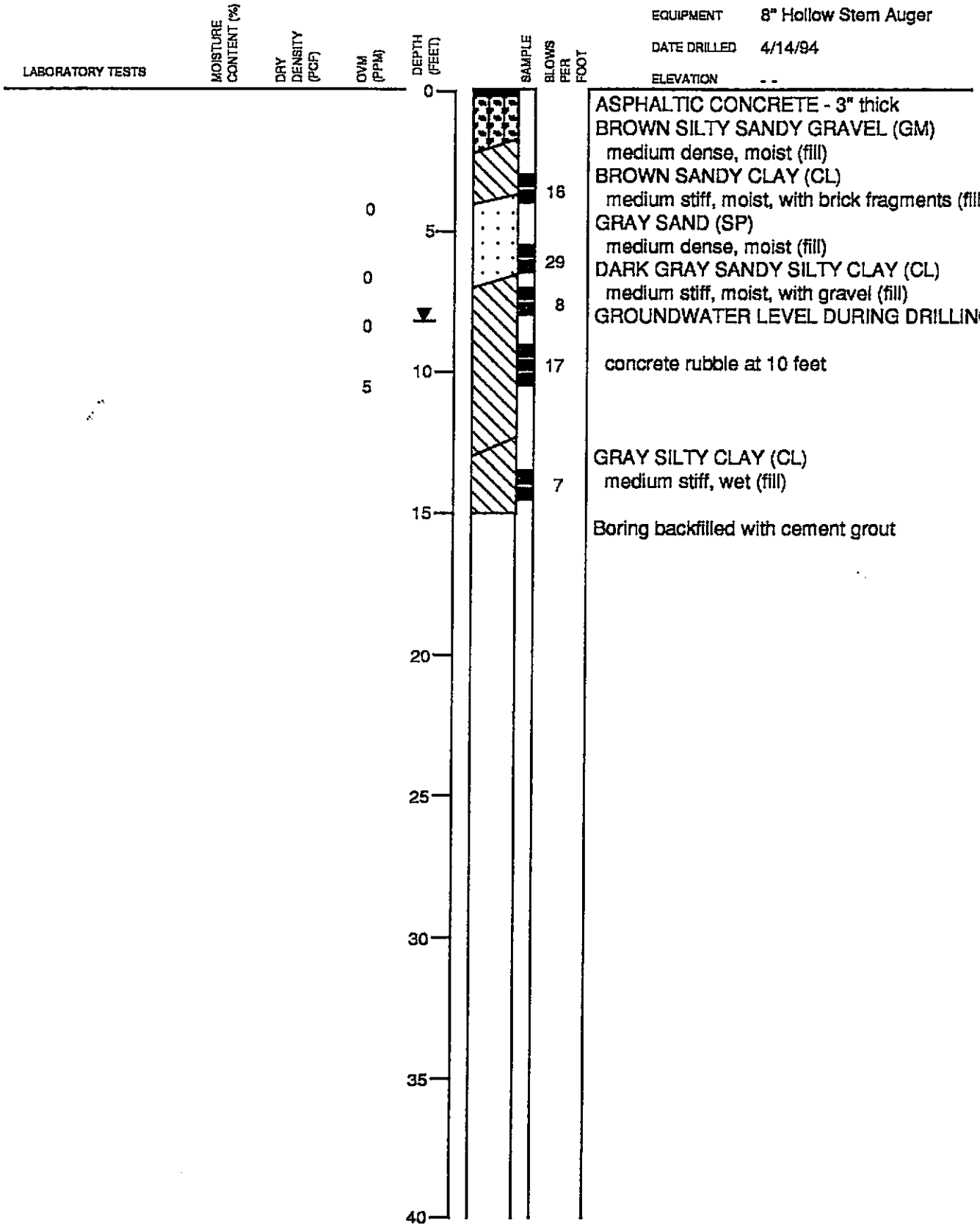


Boring backfilled with cement grout

Subsurface Consultants	6707 BAY STREET - EMERYVILLE, CA			PLATE
	JOB NUMBER	DATE	APPROVED	5
	820.001	4/27/94		

LOG OF TEST BORING T 7

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/14/94
ELEVATION - -



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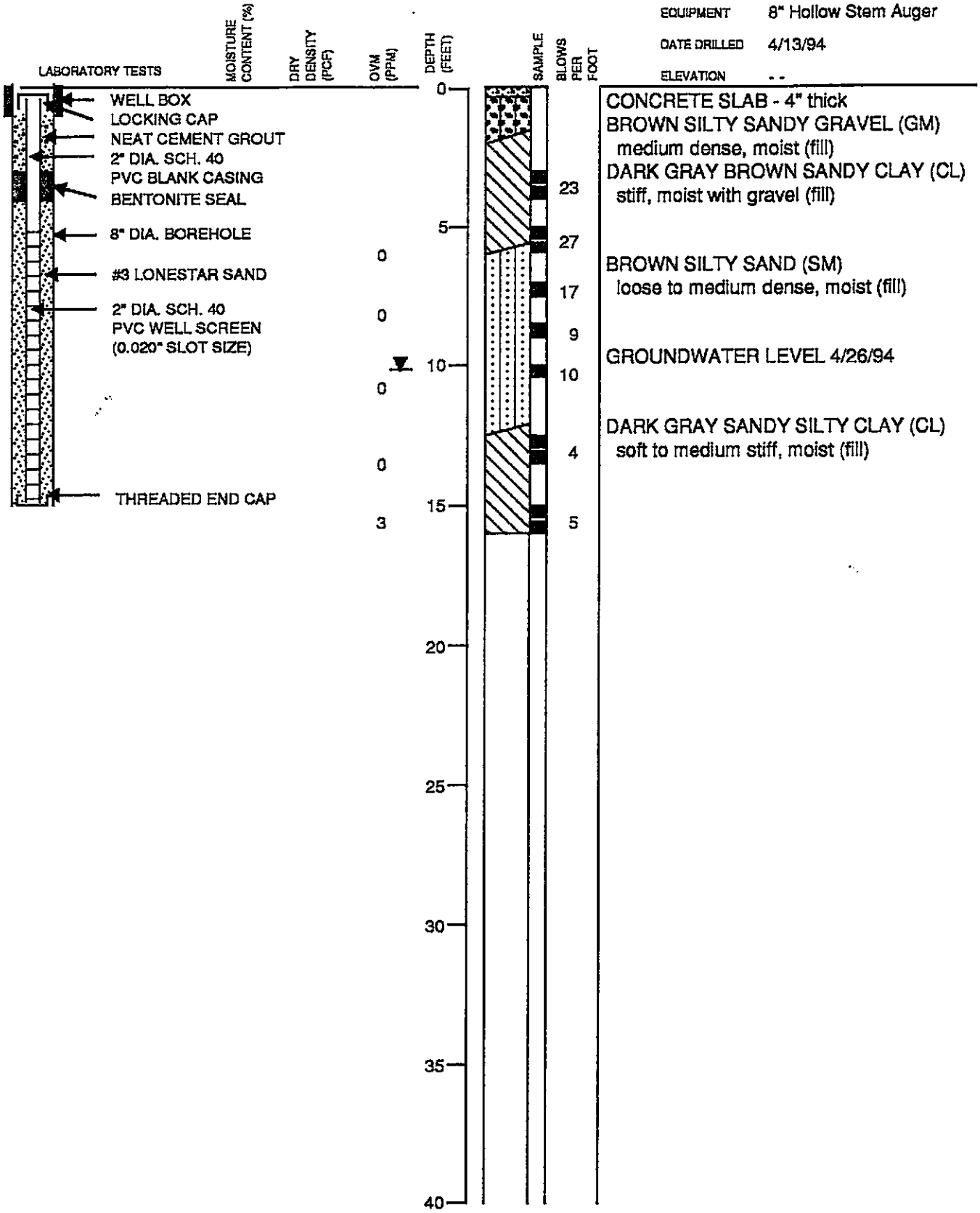
6707 BAY STREET - EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 6

LOG OF TEST BORING MW-9

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/13/94
ELEVATION - -



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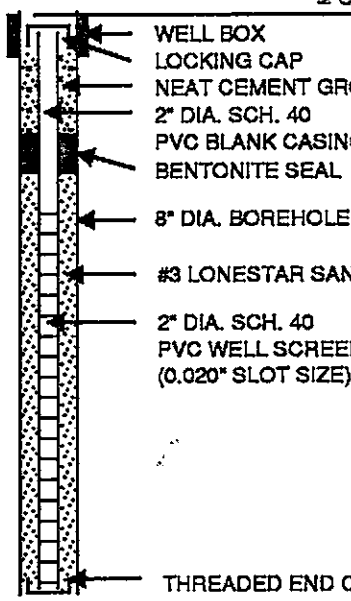
6707 BAY STREET - EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 7

LOG OF TEST BORING MW-10

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 4/14/94
ELEVATION - -



MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT	
			0			BROWN CLAYEY SAND (SC) loose, moist (fill)
		0			19	DARK BROWN SANDY CLAY (CL) medium stiff, moist (fill)
			5		23	DARK GRAY BROWN SANDY CLAY (CL) stiff, moist (fill)
					21	BROWN SAND (SP) loose to medium dense, moist (fill)
		0			9	CONCRETE RUBBLE at 9 feet
		10	10		3	GROUNDWATER LEVEL 4/26/94
						BLACK BROWN CLAYEY SANDY SILT (ML) soft, wet (fill)
					2	oily odor
						organic debris and wood fragments at 14 feet
		5	15		3	black oil sludge at 16 feet
			20			
			25			
			30			
			35			
			40			

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6707 BAY STREET - EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 8

GENERAL SOIL CATEGORIES			SYMBOLS	TYPICAL SOIL TYPES
COARSE GRAINED SOILS More than half is larger than No. 200 seive	GRAVEL More than half coarse fraction is larger than No. 4 seive size	Clean Gravel with little or no fines	GW	Well Graded Gravel, Gravel-Sand Mixtures
			GP	Poorly Graded Gravel, Gravel-Sand Mixtures
		Gravel with more than 12% fines	GM	Silty Gravel, Poorly Graded Gravel-Sand-Silt Mixtures
			GC	Clayey Gravel, Poorly Graded Gravel-Sand-Clay Mixtures
	SAND More than half coarse fraction is smaller than No. 4 seive size	Clean Sand with little or no fines	SW	Well Graded Sand, Gravelly Sand
			SP	Poorly Graded Sand, Gravelly Sand
		Sand with more than 12% fines	SM	Silty Sand, Poorly Graded Sand-Silt Mixtures
			SC	Clayey Sand, Poorly Graded Sand-Clay Mixtures
FINE GRAINED SOILS More than half is smaller than No. 200 seive	SILT AND CLAY Liquid Limit Less than 50%		ML	Inorganic Silt and Very Fine Sand, Rock Flour, Silty or Clayey Fine Sand, or Clayey Silt with Slight Plasticity
			CL	Inorganic Clay of Low to Medium Plasticity, Gravelly Clay, Sandy Clay, Silty Clay, Lean Clay
			OL	Organic Clay and Organic Silty Clay of Low Plasticity
	SILT AND CLAY Liquid Limit Greater than 50%		MH	Inorganic Silt, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silt
			CH	Inorganic Clay of High Plasticity, Fat Clay
			OH	Organic Clay of Medium to High Plasticity, Organic Silt
HIGHLY ORGANIC SOILS			PT	Peat and Other Highly Organic Soils

UNIFIED SOIL CLASSIFICATION SYSTEM

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JOB NUMBER	DATE	APPROVED
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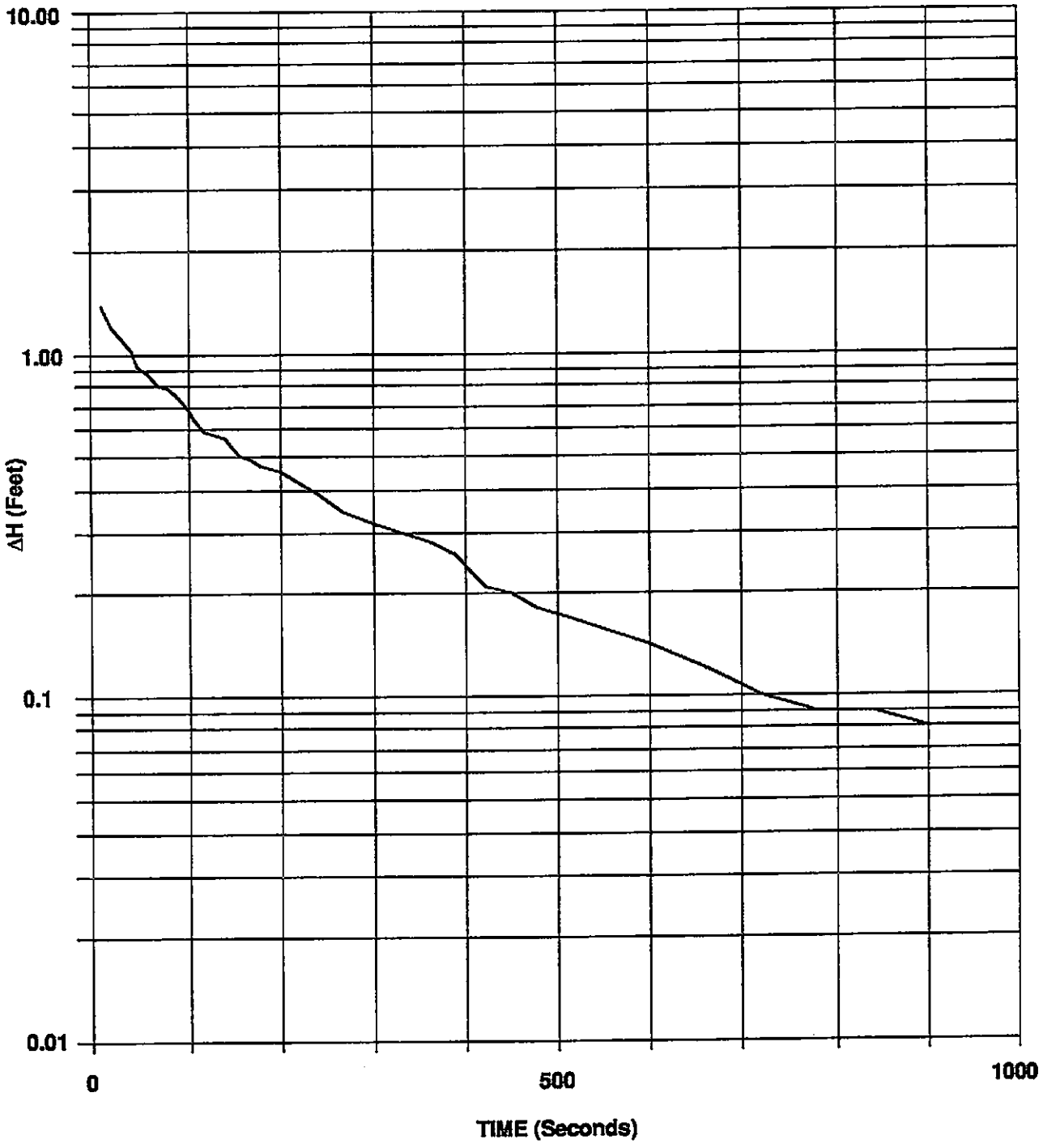
PLATE 9



RISING HEAD TEST - MW 3

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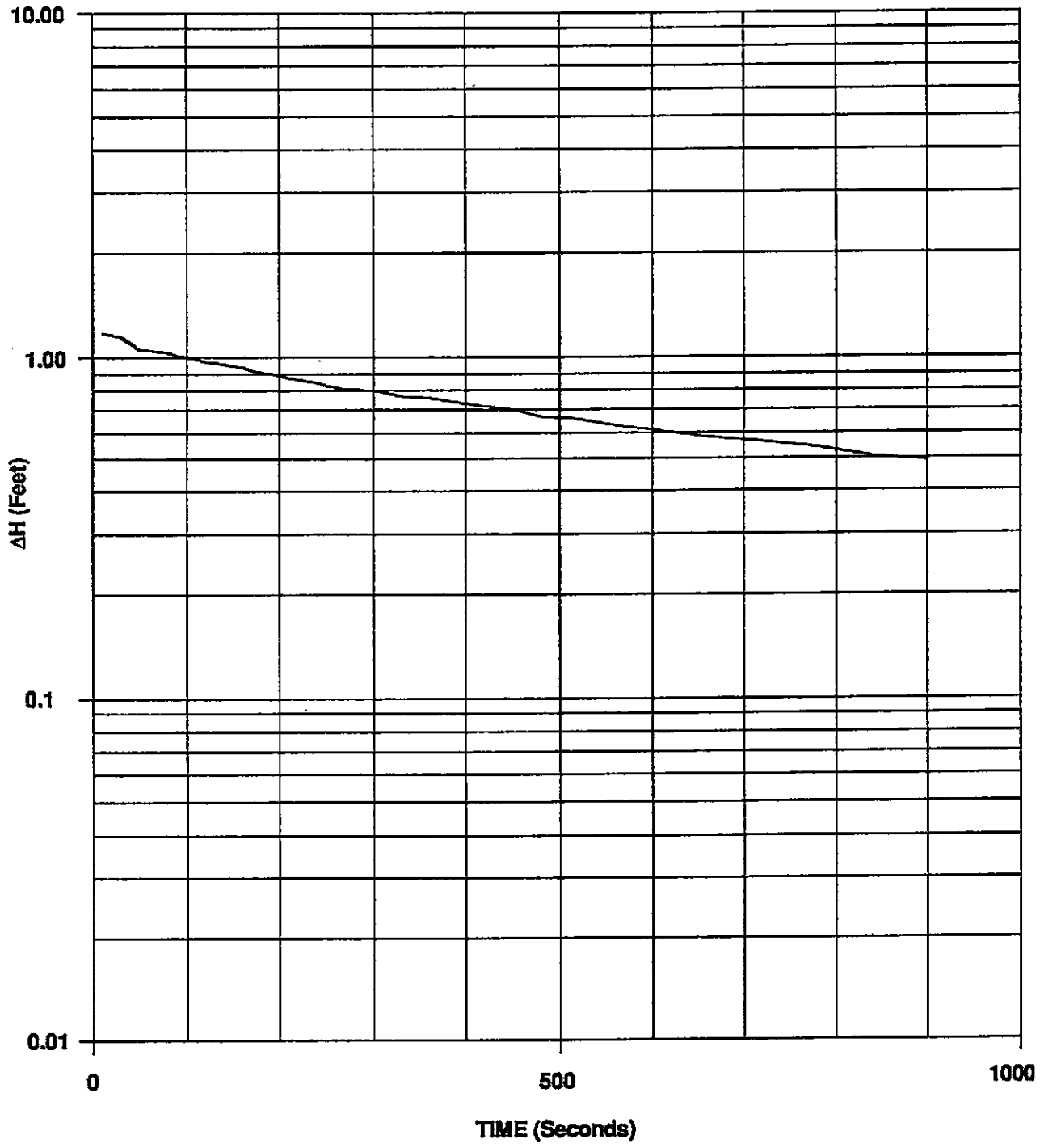
JOB NUMBER	DATE	APPROVED
820.001	5/10/94	

PLATE 10



RISING HEAD TEST - MW 8

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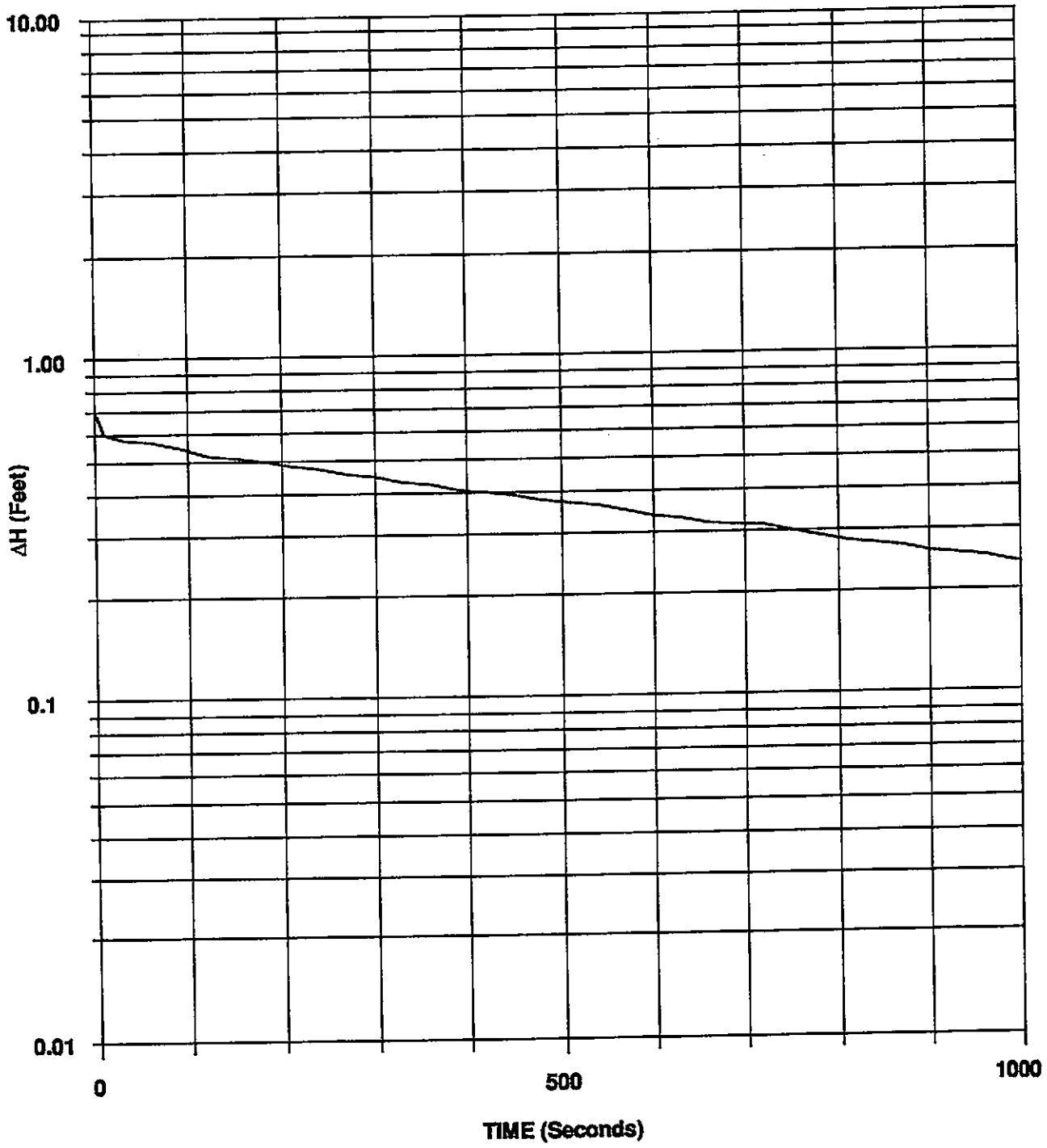
JOB NUMBER	DATE	APPROVED
820.001	5/10/94	

