3279
LS

ENVIRONMENTAL PROTECTION

98 APR 10 PM 2:51

April 3, 1998

Via Certified Mail No. Z103265514

Mr. Robert M. Senga, Unit Chief
California Environmental Protection Agency
Department of Toxic Substances Control
Facility Permitting Branch
1011 N. Grandview Avenue
Glendale, California 91201

Re: **Safety-Kleen Corp. Service Center**
400 Market Street
Oakland, California STID 3279

Dear Mr. Senga:

Enclosed is the first quarter monitoring and sampling report for 1998, which summarizes the groundwater monitoring and vapor extraction activities conducted at the above-referenced facility. This report covers the period from December 1997 through February 1998. Safety-Kleen is following the modified groundwater sampling schedule as described in the letter submitted on July 13, 1994, and as modified and approved by Alameda County in a response letter dated July 27, 1994.

If you have any questions, please call me at (503) 655-2769.

Sincerely,

Greg Hoehn for

Chip Prokop
Senior Project Manager - Remediation
Safety-Kleen Corp.

Enclosure

cc: Keith Marcott, Safety-Kleen Corp.
Scott Davies, Safety-Kleen Corp.
Branch Environmental File (999)
Jennifer Eberle, Alameda County - Department of Environmental Health
Loretta Barsamian, California Regional Water Quality Control Board
Greg Hoehn, SECOR International Incorporated

OAKLND12.L01 - WP6.1
April 3, 1998
SECOR Job No. 70005-009-12

SECOR
International Incorporated

QUARTERLY GROUNDWATER MONITORING AND SOIL VAPOR EXTRACTION REPORT SAFETY-KLEEN SERVICE CENTER 400 MARKET STREET OAKLAND, CALIFORNIA

SECOR Job No. 70005-009-12

Prepared For: 4-3-98
Safety-Kleen Corp.
16540 S.E. 130th Avenue
Clackamas, Oregon 97015

Submitted By:
SECOR International Incorporated
1390 Willow Pass Road
Suite 360
Concord, California 94520

April 3, 1998

REGISTERED PROFESSIONAL ENGINEER
THOMAS J. BERGIN
No. 48806
EXP. 9/30/00
CIVIL
STATE OF CALIFORNIA

Prepared By:

Daniel E. Madsen
Associate Geologist

Reviewed By:

Thomas J. Bergin, P.E., #48806
Principal Civil Engineer

Greg D. Hoehn
Principal Geologist

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

This report presents the results of groundwater monitoring and sampling activities conducted for the quarter of December 1997 through February 1998 at the Safety-Kleen Service Center located at 400 Market Street in Oakland, California (Figures 1 and 2). Also included are the results of soil vapor extraction (SVE) system monitoring and sampling for the period.

2.0 PROJECT BACKGROUND INFORMATION

The Safety-Kleen Oakland Service Center is a local distribution center for Safety-Kleen products. Three single-walled underground storage tanks (USTs) were removed and replaced with two new 12,000-gallon double-walled tanks in June and July of 1990. Product and waste mineral spirits are currently stored in the two double-walled USTs at the site. One UST is used to consolidate waste mineral spirits prior to shipment to a Safety-Kleen Recycle Center and one UST is used for storage of product mineral spirits prior to distribution to Safety-Kleen customers.

During the single-walled tank removal, mineral spirits-impacted soil was excavated from the tank pit as allowable by site conditions. Additionally, a product recovery well and a vapor extraction system withdrawal network were installed in the tank pit area. Tank removal and excavation activities are documented in the Report of Underground Storage Tank Replacement Activities dated September 1990. The product pumping system installed in recovery well RW-1 to remove separate-phase product from the water table began operation on January 19, 1993. The product pumping system was removed on November 20, 1995, and replaced with a passive hydrocarbon skimming device which is capable of removing product thickness within the well to a sheen.

The SVE system consists of seven horizontal vapor extraction perforated pipe lines and a vapor extraction and treatment system. A system to extract and treat soil vapor utilizing regenerative polymer adsorption began full-scale operation on June 1, 1993. The SVE system was modified and restarted on November 28, 1995, utilizing the current granular activated carbon (GAC) treatment system. Figure 3 depicts the layout of the vapor extraction pipe lines and the vapor treatment system.

3.0 SCOPE OF WORK

Groundwater monitoring work conducted during this quarter consisted of the monitoring of eleven groundwater monitoring wells and one recovery well, and the sampling of four groundwater monitoring wells as specified by the quarterly sampling schedule. SVE activities conducted during this quarter consisted of the operation and maintenance of the SVE system. The following sections provide a description of the work steps conducted.

3.1 Soil Vapor Extraction System

The SVE system consists of two 1,500-pound GAC vessels connected in series to a manifold attached to seven horizontal vapor extraction perforated pipe lines. The SVE system was operated this quarter in a pulsed mode in an attempt to improve removal efficiency. The system operated in approximately two-week cycles until January 6, 1998, when the system operation was discontinued due to the SVE blower failure. The blower was removed for repairs on February 19, 1998; the system has remained in shutdown mode since January 6, 1998. While the SVE system is operating, monitoring occurs biweekly and consists of measuring influent and effluent vapor concentrations using a photo-ionization detector (PID) or a flame-ionization detector (FID). During this quarter, SVE system influent and effluent vapor samples were collected on December 11 and 22, 1997. The vapor samples were submitted to a state-certified analytical laboratory under chain-of-custody manifest and analyzed for total petroleum hydrocarbons as mineral spirits (TPHms) by U.S. Environmental Protection Agency (EPA) Method 8015(modified) and for volatile organic compounds (VOCs) by EPA Method 8010. The results of the SVE system operation and sampling are presented in Section 4.1 and SVE system monitoring data are summarized in Table 1.

3.2 Mineral Spirits Recovery

The mineral spirits recovery pump that was located in recovery well RW-1 failed and was replaced by a passive recovery skimmer in November 1995. A passive recovery skimmer was also placed in monitoring well MW-9 (Figure 2) at that time. Mineral spirits recovered from recovery well RW-1 and monitoring well MW-9 is emptied directly to the waste mineral spirits UST at the site and is incorporated into the Safety-Kleen recycling process. The amount of recovered product is recorded each time the skimmer is emptied. Measurable product has not been present in the skimmers since July 1996.

3.3 Groundwater Monitoring and Sampling

On January 12, 1998, on- and off-site monitoring wells were monitored for depth-to-water, and groundwater samples were collected from monitoring wells MW-2, MW-3, MW-4, and MW-8 for laboratory analysis. Monitoring well MW-11 was not sampled because tree roots have grown through the well casing and are obstructing the well.

All accessible monitoring wells were monitored for depth-to-water using a water level indicator calibrated to 0.01-foot. The depth-to-water measurements were used with well survey data to prepare a groundwater potentiometric surface map (Figure 4). Prior to collecting groundwater samples, the wells were purged using a low flow pump with dedicated tubing. In-line water quality indicator parameters were continuously monitored and water levels were taken during purging in order to adjust the flow rate for a minimal drawdown. Samples were collected after pH, temperature, conductivity, and turbidity had stabilized for at least three successive readings. The samples were placed into laboratory supplied sample containers in the same manner as the pre-purge samples, labeled, placed on ice in an insulated cooler, and logged onto the chain-of-custody document. A trip blank accompanied the samples during transport to the laboratory and was analyzed for quality assurance and quality control purposes. Field data sheets that include depth-to-water measurements and well purge data are included in Appendix A.

The groundwater samples were delivered to a state-certified laboratory for analysis under chain-of-custody documentation. The groundwater samples were analyzed for the presence of benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020, for TPHms by EPA Method 8015(modified), and for halogenated VOCs by EPA Method 8010.

Prior to use and between each well, all non-single-use equipment was decontaminated by double-washing with a laboratory grade detergent in clean water and triple-rinsed using deionized water. Purge water and decontamination water generated during well purging and sampling was placed in labeled containers pending transport for treatment at a Safety-Kleen facility.

4.0 RESULTS

4.1 Soil Vapor Extraction System

The results of SVE system monitoring conducted through January 6, 1998 are summarized on Table 1. Table 1 presents data on the system flow rate and PID measurements from the SVE system vapor influent, the vapor effluent after each carbon adsorption vessel, and the system final vapor effluent. For this quarter, SVE system influent and effluent vapor samples were collected on December 11 and 22, 1997. No TPHms, VOC, or BTEX constituents were detected in either of the influent or effluent samples collected during the quarter. Based on the analytical data, the SVE system has continued to meet air permit requirements. Copies of soil vapor extraction system analytical reports are included as Appendix B.