PLATE 11



RISING HEAD TEST - MW 9

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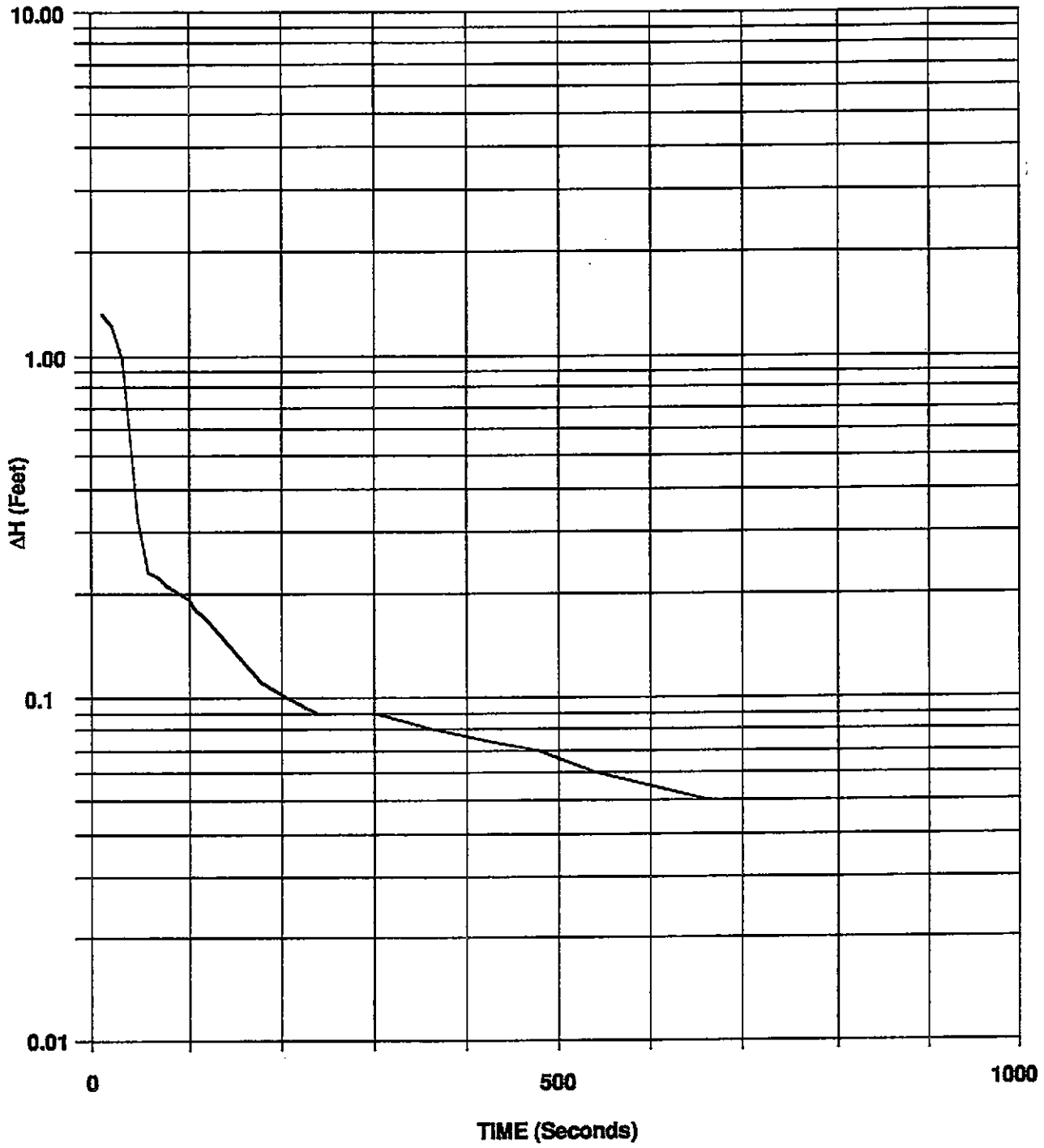
JOB NUMBER	DATE	APPROVED
820.001	5/10/94	MC

PLATE 12



RISING HEAD TEST - MW 10

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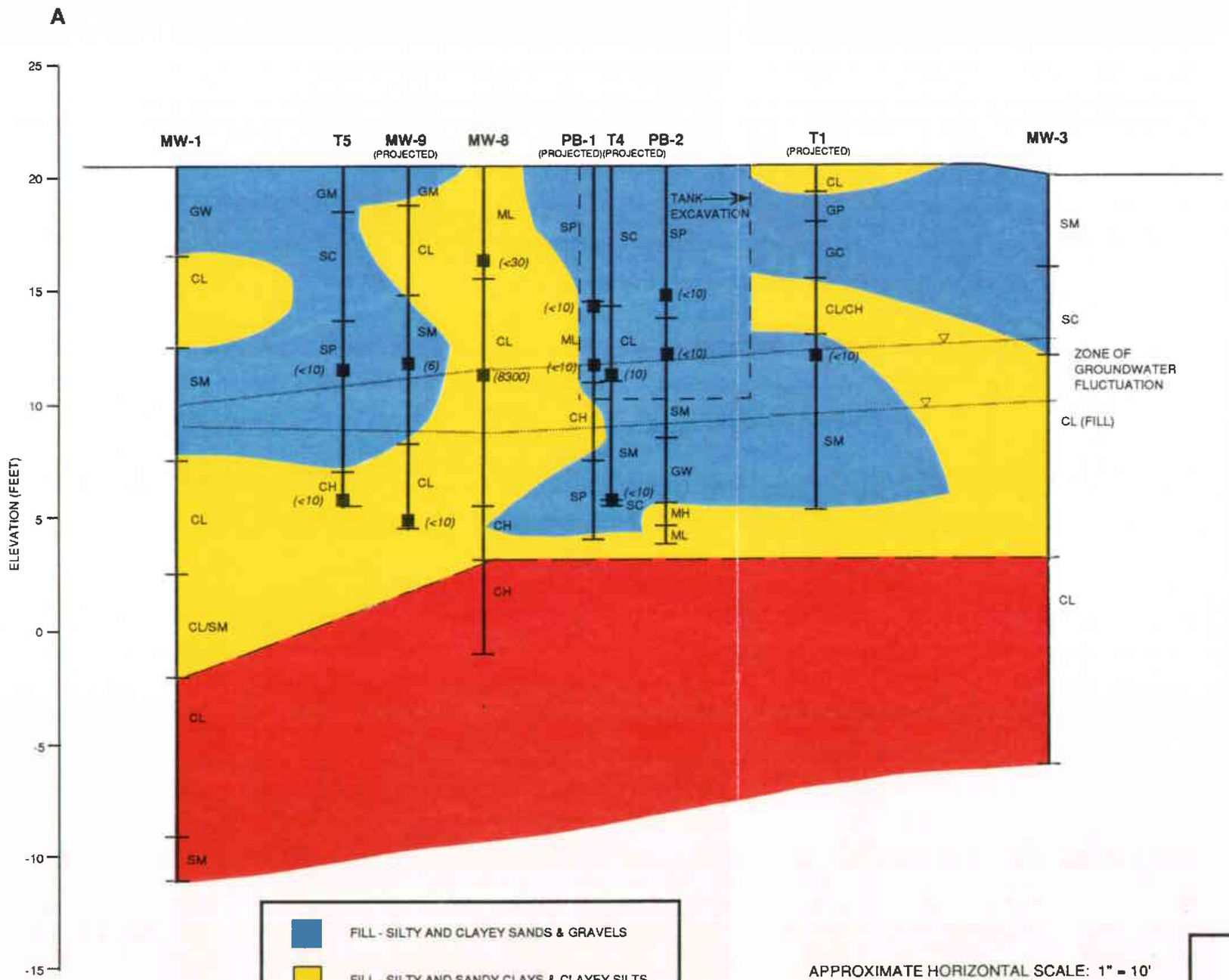
JOB NUMBER	DATE	APPROVED
820.001	5/10/94	MK

PLATE 13



ELEVATION REFERENCE: MSL

APPROXIMATE HORIZONTAL SCALE: 1" = 10'
APPROXIMATE VERTICAL SCALE: 1" = 5'

CROSS SECTION A - A'

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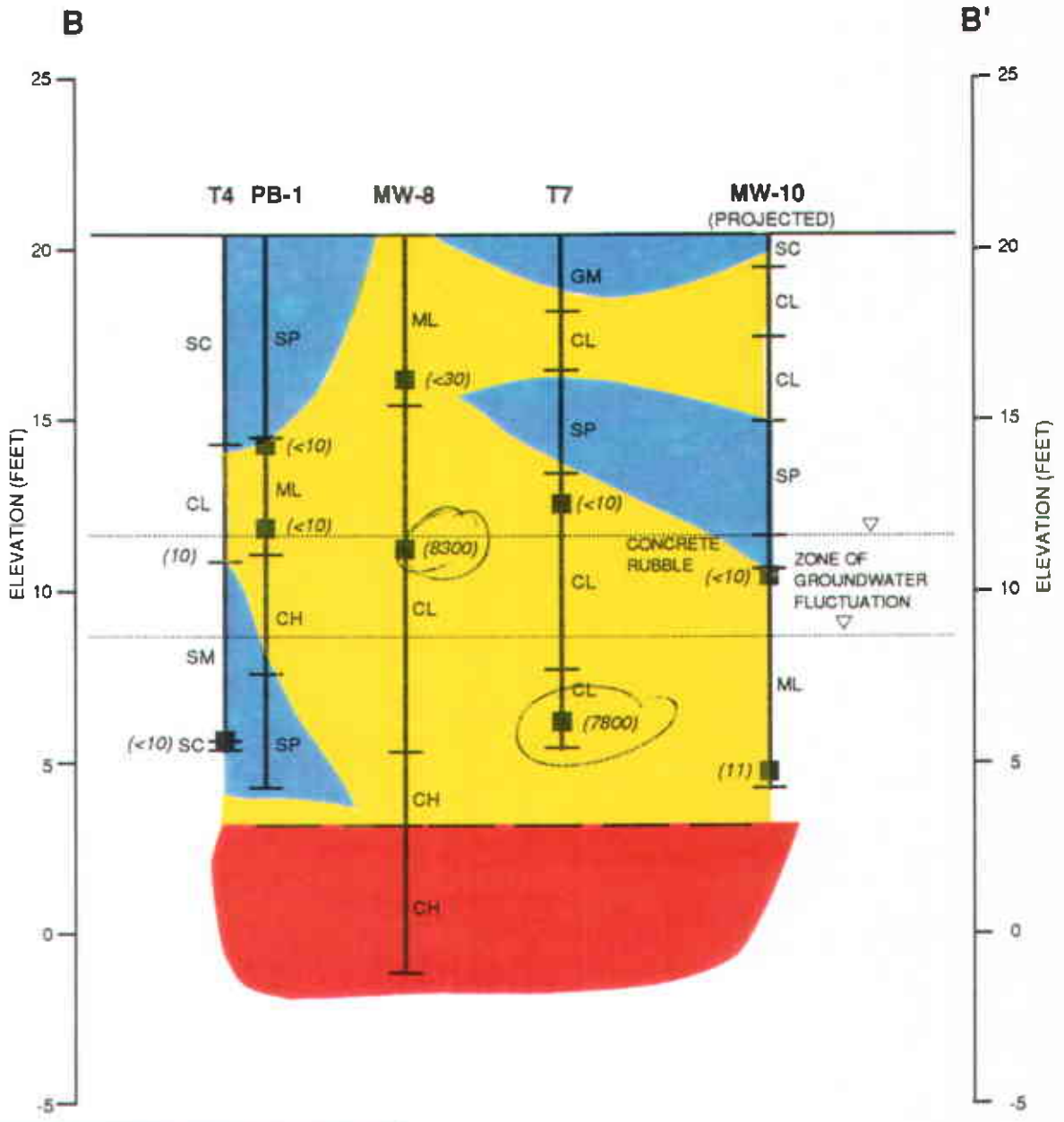
6707 BAY STREET - EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED	PLATE
820.001	5/6/94		14



FILL - SILTY AND CLAYEY SANDS & GRAVELS

FILL - SILTY AND SANDY CLAYS & CLAYEY SILTS

BAY AND MARSH DEPOSITS

(20) MIBK CONCENTRATION IN SOIL (µg/kg)

ELEVATION REFERENCE: MSL

APPROXIMATE HORIZONTAL SCALE: 1" = 10'
APPROXIMATE VERTICAL SCALE: 1" = 5'

CROSS SECTION B-B'

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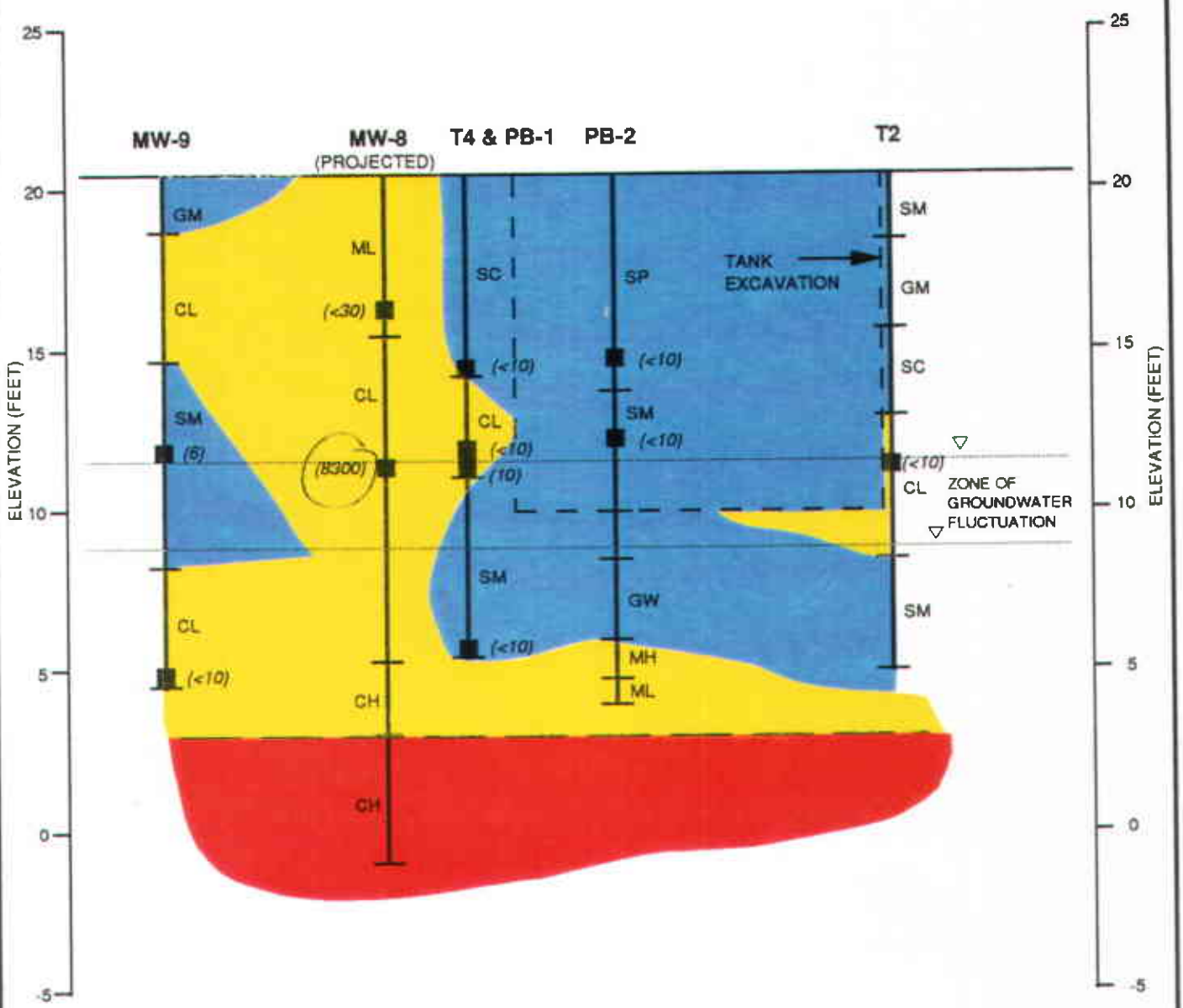
6707 BAY STREET - EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	5/6/94	

PLATE 15



FILL - SILTY AND CLAYEY SANDS & GRAVELS

FILL - SILTY AND SANDY CLAYS & CLAYEY SILTS

BAY AND MARSH DEPOSITS

(20) MIBK CONCENTRATION IN SOIL (µg/kg)

ELEVATION REFERENCE: MSL

APPROXIMATE HORIZONTAL SCALE: 1" = 10'
APPROXIMATE VERTICAL SCALE: 1" = 5'

CROSS SECTION C - C'

6707 BAY STREET - EMERYVILLE, CA

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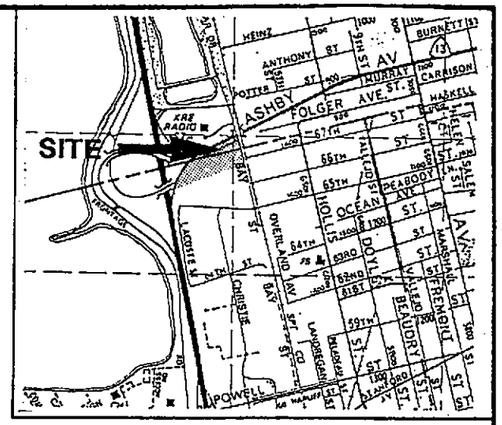
JOB NUMBER	DATE	APPROVED
820.001	5/6/94	

PLATE 16



VICINITY MAP

PARKING AREA

PLANTER

SIDEWALK

DRIVEWAY

BAY STREET

MW-10
9.5 (<10)
15.5 (11)

MW-1

T5
9.0 (<10)
14.5 (<10)

T7
7.5 (<10)
14 (7800)

SS-2
(20)

TANK 1

SS-1
(500,000)

T6
7.5 (6)
14.0 (<50)

MW-8
4 (<30)
9 (5300)

T3
8.0 (<10)
14.5 (<10)

SS-4

TANK 2
(3,300,000)

SS-3
(<20)

MW-9
8.5 (6)
15.5 (<10)

PB-1
6.0 (<10)
8.5 (<10)

PB-2
5.5 (<10)
8.0 (<10)

TANK 3

SS-5
(150,000)

T2
8.5 (<10)

T4
9.0 (10)
14.5 (<10)

SS-6
(5,000,000)

SS — SS — SS — SS

PLANTER

W — W — W — W — W

T1
8.0 (<10)

VENT PIPES

MW-3

WAREHOUSE FACILITY

SIDEWALK

MONITORING WELL

TEST BORING

PREVIOUS TANK EXCAVATION

— SS — SANITARY SEWER PIPELINE

— W — WATER LINE

— E — ELECTRICAL CONDUIT

— · · — PREVIOUS TANK PIPES (3)

CONFIRMATION SAMPLE FROM TANK EXCAVATION

ESTIMATED 10 (µg/kg) ISOCONCENTRATION CONTOUR FOR MIBK

(20) MIBK CONCENTRATION IN SOIL PRIOR TO REMEDIATION (µg/kg)

5 (10) MIBK CONCENTRATION IN SOIL FOLLOWING REMEDIATION (µg/kg)

SAMPLE DEPTH (feet)

N

APPROXIMATE SCALE (feet)

0 10 20

MIBK CONCENTRATIONS IN SOIL

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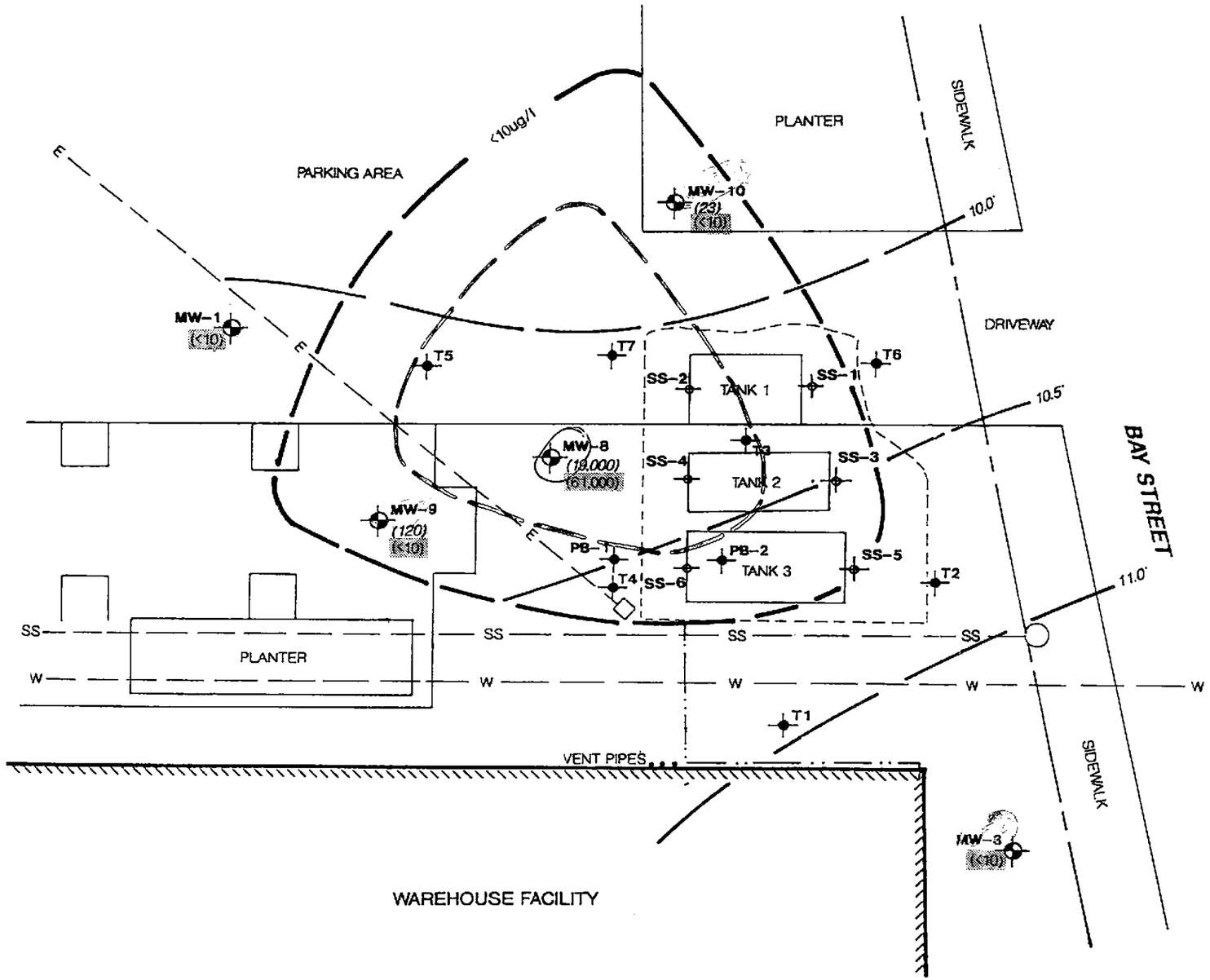
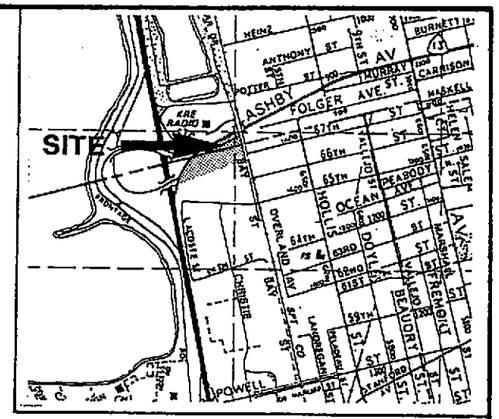
6707 BAY STREET – EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 17





VICINITY MAP

- MONITORING WELL
- TEST BORING
- PREVIOUS TANK EXCAVATION
- — SS — SANITARY SEWER PIPELINE
- — W — WATER LINE
- — E — ELECTRICAL CONDUIT
- PREVIOUS TANK PIPES (3)
- CONFIRMATION SAMPLE FROM TANK EXCAVATION
- GROUNDWATER ELEVATION CONTOURS (FEET) 4/22/94
- ESTIMATED <10µg/l ISOCONCENTRATION CONTOUR FOR MIBK (4/21/94)
- ESTIMATED <10µg/l ISOCONCENTRATION CONTOUR FOR MIBK (8/8/94)
- *(100)* MIBK CONCENTRATION (µg/l) IN GROUNDWATER 4/21/94)
- (<10) MIBK CONCENTRATION (µg/l) IN GROUNDWATER 8/8/94)

N

APPROXIMATE SCALE (feet)

0 10 20

MIBK CONCENTRATIONS IN GROUNDWATER

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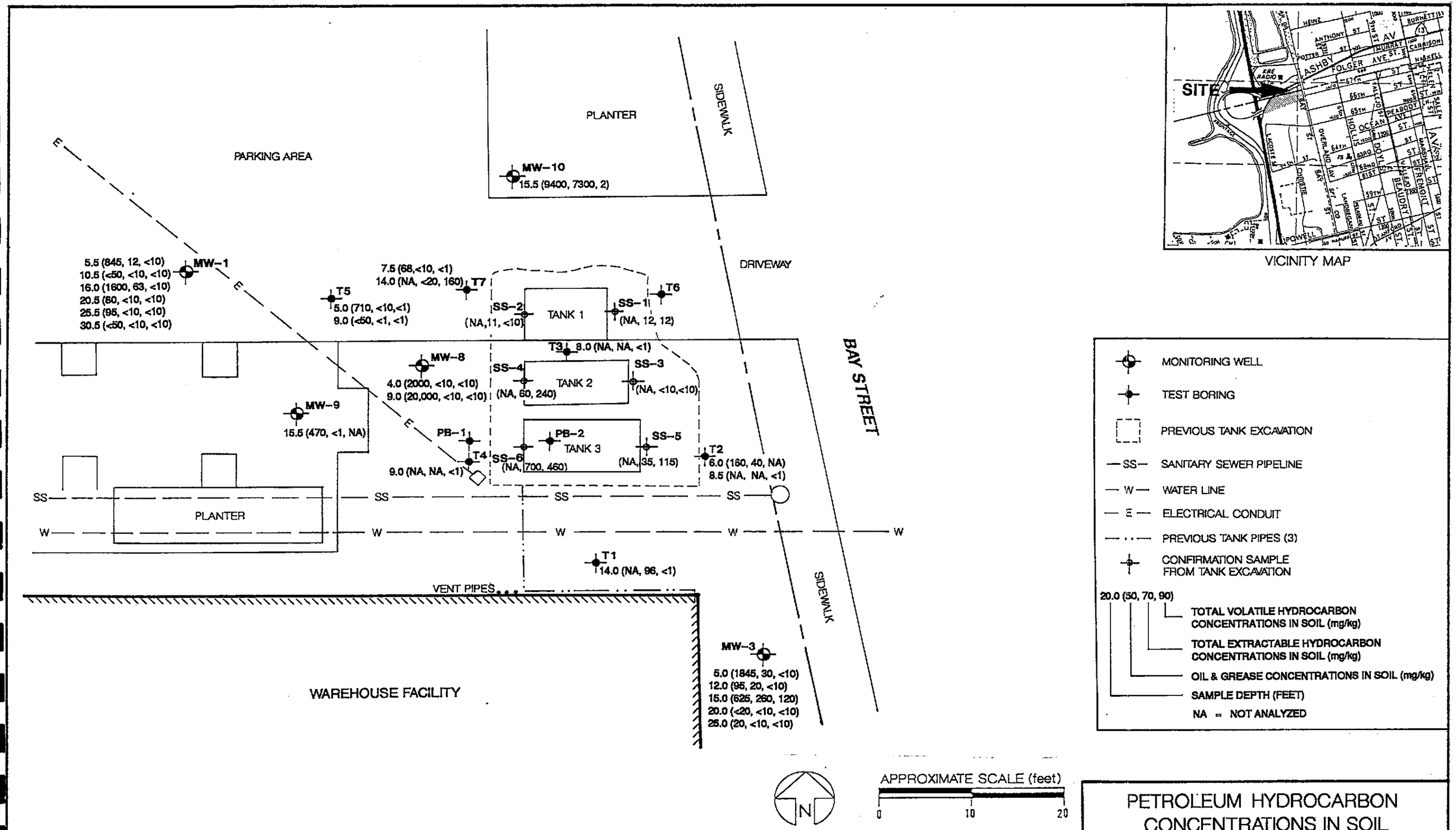
6707 BAY STREET – EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 18

VICINITY MAP



- MONITORING WELL
- TEST BORING
- PREVIOUS TANK EXCAVATION
- —SS— SANITARY SEWER PIPELINE
- — W — WATER LINE
- — E — ELECTRICAL CONDUIT
- — · · — PREVIOUS TANK PIPES (3)
- CONFIRMATION SAMPLE FROM TANK EXCAVATION

20.0 (50, 70, 90)

- TOTAL VOLATILE HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)
- TOTAL EXTRACTABLE HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)
- OIL & GREASE CONCENTRATIONS IN SOIL (mg/kg)
- SAMPLE DEPTH (FEET)

NA = NOT ANALYZED

N

APPROXIMATE SCALE (feet)

0 10 20

PETROLEUM HYDROCARBON CONCENTRATIONS IN SOIL

Subsurface Consultants

6707 BAY STREET – EMERYVILLE, CA

JOB NUMBER	DATE	APPROVED
820.001	4/27/94	

PLATE 19

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COMPANY: Subsurface Consultants, 171 12th Street, Suite 201, Oakland, CA 94607
ATTN: Mark Kawakami
SITE LOCATION: Bay Street JOB #: 820.001
PROJECT NAME: 6707 Bay Street

ANALYST(S)	SUPERVISOR
C. Bennett	S. Forbes
MICRO	LAB DIRECTOR
J. Causey	G.S. Conrad PhD

DATE COLLECTED	DATE RECEIVED	DATE of COMPLETION
4/14/94	4/14/94	4/29/94

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of SOIL/ SEDIMENT	AMMONIA NH3=N ppm	NITRATE NO3=N ppm	PHOSPHROUS PO4=P ppm	POTASSIUM K ppm	pH -log[H+]	REDOX (oxid-red) milli Volt
94-04-0133	T4	Subsoil @ 8.5'	41	10	160	269	6.9	+263.6 mV
94-04-0134	T5	Subsoil @ 8.5'	18	7	14	115	8.4	+286.1 mV

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of SOIL/ SEDIMENT	SPREAD PLATE COUNT cfu/gm	PSEUDOMONAD COUNT cfu/gm	MOISTURE CONTENT %
94-04-0133	T4	Subsoil @ 8.5'	6.88 x 10E3	3.51 x 10E3	18.70
94-04-0134	T5	Subsoil @ 8.5'	1.06 x 10E3	3.54 x 10E2	3.69

****

COMMENTS

Nutrient levels are actually somewhat elevated as compared to typical subsurface soils suggesting some sort of nutrient influx. Still, with the possible exception of P in T4 (which is already fairly high), more N & P would be advantageous. The equivalent of 50-100 ppm more (w/some N as NO3 & some as NH3) would suffice. Potassium levels are fine in both soils. Redox values for these soils indicate they are more or less in the middle of the "somewhat" or "moderately reduced" range (100 -400 mV). This is an acceptable range since there is some oxygen tension present, yet all of the facultative aerobes and tolerant anaerobes are able to function as well. In addition, right now these soils appear to meet a critical minimum in that they are safely above +225 mV which is necessary for effective denitrification (i.e., pseudomonad activity). And in T4 they comprise about 50% of the total while in T5 they are at 33%. However, also note that total microbial counts are not very high in these soils which may be fairly consistent with their sandy texture. In fact, while the T4 soil seems to be a silty sand with modest clay, T5 appears to be >90% sand. Thus, due to low total counts it would be prudent to stimulate increased microbial activity w/ nutrients, some O2, etc.

NOTES: Nutrient methods follow the NCR Manual (UC Davis/DANR), ç 1998, and/or Recommended Soil & Plant Tissue Ref. Meth., ç 1993 (UCDavis/DANR) as follows: NH3 & NO3 - aqueous or KCL extraction, spectrophotometric detection w/ Cd & salicylate; PO4 - HCO3 or acid-F extraction, spectrophotometric detection w/ ascorbate/molybdate; K - alkaline or acid extraction, turbidimteric detection w/ DPH; and pH on 2:1 mixture with probe & ISE meter. Methods of Soil Analysis, Part 2 - Chem. & Micro. Prop., 2nd ed., ç 1982, as follows: denitrifiers by 47-3.1, an MPN method.

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ATTN: Mark Kawakami
SITE LOCATION: Bay Street JOB #: 820.001
PROJECT NAME: 6707 Bay Street

DATE COLLECTED	DATE RECEIVED	DATE of COMPLETION	ANALYST(S) MICRO	SUPERVISOR LAB DIRECTOR
5/3/94	5/3/94	5/13/94	J. Causey	G.S. Conrad PhD

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of SOIL/ SEDIMENT	AMMONIA NH3-N ppm	NITRATE NO3-N ppm	PHOSPHOROUS PO4-P ppm	POTASSIUM K ppm	pH -log[H+]	SOLUBLE SALTS mmhos/cm
4-05-0009	T7	Subsoil @ 13.5	33	6	19	46	8.6	0.99

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of SOIL/ SEDIMENT	SPREAD PLATE COUNT cfu/gm	PSEUDOMONAD COUNT MPN/gm	REDOX (oxid-red) millivolt	MOISTURE CONTENT %
4-05-0009	T7	Subsoil @ 13.5	5.13 x 10E4	1.60 x 10E4	+293.9 mV	22.08

COMMENTS

Nutrient levels are generally low and should be improved along the lines of what was suggested in the last soil report. Both nitrate and phosphorous are fairly critical in this case. Potassium is more or less boderline/marginal (i.e., in the 30-50 ppm range); thus it may be helpful to add some. While salinity is well within tolerable limits for microbes, pH is definitely more alkaline than is preferable. You will want to amend the soil with the appropriate conditioner to bring the pH down to at least below eight; and better yet closer to seven. This soil sample has a heavier texture (more silt and clay) than either of the previous two (T4 & T5), and this is reflected in the spread plate count which is substantially higher than in those previous samples. The relatively high pseudomonad precentages suggest that this is an "older" site, i.e., that contamination has existed for some time and selected for tolerant forms. Still, even for subsoil this count is not very high and suggests a relatively slow rate of bioremediation. Again, to get the rate up significantly considerable microbial stimulation would be necessary.

NOTES: Nutrient methods follow the NCR Manual (UC Davis/DANR), ç 1988, and/or Recommended Soil & Plant Tissue Ref. Meth., ç 1993 (UCDavis/DANR) as follows: NH3 & NO3 - aqueous or KCL extraction, photometric detection w/ Cd & salicylate; PO4 - HCO3 or acid-F extraction, photometric detection w/ ascorbate/molybdate; K - alkaline or acid extraction, turbidimteric detection w/ TPB; pH and salts on 2:1 mixture with probe/ISE & conductivity meters. Methods of Soil Analysis, Pt. 2, - Chem. & Micro. Prop., 2nd ed., ç 1982, as follows: denitrifiers by 47-3.1, an MPN method.

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COMPANY: Subsurface Consultants, 171 12th Street, Suite 201, Oakland, CA 94607

ATTN: Mark Kawakami

SITE LOCATION: Bay Street Project, 6707 Bay Street

DATE COLLECTED: 4/21/94 | DATE RECEIVED: 4/21/94 | DATE of COMPLETION: 5/6/94 | ANALYST(S): C. Lawrence, C. Bennett | LAB SUPERVISOR: J. Causey | LAB DIRECTOR: Greg S. Conrad, Ph.D.

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of WATER	WATER pH - log [H+]	HARDNESS (Ca + Mg) ppm	AMMONIUM NH4 meq/l	POTASSIUM K meq/l	SODIUM Na meq/l	CALCIUM Ca meq/l	MAGNESIUM Mg meq/l	IRON Fe meq/l	MANGANESE Mg meq/l	TOTAL CATIONS meq/l
94-04-0281	MW3	Monitor Well	7.1	864	0.038	0.143	2.205	11.657	5.598	0.513	0.299	20.453
94-04-0282	MW8	Monitor Well	7.5	492	0.829	0.718	5.837	5.389	4.398	0.526	0.052	17.749
94-04-0283	MW10	Monitor Well	7.7	450	0.750	0.456	3.149	4.192	4.798	0.387	0.056	13.788

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of WATER	ECw (Elec Cond) mmhos/cm	TDS (Summation) ppm	AMMONIA NH3 ppm	POTASSIUM K ppm	SODIUM Na ppm	CALCIUM Ca ppm	MAGNESIUM Mg ppm	IRON Fe ppm	MANGANESE Mn ppm
94-04-0281	MW3	Monitor Well	3.02	1718.6	0.65	5.60	50.7	233.6	68.04	9.55	4.11
94-04-0282	MW8	Monitor Well	5.12	2624.7	14.15	28.07	134.2	108.0	53.46	9.80	0.71
94-04-0283	MW10	Monitor Well	3.76	2251.3	12.81	17.84	72.4	84.0	58.32	7.20	0.77

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of WATER	DO Diss Oxygen mg/l	REDOX oxid-red mV	BICARBONATE HCO3 meq/l	CARBONATE CO3 meq/l	CHLORIDE Cl meq/l	NITRATE NO3 meq/l	PHOSPHATE PO4 meq/l	SULFATE SO4 meq/l	BORATE B407 meq/l	TOTAL ANIONS meq/l
94-04-0281	MW3	Monitor Well	2.41	356.2	15.607	<.001	9.929	0.021	0.138	0.750	0.120	26.515
94-04-0282	MW8	Monitor Well	1.30	148.5	21.836	<.001	26.175	0.071	0.197	0.354	0.259	48.892
94-04-0283	MW10	Monitor Well	0.81	285.2	24.066	<.001	14.780	0.036	0.162	0.208	0.129	39.381

LAB SAMPLE NUMBER	SAMPLE ID	SOURCE of WATER	Heterotrophic Plate Count cfu/ml	Pseudomonad Count cfu/ml	BICARBONATE HCO3 ppm	CARBONATE CO3 ppm	CHLORIDE Cl ppm	NITRATE NO3 ppm	PHOSPHATE PO4 ppm	SULFATE SO4 ppm	BORON B ppm
94-04-0281	MW3	Monitor Well	8.50 x 10E2	9.2 x 10E1	952	<1	352	1.33	4.36	36	1.3
94-04-0282	MW8	Monitor Well	1.13 x 10E4	2.9 x 10E3	1332	<1	928	4.43	6.25	17	2.8
94-04-0283	MW10	Monitor Well	5.70 x 10E4	4.3 x 10E4	1468	<1	524	2.22	5.13	10	1.4

COMMENTS

Levels of constituents are relatively high in all samples for typical groundwater in the Bay area, except that which is close to the Bay itself, and/or groundwater w/ an industrial influence. All samples show a Bay and/or industrial influence, although this is somewhat stronger in MW8 & MW10; note the much greater discrepancy in cation-anion values in these two. More or less consistent with this influence are DO & Redox values, and especially ammonia levels. Microbial counts appear to be consistent with the degree of contamination, the lower DOs, and lower redox values. That is, they are drawing on ammonia and other nutrients, and drawing down oxygen levels as they consume the carbon source. Increase both nutrients & O2, but the latter may be more important.

NOTES: Extraction methodology according to Title 22 for the WET Test except that this is aqueous (nutrient determination), i.e., w/o extractant. Detection methodologies according Standard Methods for the Examination of Water and Wastewater, © 1986, 16th ed., except where noted: NO3 - 418 C; NH3 - Salicylate; K - TPB (turbdidimetric); Na - electrode/ISE meter; Ca - 311 C; Mg - 318; Hardness - 314 B; Fe - 315 B; Mn - PAN method; pH - electrode/ISE Meter; Alk - 403; ECw - 210 A; Cl - 407 B; PO4 - 424 F; SO4 - 426 C; B - 404 B; DO & Redox by probe and meter; and microbe counts by standard methods.