In an attempt to improve system efficiency, Safety-Kleen operated the SVE system this quarter in a pulsed (on-off) mode of approximately two-week cycles. Table 1 summarizes the dates when the SVE system was shut down and restarted. Due to failure of the SVE blower, the system was shutdown on January 6, 1998. The SVE blower was removed for repair; the system has remained in shutdown mode since January 6, 1998. Table 2 summarizes the estimated SVE system mineral spirits removal to date. Based on non-detectable laboratory influent concentrations, no mineral spirits were removed by the SVE system from December 11 through 22, 1997. Data collected from initial start-up through December 22, 1997, indicate a total of 5489 pounds of mineral spirits have been removed from the subsurface by the SVE system.

4.2 Mineral Spirits Recovery

Mineral spirits product is collected in monitoring well MW-9 and recovery well RW-1 via passive recovery skimmers and by hand bailing at the time of SVE monitoring and groundwater sampling. No product accumulated in the skimmers during this reporting period. The total volume of mineral spirits product removed from the subsurface to date is approximately 444.25 gallons.

4.3 Groundwater Elevations

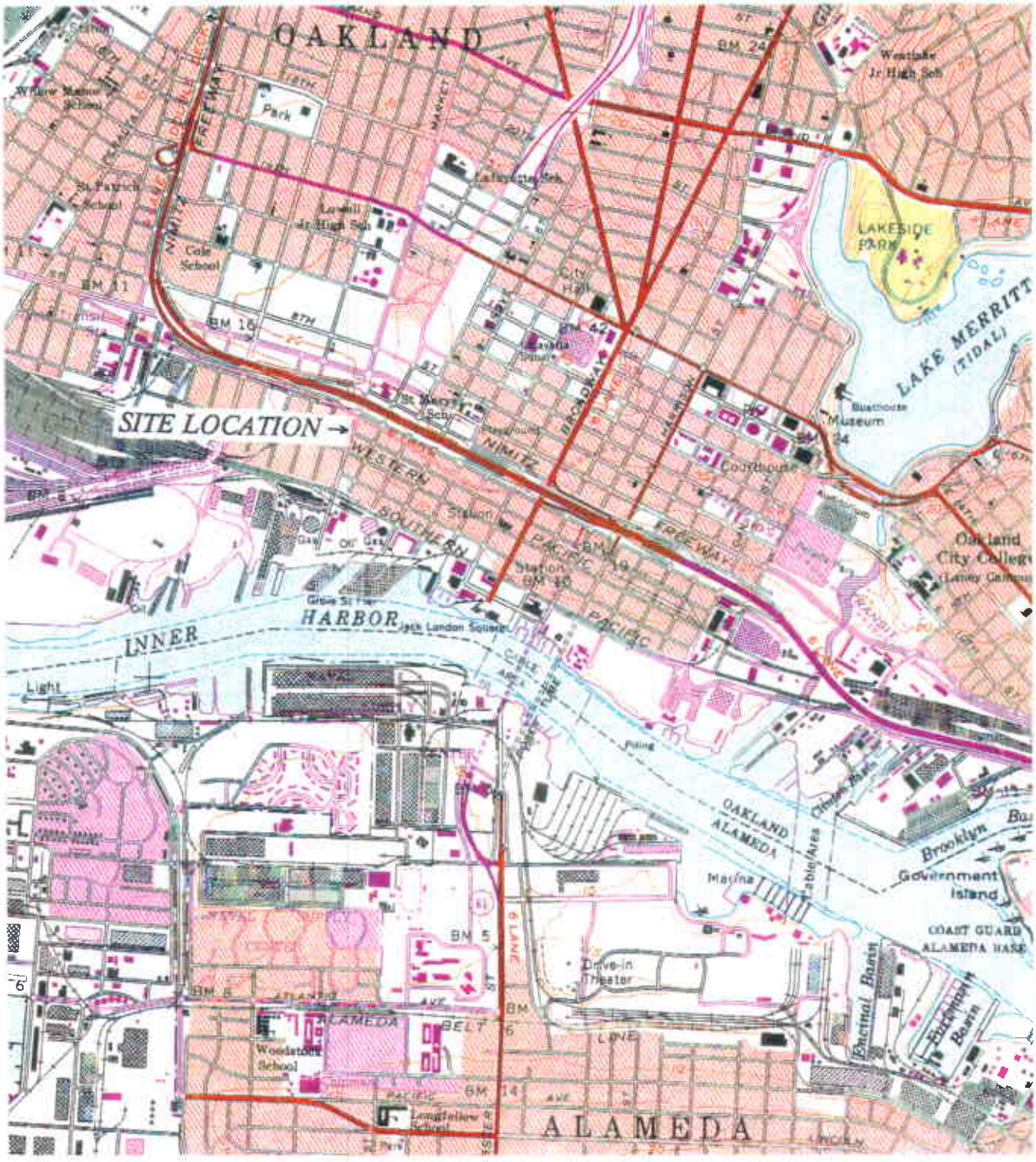
Groundwater elevations and depth-to-water measurements for the January 12, 1998, event are presented in Table 3. The average water table elevation on October 8, 1997, was 2.74 feet above mean sea level, an increase of 1.68 feet since the October 1997 event. A groundwater potentiometric surface map prepared with the January 12, 1998, data is presented as Figure 4.

As shown in Figure 4, the on-site groundwater flow direction remains to the southwest, consistent with historic site data. The off-site groundwater flow direction is to the southeast. The off-site flow direction is anomalous with respect to historic off-site flow directions. This anomalous groundwater flow pattern shown on Figure 4 may be the result of higher rates of groundwater recharge in the lawn/planters near monitoring wells MW-2 and MW-3. The hydraulic gradient was 0.002 feet/foot (ft/ft) across the site as measured between monitoring wells MW-4 and MW-8. The gradient is consistent with previous data for the site. A summary of groundwater elevations since January 1993 is provided as Table 4.

4.4 Groundwater Conditions

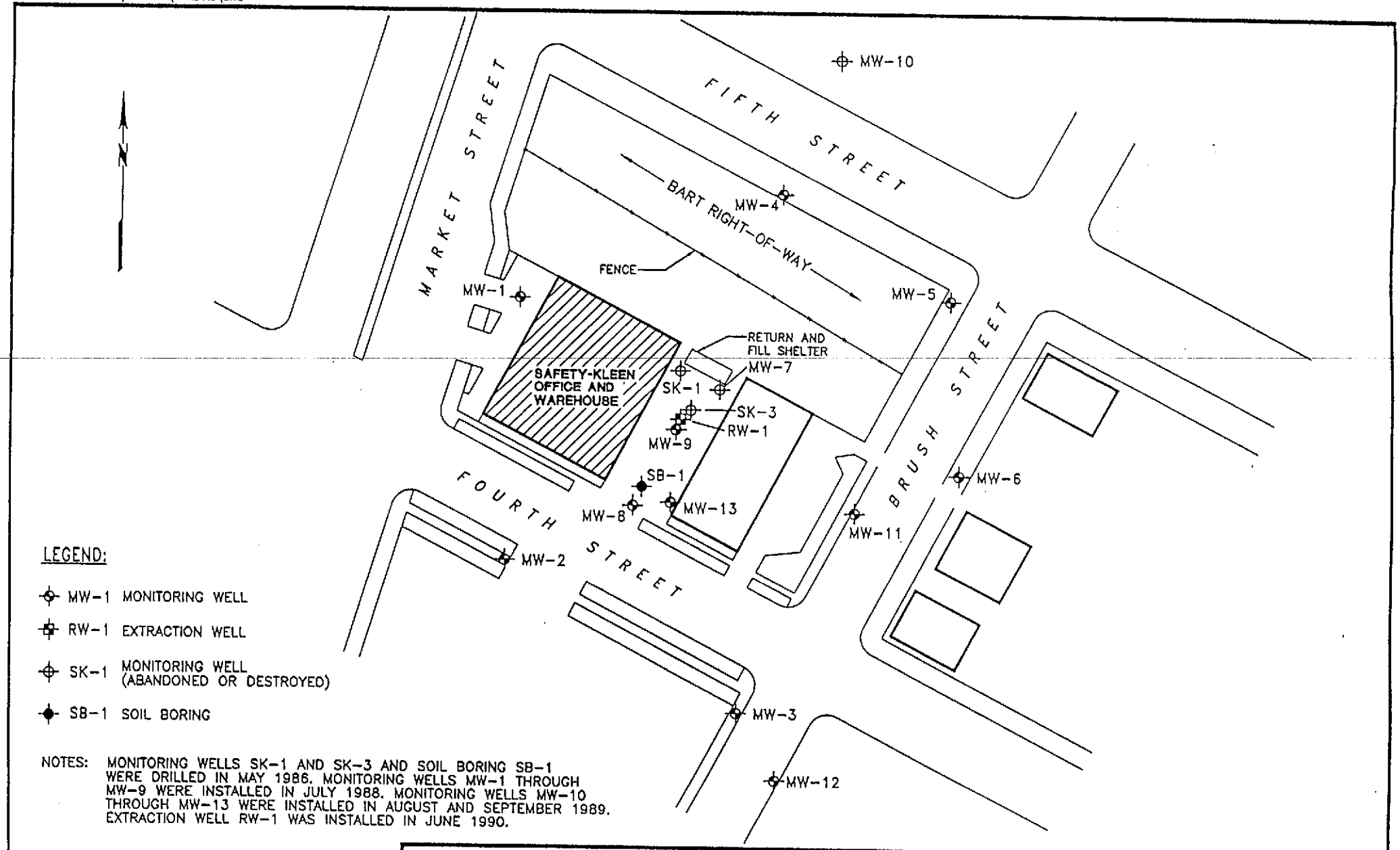
No TPHms or BTEX were detected in any of the groundwater samples collected on January 12, 1998. In addition, no VOCs were detected in the groundwater samples from monitoring wells MW-2 and MW-3. Groundwater samples collected from monitoring wells MW-4 and MW-8 contained concentrations of several VOCs above laboratory reporting limits including 1,1-dichloroethene, *cis*-1,2-dichloroethene, chloroform, and trichloroethene. Figure 5 depicts the chemical distribution in the groundwater samples collected on January 12, 1998. A summary of analytical test results showing compounds detected since the April 1993 sampling event are presented in Table 5. Copies of the groundwater laboratory analytical reports are included in Appendix C.