HAIN OF CUSTODY FORM

PAGE 1 OF 1

ROJECT NAME: 6707 BAY STREET
OB NUMBER: 820.001 LAB: ETS
ROJECT CONTACT: MARK KAWAKAMI TURNAROUND: NORMAL
AMPLED BY: JOHN WOLFE REQUESTED BY: MARK KAWAKAMI

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX						CONTAINERS						METHOD PRESERVED					SAMPLING DATE				NOTES	ANALYSIS REQUESTED									
		WATER	SOIL	WASTE	AIR			VOA	LITER	PINT	TUBE			HCL	H_2SO_4	HNO_3	ICE	NONE	MONTH	DAY	YEAR	TIME		TOTAL PLATE COUNT	PSEUDONOMADS	REDOX POTENTIAL	PH	NITROGEN) - NITRATE/AMMONIA	PHOSPHORUS	POTASSIUM	MOISTURE CONTENT		
	T4 @ 8½		X								X						X		04	14	94			X	X	X	X	X	X	X	X		
	T5 @ 8½		X								X						X		04	14	94			X	X	X	X	X	X	X	X		

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
John Wolfe	4/14/94 1110	Dennis Alexander	4/14/94 11:10 a.m.
Dennis Alexander	4/14/94 11:55 a.m.	Jeff Cowsert	4/14/94 11:50

COMMENTS & NOTES:

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

CHAIN OF CUSTODY FORM

PROJECT NAME: 6707 BAY STREET

JOB NUMBER: 820.001 LAB: ETS

PROJECT CONTACT: MARK KAWAKAMI TURNAROUND: NORMAL

SAMPLED BY: CHRIS DEA REQUESTED BY: MARK KAWAKAMI

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	MATRIX: SOIL	MATRIX: WASTE	MATRIX: AIR	CONTAINERS: VOA	CONTAINERS: LITER	CONTAINERS: PINT	CONTAINERS: TUBE	METHOD PRESERVED: HCL	METHOD PRESERVED: H_2SO_4	METHOD PRESERVED: HNO_3	METHOD PRESERVED: ICE	METHOD PRESERVED: NONE	SAMPLING DATE: MONTH	SAMPLING DATE: DAY	SAMPLING DATE: YEAR	SAMPLING DATE: TIME	NOTES	ANALYSIS REQUESTED: TRR SUIT +	ANALYSIS REQUESTED: REDOX	ANALYSIS REQUESTED: DISSOLVED OXYGEN	ANALYSIS REQUESTED: TOTAL HETEROTROPHIC PLATE COUNT	ANALYSIS REQUESTED: PSEUDOMONAD COUNT
	MW-3	X					X						X		04	21	01	4		X	X	X	X	X
	MW-6	X					X						X		04	21	01	4		X	X	X	X	
	[illegible]	X					X						X		04	21	01	4		X	X	X	X	

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
[signature]	4/21/01 2:45	[signature]	4/21 3:35

COMMENTS & NOTES:

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

CHAIN OF CUSTODY FORM

PAGE 1 OF 1

PROJECT NAME: 6707 BAY STREET

JOB NUMBER: 820.001 LAB: ETS

PROJECT CONTACT: MARK KAWAKAMI TURNAROUND: NORMAL

SAMPLED BY: JOHN WOLPE REQUESTED BY: MARK KAWAKAMI

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	MATRIX: SOIL	MATRIX: WASTE	MATRIX: AIR	CONTAINERS: VOA	CONTAINERS: LITER	CONTAINERS: PINT	CONTAINERS: TUBE	METHOD PRESERVED: HCL	METHOD PRESERVED: H_2SO_4	METHOD PRESERVED: HNO_3	METHOD PRESERVED: ICE	METHOD PRESERVED: NONE	SAMPLING DATE: MONTH	SAMPLING DATE: DAY	SAMPLING DATE: YEAR	SAMPLING DATE: TIME	NOTES	ANALYSIS REQUESTED: TOTAL PLATE COUNT	ANALYSIS REQUESTED: PSEUDOMONADS	ANALYSIS REQUESTED: REDOX POTENTIAL	ANALYSIS REQUESTED: PH	ANALYSIS REQUESTED: NITRATE/AMMONIA	ANALYSIS REQUESTED: PHOSPHOROUS	ANALYSIS REQUESTED: POTASSIUM	ANALYSIS REQUESTED: MOISTURE CONTENT	ANALYSIS REQUESTED: TOTAL SALTS
	T7013.5		X						X				X		04	14	94			X	X	X	X	X	X	X	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
	5/2/94 11:15		5/3 11:15

COMMENTS & NOTES:

Subsurface Consultants, Inc.

171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607

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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 28-APR-94
Lab Job Number: 115201
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by: Mary Plessas

Reviewed by: Kathleen O'Brien

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-001
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T1 @ 8

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101 %
Toluene-d8	104 %
Bromofluorobenzene	85 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-002
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T2 @ 8.5

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/21/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	110*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	20	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	104 %
Toluene-d8	97 %
Bromofluorobenzene	94 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-003
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T3 @ 8

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	70*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	10	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	Detected(4)	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	104 %
Toluene-d8	116 %
Bromofluorobenzene	83 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-004
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T4 @ 9

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	50*	20
Carbon disulfide	Detected(4)	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	Detected(8)	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	10	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	107 %
Bromofluorobenzene	89 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-005
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T4 @ 14.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/21/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	160*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	40	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	107 %
Bromofluorobenzene	93 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-006
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T6 @ 7.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/21/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	100*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	10	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	Detected(6)	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	98 %
Toluene-d8	104 %
Bromofluorobenzene	79 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-007
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T7 @ 14

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/27/94
DATE REPORTED: 04/27/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	500
Bromomethane	ND	500
Vinyl chloride	ND	500
Chloroethane	ND	500
Methylene chloride	ND	1,000
Acetone	ND	1,000
Carbon disulfide	ND	300
Trichlorofluoromethane	ND	300
1,1-Dichloroethene	ND	300
1,1-Dichloroethane	ND	300
trans-1,2-Dichloroethene	ND	300
cis-1,2-Dichloroethene	ND	300
Chloroform	ND	300
Freon 113	ND	300
1,2-Dichloroethane	ND	300
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	300
Carbon tetrachloride	ND	300
Vinyl acetate	ND	3,000
Bromodichloromethane	ND	300
1,2-Dichloropropane	ND	300
cis-1,3-Dichloropropene	ND	300
Trichloroethene	ND	300
Dibromochloromethane	ND	300
1,1,2-Trichloroethane	ND	300
Benzene	600	300
trans-1,3-Dichloropropene	ND	300
Bromoform	ND	300
2-Hexanone	ND	500
4-Methyl-2-pentanone	7,800	500
1,1,2,2-Tetrachloroethane	ND	300
Tetrachloroethene	ND	300
Toluene	ND	300
Chlorobenzene	ND	300
Ethyl benzene	ND	300
Styrene	ND	300
Total xylenes	500	300

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	101 %
Bromofluorobenzene	96 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-008
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW9 @ 8.5

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	70*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	10	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	Detected(6)	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	110 %
Bromofluorobenzene	90 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-009
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW10 @ 9.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	30*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	104 %
Toluene-d8	102 %
Bromofluorobenzene	99 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-012
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T5 @ 9

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	20*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	100 %
Toluene-d8	100 %
Bromofluorobenzene	99 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-013
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T7 @ 7.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/23/94
DATE REPORTED: 04/26/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	30*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	Detected(9)	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102 %
Toluene-d8	110 %
Bromofluorobenzene	92 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/27/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102 %
Toluene-d8	100 %
Bromofluorobenzene	97 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 04/20/94
DATE REPORTED: 04/27/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	102 %
Bromofluorobenzene	100 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 04/22/94
DATE REPORTED: 04/27/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101 %
Toluene-d8	102 %
Bromofluorobenzene	98 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 04/27/94
DATE REPORTED: 04/27/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	300
Bromomethane	ND	300
Vinyl chloride	ND	300
Chloroethane	ND	300
Methylene chloride	ND	500
Acetone	ND	500
Carbon disulfide	ND	100
Trichlorofluoromethane	ND	100
1,1-Dichloroethene	ND	100
1,1-Dichloroethane	ND	100
trans-1,2-Dichloroethene	ND	100
cis-1,2-Dichloroethene	ND	100
Chloroform	ND	100
Freon 113	ND	100
1,2-Dichloroethane	ND	100
2-Butanone	ND	300
1,1,1-Trichloroethane	ND	100
Carbon tetrachloride	ND	100
Vinyl acetate	ND	1,000
Bromodichloromethane	ND	100
1,2-Dichloropropane	ND	100
cis-1,3-Dichloropropene	ND	100
Trichloroethene	ND	100
Dibromochloromethane	ND	100
1,1,2-Trichloroethane	ND	100
Benzene	ND	100
trans-1,3-Dichloropropene	ND	100
Bromoform	ND	100
2-Hexanone	ND	300
4-Methyl-2-pentanone	ND	300
1,1,2,2-Tetrachloroethane	ND	100
Tetrachloroethene	ND	100
Toluene	ND	100
Chlorobenzene	ND	100
Ethyl benzene	ND	100
Styrene	ND	100
Total xylenes	ND	100

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	100 %
Toluene-d8	96 %
Bromofluorobenzene	95 %

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

MS/MSD Report

Matrix Sample Number: 115201-005 Date Analyzed: 21-APR-94
Lab No: QC61520 QC61521 Spike File: >BDK22
Matrix: SOIL Spike Dup File: >BDK23
Batch No: 13793 9416291 9416292 9416286 Analyst: CW

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	52.95	50	106 %	59-172%
Trichloroethene	41.19	50	82 %	62-137%
Benzene	48.04	50	92 %	66-142%
Toluene	48.73	50	98 %	59-139%
Chlorobenzene	42.57	50	85 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	50.24	50	100 %	70-121%
Toluene-d8	53.76	50	108 %	84-138%
Bromofluorobenzene	41.28	50	83 %	59-113%
MSD RESULTS				
1,1-Dichloroethene	59.08	50	118 %	59-172%
Trichloroethene	48.12	50	96 %	62-137%
Benzene	54.47	50	105 %	66-142%
Toluene	54.43	50	109 %	59-139%
Chlorobenzene	45.6	50	91 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	48.69	50	97 %	70-121%
Toluene-d8	54.82	50	110 %	84-138%
Bromofluorobenzene	41.1	50	82 %	59-113%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	1.98			
Toluene	0			
Chlorobenzene	0			
RPD DATA				
1,1-Dichloroethene	11 %			< 22%
Trichloroethene	16 %			< 24%
Benzene	13 %			< 21%
Toluene	11 %			< 21%
Chlorobenzene	7 %			< 21%

Results within Specifications - PASS

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8240 Laboratory Control Sample Report

Lab No: QC61459
Date Analyzed: 20-APR-94
Matrix: SOIL
Batch No: 13771 9416228

LCS Datafile: >ADK06
Operator: CW

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	63.56	50	127 %	59-172%
Trichloroethene	53.9	50	108 %	62-137%
Benzene	53.72	50	107 %	66-142%
Toluene	52.45	50	105 %	59-139%
Chlorobenzene	51.81	50	104 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	52.89	50	106 %	70-121%
Toluene-d8	51.05	50	102 %	84-138%
Bromofluorobenzene	50.78	50	102 %	59-113%

Results within Specifications - PASS CW 4/21/94

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

CLP VOCN Laboratory Control Sample Report

Lab No: QC61600
Date Analyzed: 22-APR-94
Matrix: SOIL
Batch No: 13817 9416384

LCS Datafile: >ADM04
Operator: CW

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	57.89	50	116 %	59-172%
Trichloroethene	49.33	50	99 %	62-137%
Benzene	51.49	50	103 %	66-142%
Toluene	51.42	50	103 %	59-139%
Chlorobenzene	51.14	50	102 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	49.57	50	99 %	70-121%
Toluene-d8	51.23	50	102 %	84-138%
Bromofluorobenzene	48.61	50	97 %	59-113%

Results within Specifications - PASS

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

MS/MSD Report

Matrix Sample Number: 115326-004
Lab No: QC61824 QC61825
Matrix: WATER
Batch No: 13873 9416603 9416605 9416596

Date Analyzed: 27-APR-94
Spike File: >BDQ18
Spike Dup File: >BDQ19
Analyst: CW

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	61.24	50	123 %	61-145%
Trichloroethene	46.85	50	94 %	71-120%
Benzene	51	50	102 %	76-127%
Toluene	50.82	50	102 %	76-125%
Chlorobenzene	49.53	50	99 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	51.77	50	104 %	76-114%
Toluene-d8	48.78	50	98 %	88-110%
Bromofluorobenzene	49.13	50	98 %	86-115%
MSD RESULTS				
1,1-Dichloroethene	56.1	50	112 %	61-145%
Trichloroethene	44.63	50	89 %	71-120%
Benzene	47.26	50	95 %	76-127%
Toluene	50.86	50	102 %	76-125%
Chlorobenzene	47.61	50	95 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	51.66	50	103 %	76-114%
Toluene-d8	51.29	50	103 %	88-110%
Bromofluorobenzene	48.86	50	98 %	86-115%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	0			
Toluene	0			
Chlorobenzene	0			
RPD DATA				
1,1-Dichloroethene	9 %			< 14%
Trichloroethene	5 %			< 14%
Benzene	8 %			< 11%
Toluene	0 %			< 13%
Chlorobenzene	4 %			< 13%

Results within Specifications - PASS CW. 4/27/94

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-010
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T2 @ 6

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 04/18/94
DATE ANALYZED: 04/22/94
DATE REPORTED: 04/26/94

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	300
2-Chlorophenol	ND	300
Benzyl Alcohol	ND	300
2-Methylphenol	ND	300
4-Methylphenol	ND	300
2-Nitrophenol	ND	2,000
2,4-Dimethylphenol	ND	300
Benzoic Acid	ND	2,000
2,4-Dichlorophenol	ND	2,000
4-Chloro-3-methylphenol	ND	300
2,4,6-Trichlorophenol	ND	300
2,4,5-Trichlorophenol	ND	2,000
2,4-Dinitrophenol	ND	2,000
4-Nitrophenol	ND	2,000
4,6-Dinitro-2-methylphenol	ND	2,000
Pentachlorophenol	ND	2,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	300
Aniline	ND	300
Bis(2-chloroethyl)ether	ND	300
1,3-Dichlorobenzene	ND	300
1,4-Dichlorobenzene	ND	300
1,2-Dichlorobenzene	ND	300
Bis(2-chloroisopropyl)ether	ND	300
N-Nitroso-di-n-propylamine	ND	300
Hexachloroethane	ND	300
Nitrobenzene	ND	300
Isophorone	ND	300
Bis(2-chloroethoxy)methane	ND	300
1,2,4-Trichlorobenzene	ND	300
Naphthalene	ND	300
4-Chloroaniline	ND	300
Hexachlorobutadiene	ND	300
2-Methylnaphthalene	ND	300
Hexachlorocyclopentadiene	ND	300
2-Chloronaphthalene	ND	300
2-Nitroaniline	ND	2,000

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-010
SAMPLE ID: T2 @ 6

EPA 827C

BASE/NEUTRAL COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	300
Acenaphthylene	ND	300
2,6-Dinitrotoluene	ND	300
3-Nitroaniline	ND	2,000
Acenaphthene	ND	300
Dibenzofuran	ND	300
2,4-Dinitrotoluene	ND	300
Diethylphthalate	ND	300
4-Chlorophenyl-phenylether	ND	300
Fluorene	ND	300
4-Nitroaniline	ND	2,000
N-Nitrosodiphenylamine	ND	300
Azobenzene	ND	300
4-Bromophenyl-phenylether	ND	300
Hexachlorobenzene	ND	300
Phenanthrene	ND	300
Anthracene	ND	300
Di-n-butylphthalate	ND	300
Fluoranthene	ND	300
Pyrene	ND	300
Butylbenzylphthalate	ND	300
3,3'-Dichlorobenzidine	ND	2,000
Benzo(a)anthracene	ND	300
Chrysene	ND	300
Bis(2-ethylhexyl)phthalate	ND	300
Di-n-octylphthalate	ND	300
Benzo(b)fluoranthene	Detected(230)	300
Benzo(k)fluoranthene	Detected(200)	300
Benzo(a)pyrene	ND	300
Indeno(1,2,3-cd)pyrene	ND	300
Dibenzo(a,h)anthracene	ND	300
Benzo(g,h,i)perylene	ND	300

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	66	Nitrobenzene-d5	71
Phenol-d6	68	2-Fluorobiphenyl	98
2,4,6-Tribromophenol	39	Terphenyl-d14	108

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-011
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T5 @ 5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 04/18/94
DATE ANALYZED: 04/22/94
DATE REPORTED: 04/26/94

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	3,000
2-Chlorophenol	ND	3,000
Benzyl Alcohol	ND	3,000
2-Methylphenol	ND	3,000
4-Methylphenol	ND	3,000
2-Nitrophenol	ND	20,000
2,4-Dimethylphenol	ND	3,000
Benzoic Acid	ND	20,000
2,4-Dichlorophenol	ND	20,000
4-Chloro-3-methylphenol	ND	3,000
2,4,6-Trichlorophenol	ND	3,000
2,4,5-Trichlorophenol	ND	20,000
2,4-Dinitrophenol	ND	20,000
4-Nitrophenol	ND	20,000
4,6-Dinitro-2-methylphenol	ND	20,000
Pentachlorophenol	ND	20,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	3,000
Aniline	ND	3,000
Bis(2-chloroethyl)ether	ND	3,000
1,3-Dichlorobenzene	ND	3,000
1,4-Dichlorobenzene	ND	3,000
1,2-Dichlorobenzene	ND	3,000
Bis(2-chloroisopropyl)ether	ND	3,000
N-Nitroso-di-n-propylamine	ND	3,000
Hexachloroethane	ND	3,000
Nitrobenzene	ND	3,000
Isophorone	ND	3,000
Bis(2-chloroethoxy)methane	ND	3,000
1,2,4-Trichlorobenzene	ND	3,000
Naphthalene	ND	3,000
4-Chloroaniline	ND	3,000
Hexachlorobutadiene	ND	3,000
2-Methylnaphthalene	ND	3,000
Hexachlorocyclopentadiene	ND	3,000
2-Chloronaphthalene	ND	3,000
2-Nitroaniline	ND	20,000

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-011 EPA 8270
SAMPLE ID: T5 @ 5

BASE/NEUTRAL COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	3,000
Acenaphthylene	ND	3,000
2,6-Dinitrotoluene	ND	3,000
3-Nitroaniline	ND	20,000
Acenaphthene	ND	3,000
Dibenzofuran	ND	3,000
2,4-Dinitrotoluene	ND	3,000
Diethylphthalate	ND	3,000
4-Chlorophenyl-phenylether	ND	3,000
Fluorene	ND	3,000
4-Nitroaniline	ND	20,000
N-Nitrosodiphenylamine	ND	3,000
Azobenzene	ND	3,000
4-Bromophenyl-phenylether	ND	3,000
Hexachlorobenzene	ND	3,000
Phenanthrene	ND	3,000
Anthracene	ND	3,000
Di-n-butylphthalate	ND	3,000
Fluoranthene	ND	3,000
Pyrene	ND	3,000
Butylbenzylphthalate	ND	3,000
3,3'-Dichlorobenzidine	ND	20,000
Benzo(a)anthracene	ND	3,000
Chrysene	ND	3,000
Bis(2-ethylhexyl)phthalate	ND	3,000
Di-n-octylphthalate	ND	3,000
Benzo(b)fluoranthene	ND	3,000
Benzo(k)fluoranthene	ND	3,000
Benzo(a)pyrene	ND	3,000
Indeno(1,2,3-cd)pyrene	ND	3,000
Dibenzo(a,h)anthracene	ND	3,000
Benzo(g,h,i)perylene	ND	3,000

ND = Not detected at or above reporting limit.
*NOTE: All surrogates diluted out.

QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	*	Nitrobenzene-d5	*
Phenol-d6	*	2-Fluorobiphenyl	*
2,4,6-Tribromophenol	*	Terphenyl-d14	*

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-012
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T5 @ 9

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 04/18/94
DATE ANALYZED: 04/22/94
DATE REPORTED: 04/26/94

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	300
2-Chlorophenol	ND	300
Benzyl Alcohol	ND	300
2-Methylphenol	ND	300
4-Methylphenol	ND	300
2-Nitrophenol	ND	2,000
2,4-Dimethylphenol	ND	300
Benzoic Acid	ND	2,000
2,4-Dichlorophenol	ND	2,000
4-Chloro-3-methylphenol	ND	300
2,4,6-Trichlorophenol	ND	300
2,4,5-Trichlorophenol	ND	2,000
2,4-Dinitrophenol	ND	2,000
4-Nitrophenol	ND	2,000
4,6-Dinitro-2-methylphenol	ND	2,000
Pentachlorophenol	ND	2,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	300
Aniline	ND	300
Bis(2-chloroethyl)ether	ND	300
1,3-Dichlorobenzene	ND	300
1,4-Dichlorobenzene	ND	300
1,2-Dichlorobenzene	ND	300
Bis(2-chloroisopropyl)ether	ND	300
N-Nitroso-di-n-propylamine	ND	300
Hexachloroethane	ND	300
Nitrobenzene	ND	300
Isophorone	ND	300
Bis(2-chloroethoxy)methane	ND	300
1,2,4-Trichlorobenzene	ND	300
Naphthalene	ND	300
4-Chloroaniline	ND	300
Hexachlorobutadiene	ND	300
2-Methylnaphthalene	ND	300
Hexachlorocyclopentadiene	ND	300
2-Chloronaphthalene	ND	300
2-Nitroaniline	ND	2,000

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-012
SAMPLE ID: T5 @ 9

EPA 827C

BASE/NEUTRAL COMPOUNDS	RESULT ug/Kg		REPORTING LIMIT ug/Kg
Dimethylphthalate	ND		300
Acenaphthylene	ND		300
2,6-Dinitrotoluene	ND		300
3-Nitroaniline	ND		2,000
Acenaphthene	ND		300
Dibenzofuran	ND		300
2,4-Dinitrotoluene	ND		300
Diethylphthalate	ND		300
4-Chlorophenyl-phenylether	ND		300
Fluorene	ND		300
4-Nitroaniline	ND		2,000
N-Nitrosodiphenylamine	ND		300
Azobenzene	ND		300
4-Bromophenyl-phenylether	ND		300
Hexachlorobenzene	ND		300
Phenanthrene	ND		300
Anthracene	ND		300
Di-n-butylphthalate	ND		300
Fluoranthene	ND		300
Pyrene	ND		300
Butylbenzylphthalate	ND		300
3,3'-Dichlorobenzidine	ND		2,000
Benzo(a)anthracene	ND		300
Chrysene	ND		300
Bis(2-ethylhexyl)phthalate		400	300
Di-n-octylphthalate	ND		300
Benzo(b)fluoranthene	ND		300
Benzo(k)fluoranthene	ND		300
Benzo(a)pyrene	ND		300
Indeno(1,2,3-cd)pyrene	ND		300
Dibenzo(a,h)anthracene	ND		300
Benzo(g,h,i)perylene	ND		300

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	58	Nitrobenzene-d5	72
Phenol-d6	61	2-Fluorobiphenyl	70
2,4,6-Tribromophenol	51	Terphenyl-d14	82

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-013
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T7 @ 7.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 04/18/94
DATE ANALYZED: 04/23/94
DATE REPORTED: 04/26/94

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3550 Sonication

	RESULT ug/Kg	REPORTING LIMIT ug/Kg
ACID COMPOUNDS		
Phenol	ND	300
2-Chlorophenol	ND	300
Benzyl Alcohol	ND	300
2-Methylphenol	ND	300
4-Methylphenol	ND	300
2-Nitrophenol	ND	2,000
2,4-Dimethylphenol	ND	300
Benzoic Acid	ND	2,000
2,4-Dichlorophenol	ND	2,000
4-Chloro-3-methylphenol	ND	300
2,4,6-Trichlorophenol	ND	300
2,4,5-Trichlorophenol	ND	2,000
2,4-Dinitrophenol	ND	2,000
4-Nitrophenol	ND	2,000
4,6-Dinitro-2-methylphenol	ND	2,000
Pentachlorophenol	ND	2,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	300
Aniline	ND	300
Bis(2-chloroethyl)ether	ND	300
1,3-Dichlorobenzene	ND	300
1,4-Dichlorobenzene	ND	300
1,2-Dichlorobenzene	ND	300
Bis(2-chloroisopropyl)ether	ND	300
N-Nitroso-di-n-propylamine	ND	300
Hexachloroethane	ND	300
Nitrobenzene	ND	300
Isophorone	ND	300
Bis(2-chloroethoxy)methane	ND	300
1,2,4-Trichlorobenzene	ND	300
Naphthalene	ND	300
4-Chloroaniline	ND	300
Hexachlorobutadiene	ND	300
2-Methylnaphthalene	ND	300
Hexachlorocyclopentadiene	ND	300
2-Chloronaphthalene	ND	300
2-Nitroaniline	ND	2,000

LABORATORY NUMBER: 115201-013
SAMPLE ID: T7 @ 7.5

EPA 827C

BASE/NEUTRAL COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	300
Acenaphthylene	ND	300
2,6-Dinitrotoluene	ND	300
3-Nitroaniline	ND	2,000
Acenaphthene	ND	300
Dibenzofuran	ND	300
2,4-Dinitrotoluene	ND	300
Diethylphthalate	ND	300
4-Chlorophenyl-phenylether	ND	300
Fluorene	ND	300
4-Nitroaniline	ND	2,000
N-Nitrosodiphenylamine	ND	300
Azobenzene	ND	300
4-Bromophenyl-phenylether	ND	300
Hexachlorobenzene	ND	300
Phenanthrene	ND	300
Anthracene	ND	300
Di-n-butylphthalate	ND	300
Fluoranthene	ND	300
Pyrene	ND	300
Butylbenzylphthalate	ND	300
3,3'-Dichlorobenzidine	ND	2,000
Benzo(a)anthracene	ND	300
Chrysene	ND	300
Bis(2-ethylhexyl)phthalate	ND	300
Di-n-octylphthalate	ND	300
Benzo(b)fluoranthene	ND	300
Benzo(k)fluoranthene	ND	300
Benzo(a)pyrene	ND	300
Indeno(1,2,3-cd)pyrene	ND	300
Dibenzo(a,h)anthracene	ND	300
Benzo(g,h,i)perylene	ND	300

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	61	Nitrobenzene-d5	68
Phenol-d6	64	2-Fluorobiphenyl	71
2,4,6-Tribromophenol	61	Terphenyl-d14	89

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-014
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW9 @ 15.5

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 04/18/94
DATE ANALYZED: 04/23/94
DATE REPORTED: 04/26/94

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	300
2-Chlorophenol	ND	300
Benzyl Alcohol	ND	300
2-Methylphenol	ND	300
4-Methylphenol	ND	300
2-Nitrophenol	ND	2,000
2,4-Dimethylphenol	ND	300
Benzoic Acid	ND	2,000
2,4-Dichlorophenol	ND	2,000
4-Chloro-3-methylphenol	ND	300
2,4,6-Trichlorophenol	ND	300
2,4,5-Trichlorophenol	ND	2,000
2,4-Dinitrophenol	ND	2,000
4-Nitrophenol	ND	2,000
4,6-Dinitro-2-methylphenol	ND	2,000
Pentachlorophenol	ND	2,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	300
Aniline	ND	300
Bis(2-chloroethyl)ether	ND	300
1,3-Dichlorobenzene	ND	300
1,4-Dichlorobenzene	ND	300
1,2-Dichlorobenzene	ND	300
Bis(2-chloroisopropyl)ether	ND	300
N-Nitroso-di-n-propylamine	ND	300
Hexachloroethane	ND	300
Nitrobenzene	ND	300
Isophorone	ND	300
Bis(2-chloroethoxy)methane	ND	300
1,2,4-Trichlorobenzene	ND	300
Naphthalene	ND	300
4-Chloroaniline	ND	300
Hexachlorobutadiene	ND	300
2-Methylnaphthalene	ND	300
Hexachlorocyclopentadiene	ND	300
2-Chloronaphthalene	ND	300
2-Nitroaniline	ND	2,000

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-014
SAMPLE ID: MW9 @ 15.5

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT ug/Kg		REPORTING LIMIT ug/Kg
Dimethylphthalate	ND		300
Acenaphthylene	ND		300
2,6-Dinitrotoluene	ND		300
3-Nitroaniline	ND		2,000
Acenaphthene	ND		300
Dibenzofuran	ND		300
2,4-Dinitrotoluene	ND		300
Diethylphthalate	ND		300
4-Chlorophenyl-phenylether	ND		300
Fluorene	ND		300
4-Nitroaniline	ND		2,000
N-Nitrosodiphenylamine	ND		300
Azobenzene	ND		300
4-Bromophenyl-phenylether	ND		300
Hexachlorobenzene	ND		300
Phenanthrene	ND		300
Anthracene	ND		300
Di-n-butylphthalate	ND		300
Fluoranthene	ND		300
Pyrene	ND		300
Butylbenzylphthalate	ND		300
3,3'-Dichlorobenzidine	ND		2,000
Benzo(a)anthracene	ND		300
Chrysene	ND		300
Bis(2-ethylhexyl)phthalate		400	300
Di-n-octylphthalate	ND		300
Benzo(b)fluoranthene	ND		300
Benzo(k)fluoranthene	ND		300
Benzo(a)pyrene	ND		300
Indeno(1,2,3-cd)pyrene	ND		300
Dibenzo(a,h)anthracene	ND		300
Benzo(g,h,i)perylene	ND		300

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	143	Nitrobenzene-d5	147
Phenol-d6	146	2-Fluorobiphenyl	153
2,4,6-Tribromophenol	126	Terphenyl-d14	176

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-015
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW10 @ 15.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 04/18/94
DATE ANALYZED: 04/25/94
DATE REPORTED: 04/26/94

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	2,000
2-Chlorophenol	ND	2,000
Benzyl Alcohol	ND	2,000
2-Methylphenol	ND	2,000
4-Methylphenol	ND	2,000
2-Nitrophenol	ND	10,000
2,4-Dimethylphenol	ND	2,000
Benzoic Acid	ND	10,000
2,4-Dichlorophenol	ND	10,000
4-Chloro-3-methylphenol	ND	2,000
2,4,6-Trichlorophenol	ND	2,000
2,4,5-Trichlorophenol	ND	10,000
2,4-Dinitrophenol	ND	10,000
4-Nitrophenol	ND	10,000
4,6-Dinitro-2-methylphenol	ND	10,000
Pentachlorophenol	ND	10,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	2,000
Aniline	ND	2,000
Bis(2-chloroethyl)ether	ND	2,000
1,3-Dichlorobenzene	ND	2,000
1,4-Dichlorobenzene	ND	2,000
1,2-Dichlorobenzene	ND	2,000
Bis(2-chloroisopropyl)ether	ND	2,000
N-Nitroso-di-n-propylamine	ND	2,000
Hexachloroethane	ND	2,000
Nitrobenzene	ND	2,000
Isophorone	ND	2,000
Bis(2-chloroethoxy)methane	ND	2,000
1,2,4-Trichlorobenzene	ND	2,000
Naphthalene	ND	2,000
4-Chloroaniline	ND	2,000
Hexachlorobutadiene	ND	2,000
2-Methylnaphthalene	ND	2,000
Hexachlorocyclopentadiene	ND	2,000
2-Chloronaphthalene	ND	2,000
2-Nitroaniline	ND	10,000

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-015
SAMPLE ID: MW10 @ 15.5

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	2,000
Acenaphthylene	ND	2,000
2,6-Dinitrotoluene	ND	2,000
3-Nitroaniline	ND	10,000
Acenaphthene	ND	2,000
Dibenzofuran	ND	2,000
2,4-Dinitrotoluene	ND	2,000
Diethylphthalate	ND	2,000
4-Chlorophenyl-phenylether	ND	2,000
Fluorene	ND	2,000
4-Nitroaniline	ND	10,000
N-Nitrosodiphenylamine	ND	2,000
Azobenzene	ND	2,000
4-Bromophenyl-phenylether	ND	2,000
Hexachlorobenzene	ND	2,000
Phenanthrene	Detected(1600)	2,000
Anthracene	ND	2,000
Di-n-butylphthalate	ND	2,000
Fluoranthene	ND	2,000
Pyrene	ND	2,000
Butylbenzylphthalate	ND	2,000
3,3'-Dichlorobenzidine	ND	10,000
Benzo(a)anthracene	ND	2,000
Chrysene	ND	2,000
Bis(2-ethylhexyl)phthalate	ND	2,000
Di-n-octylphthalate	ND	2,000
Benzo(b)fluoranthene	ND	2,000
Benzo(k)fluoranthene	ND	2,000
Benzo(a)pyrene	ND	2,000
Indeno(1,2,3-cd)pyrene	ND	2,000
Dibenzo(a,h)anthracene	ND	2,000
Benzo(g,h,i)perylene	ND	2,000

ND = Not detected at or above reporting limit.
*NOTE: All surrogates diluted out.

QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	*	Nitrobenzene-d5	*
Phenol-d6	*	2-Fluorobiphenyl	*
2,4,6-Tribromophenol	*	Terphenyl-d14	*

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 04/13,14/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 04/20/94
DATE ANALYZED: 04/22/94
DATE REPORTED: 04/26/94

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
115201-010	T2 @ 6	ND	40	10
115201-011	T5 @ 5	ND	ND	10
115201-012	T5 @ 9	ND	ND	1
115201-013	T7 @ 7.5	ND	ND	10
115201-014	MW9 @ 15.5	ND	ND	1
115201-015	MW10 @ 15.5	**	7,300	200

ND = Not detected at or above reporting limit.

* Reporting limit applies to all analytes.

QA/QC SUMMARY

LCS RECOVERY, %	79

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 115201

Project Name: 6707 Bay St.
Project Number: 820.001

Report Date: 28 April 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD: SMWW 17:5520EF**

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
115201-010	T2 @ 6	Soil	13-APR-94	15-APR-94	21-APR-94	160	mg/Kg	50	TR	13728
115201-011	T5 @ 5	Soil	14-APR-94	15-APR-94	21-APR-94	710	mg/Kg	50	TR	13728
115201-012	T5 @ 9	Soil	14-APR-94	15-APR-94	21-APR-94	ND	mg/Kg	50	TR	13728
115201-013	T7 @ 7.5	Soil	14-APR-94	15-APR-94	21-APR-94	68.	mg/Kg	50	TR	13728
115201-014	MW9 @ 15.5	Soil	13-APR-94	15-APR-94	21-APR-94	470	mg/Kg	50	TR	13728
115201-015	MW10 @ 15.5	Soil	14-APR-94	15-APR-94	21-APR-94	9400	mg/Kg	50	TR	13728

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

Q C B a t c h R e p o r t

Client: Subsurface Consultants
Project Name: 6707 Bay St.
Project Number: 820.001

Laboratory Login Number: 115201
Report Date: 26 April 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 13728**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	50	mg/Kg	SMWW 17:5520EF	21-APR-94

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	86%	SMWW 17:5520EF	21-APR-94
BSD	84%	SMWW 17:5520EF	21-APR-94

		Control Limits
Average Spike Recovery	85%	80% - 120%
Relative Percent Difference	3.1%	< 20%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115201-003
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
SAMPLE ID: T3 @ 8

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE REPORTED: 04/26/94

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	10	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	10	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	04/20/94	<1	96
Sulfide	04/19/94	4	73
Ignitability	04/19/94	--	--

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 115201

Project Name: 6707 Bay St.

Project Number: 820.001

Report Date: 28 April 94

ANALYSIS: pH

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	Method	Analyst	QC Batch
115201-003	T3 @ 8	Soil	13-APR-94	15-APR-94	22-APR-94	7.7	SU *	EPA 9045	TR	13841

* Soil pH measured as water

Curtis & Tompkins, Ltd.

Q C B a t c h R e p o r t

Client: Subsurface Consultants
Project Name: 6707 Bay St.
Project Number: 820.001

Laboratory Login Number: 115201
Report Date: 26 April 94

ANALYSIS: pH

QC Batch Number: 13841

Calibration Verification Results

Sample	Result	TV	Difference	Limit	Analyzed
ICV	7.01	7.00	.01	< 0.10	22-APR-94
CCV	7.01	7.00	.01	< 0.10	22-APR-94

Sample Duplicate Results

Sample	Duplicate	RPD	Analyzed
7.73	7.69	.5%	22-APR-94

Curtis & Tompkins, Ltd.

SAMPLE ID: T2 @ 6
LAB ID: 115201-010
CLIENT: Subsurface Consultants
PROJECT ID: 820.001
LOCATION: 6707 Bay St.
MATRIX: Soil

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE REPORTED: 04/26/94

CALIFORNIA TITLE 26 METALS

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	Batch Number	Method	Analysis Date
Antimony	5.1	3.0	13807	EPA 6010	04/22/94
Arsenic	9.3	2.5	13791	EPA 7060	04/22/94
Barium	170	0.50	13807	EPA 6010	04/22/94
Beryllium	0.23	0.10	13807	EPA 6010	04/22/94
Cadmium	1.0	0.25	13807	EPA 6010	04/22/94
Chromium (total)	25	0.50	13807	EPA 6010	04/22/94
Cobalt	8.7	1.0	13807	EPA 6010	04/22/94
Copper	2100	0.50	13807	EPA 6010	04/22/94
Lead	330	15	13807	EPA 6010	04/22/94
Mercury	ND	0.087	13774	EPA 7471	04/20/94
Molybdenum	1.5	1.0	13807	EPA 6010	04/22/94
Nickel	55	1.0	13807	EPA 6010	04/22/94
Selenium	ND	2.5	13791	EPA 7740	04/22/94
Silver	0.50	0.50	13807	EPA 6010	04/22/94
Thallium	ND	2.5	13791	EPA 7841	04/22/94
Vanadium	26	0.50	13807	EPA 6010	04/22/94
Zinc	580	1.0	13807	EPA 6010	04/22/94

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: T5 @ 5
LAB ID: 115201-011
CLIENT: Subsurface Consultants
PROJECT ID: 820.001
LOCATION: 6707 Bay St.
MATRIX: Soil

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE REPORTED: 04/26/94

CALIFORNIA TITLE 26 METALS

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	Batch Number	Method	Analysis Date
Antimony	ND	2.9	13807	EPA 6010	04/22/94
Arsenic	6.0	2.5	13791	EPA 7060	04/22/94
Barium	130	0.49	13807	EPA 6010	04/22/94
Beryllium	0.31	0.098	13807	EPA 6010	04/22/94
Cadmium	0.27	0.25	13807	EPA 6010	04/22/94
Chromium (total)	25	0.49	13807	EPA 6010	04/22/94
Cobalt	9.2	0.98	13807	EPA 6010	04/22/94
Copper	60	0.49	13807	EPA 6010	04/22/94
Lead	61	15	13807	EPA 6010	04/22/94
Mercury	0.21	0.10	13774	EPA 7471	04/20/94
Molybdenum	ND	0.98	13807	EPA 6010	04/22/94
Nickel	28	0.98	13807	EPA 6010	04/22/94
Selenium	ND	2.5	13791	EPA 7740	04/22/94
Silver	ND	0.49	13807	EPA 6010	04/22/94
Thallium	ND	2.5	13791	EPA 7841	04/22/94
Vanadium	26	0.49	13807	EPA 6010	04/22/94
Zinc	88	0.98	13807	EPA 6010	04/22/94

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: T5 @ 9
LAB ID: 115201-012
CLIENT: Subsurface Consultants
PROJECT ID: 820.001
LOCATION: 6707 Bay St.
MATRIX: Soil

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE REPORTED: 04/26/94

CALIFORNIA TITLE 26 METALS

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	Batch Number	Method	Analysis Date
Antimony	ND	3.0	13807	EPA 6010	04/22/94
Arsenic	ND	2.5	13791	EPA 7060	04/22/94
Barium	41	0.50	13807	EPA 6010	04/22/94
Beryllium	ND	0.10	13807	EPA 6010	04/22/94
Cadmium	ND	0.25	13807	EPA 6010	04/22/94
Chromium (total)	23	0.50	13807	EPA 6010	04/22/94
Cobalt	4.2	1.0	13807	EPA 6010	04/22/94
Copper	14	0.50	13807	EPA 6010	04/22/94
Lead	1.5	1.5	13791	EPA 7421	04/22/94
Mercury	ND	0.087	13774	EPA 7471	04/20/94
Molybdenum	ND	1.0	13807	EPA 6010	04/22/94
Nickel	19	1.0	13807	EPA 6010	04/22/94
Selenium	ND	2.5	13791	EPA 7740	04/22/94
Silver	ND	0.50	13807	EPA 6010	04/22/94
Thallium	ND	2.5	13791	EPA 7841	04/22/94
Vanadium	15	0.50	13807	EPA 6010	04/22/94
Zinc	18	1.0	13807	EPA 6010	04/22/94

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: T7 @ 7.5
LAB ID: 115201-013
CLIENT: Subsurface Consultants
PROJECT ID: 820.001
LOCATION: 6707 Bay St.
MATRIX: Soil

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE REPORTED: 04/26/94

CALIFORNIA TITLE 26 METALS

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	Batch Number	Method	Analysis Date
Antimony	ND	3.0	13807	EPA 6010	04/22/94
Arsenic	4.2	2.5	13791	EPA 7060	04/22/94
Barium	150	0.50	13807	EPA 6010	04/22/94
Beryllium	0.45	0.099	13807	EPA 6010	04/22/94
Cadmium	0.28	0.25	13807	EPA 6010	04/22/94
Chromium (total)	27	0.50	13807	EPA 6010	04/22/94
Cobalt	10	0.99	13807	EPA 6010	04/22/94
Copper	40	0.50	13807	EPA 6010	04/22/94
Lead	6.1	1.5	13791	EPA 7421	04/22/94
Mercury	ND	0.087	13774	EPA 7471	04/20/94
Molybdenum	ND	0.99	13807	EPA 6010	04/22/94
Nickel	37	0.99	13807	EPA 6010	04/22/94
Selenium	ND	2.5	13791	EPA 7740	04/22/94
Silver	ND	0.50	13807	EPA 6010	04/22/94
Thallium	ND	2.5	13791	EPA 7841	04/22/94
Vanadium	27	0.50	13807	EPA 6010	04/22/94
Zinc	62	0.99	13807	EPA 6010	04/22/94

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: MW9 @ 15.5
LAB ID: 115201-014
CLIENT: Subsurface Consultants
PROJECT ID: 820.001
LOCATION: 6707 Bay St.
MATRIX: Soil

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE REPORTED: 04/26/94

CALIFORNIA TITLE 26 METALS

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	Batch Number	Method	Analysis Date
Antimony	ND	3.0	13807	EPA 6010	04/22/94
Arsenic	4.2	2.5	13791	EPA 7060	04/22/94
Barium	190	0.50	13807	EPA 6010	04/22/94
Beryllium	0.43	0.10	13807	EPA 6010	04/22/94
Cadmium	ND	0.25	13807	EPA 6010	04/22/94
Chromium (total)	26	0.50	13807	EPA 6010	04/22/94
Cobalt	12	1.0	13807	EPA 6010	04/22/94
Copper	30	0.50	13807	EPA 6010	04/22/94
Lead	19	1.5	13791	EPA 7421	04/22/94
Mercury	ND	0.083	13774	EPA 7471	04/20/94
Molybdenum	ND	1.0	13807	EPA 6010	04/22/94
Nickel	36	1.0	13807	EPA 6010	04/22/94
Selenium	ND	2.5	13791	EPA 7740	04/22/94
Silver	ND	0.50	13807	EPA 6010	04/22/94
Thallium	ND	2.5	13791	EPA 7841	04/22/94
Vanadium	27	0.50	13807	EPA 6010	04/22/94
Zinc	61	1.0	13807	EPA 6010	04/22/94

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: MW10 @ 15.5
LAB ID: 115201-015
CLIENT: Subsurface Consultants
PROJECT ID: 820.001
LOCATION: 6707 Bay St.
MATRIX: Soil