OAKLAND WEST QUADRANGLE
California
7.5 Minute Series (Topographic)



DRAFTED BY: TS	CHECKED BY: GDH	PROJECT NO. 70005-009	FIGURE 1	*SECOR* 1390 Willow Pass Road Suite 360 Concord, CA 94520
DWG. DATE: 04-05-94	REV. DATE: 06-15-95	Safety-Kleen Corp. 400 Market Street Oakland, California	Site Location Map	
FILE NAME: Oakland7.F01				

199509.061018 X:\S-KLEEN\OAKLAND\SITE



NOTES: MONITORING WELLS SK-1 AND SK-3 AND SOIL BORING SB-1 WERE DRILLED IN MAY 1986. MONITORING WELLS MW-1 THROUGH MW-9 WERE INSTALLED IN JULY 1988. MONITORING WELLS MW-10 THROUGH MW-13 WERE INSTALLED IN AUGUST AND SEPTEMBER 1989. EXTRACTION WELL RW-1 WAS INSTALLED IN JUNE 1990.

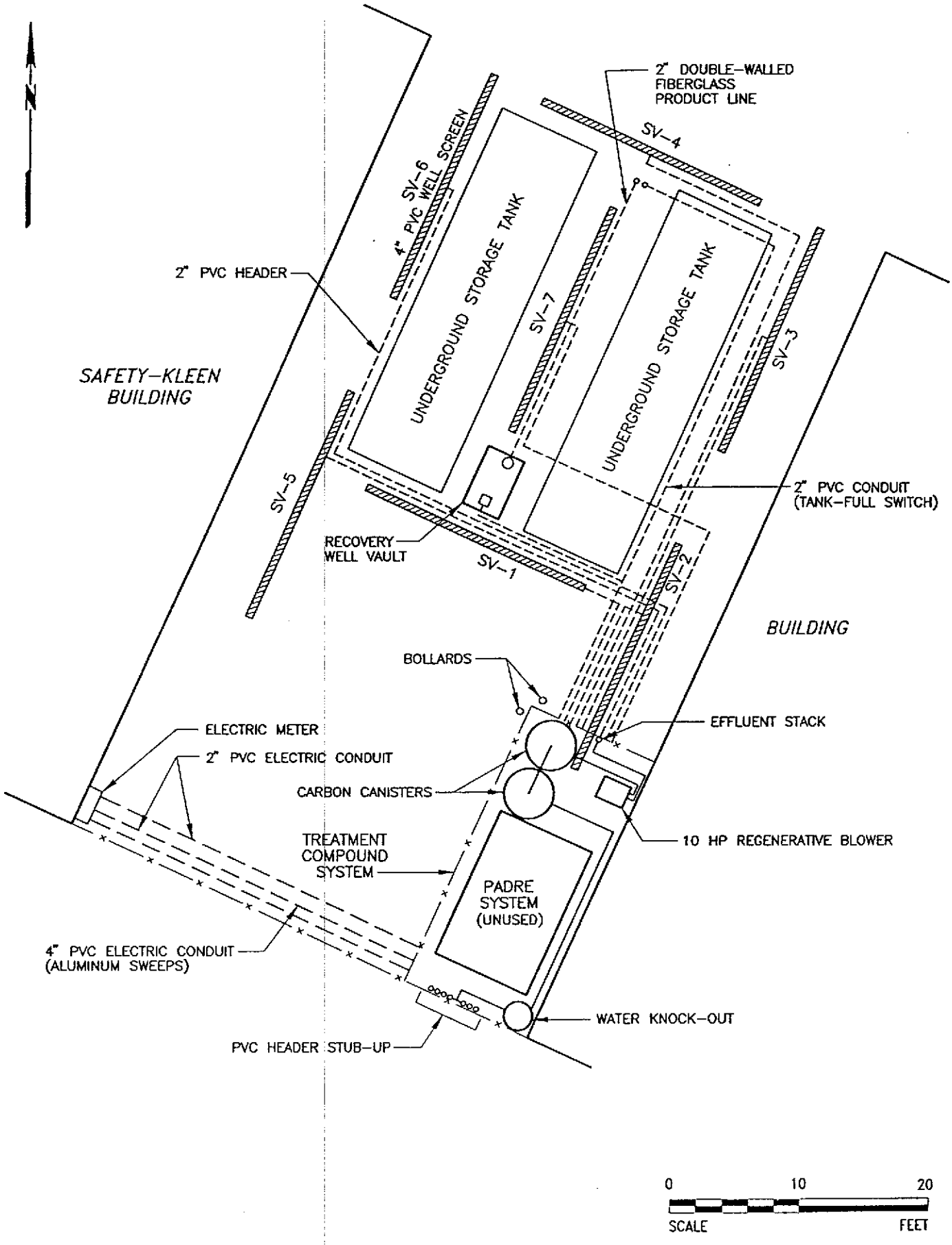
0 80 160
SCALE FEET

SECOR
INTERNATIONAL
INCORPORATED

DRAWN	CCR
APPR	RR/GH
DATE	26NOV96
JOB NO.	70005-009

FIGURE 2
SAFETY-KLEEN SERVICE CENTER
400 MARKET STREET
OAKLAND, CALIFORNIA

SITE PLAN



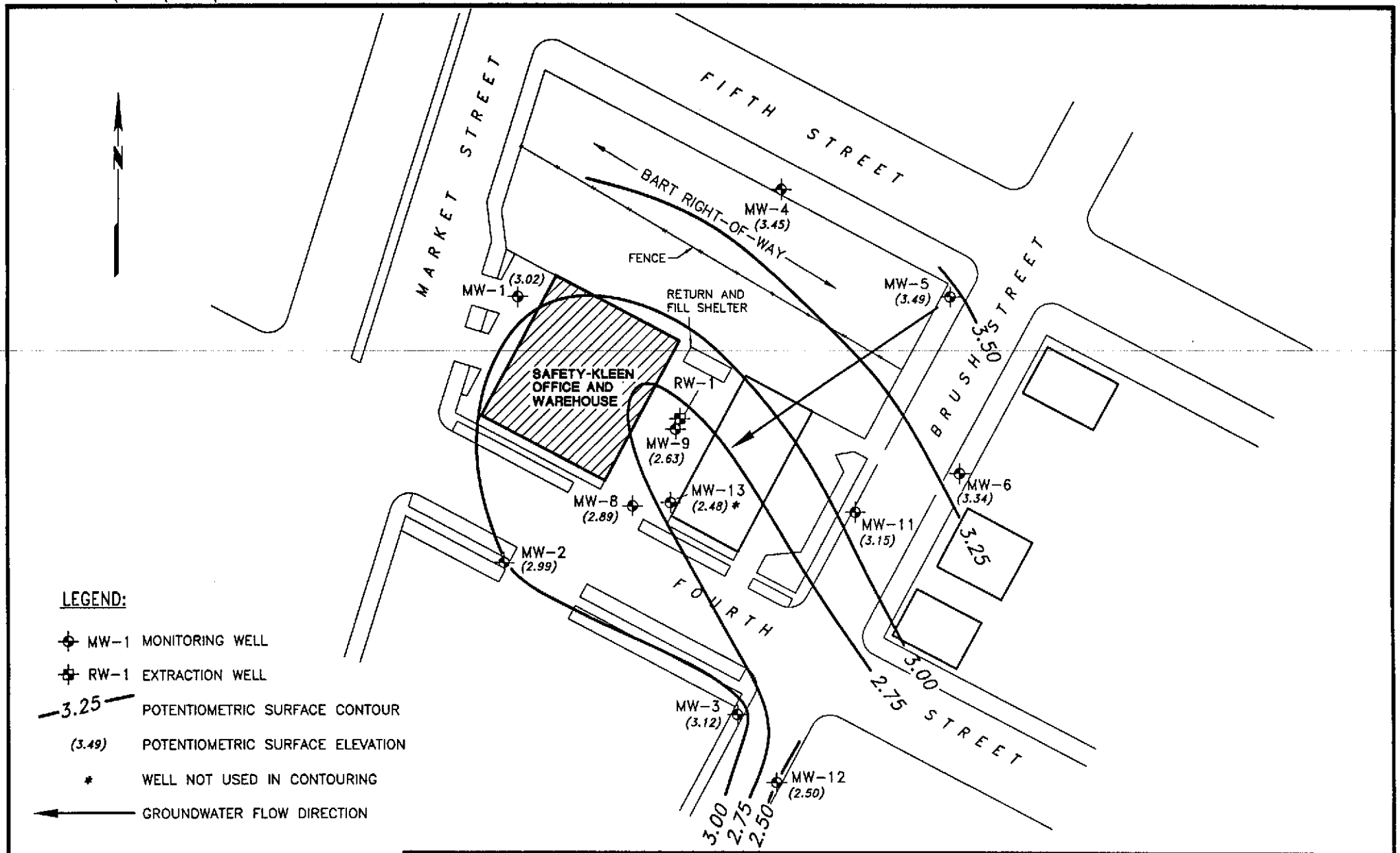
SECOR INTERNATIONAL INCORPORATED	
DRAWN	CCR
APPR	GH
DATE	08DEC95
JOB NO.	70005-009