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE REPORTED: 04/26/94

CALIFORNIA TITLE 26 METALS

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	Batch Number	Method	Analysis Date
Antimony	4.4	3.0	13807	EPA 6010	04/22/94
Arsenic	19	2.5	13791	EPA 7060	04/22/94
Barium	140	0.50	13807	EPA 6010	04/22/94
Beryllium	0.21	0.10	13807	EPA 6010	04/22/94
Cadmium	3.3	0.25	13807	EPA 6010	04/22/94
Chromium (total)	59	0.50	13807	EPA 6010	04/22/94
Cobalt	10	1.0	13807	EPA 6010	04/22/94
Copper	330	0.50	13807	EPA 6010	04/22/94
Lead	250	15	13807	EPA 6010	04/22/94
Mercury	0.77	0.10	13774	EPA 7471	04/20/94
Molybdenum	3.1	1.0	13807	EPA 6010	04/22/94
Nickel	37	1.0	13807	EPA 6010	04/22/94
Selenium	ND	2.5	13791	EPA 7740	04/22/94
Silver	1.1	0.50	13807	EPA 6010	04/22/94
Thallium	ND	2.5	13791	EPA 7841	04/22/94
Vanadium	24	0.50	13807	EPA 6010	04/22/94
Zinc	530	1.0	13807	EPA 6010	04/22/94

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
JOB NUMBER: 115201

DATE REPORTED: 04/26/94

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Antimony	500	430.6	466.7	ug/L	86	93	90	8	13807	EPA 6010	04/22/94
Arsenic	40	381.4	407.5	ug/L	95	102	99	7	13791	EPA 7060	04/22/94
Barium	2000	2023	2056	ug/L	101	103	102	2	13807	EPA 6010	04/22/94
Beryllium	50	49.7	50.5	ug/L	99	101	100	2	13807	EPA 6010	04/22/94
Cadmium	50	53.9	55	ug/L	108	110	109	2	13807	EPA 6010	04/22/94
Chromium (total)	200	189.7	192.3	ug/L	95	96	96	1	13807	EPA 6010	04/22/94
Cobalt	500	484.9	492.4	ug/L	97	99	98	2	13807	EPA 6010	04/22/94
Copper	250	255.6	257.8	ug/L	102	103	103	1	13807	EPA 6010	04/22/94
Lead	30	265.6	258	ug/L	89	86	88	3	13791	EPA 7421	04/22/94
Lead	500	451.8	433.5	ug/L	90	87	89	4	13807	EPA 6010	04/22/94
Mercury	4	4.407	4.202	ug/L	110	105	108	5	13774	EPA 7470	04/20/94
Molybdenum	400	376.9	380.4	ug/L	94	95	95	1	13807	EPA 6010	04/22/94
Nickel	500	496.7	510.9	ug/L	99	102	101	3	13807	EPA 6010	04/22/94
Selenium	30	274.4	278.2	ug/L	92	93	93	1	13791	EPA 7740	04/22/94
Silver	50	43.4	40.2	ug/L	87	80	84	8	13807	EPA 6010	04/22/94
Thallium	40	398	370.2	ug/L	100	93	97	7	13791	EPA 7841	04/22/94
Vanadium	500	480.6	486.9	ug/L	96	97	97	1	13807	EPA 6010	04/22/94
Zinc	500	468.6	478.2	ug/L	94	96	95	2	13807	EPA 6010	04/22/94

Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
JOB NUMBER: 115201

DATE REPORTED: 04/26/94

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Antimony	ND	3	mg/Kg	13807	EPA 6010	04/22/94
Arsenic	ND	2.5	mg/Kg	13791	EPA 7060	04/22/94
Barium	ND	0.5	mg/Kg	13807	EPA 6010	04/22/94
Beryllium	ND	0.1	mg/Kg	13807	EPA 6010	04/22/94
Cadmium	ND	0.25	mg/Kg	13807	EPA 6010	04/22/94
Chromium (total)	ND	0.5	mg/Kg	13807	EPA 6010	04/22/94
Cobalt	ND	1	mg/Kg	13807	EPA 6010	04/22/94
Copper	ND	0.5	mg/Kg	13807	EPA 6010	04/22/94
Lead	ND	1.5	mg/Kg	13791	EPA 7421	04/22/94
Lead	ND	15	mg/Kg	13807	EPA 6010	04/22/94
Mercury	ND	0.1	mg/Kg	13774	EPA 7471	04/20/94
Molybdenum	ND	1	mg/Kg	13807	EPA 6010	04/22/94
Nickel	ND	1	mg/Kg	13807	EPA 6010	04/22/94
Selenium	ND	2.5	mg/Kg	13791	EPA 7740	04/22/94
Silver	ND	0.5	mg/Kg	13807	EPA 6010	04/22/94
Thallium	ND	2.5	mg/Kg	13791	EPA 7841	04/22/94
Vanadium	ND	0.5	mg/Kg	13807	EPA 6010	04/22/94
Zinc	ND	1	mg/Kg	13807	EPA 6010	04/22/94

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 28-APR-94
Lab Job Number: 115247
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by: Mary Plussar

Reviewed by:

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115247
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY STREET

DATE SAMPLED: 04/13,14/94
DATE RECEIVED: 04/15/94
DATE ANALYZED: 04/27/94
DATE REPORTED: 04/28/94

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
115247-003	T5 @ 9	ND	1
115247-004	T7 @ 7.5	ND	1
115247-006	MW10 @ 15.5	2	1
115247-007	T2 @ 8.5	ND	1
115247-008	T3 @ 8	ND	1
115247-009	T4 @ 9	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	85

VERBAL ADDITIONS / CANCELLATIONS TO ANALYSIS REQUEST SHEET

CLIENT: Subsurface DATE: 4/20/94

REQUESTED BY: Martr Kawahara TIME: ____ am 1:05 (pm)

RECORDED BY: Kathy O'Brien

Current Lab ID (Previous Lab ID)	Client ID	Circle matrix	Specify add or cancel	Analysis	Due date
115247-007 (115201-002)	T2@8.5'	~~soil~~ water other	+	TVH-G	4/27
115247-008 (115201-003)	T3@8'	~~soil~~ water other	+	TVH-G	↓
115247-009 (115201-004)	T4@9'	soil water other	+	TVH-G	↓
(-)		soil water other			
115247-1 (115201-10)	T2@6	soil water other	—	Cancel Gas	
115247-2 (115201-11)	T5@5	soil water other	—	↓	
115247-5 (115201-14)	MW9@5.5	soil water other	—	↓	
(-)		soil water other			

VERBAL ADDITIONS / CANCELLATIONS TO ANALYSIS REQUEST SHEET

CLIENT: Subsurface Consultants DATE: 4/20

REQUESTED BY: Mark K. TIME: 10:00 am pm

RECORDED BY: TKM PROJ: 820.001

Location: 6707 Bay St.

Current Lab ID (Previous Lab ID)	Client ID	Circle matrix	Specify add or cancel	Analysis	Due date
115247-1 (115201-10)	T2@6	(soil) water other	ADD	TVH	4/27
115247-2 (115201-11)	T5@5	~~soil~~ water other			
115247-3 (115201-12)	T5@9	(soil) water other			
115247-~~3~~4 (115201-13)	T7@7.5	(soil) water other			
115247-5 (115201-14)	MW9@15.5	(soil) water other			
115247-6 (115201-15)	MW10@15.5	(soil) water other			
( )		soil water other			
( )		soil water other			

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 29-APR-94
Lab Job Number: 115355
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by: Mary Pleasant

Reviewed by: Kathy O'Brien

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115355-001
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW9 @ 15.5

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/15/94
DATE REQUESTED: 04/26/94
DATE ANALYZED: 04/27/94
DATE REPORTED: 04/29/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	140*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	20	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	Detected(4)	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Possible laboratory contamination.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	109 %
Bromofluorobenzene	90 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115355-002
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW10 @ 15.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE REQUESTED: 04/26/94
DATE ANALYZED: 04/27/94
DATE REPORTED: 04/29/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	20
Bromomethane	ND	20
Vinyl chloride	ND	20
Chloroethane	ND	20
Methylene chloride	40	40
Acetone	320	40
Carbon disulfide	20	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
trans-1,2-Dichloroethene	ND	10
cis-1,2-Dichloroethene	ND	10
Chloroform	ND	10
Freon 113	ND	10
1,2-Dichloroethane	ND	10
2-Butanone	120	20
1,1,1-Trichloroethane	ND	10
Carbon tetrachloride	ND	10
Vinyl acetate	ND	100
Bromodichloromethane	ND	10
1,2-Dichloropropane	ND	10
cis-1,3-Dichloropropene	ND	10
Trichloroethene	ND	10
Dibromochloromethane	ND	10
1,1,2-Trichloroethane	ND	10
Benzene	ND	10
trans-1,3-Dichloropropene	ND	10
Bromoform	ND	10
2-Hexanone	ND	20
4-Methyl-2-pentanone	Detected(11)	20
1,1,2,2-Tetrachloroethane	ND	10
Tetrachloroethene	ND	10
Toluene	ND	10
Chlorobenzene	ND	10
Ethyl benzene	ND	10
Styrene	ND	10
Total xylenes	ND	10

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	108 %
Toluene-d8	120 %
Bromofluorobenzene	128 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115355 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE REQUESTED: 04/26/94
DATE ANALYZED: 04/27/94
DATE REPORTED: 04/29/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	30	20
Acetone	20	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	100 %
Toluene-d8	99 %
Bromofluorobenzene	101 %

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MS/MSD Report

Matrix Sample Number: 208804-018
Lab No: QC61902 QC61903
Matrix: SOIL
Batch No: 13896 9416700 9416703 9416681

Date Analyzed: 28-APR-94
Spike File: >BDR17
Spike Dup File: >BDR18
Analyst: CW

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	56.99	50	114 %	59-172%
Trichloroethene	40.47	50	81 %	62-137%
Benzene	46.02	50	92 %	66-142%
Toluene	46.56	50	93 %	59-139%
Chlorobenzene	44.17	50	88 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	47.24	50	94 %	70-121%
Toluene-d8	47.56	50	95 %	81-117%
Bromofluorobenzene	43.26	50	87 %	74-121%
MSD RESULTS				
1,1-Dichloroethene	60.05	50	120 %	59-172%
Trichloroethene	43.2	50	86 %	62-137%
Benzene	47.86	50	96 %	66-142%
Toluene	51.35	50	103 %	59-139%
Chlorobenzene	51.46	50	103 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	45.17	50	90 %	70-121%
Toluene-d8	49.68	50	99 %	81-117%
Bromofluorobenzene	46.15	50	92 %	74-121%

MATRIX RESULTS	
1,1-Dichloroethene	0
Trichloroethene	0
Benzene	0
Toluene	0
Chlorobenzene	0

RPD DATA		
1,1-Dichloroethene	5 %	< 22%
Trichloroethene	7 %	< 24%
Benzene	4 %	< 21%
Toluene	10 %	< 21%
Chlorobenzene	15 %	< 21%

Results within Specifications - PASS CW 4/28/94

VERBAL ADDITIONS / CANCELLATIONS TO ANALYSIS REQUEST SHEET

CLIENT: SCI DATE: 4/26/84

REQUESTED BY: M Kawakami TIME: ____ am 330 pm

RECORDED BY: [illegible]

Current Lab ID (Previous Lab ID)	Client ID	Circle matrix	Specify add or cancel	Analysis	Due date
115355-1 (115247-5)	MW9 @ 15.5	(soil) water other	+	8240	HOLD
-2 (115247-6)	MW10 @ 15.5	~~soil~~ water other	+	8240	
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 04-MAY-94
Lab Job Number: 115359
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by: Mary Pleasant

Reviewed by: Barbara O'Brien

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115359-001
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T3 @ 14.5

DATE SAMPLED: 04/13/94
DATE RECEIVED: 04/26/94
DATE ANALYZED: 04/27/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	100*	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	20*	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Suspected laboratory contaminant
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	93 %
Toluene-d8	99 %
Bromofluorobenzene	96 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115359-002
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T5 @ 14.5

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/26/94
DATE ANALYZED: 04/28/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	10*	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	12	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

* Suspected laboratory contaminant
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	104 %
Toluene-d8	100 %
Bromofluorobenzene	100 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115359-003
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: T6 @ 14.0

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/26/94
DATE ANALYZED: 04/27/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl chloride	ND	50
Chloroethane	ND	50
Methylene chloride	ND	100
Acetone	ND	100
Carbon disulfide	ND	30
Trichlorofluoromethane	ND	30
1,1-Dichloroethene	ND	30
1,1-Dichloroethane	ND	30
trans-1,2-Dichloroethene	ND	30
cis-1,2-Dichloroethene	ND	30
Chloroform	ND	30
Freon 113	ND	30
1,2-Dichloroethane	ND	30
2-Butanone	ND	50
1,1,1-Trichloroethane	ND	30
Carbon tetrachloride	ND	30
Vinyl acetate	ND	300
Bromodichloromethane	ND	30
1,2-Dichloropropane	ND	30
cis-1,3-Dichloropropene	ND	30
Trichloroethene	ND	30
Dibromochloromethane	ND	30
1,1,2-Trichloroethane	ND	30
Benzene	ND	30
trans-1,3-Dichloropropene	ND	30
Bromoform	ND	30
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
1,1,2,2-Tetrachloroethane	ND	30
Tetrachloroethene	ND	30
Toluene	ND	30
Chlorobenzene	ND	30
Ethyl benzene	ND	30
Styrene	ND	30
Total xylenes	ND	30

NOTE: Raised detection limits due to a high concentration of non-target hydrocarbons.
ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	94 %
Toluene-d8	101 %
Bromofluorobenzene	99 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115359 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 04/27/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	89 %
Toluene-d8	100 %
Bromofluorobenzene	97 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115359 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 04/28/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101 %
Toluene-d8	100 %
Bromofluorobenzene	100 %

Curtis & Tompkins, Ltd.

QC SUMMARY SHEET FOR EPA 8240

Laboratory Number: 115359
Client: SUBSURFACE CONSULTANTS
Analysis date: 04/27/94
Sample type: Soil
Sample spiked: 208851-002

SPIKE DATA (spiked at 25 ppb)

SPIKE COMPOUNDS	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	116 %	OK	59 - 172
Trichloroethene	123 %	OK	66 - 142
Benzene	120 %	OK	62 - 137
Toluene	130 %	OK	59 - 139
Chlorobenzene	122 %	OK	60 - 133
SURROGATES			
1,2-Dichloroethane-d4	87 %	OK	70 - 121
Toluene-d8	106 %	OK	84 - 138
Bromofluorobenzene	87 %	OK	59 - 113

SPIKE DUP DATA (spiked at 25 ppb)

SPIKE COMPOUNDS	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	102 %	OK	59 - 172
Trichloroethene	116 %	OK	66 - 142
Benzene	110 %	OK	62 - 137
Toluene	122 %	OK	59 - 139
Chlorobenzene	117 %	OK	60 - 133
SURROGATES			
1,2-Dichloroethane-d4	88 %	OK	70 - 121
Toluene-d8	106 %	OK	84 - 138
Bromofluorobenzene	87 %	OK	59 - 113

RPD DATA

SPIKE COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	116	102	13 %	OK	< 22
Trichloroethene	123	116	6 %	OK	< 21
Benzene	120	110	9 %	OK	< 24
Toluene	130	122	6 %	OK	< 21
Chlorobenzene	122	117	4 %	OK	< 21

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LABORATORY NUMBER: 115526
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 04/13/94
DATE RECEIVED: 05/06/94
DATE REQUESTED: 05/06/94
DATE ANALYZED: 05/11/94
DATE REPORTED: 05/13/94

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
115526-001	T1 @ 14	ND	1

ND = Not detected at or above reporting limit.

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115526
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE REQUESTED: 05/06/94
DATE ANALYZED: 05/13/94
DATE REPORTED: 05/13/94

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
115526-002	T7 @ 14	160	1

ND = Not detected at or above reporting limit.

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115526
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 04/13/94
DATE RECEIVED: 05/05/94
DATE EXTRACTED: 05/11/94
DATE ANALYZED: 05/11/94
DATE REPORTED: 05/13/94

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
115526-001	T1 @ 14	**	96	1

ND = Not detected at or above reporting limit.

* Reporting limit applies to all analytes.

** Kerosene range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	95

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115526
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 04/14/94
DATE RECEIVED: 04/15/94
DATE EXTRACTED: 05/11/94
DATE ANALYZED: 05/11/94
DATE REPORTED: 05/13/94

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
115526-002	T7 @ 14	ND	ND	20

ND = Not detected at or above reporting limit.

* Reporting limit applies to all analytes.

NOTE: Sample was diluted due to high levels of hydrocarbons in oil range.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	95

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DATE RECEIVED: 05/20/93
DATE REPORTED: 05/26/93

LABORATORY NUMBER: 110974

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 820.001

LOCATION: 6707 BAY ST

RESULTS: SEE ATTACHED

Reviewed by

Reviewed by

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 110974

Project Name: 6707 Bay St.
Project Number: 820.001

Report Date: 26 May 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD: SMWW 17:5520BF**

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
110974-002	MW 3	Water	20-MAY-93	20-MAY-93	25-MAY-93	ND	mg/L	5	TR	9343
110974-003	MW 1	Water	20-MAY-93	20-MAY-93	25-MAY-93	ND	mg/L	5	TR	9343
110974-004	MW 8	Water	20-MAY-93	20-MAY-93	25-MAY-93	ND	mg/L	5	TR	9343

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

Q C B a t c h R e p o r t

Client: Subsurface Consultants
Project Name: 6707 Bay St.
Project Number: 820.001

Laboratory Login Number: 110974
Report Date: 26 May 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 9343**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	25-MAY-93

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	88%	SMWW 17:5520BF	25-MAY-93
BSD	85%	SMWW 17:5520BF	25-MAY-93

		Control Limits
Average Spike Recovery	86%	80% - 120%
Relative Percent Difference	3.5%	< 20%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 110974-2
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST
SAMPLE ID: MW 3

DATE SAMPLED: 05/20/93
DATE RECEIVED: 05/20/93
DATE ANALYZED: 05/25/93
DATE REPORTED: 05/26/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	111 %
Toluene-d8	98 %
Bromofluorobenzene	98 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 110974-3
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST
SAMPLE ID: MW 1

DATE SAMPLED: 05/20/93
DATE RECEIVED: 05/20/93
DATE ANALYZED: 05/25/93
DATE REPORTED: 05/26/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	110 %
Toluene-d8	99 %
Bromofluorobenzene	100 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 110974-4
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST
SAMPLE ID: MW 8

DATE SAMPLED: 05/20/93
DATE RECEIVED: 05/20/93
DATE ANALYZED: 05/24/93
DATE REPORTED: 05/26/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	5,000
Bromomethane	ND	5,000
Vinyl chloride	ND	5,000
Chloroethane	ND	5,000
Methylene chloride	ND	10,000
Acetone	ND	10,000
Carbon disulfide	ND	3,000
Trichlorofluoromethane	ND	3,000
1,1-Dichloroethene	ND	3,000
1,1-Dichloroethane	ND	3,000
cis-1,2-Dichloroethene	ND	3,000
trans-1,2-Dichloroethene	ND	3,000
Chloroform	ND	3,000
Freon 113	ND	3,000
1,2-Dichloroethane	ND	3,000
2-Butanone	ND	5,000
1,1,1-Trichloroethane	ND	3,000
Carbon tetrachloride	ND	3,000
Vinyl acetate	ND	5,000
Bromodichloromethane	ND	3,000
1,2-Dichloropropane	ND	3,000
cis-1,3-Dichloropropene	ND	3,000
Trichloroethene	ND	3,000
Dibromochloromethane	ND	3,000
1,1,2-Trichloroethane	ND	3,000
Benzene	ND	3,000
trans-1,3-Dichloropropene	ND	3,000
Bromoform	ND	3,000
2-Hexanone	ND	5,000
4-Methyl-2-pentanone	100,000	5,000
1,1,2,2-Tetrachloroethane	ND	3,000
Tetrachloroethene	ND	3,000
Toluene	ND	3,000
Chlorobenzene	ND	3,000
Ethyl benzene	ND	3,000
Styrene	ND	3,000
Total xylenes	ND	3,000

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	105 %
Toluene-d8	98 %
Bromofluorobenzene	95 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 110974-METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST

DATE ANALYZED: 05/24/93
DATE REPORTED: 05/26/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	105 %
Toluene-d8	97 %
Bromofluorobenzene	91 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 110974-METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST

DATE ANALYZED: 05/25/93
DATE REPORTED: 05/26/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	113 %
Toluene-d8	99 %
Bromofluorobenzene	98 %

Curtis & Tompkins, Ltd.

QC SUMMARY SHEET FOR EPA 8240

Laboratory Number: 110974
Client: Subsurface Consultants
Analysis date: 05/25/93
Sample type: Water
Spike file: ceo21
Spike dup file: ceo22

SPIKE DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	50.76	102 %	OK	61 - 145
Trichloroethene	49.41	99 %	OK	71 - 120
Benzene	52.37	105 %	OK	76 - 127
Toluene	50.47	101 %	OK	76 - 125
Chlorobenzene	51.20	102 %	OK	75 - 130
SURROGATES				
1,2-Dichloroethane-d4	53.28	107 %	OK	76 - 114
Toluene-d8	49.26	99 %	OK	88 - 110
Bromofluorobenzene	48.66	97 %	OK	86 - 115

SPIKE DUP DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	47.01	94 %	OK	61 - 145
Trichloroethene	47.96	96 %	OK	71 - 120
Benzene	50.19	100 %	OK	76 - 127
Toluene	50.02	100 %	OK	76 - 125
Chlorobenzene	50.90	102 %	OK	75 - 130
SURROGATES				
1,2-Dichloroethane-d4	53.20	106 %	OK	76 - 114
Toluene-d8	49.70	99 %	OK	88 - 110
Bromofluorobenzene	50.19	100 %	OK	86 - 115

MATRIX RESULTS	
1,1-Dichloroethene	0
Trichloroethene	0
Benzene	0
Toluene	0
Chlorobenzene	0

RPD DATA

SPIKE COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	50.76	47.01	8 %	OK	< 14
Trichloroethene	49.41	47.96	3 %	OK	< 14
Benzene	52.37	50.19	4 %	OK	< 11
Toluene	50.47	50.02	1 %	OK	< 13
Chlorobenzene	51.20	50.90	1 %	OK	< 13

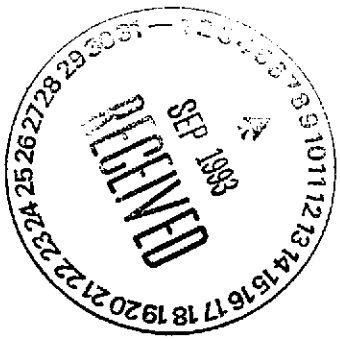
Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 01-SEP-93
Lab Job Number: 112021
Project ID: 820.001
Location: 6707 Bay St.



Reviewed by:

Reviewed by:

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 112021

Project Name: 6707 Bay St.
Project Number: 820.001

Report Date: 01 September 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD: SMWW 17:5520BF**

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
112021-001	MW-1	Water	25-AUG-93	25-AUG-93	31-AUG-93	ND	mg/L	5	TR	10374
112021-002	MW-3	Water	25-AUG-93	25-AUG-93	31-AUG-93	ND	mg/L	5	TR	10374
112021-003	MW-8	Water	25-AUG-93	25-AUG-93	31-AUG-93	ND	mg/L	5	TR	10374

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

QC Batch Report

Client: Subsurface Consultants
Project Name: 6707 Bay St.
Project Number: 820.001

Laboratory Login Number: 112021
Report Date: 01 September 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 10374**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	31-AUG-93

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	84%	SMWW 17:5520BF	31-AUG-93
BSD	82%	SMWW 17:5520BF	31-AUG-93

		Control Limits
Average Spike Recovery	83%	80% - 120%
Relative Percent Difference	3.2%	< 20%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112021-1
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY STREET
SAMPLE ID: MW-1

DATE SAMPLED: 08/25/93
DATE RECEIVED: 08/25/93
DATE ANALYZED: 08/27/93
DATE REPORTED: 09/01/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	107 %
Toluene-d8	106 %
Bromofluorobenzene	100 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112021-2
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY STREET
SAMPLE ID: MW-3

DATE SAMPLED: 08/25/93
DATE RECEIVED: 08/25/93
DATE ANALYZED: 08/27/93
DATE REPORTED: 09/01/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	111 %
Toluene-d8	104 %
Bromofluorobenzene	102 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112021-3
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY STREET
SAMPLE ID: MW-8

DATE SAMPLED: 08/25/93
DATE RECEIVED: 08/25/93
DATE ANALYZED: 08/30/93
DATE REPORTED: 09/01/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	3,000
Bromomethane	ND	3,000
Vinyl chloride	ND	3,000
Chloroethane	ND	3,000
Methylene chloride	ND	5,000
Acetone	ND	5,000
Carbon disulfide	ND	1,000
Trichlorofluoromethane	ND	1,000
1,1-Dichloroethene	ND	1,000
1,1-Dichloroethane	ND	1,000
cis-1,2-Dichloroethene	ND	1,000
trans-1,2-Dichloroethene	ND	1,000
Chloroform	ND	1,000
Freon 113	ND	1,000
1,2-Dichloroethane	ND	1,000
2-Butanone	ND	3,000
1,1,1-Trichloroethane	ND	1,000
Carbon tetrachloride	ND	1,000
Vinyl acetate	ND	3,000
Bromodichloromethane	ND	1,000
1,2-Dichloropropane	ND	1,000
cis-1,3-Dichloropropene	ND	1,000
Trichloroethene	ND	1,000
Dibromochloromethane	ND	1,000
1,1,2-Trichloroethane	ND	1,000
Benzene	ND	1,000
trans-1,3-Dichloropropene	ND	1,000
Bromoform	ND	1,000
2-Hexanone	ND	3,000
4-Methyl-2-pentanone	48,000	3,000
1,1,2,2-Tetrachloroethane	ND	1,000
Tetrachloroethene	ND	1,000
Toluene	ND	1,000
Chlorobenzene	ND	1,000
Ethyl benzene	ND	1,000
Styrene	ND	1,000
Total xylenes	ND	1,000

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101 %
Toluene-d8	96 %
Bromofluorobenzene	95 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112021-METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY STREET

DATE ANALYZED: 08/27/93
DATE REPORTED: 09/01/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L		Reporting Limit (ug/L)
Chloromethane	ND		10
Bromomethane	ND		10
Vinyl chloride	ND		10
Chloroethane	ND		10
Methylene chloride	ND		20
Acetone	ND		20
Carbon disulfide	ND		5
Trichlorofluoromethane	ND		5
1,1-Dichloroethene	ND		5
1,1-Dichloroethane	ND		5
cis-1,2-Dichloroethene	ND		5
trans-1,2-Dichloroethene	ND		5
Chloroform	ND		5
Freon 113	ND		5
1,2-Dichloroethane	ND		5
2-Butanone	ND		10
1,1,1-Trichloroethane		6	5
Carbon tetrachloride	ND		5
Vinyl acetate	ND		10
Bromodichloromethane	ND		5
1,2-Dichloropropane	ND		5
cis-1,3-Dichloropropene	ND		5
Trichloroethene	ND		5
Dibromochloromethane	ND		5
1,1,2-Trichloroethane	ND		5
Benzene	ND		5
trans-1,3-Dichloropropene	ND		5
Bromoform	ND		5
2-Hexanone	ND		10
4-Methyl-2-pentanone	ND		10
1,1,2,2-Tetrachloroethane	ND		5
Tetrachloroethene	ND		5
Toluene	ND		5
Chlorobenzene	ND		5
Ethyl benzene	ND		5
Styrene	ND		5
Total xylenes	ND		5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	111 %
Toluene-d8	104 %
Bromofluorobenzene	98 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112021-METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY STREET

DATE ANALYZED: 08/30/93
DATE REPORTED: 09/01/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	100 %
Toluene-d8	93 %
Bromofluorobenzene	100 %

Curtis & Tompkins, Ltd.

QC SUMMARY SHEET FOR EPA 8240

Laboratory Number:	112021		
Client:	Subsurface Consultants	Spike file:	brh18
Analysis date:	08/28/93	Spike dup file:	brh19
Sample type:	Water		

SPIKE DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	48.88	98 %	OK	61 - 145
Trichloroethene	49.38	99 %	OK	71 - 120
Benzene	47.96	96 %	OK	76 - 127
Toluene	42.81	86 %	OK	76 - 125
Chlorobenzene	47.11	94 %	OK	75 - 130
SURROGATES				
1,2-Dichloroethane-d4	51.37	103 %	OK	76 - 114
Toluene-d8	49.61	99 %	OK	88 - 110
Bromofluorobenzene	48.95	98 %	OK	86 - 115
	48.41			

SPIKE DUP DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	50.98	102 %	OK	61 - 145
Trichloroethene	47.62	95 %	OK	71 - 120
Benzene	45.85	92 %	OK	76 - 127
Toluene	42.65	85 %	OK	76 - 125
Chlorobenzene	47.24	94 %	OK	75 - 130
SURROGATES				
1,2-Dichloroethane-d4	49.49	99 %	OK	76 - 114
Toluene-d8	49.08	98 %	OK	88 - 110
Bromofluorobenzene	48.77	98 %	OK	86 - 115

MATRIX RESULTS	
1,1-Dichloroethene	0
Trichloroethene	0
Benzene	0
Toluene	0
Chlorobenzene	0

RPD DATA

SPIKE COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	48.88	50.98	4 %	OK	< 14
Trichloroethene	49.38	47.62	4 %	OK	< 14
Benzene	47.96	45.85	4 %	OK	< 11
Toluene	42.81	42.65	0 %	OK	< 13
Chlorobenzene	47.11	47.24	0 %	OK	< 13

Curtis & Tompkins, Ltd.

QC SUMMARY SHEET FOR EPA 8240

Laboratory Number: 112021
Client: Subsurface Consultants
Analysis date: 08/30/93
Sample type: Water
Spike file: chu08
Spike dup file: chu09

SPIKE DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	47.04	94 %	OK	61 - 145
Trichloroethene	50.75	102 %	OK	71 - 120
Benzene	239.67	83 %	OK	76 - 127
Toluene	46.45	91 %	OK	76 - 125
Chlorobenzene	51.47	103 %	OK	75 - 130
SURROGATES				
1,2-Dichloroethane-d4	51.37	103 %	OK	76 - 114
Toluene-d8	48.84	98 %	OK	88 - 110
Bromofluorobenzene	47.68	95 %	OK	86 - 115

SPIKE DUP DATA (spiked at 50 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	49.11	98 %	OK	61 - 145
Trichloroethene	53.36	107 %	OK	71 - 120
Benzene	243.71	91 %	OK	76 - 127
Toluene	47.86	93 %	OK	76 - 125
Chlorobenzene	53.57	107 %	OK	75 - 130
SURROGATES				
1,2-Dichloroethane-d4	51.00	102 %	OK	76 - 114
Toluene-d8	48.46	97 %	OK	88 - 110
Bromofluorobenzene	46.63	93 %	OK	86 - 115

MATRIX RESULTS	
1,1-Dichloroethene	0
Trichloroethene	0
Benzene	198.39
Toluene	1.14
Chlorobenzene	0

RPD DATA

SPIKE COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	47.04	49.11	4 %	OK	< 14
Trichloroethene	50.75	53.36	5 %	OK	< 14
Benzene	239.67	243.71	2 %	OK	< 11
Toluene	46.45	47.86	3 %	OK	< 13
Chlorobenzene	51.47	53.57	4 %	OK	< 13

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 30-NOV-93
Lab Job Number: 113251
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 113251-01
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 80.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-1

DATE SAMPLED: 11/18/93
DATE RECEIVED: 11/18/93
DATE ANALYZED: 11/24/93
DATE REPORTED: 11/30/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	40
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	107 %
Bromofluorobenzene	102 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 113251-02
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 80.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-3

DATE SAMPLED: 11/18/93
DATE RECEIVED: 11/18/93
DATE ANALYZED: 11/24/93
DATE REPORTED: 11/30/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	104 %
Toluene-d8	102 %
Bromofluorobenzene	99 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 113251-03
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 80.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-8

DATE SAMPLED: 11/18/93
DATE RECEIVED: 11/18/93
DATE ANALYZED: 11/24/93
DATE REPORTED: 11/30/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl chloride	ND	50
Chloroethane	ND	50
Methylene chloride	ND	100
Acetone	ND	100
Carbon disulfide	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
cis-1,2-Dichloroethene	ND	25
Chloroform	ND	25
Freon 113	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	50
1,1,1-Trichloroethane	ND	25
Carbon tetrachloride	ND	25
Vinyl acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
Benzene	ND	25
trans-1,3-Dichloropropene	ND	25
Bromoform	ND	25
2-Hexanone	ND	50
4-Methyl-2-pentanone	840	50
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethyl benzene	ND	25
Styrene	ND	25
Total xylenes	ND	25

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	107 %
Toluene-d8	96 %
Bromofluorobenzene	94 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 113251
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 80.001
LOCATION: 6707 BAY ST.
SAMPLE ID: METHOD BLANK

DATE ANALYZED: 11/23/93
DATE REPORTED: 11/30/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	8	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	100 %
Toluene-d8	100 %
Bromofluorobenzene	105 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 113251
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 80.001
LOCATION: 6707 BAY ST.
SAMPLE ID: METHOD BLANK

DATE ANALYZED: 11/24/93
DATE REPORTED: 11/30/93

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	106 %
Toluene-d8	103 %
Bromofluorobenzene	98 %

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

MS/MSD Report

Matrix Sample Number: 113224-001
Lab No: QC53042 QC53043
Matrix: WATER
Batch No: 11584 939416 939417 939411

Date Analyzed: 24-NOV-93
Spike File: >BKN17
Spike Dup File: >BKN18
Analyst: CW

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	51.62	50	100 %	61-145%
Trichloroethene	54.89	50	110 %	71-120%
Benzene	54.45	50	102 %	76-127%
Toluene	55.56	50	92 %	76-125%
Chlorobenzene	53.21	50	106 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	49.66	50	99 %	76-114%
Toluene-d8	52.86	50	106 %	88-110%
Bromofluorobenzene	50.82	50	102 %	86-115%
MSD RESULTS				
1,1-Dichloroethene	47.43	50	92 %	61-145%
Trichloroethene	51.76	50	104 %	71-120%
Benzene	53.28	50	100 %	76-127%
Toluene	54.71	50	90 %	76-125%
Chlorobenzene	51.02	50	102 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	48.45	50	97 %	76-114%
Toluene-d8	50.8	50	102 %	88-110%
Bromofluorobenzene	47.95	50	96 %	86-115%

MATRIX RESULTS	
1,1-Dichloroethene	1.45
Trichloroethene	0
Benzene	3.48
Toluene	9.81
Chlorobenzene	0

RPD DATA		
1,1-Dichloroethene	8 %	< 14%
Trichloroethene	6 %	< 14%
Benzene	2 %	< 11%
Toluene	2 %	< 13%
Chlorobenzene	4 %	< 13%

Results within Specifications - PASS CW 11/24/93

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

MS/MSD Report

Matrix Sample Number: 113289-006
Lab No: QC53117 QC53118
Matrix: WATER
Batch No: 11605 939439 939440 939436

Date Analyzed: 24-NOV-93
Spike File: >BKO13
Spike Dup File: >BKO14
Analyst: CK

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	42.34	50	85 %	61-145%
Trichloroethene	48.33	50	97 %	71-120%
Benzene	49.39	50	97 %	76-127%
Toluene	46.27	50	93 %	76-125%
Chlorobenzene	50.29	50	100 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	52.31	50	105 %	76-114%
Toluene-d8	49.97	50	100 %	88-110%
Bromofluorobenzene	51.04	50	102 %	86-115%
MSD RESULTS				
1,1-Dichloroethene	43.21	50	86 %	61-145%
Trichloroethene	50.4	50	101 %	71-120%
Benzene	51.08	50	100 %	76-127%
Toluene	47.12	50	94 %	76-125%
Chlorobenzene	50.63	50	100 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	53.88	50	108 %	76-114%
Toluene-d8	52.02	50	104 %	88-110%
Bromofluorobenzene	50.78	50	102 %	86-115%

MATRIX RESULTS		
1,1-Dichloroethene	0	
Trichloroethene	0	
Benzene	.891	
Toluene	0	
Chlorobenzene	.482	
RPD DATA		
1,1-Dichloroethene	2 %	< 14%
Trichloroethene	4 %	< 14%
Benzene	3 %	< 11%
Toluene	2 %	< 13%
Chlorobenzene	1 %	< 13%

Results within Specifications - PASS

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 113251

Report Date: 30 November 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD:** SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
113251-001	MW-1	Water	18-NOV-93	18-NOV-93	18-NOV-93	ND	mg/L	5	TR	11545
113251-002	MW-3	Water	18-NOV-93	18-NOV-93	18-NOV-93	ND	mg/L	5	TR	11545
113251-003	MW-8	Water	18-NOV-93	18-NOV-93	18-NOV-93	14.	mg/L	5	TR	11545

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

QC Batch Report

Client: Subsurface Consultants

Laboratory Login Number: 113251
Report Date: 30 November 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 11545**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	18-NOV-93

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	86%	SMWW 17:5520BF	18-NOV-93
BSD	88%	SMWW 17:5520BF	18-NOV-93

		Control Limits
Average Spike Recovery	87%	80% - 120%
Relative Percent Difference	2.4%	< 20%

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 07-MAR-94
Lab Job Number: 114517
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by:

Reviewed by:

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 114517-001
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-1

DATE SAMPLED: 02/25/94
DATE RECEIVED: 02/25/94
DATE ANALYZED: 02/28/94
DATE REPORTED: 03/07/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone (MEK)	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone (MIBK)	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102 %
Toluene-d8	111 %
Bromofluorobenzene	90 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 114517-002
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-3

DATE SAMPLED: 02/25/94
DATE RECEIVED: 02/25/94
DATE ANALYZED: 02/28/94
DATE REPORTED: 03/07/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone (MEK)	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone (MIBK)	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102 %
Toluene-d8	106 %
Bromofluorobenzene	98 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 114517-003
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-8

DATE SAMPLED: 02/25/94
DATE RECEIVED: 02/25/94
DATE ANALYZED: 02/28/94
DATE REPORTED: 03/07/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	1,000
Bromomethane	ND	1,000
Vinyl chloride	ND	1,000
Chloroethane	ND	1,000
Methylene chloride	ND	2,000
Acetone	ND	2,000
Carbon disulfide	ND	500
Trichlorofluoromethane	ND	500
1,1-Dichloroethene	ND	500
1,1-Dichloroethane	ND	500
trans-1,2-Dichloroethene	ND	500
cis-1,2-Dichloroethene	ND	500
Chloroform	ND	500
Freon 113	ND	500
1,2-Dichloroethane	ND	500
2-Butanone (MEK)	ND	1,000
1,1,1-Trichloroethane	ND	500
Carbon tetrachloride	ND	500
Vinyl acetate	ND	5,000
Bromodichloromethane	ND	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
Trichloroethene	ND	500
Dibromochloromethane	ND	500
1,1,2-Trichloroethane	ND	500
Benzene	ND	500
trans-1,3-Dichloropropene	ND	500
Bromoform	ND	500
2-Hexanone	ND	1,000
4-Methyl-2-pentanone (MIBK)	14,000	1,000
1,1,2,2-Tetrachloroethane	ND	500
Tetrachloroethene	ND	500
Toluene	ND	500
Chlorobenzene	ND	500
Ethyl benzene	ND	500
Styrene	ND	500
Total xylenes	ND	500

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	107 %
Bromofluorobenzene	98 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 114517-METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: N/A

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 02/28/94
DATE REPORTED: 03/07/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101 %
Toluene-d8	107 %
Bromofluorobenzene	96 %

Curtis & Tompkins, Ltd

MS/MSD Report

Curtis & Tompkins, Ltd.

Matrix Sample Number: 114451-005
Lab No: QC58211 QC58212
Matrix: WATER
Batch No: 12919 9412684 9412686 9412663

Date Analyzed: 28-FEB-94
Spike File: >CBS17
Spike Dup File: >CBS18
Analyst: CW

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	46.24	50	93 %	61-145%
Trichloroethene	51.36	50	103 %	71-120%
Benzene	47.36	50	95 %	76-127%
Toluene	45.27	50	91 %	76-125%
Chlorobenzene	51.27	50	103 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	48.61	50	97 %	76-114%
Toluene-d8	51.06	50	102 %	88-110%
Bromofluorobenzene	45.18	50	90 %	86-115%
MSD RESULTS				
1,1-Dichloroethene	45.58	50	91 %	61-145%
Trichloroethene	52.42	50	105 %	71-120%
Benzene	48.71	50	97 %	76-127%
Toluene	46.36	50	93 %	76-125%
Chlorobenzene	52.48	50	105 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	48.96	50	98 %	76-114%
Toluene-d8	50.83	50	102 %	88-110%
Bromofluorobenzene	47.35	50	95 %	86-115%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	0			
Toluene	0			
Chlorobenzene	0			

RPD DATA		
1,1-Dichloroethene	1 %	< 14%
Trichloroethene	2 %	< 14%
Benzene	3 %	< 11%
Toluene	2 %	< 13%
Chlorobenzene	2 %	< 13%

Results within Specifications - PASS CW 3/1/94

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 114517

Project Name: 6707 Bay St.
Project Number: 820.001

Report Date: 07 March 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD: SMWW 17:5520BF**

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
114517-001	MW-1	Water	25-FEB-94	25-FEB-94	03-MAR-94	ND	mg/L	5	TR	13004
114517-002	MW-3	Water	25-FEB-94	25-FEB-94	03-MAR-94	ND	mg/L	5	TR	13004
114517-003	MW-8	Water	25-FEB-94	25-FEB-94	03-MAR-94	ND	mg/L	5	TR	13004

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

QC Batch Report

Client: Subsurface Consultants
Project Name: 6707 Bay St.
Project Number: 820.001

Laboratory Login Number: 114517
Report Date: 07 March 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 13004**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	03-MAR-94

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	84%	SMWW 17:5520BF	03-MAR-94
BSD	87%	SMWW 17:5520BF	03-MAR-94

		Control Limits
Average Spike Recovery	86%	80% - 120%
Relative Percent Difference	3.2%	< 20%

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 05-MAY-94
Lab Job Number: 115298
Project ID: 820.001
Location: 6707 Bay St.