FIGURE 3
SAFETY-KLEEN SERVICE CENTER
400 MARKET STREET
OAKLAND, CALIFORNIA

SOIL VAPOR EXTRACTION SYSTEM LAYOUT

199512.071928 X:\IS-KLEEN\OAKLAND\SITE2

199803.131232 X:\S-KLEEN\OAKLAND\SURFAC12



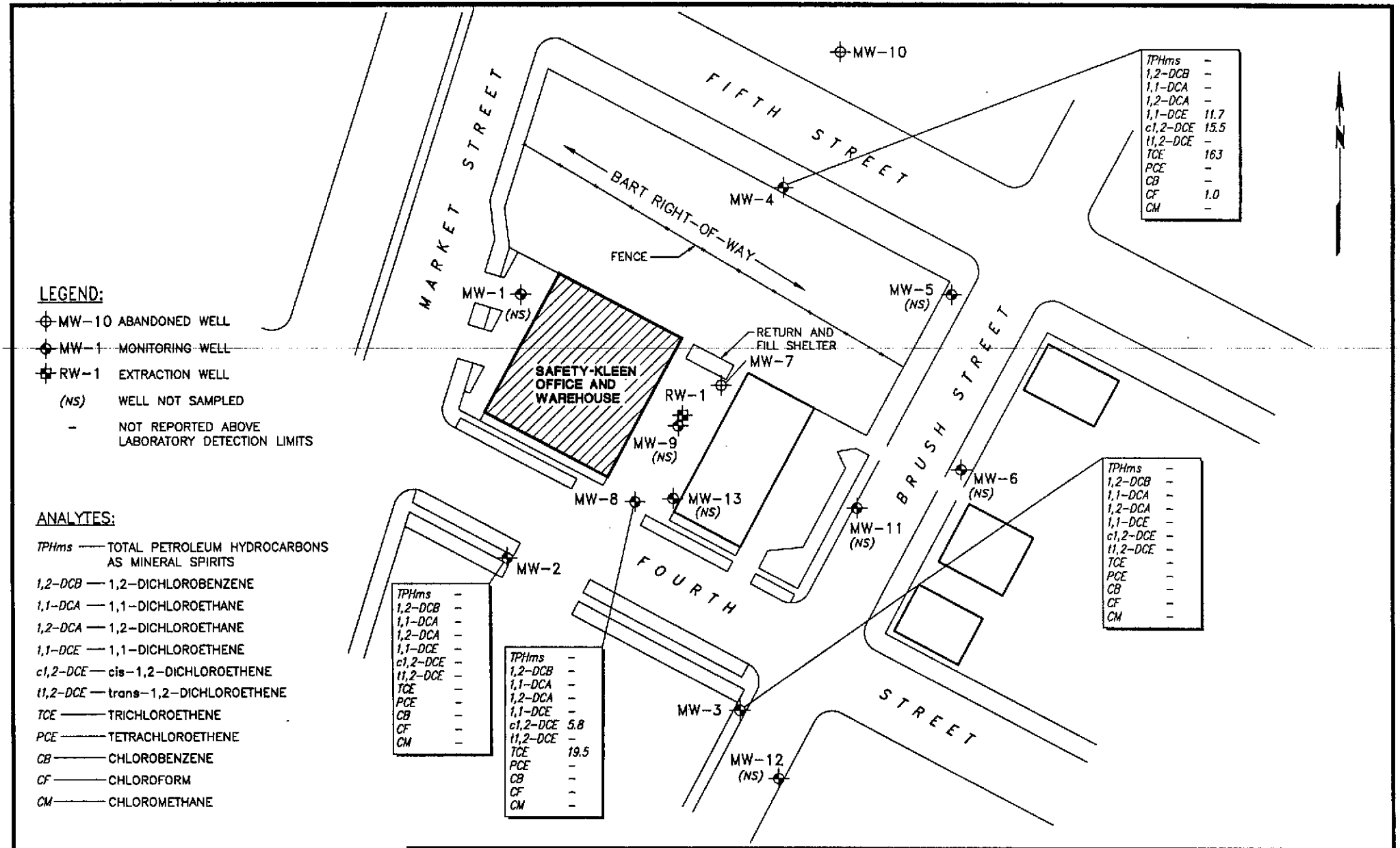
SECOR
INTERNATIONAL INCORPORATED

DRAWN	CCR
APPR	DEM/GH
DATE	13MAR98
JOB NO.	70005-009

FIGURE 4
SAFETY-KLEEN SERVICE CENTER
400 MARKET STREET
OAKLAND, CALIFORNIA

POTENTIOMETRIC SURFACE MAP
FEBRUARY 12, 1998

199803.131224 X:\S-KLEEN\OAKLAND\CHEMGW09



LEGEND:

- MW-10 ABANDONED WELL
- MW-1 MONITORING WELL
- RW-1 EXTRACTION WELL
- (NS) WELL NOT SAMPLED
- – NOT REPORTED ABOVE LABORATORY DETECTION LIMITS

ANALYTES:

- TPHms — TOTAL PETROLEUM HYDROCARBONS AS MINERAL SPIRITS
- 1,2-DCB — 1,2-DICHLOROBENZENE
- 1,1-DCA — 1,1-DICHLOROETHANE
- 1,2-DCA — 1,2-DICHLOROETHANE
- 1,1-DCE — 1,1-DICHLOROETHENE
- c1,2-DCE — cis-1,2-DICHLOROETHENE
- t1,2-DCE — trans-1,2-DICHLOROETHENE
- TCE — TRICHLOROETHENE
- PCE — TETRACHLOROETHENE
- CB — CHLOROBENZENE
- CF — CHLOROFORM
- CM — CHLOROMETHANE

NOTE: CONCENTRATIONS IN MICROGRAMS PER LITER (ug/l).

0 80 160

SCALE FEET

SECOR
INTERNATIONAL INCORPORATED

DRAWN	CCR
APPR	DEM/GH
DATE	13MAR98
JOB NO.	70005-009

FIGURE 5

SAFETY-KLEEN SERVICE CENTER
400 MARKET STREET
OAKLAND, CALIFORNIA

CHEMICAL DISTRIBUTION IN GROUNDWATER
JANUARY 12, 1998

Table 1

Soil Vapor Extraction System Monitoring Data

Safety-Kleen Service Center
400 Market Street
Oakland, California

Date	Elapsed Time*	Well Extraction Vacuum	KO Vacuum	Extraction Flow Rate		System Influent	#1 Carbon Effluent	#2 Carbon Effluent	System Effluent	Notes
	(hours)	(inches H20)	(inches H20)	(ft/min)	(scfm)	(PID/FID units)	(PID/FID units)	(PID/FID units)	(PID/FID units)	
12/08/95	363	6.5	22	5000	107	413	3.1	4.6	6.4	* System restarted using carbon adsorption on 11/28/95.
12/21/95	677	6	20	5000	107	79.5	36.2	1.2	1.2	Influent and Effluent samples collected
01/09/96	1134	9	22	5000	106	169	42.4	2.8	1.7	Influent and Effluent samples collected
01/24/95	1489	5.5	17	2200	47	43	43.2	24.2	6.1	
02/06/96	1803	5	16	6000	129	63.4	61.1	33.4	16.1	Influent and Effluent samples collected
02/21/96	2158	8	20	5500	117	60.1	48	38.2	8.4	
03/08/96	2540	10	23	5000	106	183.7	52.3	44.8	15.5	Influent and Effluent samples collected
03/20/96	2635	12	23	5000	106	430	362.1	311.4	22.4	
04/03/96	2906	12	25	5000	106	290	45	32	2	FID used, Influent and Effluent samples collected, Carbon changed.
04/18/96	3268	11	24	5000	106	500	30	9	3	FID used.
05/02/96	3594	NA	24	5000	109	109.3	44.5	0.2	0.2	Influent and Effluent samples collected
05/16/96	3934	NA	23	5000	109	117.3	150.9	3.2	1	
05/31/96	4289	0.15	25	5000	109	53.7	61	0.7	0	Influent and Effluent samples collected
07/01/96	5039	11	23	5000	106	325	150	75	37	Influent and Effluent samples collected
07/17/96	5422	10	24	5000	106	159	160	163	33	System shut down for carbon replacement
08/20/96	5424	7	17	3200	68	300	0	0	0	System restarted with new carbon
08/22/96	5470	7	17	3000	64	300	1.4	1.4	0	Influent and Effluent samples collected
09/03/96	5760	0.15	16	3500	76	131.2	0	0	0	
09/26/96	6316	8	15	3550	76	165	30	1.2	2.2	Influent and Effluent samples collected
10/03/96	6478	8	15	3000	64	231	70	42	13	
10/10/96	6645	8	15	3500	75	269.4	189	20.5	12.5	Influent and Effluent samples collected
10/22/96	6939	7	15	3000	64	480	442	1.8	1.2	Influent and Effluent samples collected
10/29/96	71040	8	16	4000	85	148.8	142.7	7.5	1.2	
11/13/96	7467	8	16	3500	75	120	90	40	8	Influent and Effluent samples collected
12/03/96	7944	0.19	25	5000	109	60.3	52.6	0	0	
12/18/96	8299	0.14	26	5500	120	50.5	55.1	5	4.7	Influent and Effluent samples collected
01/06/97	8684	24	38	4000	82	40	17	6	4	
01/17/97	8950	24	36	4000	82	147	153	83	7	Influent and Effluent samples collected
01/30/97	9259	24	37	3000	61	20	7	7	2	
02/10/97	9523	24	35	3500	72	192	306.4	111.2	3.6	Influent and Effluent samples collected
02/25/97	9887	22	34	3500	72	50	20	10	2	
03/07/97	10124	20	35	4000	83	40	9	5	2	Influent and Effluent samples collected
03/26/97	10587	22	35	3500	72	72	191	82	1.5	
04/10/97	10941	19	34	4000	83	15.4	32.5	3.9	3.2	
05/01/97	11440	23	30	3000	62	5.2	2.9	1.3	0.08	Influent and Effluent samples collected
05/14/97	11752	31	38	2000	40	18.7	17.4	8.9	0.4	
05/16/97	11798	NA	NA	NA	NA	NA	NA	NA	NA	System shutdown for carbon changeout
06/05/97	11798	20	30	8000	165	35.2	16.8	2	2	Carbon Changeout, Restart System, Influent and Effluent samples collected
06/17/97	12090	NM	30	8500	185	22.6	0	0	0	Shutdown system
06/30/97	12091	NM	29	4200	91	110.1	0.5	0.2	0	Restart system, Influent and Effluent samples collected
07/17/97	12496	NM	28	4800	104	6.4	0	0	0	Shutdown system
07/30/97	12497	NM	28	8000	174	19.4	0	0	0	Restart system, Influent and Effluent samples collected

Table 1

Soil Vapor Extraction System Monitoring Data

Safety-Kleen Service Center
400 Market Street
Oakland, California

Date	Elapsed Time*	Well Extraction Vacuum	KO Vacuum	Extraction Flow Rate		System Influent	#1 Carbon Effluent	#2 Carbon Effluent	System Effluent	Notes
	(hours)	(inches H20)	(inches H20)	(ft/min)	(scfm)	(PID/FID units)	(PID/FID units)	(PID/FID units)	(PID/FID units)	
08/13/97	12837	NM	27	8500	185	12.4	0	0	0	Shutdown system
08/28/97	12837	18	30	8000	166	35	2.2	1	0	Restart system, Influent and Effluent samples collected
09/10/97	13148	>1	29	8250	179	8.8	0	0	0	Shutdown system
09/24/97	13149	NM	27	4000	87	24.6	0	0	0	Restart system, Influent and Effluent samples collected
10/08/97	13488	NM	26	8000	174	8.8	0	0	0	Shutdown system
10/23/97	13488	16	29	8000	167	25	3.5	0	0	Restart system, Influent and Effluent samples collected
11/14/97	14018	NM	28	8000	174	68.1	0	0	0	Shutdown system
11/26/97	14020	10	29	8000	170	6	22	0	0	Restart system
12/11/97	14377	15	30	10000	210	0	0	0	0	Influent and Effluent samples collected, Shutdown system
12/22/97	14378	18	30	10000	208	20	0.7	0.7	0.5	Restart system, Influent and Effluent samples collected
01/06/98	14742	6.5	28	NM	-	2.3	0	0	0	Shutdown system

Notes: ft/min = feet per minute
scfm = standard cubic feet per minute assuming ambient temperature and ideal gas
NA = not available

Table 2
Soil Vapor Extraction System
Mineral Spirits Removal
Safety-Kleen Service Center
400 Market Street
Oakland, California

11/28/95	Carbon adsorbtion system start-up					1798.4	TPHms removed by prior system.
12/21/95	677	677	109	823	8.07	2026.0	
01/09/96	1134	457	109	1116	10.95	2234.5	
02/06/96	1803	669	131	999	11.75	2562.1	
03/08/96	2540	737	109	1821	17.86	3110.5	
04/03/96	2906	366	109	1116	10.95	3277.4	
05/02/96	3594	688	109	1586	15.56	3723.4	
05/31/96	4289	695	109	1234	12.10	4073.9	
07/01/96	5039	750	109	82	0.81	4099.1	
08/22/96	5470	431	65	500	2.94	4151.9	
09/26/96	6316	846	77	1300	9.05	4470.7	
10/10/96	6645	329	76	880	6.04	4553.6	
10/22/96	6939	294	65	670	3.94	4601.9	
11/13/96	7467	528	109	460	4.51	4701.1	
12/18/96	8299	833	120	220	2.37	4783.5	
01/17/97	8950	651	82	69	0.51	4797.2	
02/10/97	9523	573	72	98	0.63	4812.4	
03/07/97	10124	601	83	ND (<50)	0.00	4812.4	
05/01/97	11440	1316	62	ND (<50)	0.00	4812.4	
06/05/97	11798	358	165	910	13.50	5013.7	
06/30/97	12091	293	91	550	4.50	5068.7	
07/30/97	12497	406	174	150	2.35	5108.4	
08/28/97	12837	340	166	550	8.21	5224.7	
09/24/97	13149	311	87	350	2.74	5260.2	
10/23/97	13488	340	167	220	3.30	5611.1	
12/11/97	14377	889	210	ND (<50)	0.00	5488.6	
12/22/97	14378	1	208	ND(<50)	0.00	5488.6	

Notes: cfm = cubic feet per minute
ug/L = micrograms per liter
lbs = pounds

Table 3
Groundwater Monitoring Data
October 8, 1997
Safety-Kleen Service Center
400 Market Street
Oakland, California

Well I.D.	TOC Elevation (ft msl)	DTW (ft)	DTP (ft)	PT (ft)	Adjusted Elevation (ft msl)
MW-1	7.99	4.97	-	-	3.02
MW-2	8.20	5.21	-		2.99
MW-3	6.66	3.54	-	-	3.12
MW-4	10.32	6.87	-	-	3.45
MW-5	10.28	6.79	-	-	3.49
MW-6	8.97	5.63	-	-	3.34
MW-8	7.80	4.91	-	-	2.89
MW-9	8.21	5.57	5.56	0.01	2.64
MW-10*	-	-	-	-	-
MW-11	7.91	4.76	-	-	3.15
MW-12	6.74	4.24	-	-	2.50
MW-13	8.08	5.60	-	-	2.48
RW-1	-	4.52	4.51	0.01	-

Notes:
TOC = Top of casing
DTW = Depth-to-water
DTP = Depth-to-product
PT = Product thickness
ft msl = Feet (ft) relative to mean sea level (msl)
* Well destroyed in July 1995
NM = Well not accessible