Reviewed by: Mary Pleasant

Reviewed by: Kathryl O'Brien

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298-002
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-8

DATE SAMPLED: 04/21/94
DATE RECEIVED: 04/22/94
DATE ANALYZED: 05/03/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	1,000
Bromomethane	ND	1,000
Vinyl chloride	ND	1,000
Chloroethane	ND	1,000
Methylene chloride	ND	2,000
Acetone	ND	2,000
Carbon disulfide	ND	500
Trichlorofluoromethane	ND	500
1,1-Dichloroethene	ND	500
1,1-Dichloroethane	ND	500
trans-1,2-Dichloroethene	ND	500
cis-1,2-Dichloroethene	ND	500
Chloroform	ND	500
Freon 113	ND	500
1,2-Dichloroethane	ND	500
2-Butanone	ND	1,000
1,1,1-Trichloroethane	ND	500
Carbon tetrachloride	ND	500
Vinyl acetate	ND	5,000
Bromodichloromethane	ND	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
Trichloroethene	ND	500
Dibromochloromethane	ND	500
1,1,2-Trichloroethane	ND	500
Benzene	ND	500
trans-1,3-Dichloropropene	ND	500
Bromoform	ND	500
2-Hexanone	ND	1,000
4-Methyl-2-pentanone	19,000	1,000
1,1,2,2-Tetrachloroethane	ND	500
Tetrachloroethene	ND	500
Toluene	ND	500
Chlorobenzene	ND	500
Ethyl benzene	ND	500
Styrene	ND	500
Total xylenes	ND	500

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103 %
Toluene-d8	99 %
Bromofluorobenzene	104 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298-003
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-9

DATE SAMPLED: 04/21/94
DATE RECEIVED: 04/22/94
DATE ANALYZED: 05/03/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	120	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	98 %
Toluene-d8	106 %
Bromofluorobenzene	95 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298-004
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.
SAMPLE ID: MW-10

DATE SAMPLED: 04/21/94
DATE RECEIVED: 04/22/94
DATE ANALYZED: 05/04/94
DATE REPORTED: 05/05/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	22	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	23	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	Detected(3)	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	108 %
Toluene-d8	102 %
Bromofluorobenzene	102 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 05/03/94
DATE REPORTED: 05/05/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	104 %
Toluene-d8	96 %
Bromofluorobenzene	99 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 05/03/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	94 %
Toluene-d8	100 %
Bromofluorobenzene	100 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: N/A
DATE RECEIVED: N/A
DATE ANALYZED: 05/04/94
DATE REPORTED: 05/04/94

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	108 %
Toluene-d8	105 %
Bromofluorobenzene	101 %

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

CLP VOCN Laboratory Control Sample Report

Lab No: QC62164 LCS Datafile: >BE206
Date Analyzed: 02-MAY-94
Matrix: WATER Operator: CW
Batch No: 13972 9416952

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	58.33	50	117 %	61-145%
Trichloroethene	49.38	50	99 %	71-120%
Benzene	56.01	50	112 %	76-127%
Toluene	54.24	50	108 %	76-125%
Chlorobenzene	55.15	50	110 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	51.77	50	104 %	76-114%
Toluene-d8	52.12	50	104 %	88-110%
Bromofluorobenzene	52.56	50	105 %	86-115%

Results within Specifications - PASS

Curtis & Tompkins, Ltd.

Curtis & Tompkins, Ltd

8240 Laboratory Control Sample Report

Lab No: QC62270
Date Analyzed: 03-MAY-94
Matrix: WATER
Batch No: 13999 9416998

LCS Datafile: >BE303
Operator: CW

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	58.55	50	117 %	61-145%
Trichloroethene	45.36	50	91 %	71-120%
Benzene	47.25	50	95 %	76-127%
Toluene	44.37	50	89 %	76-125%
Chlorobenzene	46.77	50	94 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	47.37	50	95 %	76-114%
Toluene-d8	50.04	50	100 %	88-110%
Bromofluorobenzene	49.73	50	99 %	86-115%

Results within Specifications - PASS CW 5/4/94

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8240 Laboratory Control Sample Report

Lab No: QC62370
Date Analyzed: 04-MAY-94
Matrix: WATER
Batch No: 14023 9417073

LCS Datafile: >BE404
Operator: CW

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	60.05	50	120 %	61-145%
Trichloroethene	45.63	50	91 %	71-120%
Benzene	51.24	50	102 %	76-127%
Toluene	52.39	50	105 %	76-125%
Chlorobenzene	50.46	50	101 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	50.84	50	102 %	76-114%
Toluene-d8	52.29	50	105 %	88-110%
Bromofluorobenzene	49.25	50	99 %	86-115%

Results within Specifications - PASS

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 04/21/94
DATE RECEIVED: 04/22/94
DATE ANALYZED: 04/25/94
DATE REPORTED: 05/02/94

Total Volatile Hydrocarbons as Gasoline in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	REPORTING LIMIT (ug/L)
115298-001	MW-3	60	50
115298-002	MW-8	5900	50
115298-003	MW-9	920	50
115298-004	MW-10	680	50
METHOD BLANK		ND	50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	1
RECOVERY, %	83

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 115298
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 820.001
LOCATION: 6707 BAY ST.

DATE SAMPLED: 04/21/94
DATE RECEIVED: 04/22/94
DATE EXTRACTED: 04/26/94
DATE ANALYZED: 04/28/94
DATE REPORTED: 05/02/94

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
115298-001	MW-3	ND	430	50
115298-002	MW-8	**	2,800	50
115298-003	MW-9	**	680	50
115298-004	MW-10	**	2,100	50

** Kerosene range not reported due to overlap of hydrocarbon ranges.

ND = Not detected at or above reporting limit. Reporting limit applies to all analytes.

QA/QC SUMMARY:

RPD, %	2
RECOVERY, %	82

Curtis & Tompkins, Ltd.

Client: Subsurface Consultants

Laboratory Login Number: 115298

Project Name: 6707 Bay St.
Project Number: 820.001

Report Date: 02 May 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD: SMWW 17:5520BF**

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
115298-001	MW-3	Water	21-APR-94	22-APR-94	27-APR-94	ND	mg/L	5	TR	13919
115298-002	MW-8	Water	21-APR-94	22-APR-94	27-APR-94	ND	mg/L	5	TR	13919
115298-003	MW-9	Water	21-APR-94	22-APR-94	27-APR-94	ND	mg/L	5	TR	13919
115298-004	MW-10	Water	21-APR-94	22-APR-94	27-APR-94	ND	mg/L	5	TR	13919

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

Q C B a t c h R e p o r t

Client: Subsurface Consultants
Project Name: 6707 Bay St.
Project Number: 820.001

Laboratory Login Number: 115298
Report Date: 02 May 94

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 13919

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	27-APR-94

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	84%	SMWW 17:5520BF	27-APR-94
BSD	86%	SMWW 17:5520BF	27-APR-94

		Control Limits
Average Spike Recovery	85%	80% - 120%
Relative Percent Difference	3.1%	< 20%

CHAIN OF CUSTODY FORM

PROJECT NAME: 6707 BAY STREET

JOB NUMBER: 820.001 LAB: CURTIS & TOMPKINS

PROJECT CONTACT: MACK KAWAKAMI TURNAROUND: NORMAL

SAMPLED BY: CHRIS ODEA REQUESTED BY: MACK KAWAKAMI

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR			CONTAINERS: VOA	LITER	PINT	TUBE			METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE		SAMPLING DATE: MONTH	DAY	YEAR	TIME				NOTES	ANALYSIS REQUESTED: 8015 (GAS/BTEX 8020)	TEH	TVH	EPA 8240
115298-1	MW-3	X						X	X					X			X			04	21	94					X	X	X	
-2	MW-8	X						X	X					X			X			〃	〃	〃					X	X	X	X
-3	MW-9	X						X	X					X			X			〃	〃	〃					X	X	X	X
-4	MW-10	X						X	X					X			X			04	21	94					X	X	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
[signature]	4/22/94 2:30	[signature]	4/22/94 2:30 pm

COMMENTS & NOTES:

- INCLUDE MEK & MIBK IN 8240 ANALYSIS

only 1 liter from each other liter no pres.

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

CHAIN OF CUSTODY FORM

PAGE ____ OF ____

PROJECT NAME: 6707 BAY STREET
JOB NUMBER: 820.001
PROJECT CONTACT: MARK KAWAKAMI
SAMPLED BY: FERNANDO VELEZ
LAB: CURTIS & TOMPKINS
TURNAROUND: NORMAL
REQUESTED BY: MARK KAWAKAMI

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: 8240	8240
	MW-1	X				3	1			X			X		08	25	93			X	X
	MW-3	X				3	1			X			X		08	25	93			X	X
	MW-8	X				3	1			X			X		08	25	93			X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
[signature]	8/25/93 1:30	Teresa K. Morrison	8/25/93 1:30
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:

ADD METHYL ETHYL KETONE AND METHYL ISOBUTYL KETONE TO 8240 ANALYSIS

Subsurface Consultants, Inc.
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(510) 268-0461 • FAX: 510-268-0137

CHAIN OF CUSTODY FORM

PAGE 1 OF 1

PROJECT NAME: Bay Street

JOB NUMBER: 820.001 LAB: Curtis & Tompkins

PROJECT CONTACT: Mark Kawakami TURNAROUND: Normal

SAMPLED BY: Charles Pearson REQUESTED BY: MK

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX						CONTAINERS						METHOD PRESERVED					SAMPLING DATE				NOTES	ANALYSIS REQUESTED											
		WATER	SOIL	WASTE	AIR			VOA	LITER	PINT	TUBE			HCL	H_2SO_4	HNO_3	ICE	NONE	MONTH	DAY	YEAR	TIME													
	MW-1	X						4	1					X			X		11	18	93														
	MW-3	X						4	1					X			X		11	18	93														
	MW-8	X						4	1					X			X		11	18	93														

CHAIN OF CUSTODY RECORD			
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Charles Pearson	11-18-93 12:35		11/18/93 12:35
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:

MTBE & MEK

Subsurface Consultants, Inc.

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CHAIN OF CUSTODY FORM

PAGE ____ OF ____

PROJECT NAME: Bay St.
JOB NUMBER: 820.001
PROJECT CONTACT: Mark Kawakami
SAMPLED BY: Dennis Alexander
LAB: Curtis & Tompkins
TURNAROUND: Normal
REQUESTED BY: Mark Kawakami

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: 8240	04G
	MW-1	X				3	1			X			X		02	25	94	1130	X	X	X
	MW-3	X				3	1			X			X		02	25	94	1220	X	X	X
	MW-8	X				3	1			X			X		02	25	94	1315	X	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	2/25/94 1:35 p.m.	[signature]	2/25/94 13:35
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:
Include Methyl Isobutyl Ketone and Methyl Ethyl Ketone in 8240 analysis

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T1534

CHAIN OF CUSTODY FORM

PROJECT NAME: 6707 BAY ST
JOB NUMBER: 820.001
PROJECT CONTACT: MARK KAWAKAMI
SAMPLED BY: JOHN WOLFE
LAB: Curtis & Tompkins
TURNAROUND: Normal
REQUESTED BY: MARK KAWAKAMI

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	MATRIX: SOIL	MATRIX: WASTE	MATRIX: AIR	CONTAINERS: VOA	CONTAINERS: LITER	CONTAINERS: PINT	CONTAINERS: TUBE	METHOD PRESERVED: HCL	METHOD PRESERVED: H_2SO_4	METHOD PRESERVED: HNO_3	METHOD PRESERVED: ICE	METHOD PRESERVED: NONE	SAMPLING DATE: MONTH	SAMPLING DATE: DAY	SAMPLING DATE: YEAR	SAMPLING DATE: TIME	NOTES	ANALYSIS REQUESTED: EDB 8260
-1	TB@14.5		X						X				X		04	13	94		X	X
-2	TB@14.5		X						X				X		04	14	94		X	X
-3	TB@14.0		X						X				X		04	14	94		X	X
	CO																			

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
[signature]	4/24/94 3:10pm	Mary Moran	4/24/94 3:10

COMMENTS & NOTES:

Include MTBE in BTEX analysis

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CHAIN OF CUSTODY FORM

11552

PAGE 1 OF 1

PROJECT NAME: 6707 BAY STREET

JOB NUMBER: 820.001

PROJECT CONTACT: MARK KAWAKAMI

SAMPLED BY: JOHN WOLFE

LAB: CURTIS & TOMPKINS

TURNAROUND: NORMAL

REQUESTED BY: MARK KAWAKAMI

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	MATRIX: SOIL	MATRIX: WASTE	MATRIX: AIR	CONTAINERS: VOA	CONTAINERS: LITER	CONTAINERS: PINT	CONTAINERS: TUBE	METHOD PRESERVED: HCL	METHOD PRESERVED: H_2SO_4	METHOD PRESERVED: HNO_3	METHOD PRESERVED: ICE	METHOD PRESERVED: NONE	SAMPLING DATE: MONTH	SAMPLING DATE: DAY	SAMPLING DATE: YEAR	SAMPLING DATE: TIME	NOTES	ANALYSIS REQUESTED: TVH	ANALYSIS REQUESTED: TEH
-1	T10 14		X						X				X		04	13	94			X	X
-2	T10 14		X						X				X		04	14	94		X	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	5/6/94 | 2:45 p.m.	Mary Pearson	5/6/94 | 12:45
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:

T10K WAS PREVIOUSLY SUBMITTED (11520-1

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BLOWS per 1/2 Ft.	SAMPLE NUMBERS	USCS	DEPTH IN FEET	DESCRIPTION	WELL CONST.
			0	0.2 ft. Asphalt Brown, damp, loose, gravel and SAND	NEAT CEMENT
		GW	1	Gray-brown, damp to moist, medium-dense, gravel (concrete fragments) cobbles and SAND	
			2		
			3		BENTONITE SEAL / BLANK CASING
			4		
15 19 25	S-B1-5.5	CL	5	Blue-gray, damp to moist, firm to stiff, gravely CLAY OVA = 340	
			6		
			7		
			8		
		SM	9	Gray and white (salt & pepper), moist to wet, medium dense, very-fine-grained SAND with shell fragments OVA = 370	
5 12 16	S-B1-10.5		10	GROUND WATER	NO. 3 SAND SLOTTED CASING
			11		
			12		
			13		
			14		
			15		
2 3 19	S-B1-16	CL	16	Light-gray and dark blue gray, saturated, stiff, CLAY with wood fibers and greasy, hydrocarbon and transformer odor OVA = 640	
			17		
			18		
			19		
		CL/SM	20	Light gray and blue gray, saturated, firm to stiff CLAY with sand and wood fragments OVA = 520	

REGISTERED GEOLOGIST JON JACKI ARENDT R.G.4322 Exp. 10-50 STATE OF CALIFORNIA

LW Environmental Services, Inc.
2111 Jennings St., San Francisco, CA 94124-3224
(415) 822-4555 FAX (415) 822-5290

LOG OF BORING B-1

Mike Roberts Color Productions
6707 Bay Street
Emeryville, California

PROJECT NUMBER: 9077

MRCP 00738

PLATE 1a

Blows per 1/2 Ft.	Sample Numbers	USCS	Depth in Feet	DESCRIPTION	Well Const.
14 14 17	S-B1-20.5	CL/SM	- 20	Light gray and blue gray, saturated, firm to stiff CLAY with sand and wood fragments OVA = 520	NO. 3 SAND SLOTTED CASING
			- 21		
			- 22	wood fragments common	
			- 23		
			- 24		
10 13 30	S-B1-25.5	CL	- 25	Brown to tan, wet, stiff CLAY (few wood fibers) OVA = 350	
			- 26		
			- 27		BLANK CASING
			- 28		
			- 29		
5		CL	- 30	Brown to tan, saturated, stiff CLAY	
11 32	S-B1-30.5	SM	- 31	Light-gray, saturated, medium-dense, silty, very-fine-grained SAND	
			- 32		
			- 33	Total Depth: 31.5 feet Ground water encountered at 10.7 feet Monitoring well installed 7-5-89 0 - 5.0 ft. blank casing 5.0 - 25.0 ft. slotted casing 25.0 - 30.0 ft. blank casing Well developed on 7-6-89	
			- 34		
			- 35		
			- 36		
			- 37		
			- 38		
			- 39		
			- 40		

REGISTERED GEOLOGIST
JON (JACK) ARENDT
R.G. 4322
Exp. 6-30-90
STATE OF CALIFORNIA

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LOG OF BORING B-1

Mike Roberts Color Productions
6707 Bay Street
Emeryville, California

PROJECT NUMBER: 9077

MRCP 00739

PLATE 1b

BLOWS PER FOOT	SAMPLE NUMBERS	USCS	DEPTH IN FEET	DESCRIPTION	WELL CONST.
			- 0	**Fill**	
			- 1	Chunks of concrete, brick and debris	
			- 2		
		SM	- 3	Dark gray, damp, medium dense, silty **SAND** with brick and debris	
10 8 7	S-B3- 5.0		- 4	**Native bay mud & fill debris**	
		SC	- 5	Red-brown and gray, dense, silty **CLAYEY SAND** with brick and debris OVA = 50	
			- 6		
			- 7		
			- 8	GW encountered	
		CL	- 9	Gray-blue gray, wet, soft, silty **CLAY** with gravel	
2 2 2	NR		-10		
			-11		
	S-B3- 12	CL	-12	Blue-gray, wet, soft, silty, gravely **CLAY** with gravel OVA = 150	
			-13	**BAY MUD WITH FILL**	
			-14		
Push for 18"	S-B3- 15	CL	-15	Blue, green, gray and black, wet, soft, gravely **CLAY** 1/3 sample saturated with black, old HC oil OVA = 260	
			-16		
			-17		
			-18		
			-19	**OLDER BAY MUD**	
Push for 18	S-B3- 20	CL	-20	Light brown-tan, wet, stiff, sandy **CLAY** OVA = 260	

REGISTERED GEOLOGIST
JON (JACK) ARENDT
R.G. 4322
Exp. 6-30-70
STATE OF CALIFORNIA

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(415) 822-4555 FAX (415) 822-5290

LOG OF BORING B-3

Mike Roberts Color Productions
6707 Bay Street
Emeryville, California

MRCP 00742

PLATE 3a

PROJECT NUMBER: 9077

BLOWS PER FOOT	SAMPLE NUMBER	USCS	DEPTH IN FEET	DESCRIPTION	WELL CONST.
			-20	Light brown-tan, wet, stiff, sandy CLAY OVA = 260	
			-21		
			-22		
			-23		
			-24		
Push for 12" 1 for 6'	S-B3-25	CL	-25	Light brown-tan, wet, stiff, sandy CLAY	
			-26		
			-27		
			-28		
			-29	Total Depth: 26.0 feet Ground water encountered at 9.8 feet Monitoring well installed 8-23-89 0 - 5.0 ft. blank casing 5.0 - 25.0 ft. slotted casing Well developed on 9-7-89	
			-30		
			-31		
			-32		
			-33		
			-34		
			-35		
			-36		
			-37		
			-38		
			-39		
			-40		

REGISTERED JON (JACK) ARENDT R.G. 4322 Exp. 3-31-90 STATE OF CALIFORNIA

LW Environmental Services, Inc.
2111 Jennings St. San Francisco, CA 94124-3224
(415) 822-4555 FAX (415) 822-5290

PROJECT NUMBER: 9077

LOG OF BORING B-3

Mike Roberts Color Productions
6707 Bay Street
Emeryville, California

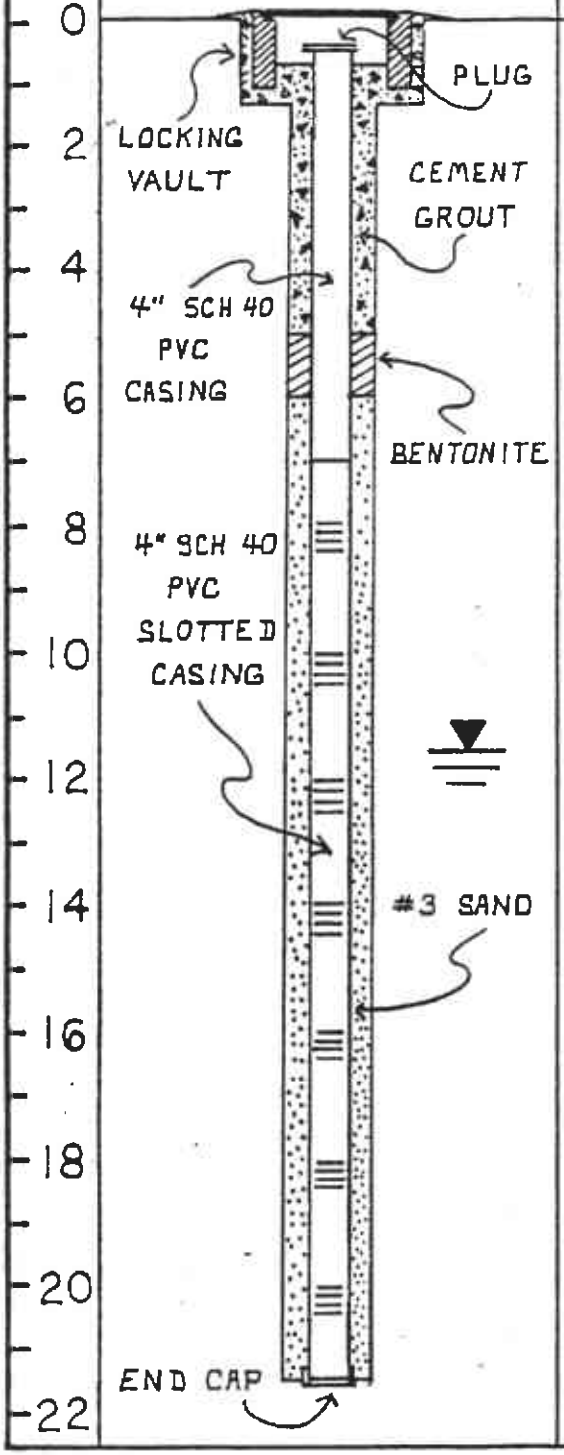
PLATE 3b

MRCP 00743

BORING LOG

Project: MRCP
Location: Emeryville
Job #: 0389058.00
Geologist/Engineer: Don McClenagan
Drill Agency: Bay Area Exploration

Hole/Well #: MW-8
Diameter of Drill Hole: 10.5 inches
Total Depth of Hole: 21.5 feet
Date Started: 1-3-90
Date Completed: 1-4-90



MRCP 00121

SCS ENGINEERS