Table 4
Historical Summary of Groundwater Elevations
Safety-Kleen Service Center
400 Market Street
Oakland, California

Date	Well Identification											
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13
Jan-93	1.29	1.00	0.86	1.57	1.48	1.27	1.08	1.15	1.73	1.16	0.44	0.58
Apr-93	1.09	0.51	0.38	1.52	1.42	1.08	0.74	0.95	1.85	0.90	0.10	0.40
Jan-93	1.29	1.00	0.86	1.57	1.48	1.27	1.08	1.15	1.73	1.16	0.44	0.58
Apr-93	1.09	0.51	0.38	1.52	1.42	1.08	0.74	0.95	1.85	0.90	0.10	0.40
Jul-93	0.27	-0.23	-0.27	0.68	0.62	0.37	-0.01	-0.68	0.99	0.20	-0.72	-0.15
Oct-93	-0.02	-0.51	-0.66	0.32	0.17	-0.12	-0.35	0.14	0.62	-0.22	-0.91	-0.57
Jan-94	-0.01	-0.52	-0.77	0.33	0.48	-0.10	-0.37	-0.49	0.60	-0.14	-1.05	-0.65
Apr-94	0.55	0.05	-0.09	0.85	0.74	0.46	0.22	0.33	-	0.34	-0.76	-0.09
Jul-94	0.25	-0.20	-0.31	0.62	0.55	0.23	-0.03	0.08	0.90	0.09	-0.70	-0.22
Oct-94	0.08	-0.33	-0.44	0.41	0.38	0.12	-0.15	0.01	-	0.01	-0.59	-0.33
Jan-95	1.95	1.53	1.64	2.41	2.49	2.24	1.79	1.85	-	2.06	1.44	1.33
Apr-95	3.09	2.46	2.49	3.71	3.73	3.42	2.79	2.95	-	3.18	2.22	1.98
Jul-95	2.04	1.53	1.53	2.54	2.50	2.26	1.76	1.93	-	2.01	1.33	1.53
Oct-95	1.38	0.94	1.01	1.81	1.27	1.56	1.15	1.32	-	1.42	0.94	1.06
Jan-96	1.82	1.40	0.64	2.21	2.21	2.04	1.61	1.54	-	1.85	-	1.51
Apr-96	2.81	2.40	2.46	3.33	3.36	3.17	2.58	2.51	-	2.91	2.24	2.38
Jul-96	2.16	1.70	1.75	2.67	2.63	2.35	1.90	1.93	-	2.18	-	1.84
Nov-96	1.09	0.70	0.75	1.47	1.47	1.18	0.90	0.86	-	-	-	0.78
Jan-97	2.89	2.39	2.58	3.48	3.52	3.34	2.70	2.57	-	-	-	2.50
Apr-97	2.43	1.89	1.99	2.92	2.86	2.53	2.18	2.19	-	2.45	1.71	1.99
Jul-97	1.70	1.19	1.25	2.15	2.12	1.86	1.44	1.29	-	-	1.12	1.35
Oct-97	1.40	0.94	0.97	1.79	1.76	1.51	1.16	1.35	-	-	0.84	1.06
Jan-98	3.02	2.99	3.12	3.45	3.49	3.34	2.89	2.63	-	3.15	2.50	2.48

Notes:
Groundwater elevations are realative to mean sea-level datum
- = Not measured

Table 5
Summary of Groundwater Analytical Results
Detected Compounds
Safety-Kleen Service Center
400 Market Street
Oakland, California

Well No.	MW-1																							
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Benzene	1	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Toluene	150	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Ethyl-benzene	700	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Xylenes	1750	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,1-Dichloroethene	6	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,1-Dichloroethane	5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,2-Dichloroethane	0.5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
cis-1,2-Dichloroethene	6	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
trans-1,2-Dichloroethene	10	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Chloroform	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,1,1-Trichloroethane	200	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Trichloroethene	5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Tetrachloroethene	5	-	-	-	-	-	NS	-	NS	0.7	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Chlorobenzene	70	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,2-Dichloropropane	5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,2-Dichlorobenzene	600	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,4-Dichlorobenzene	5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Trichlorofluoromethane	150	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Dichlorodifluoromethane	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Chloroethane	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Chlorotoluene	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
1,3-Dichlorobenzene	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Trichloropropane	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS
Vinyl chloride	0.5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	-	-	NS	NS	-	-	NS	NS	-	NS

Well No.	MW-2																							
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl-benzene	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes	1750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	-
1,2-Dichloropropane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorotoluene	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloropropane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5
Summary of Groundwater Analytical Results
Detected Compounds
Safety-Kleen Service Center
400 Market Street
Oakland, California

Well No.	MW-3																						
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl-benzene	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes	1750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	6	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	5	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	4.9	-	-	-	-	-	-	-	-
Tetrachloroethene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	-
1,2-Dichloropropane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	150	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorotoluene	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloropropane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Well No.	MW-4																						
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97 (note 1)	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	* 400	* 270	* 760	* 200	* 330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	150	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl-benzene	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes	1750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	6	-	-	-	-	-	-	-	0.7	0.8	5.2	4	3	6	4.8	5.1	5	5.7	6.4	5.6	5.7	6.7	6.8	-	11.7
1,1-Dichloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	6	-	-	-	-	-	-	-	-	-	11.8	-	17	10	11.3	5.1	9.2	4.4	7.2	7.5	9.7	6.6	6.5	-	15.5
trans-1,2-Dichloroethene	10	-	33	0.6	1.1	1.7	-	-	1.4	1	3.2	3	4	1.7	1.2	-	1.2	-	-	-	-	-	-	-	-
Chloroform	NE	7.6	-	1.9	-	5.0	-	-	-	-	-	3	6	1.3	1.8	1.6	1.8	1.9	2.3	1.5	1.4	2.5	1.7	-	1
1,1,1-Trichloroethane	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	1.2	1.2	1.4	-	1.6	-	-	-
Trichloroethene	5	2400	1100	-	790	1600	410	650	700	440	247	207	157	140	224	242.4	269	156.2	188.7	152.6	215.9	136.8	161.7	-	163
Tetrachloroethene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-
Chlorobenzene	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	1.2	-
1,2-Dichloropropane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorotoluene	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloropropane	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.5	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5
Summary of Groundwater Analytical Results
Detected Compounds
Safety-Kleen Service Center
400 Market Street
Oakland, California

Well No.	MW-5																							
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Benzene	1	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Toluene	150	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Ethyl-benzene	700	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Xylenes	1750	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1-Dichloroethene	6	1.5	0.6	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1-Dichloroethane	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichloroethane	0.5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
cis-1,2-Dichloroethene	6	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
trans-1,2-Dichloroethene	10	-	-	-	4.3	3.5	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroform	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	1.4	NS	NS	NS	NS	NS	3.2	2.9	NS	NS	NS	NS
1,1,1-Trichloroethane	200	4	6	12	-	7.2	NS	NS	NS	9.1	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichloroethene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	8.7	NS	NS	NS	NS	NS	3.6	3	NS	NS	NS	NS
Tetrachloroethene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chlorobenzene	70	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichloropropane	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichlorobenzene	600	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,4-Dichlorobenzene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichlorofluoromethane	150	18	19	-	-	7.9	NS	NS	NS	-	NS	NS	NS	4.5	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Dichlorodifluoromethane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroethane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chlorotoluene	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,3-Dichlorobenzene	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichloropropane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Vinyl chloride	0.5	-	-	-	-	-	NS	NS	NS	16	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS

Well No.	MW-6																							
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Benzene	1	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Toluene	150	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Ethyl-benzene	700	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Xylenes	1750	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1-Dichloroethene	6	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1-Dichloroethane	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichloroethane	0.5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
cis-1,2-Dichloroethene	6	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
trans-1,2-Dichloroethene	10	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroform	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1,1-Trichloroethane	200	-	5	1.3	-	1	NS	NS	NS	0.4	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichloroethene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Tetrachloroethene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chlorobenzene	70	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichloropropane	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichlorobenzene	600	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,4-Dichlorobenzene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichlorofluoromethane	150	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Dichlorodifluoromethane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroethane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chlorotoluene	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,3-Dichlorobenzene	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichloropropane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Vinyl chloride	0.5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS

Table 5
Summary of Groundwater Analytical Results
Detected Compounds
Safety-Kleen Service Center
400 Market Street
Oakland, California

Well No.	MW-8																							
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	* 60	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	1	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	150	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl-benzene	700	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes	1750	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	6	-	-	-	-	-	NS	-	-	-	3.5	7	19	7.2	-	3.2	1.3	-	-	-	-	-	1.2	-	-
1,1-Dichloroethane	5	3.4	-	-	8.6	3.7	NS	5.5	-	-	6.2	5	7	2.9	-	16.7	4.3	-	-	3.6	4.8	-	1.0	-	-
1,2-Dichloroethane	0.5	7.4	5	5.2	11	7.1	NS	-	-	-	9.8	10	11	5.1	-	9.5	6	-	2.1	2.1	3.4	3.5	3.5	3.5	-
cis-1,2-Dichloroethene	6	-	-	-	-	-	NS	-	-	-	25.57	63	56	63	-	44.5	60.6	1.2	22.6	17	50	38.6	42.4	43.5	5.8
trans-1,2-Dichloroethene	10	-	1	-	-	-	NS	-	-	-	2.3	6	4	2.9	-	1.1	2.9	-	1.3	-	-	2.3	2.3	2.4	-
Chloroform	NE	-	-	-	-	-	NS	-	-	-	-	-	13	-	-	1.7	3.9	-	1.4	-	-	3.2	2.6	1.5	-
1,1,1-Trichloroethane	200	-	-	-	2.5	1.5	NS	-	-	-	-	-	-	-	1.5	2.5	-	-	-	-	-	-	-	-	-
Trichloroethene	5	14	31	15	22	18	NS	23	2.6	15	163	537	486	569	1352	339.2	1156.8	2.9	500.3	95	241.9	803	792	920	19.5
Tetrachloroethene	5	1.8	-	-	2	0.8	NS	-	-	0.4	3.2	2	2	1.1	2	3.4	1.6	22.5	13	4.9	4.8	1.2	1.2	-	-
Chlorobenzene	70	11	-	5.4	16	-	NS	2.4	1.2	-	6.9	4	6	3.3	-	23.3	5.8	-	1.2	3.4	4.6	1.3	1.7	-	-
1,2-Dichloropropane	5	0.6	-	-	-	0.8	NS	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	600	2.6	-	-	4.8	-	NS	-	-	-	3.8	3	5	2	-	24.4	5.7	-	1.4	3.3	4.5	1.4	1.7	-	-
1,4-Dichlorobenzene	5	-	-	-	-	-	NS	-	-	-	-	-	-	-	1.1	3.9	1.1	-	-	-	-	-	-	-	-
Trichlorofluoromethane	150	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	NE	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	NE	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorotoluene	NE	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	NE	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloropropane	NE	-	-	-	-	-	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.5	-	-	-	-	-	NS	-	-	-	2.6	4	5	1.6	6.3	9.8	3.5	-	-	-	-	-	-	-	-

Well No.	MW-9																							
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1536	1846	NS	NS	NS	NS
Benzene	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	14.9	17.4	NS	NS	NS	NS
Toluene	150	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	13.3	17.2	NS	NS	NS	NS
Ethyl-benzene	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	13.5	23.2	NS	NS	NS	NS
Xylenes	1750	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12.3	19.3	NS	NS	NS	NS
1,1-Dichloroethene	6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1-Dichloroethane	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	48	56.6	NS	NS	NS	NS
1,2-Dichloroethane	0.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8.2	7.6	NS	NS	NS	NS
cis-1,2-Dichloroethene	6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	41.9	47.1	NS	NS	NS	NS
trans-1,2-Dichloroethene	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroform	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1,1-Trichloroethane	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10.7	13.8	NS	NS	NS	NS
Trichloroethene	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12.5	16.1	NS	NS	NS	NS
Tetrachloroethene	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chlorobenzene	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	28.6	44.5	NS	NS	NS	NS
1,2-Dichloropropane	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.6	1.4	NS	NS	NS	NS
1,2-Dichlorobenzene	600	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	77.2	151.8	NS	NS	NS	NS
1,4-Dichlorobenzene	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	17.2	34.4	NS	NS	NS	NS
Trichlorofluoromethane	150	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Dichlorodifluoromethane	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroethane	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2	2	NS	NS	NS	NS
Chlorotoluene	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	9.9	19.2	NS	NS	NS	NS
1,3-Dichlorobenzene	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.6	4.2	NS	NS	NS	NS
Trichloropropane	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.6	4.2	NS	NS	NS	NS
Vinyl chloride	0.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	131.7	135.6	NS	NS	NS	NS

Table 5
Summary of Groundwater Analytical Results
Detected Compounds
Safety-Kleen Service Center
400 Market Street
Oakland, California

Well No.	MW-10	(Abandoned)																							
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	NS	NS	NS	NS	NS	NS	Well Destroyed July 1995													
Benzene	1	-	-	-	-	NS	NS	NS	NS	NS	NS														
Toluene	150	-	-	-	-	NS	NS	NS	NS	NS	NS														
Ethyl-benzene	700	-	-	-	-	NS	NS	NS	NS	NS	NS														
Xylenes	1750	-	-	-	-	NS	NS	NS	NS	NS	NS														
1,1-Dichloroethene	6	-	2	-	-	NS	NS	NS	NS	NS	NS														
1,1-Dichloroethane	5	-	-	-	-	NS	NS	NS	NS	NS	NS														
1,2-Dichloroethane	0.5	-	-	-	-	NS	NS	NS	NS	NS	NS														
cis-1,2-Dichloroethene	6	-	-	-	-	NS	NS	NS	NS	NS	NS														
trans-1,2-Dichloroethene	10	-	17	3	0.4	NS	NS	NS	NS	NS	NS														
Chloroform	NE	1.2	0.5	-	-	NS	NS	NS	NS	NS	NS														
1,1,1-Trichloroethane	200	-	0.8	-	-	NS	NS	NS	NS	NS	NS														
Trichloroethene	5	45	54	42	67	NS	NS	NS	NS	NS	NS														
Tetrachloroethene	5	-	-	-	-	NS	NS	NS	NS	NS	NS														
Chlorobenzene	70	-	-	-	-	NS	NS	NS	NS	NS	NS														
1,2-Dichloropropane	5	-	-	-	-	NS	NS	NS	NS	NS	NS														
1,2-Dichlorobenzene	600	-	-	-	-	NS	NS	NS	NS	NS	NS														
1,4-Dichlorobenzene	5	-	-	-	-	NS	NS	NS	NS	NS	NS														
Trichlorofluoromethane	150	-	-	-	-	NS	NS	NS	NS	NS	NS														
Dichlorodifluoromethane	NE	-	-	-	-	NS	NS	NS	NS	NS	NS														
Chloroethane	NE	-	-	-	-	NS	NS	NS	NS	NS	NS														
Chlorotoluene	NE	-	-	-	-	NS	NS	NS	NS	NS	NS														
1,3-Dichlorobenzene	NE	-	-	-	-	NS	NS	NS	NS	NS	NS														
Trichloropropane	NE	-	-	-	-	NS	NS	NS	NS	NS	NS														
Vinyl chloride	0.5	-	-	-	-	NS	NS	NS	NS	NS	NS														

Well No.	MW-11																								
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	1	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	150	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethyl-benzene	700	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	1750	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	6	-	2	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	0.5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	6	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,2-Dichloroethene	10	-	3	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	200	-	2	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5	9.1	36	11	2.6	3.1	NS	NS	NS	3.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	70	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	600	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	150	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dichlorodifluoromethane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorotoluene	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,3-Dichlorobenzene	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloropropane	NE	-	-	-	-	-	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl chloride	0.5	-	-	-	-	-	NS	NS	NS	1.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 5
Summary of Groundwater Analytical Results
Detected Compounds
Safety-Kleen Service Center
400 Market Street
Oakland, California

Well No.	MW-12																								
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		4-97		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Benzene	1	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Toluene	150	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Ethyl-benzene	700	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Xylenes	1750	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
1,1-Dichloroethene	6	-	-	-	-	-	NS	-	NS	-	NS	2	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
1,1-Dichloroethane	5	2.6	2	-	2.3	1.7	NS	1.6	NS	3.8	NS	4	NS	2.9	NS	NS	NS	NS	NS	6.2	6.3	NS	NS	4.5	NS
1,2-Dichloroethane	0.5	-	2	-	1.2	1.9	NS	-	NS	-	NS	5	NS	1.6	NS	NS	NS	NS	NS	3.3	3.5	NS	NS	2.6	NS
cis-1,2-Dichloroethene	6	-	-	-	-	-	NS	-	NS	-	NS	5	NS	-	NS	NS	NS	NS	NS	1.1	1.4	NS	NS	2.1	NS
trans-1,2-Dichloroethene	10	-	3	-	-	-	NS	-	NS	-	NS	2	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Chloroform	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	1.1	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
1,1,1-Trichloroethane	200	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Trichloroethene	5	17	30	34	11	44	NS	24	NS	59	NS	95	NS	7.5	NS	NS	NS	NS	NS	9.5	24.3	NS	NS	41.9	NS
Tetrachloroethene	5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Chlorobenzene	70	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
1,2-Dichloropropane	5	-	-	-	-	-	NS	-	NS	-	NS	2	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
1,2-Dichlorobenzene	600	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
1,4-Dichlorobenzene	5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Trichlorofluoromethane	150	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Dichlorodifluoromethane	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Chloroethane	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Chlorotoluene	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
1,3-Dichlorobenzene	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Trichloropropane	NE	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS
Vinyl chloride	0.5	-	-	-	-	-	NS	-	NS	-	NS	-	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	-	NS

Well No.	MW-13																								
Date		04-93	07-93	10-93	01-94	04-94	07-94	10-94	01-95	04-95	07-95	10-95	01-96	04-96	07-96	11-96		1-97		5-97****		7-97		10-97	01-98
Compound	MCL	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)**	(ug/l)	(ug/l)	(ug/l)
TPH-mineral spirits	NE	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Benzene	1	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Toluene	150	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Ethyl-benzene	700	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Xylenes	1750	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1-Dichloroethene	6	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1-Dichloroethane	5	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichloroethane	0.5	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
cis-1,2-Dichloroethene	6	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
trans-1,2-Dichloroethene	10	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroform	NE	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,1,1-Trichloroethane	200	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichloroethene	5	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Tetrachloroethene	5	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chlorobenzene	70	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichloropropane	5	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,2-Dichlorobenzene	600	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,4-Dichlorobenzene	5	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichlorofluoromethane	150	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Dichlorodifluoromethane	NE	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chloroethane	NE	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Chlorotoluene	NE	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
1,3-Dichlorobenzene	NE	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Trichloropropane	NE	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS
Vinyl chloride	0.5	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	-	NS	NS	NS	NS	NS	-	-	NS	NS	NS	NS

Table 5
Summary of Groundwater Analytical Results
Detected Compounds
Safety-Kleen Service Center
400 Market Street
Oakland, California

LEGEND

MCL = Maximum contaminant level for primary drinking water constituents

NE = Not Established

NS = Not Sampled

- = Not Detected

* The TPH as mineral spirits result is the result of an unknown hydrocarbon consisting of a single peak.

** This sample was collected prior to purging the monitor well.

*** Well MW-13 was sampled on 4/10/97. Analytical results were anomalous therefore the well was resampled on 5/16/97.

Only compounds detected in one or more samples are included. See the laboratory reports for a complete list of analytes.

NOTES:

(1) In addition to the constituents listed, chloromethane was detected at 1.0 ug/l.

APPENDIX A

Field Data Sheets

SOIL VAPOR EXTRACTION AND TREATMENT SYSTEM MONITORING LOG

Safety-Kleen Corp. Service Center
400 Market Street
Oakland, California
Job No. 70005-009

DATE: 1/6/98
TIME: 14:30
NAME: R. NAVSO

PARAMETER	Units	Reading	Comments
Blower Run Time	Hours	14741.9	
Extraction Vacuum of SV- 1	In H_2O	6.5	
Knockout Vacuum (near well manifold)	In H_2O	23	
VELOCITY AND FID/PID READINGS	**ft/min**	**PID/FID Units**	**Comments**
Effluent Stack (after carbon canisters)		0	
Carbon Canister 2 Effluent		0	
Carbon Canister 1 Effluent		0	
Influent (before carbon canisters)	8000	2.3 ppm	
SV-1	7300	1.3 ppm	
SV-2	900 N	1.3 ppm	
SV-4	600 N	1.8 ppm	
SV-3	250 N	1.9 ppm	
SV-5	500 N	2.7 ppm	
SV-6	>4000	2.0 ppm	
SV-7	500 N	3.2 ppm	
VAPOR SAMPLES	**Sample ID**	**Analysis Requested**	
Effluent Stack Sample Port	N/A		
Influent (before carbon canisters)	N/A		
SV-___			
SV-___			

MISCELLANEOUS CHECKS

Water Knockout Drum Level: 12 Inches drained: yes/no

MISCELLANEOUS NOTES

SHUT SYSTEM OFF.

SOIL VAPOR EXTRACTION AND TREATMENT SYSTEM MONITORING LOG

Safety-Kleen Corp. Service Center
400 Market Street
Oakland, California
Job No. 70005-009

DATE: 12-22-97
TIME: 10:00
NAME: CI/FT

PARAMETER	Units	Reading	Comments
Blower Run Time	Hours	14377.8	
Extraction Vacuum of SV-4	In H_2O	18	
Knockout Vacuum (near well manifold)	In H_2O	30	
VELOCITY AND FID/PID READINGS	ft/min	(PID) FID Units	Comments
Effluent Stack (after carbon canisters)	719000	.5	
Carbon Canister 2 Effluent		.7	
Carbon Canister 1 Effluent		.7	
Influent (before carbon canisters)	8,000	20.0	
SV-1	1600	20.0	
SV-2	113	20.5	
SV-4	115	21.6	
SV-3	105	26.0	
SV-5	100	27.2	
SV-6	4960	23.7	
SV-7	103	92.1	

VAPOR SAMPLES	Sample ID	Analysis Requested	
Effluent Stack Sample Port	EFF	TPH AS MS BTEX 8010	10:00
Influent (before carbon canisters)	INF	TPH AS M.S. BTEX 8010	10:30
SV-___	—	—	
SV-___	—	—	

MISCELLANEOUS CHECKS

Water Knockout Drum Level: 12 Inches drained: yes (no)

MISCELLANEOUS NOTES

Restart System, System left running

SOIL VAPOR EXTRACTION AND TREATMENT SYSTEM MONITORING LOG

Safety-Kleen Corp. Service Center
400 Market Street
Oakland, California
Job No. 70005-009

DATE: 12/11/97
TIME: 8:00
NAME: Cliff

PARAMETER	Units	Reading	Comments
Blower Run Time	Hours	14377.3	
Extraction Vacuum of SV-3	In H_2O	15	
Knockout Vacuum (near well manifold)	In H_2O	30	
VELOCITY AND FID/PID READINGS	**ft/min**	**(PID)/FID Units**	**Comments**
Effluent Stack (after carbon canisters)	>10,000	0	
Carbon Canister 2 Effluent		0	
Carbon Canister 1 Effluent		0	
Influent (before carbon canisters)	8000	0	
SV-1	1670	0	
SV-2	103	0	
SV-4	97	0	
SV-3	104	0	
SV-5	105	0	
SV-6	5150	0	
SV-7	101	0	
VAPOR SAMPLES	**Sample ID**	**Analysis Requested**	
Effluent Stack Sample Port	EFF	TPH AS M.S. BTEX B010	
Influent (before carbon canisters)	INF	TPH AS M.S. BTEX B010	
SV-___	—	—	
SV-___	—	—	

MISCELLANEOUS CHECKS

Water Knockout Drum Level: 3/4 Full Inches drained: yes/no

MISCELLANEOUS NOTES

Filter in K.O. pot Needs to be Cleaned next O&M
System Running when we Arrived Shut OFF when we left
Drain K.O Next visit & Clean Filter

DATE: 1/12/93 PROJECT: SL OAK PROJECT # 70005-009-12

EVENT: Qtly Sampling SAMPLER: A Navarro

WELL OR LOCATION	TIME	MEASUREMENT					COMMENTS
		TOC	DTW	DTP	PT	ELEV	
MW-12	7:30		4.24				
MW-3	7:40		3.54				~~COULD NOT SECURE OR SAFE. WATER RUSHED INTO CELL~~
MW-2	7:50		5.21				
MW-1	7:55		4.97				
MW-4	8:02		6.87				
MW-5	8:07		6.79				
MW-6	8:15		5.63				
MW-11	8:17		4.76				BOTTOM AT 6.65
MW-8	8:23		4.91				
MW-13	8:27		5.60				
MW-9	8:30		5.57	5.56	0.01		
RW-1	8:35		4.52	4.51	0.01		
							—

CODES: TOC - TOP OF CASING (FEET, RELATIVE TO MEAN SEA LEVEL)
DTW - DEPTH TO WATER (FEET)
DTP - DEPTH TO PRODUCT (FEET)
PT - PRODUCT THICKNESS (FEET)
ELEV - GROUNDWATER ELEVATION (FEET, RELATIVE TO MEAN SEA LEVEL)

SECOR International Incorporated

WATER SAMPLE FIELD DATA SHEET

Project #: 70005-009 Purged By: A. Navarro Well I.D.: MW-3

Client Name: SAL Sampled By: A. Navarro Sample I.D.: MW-3

Location: DAW QA Samples: _____

Date Purged 1/12/93 Start (2400hr) 8:10 End (2400hr) 8:20

Date Sampled 1/12/93 Sample Time (2400hr) 8:20

Sample Type: ☑ Groundwater ☐ Other

Casing Diameter 2" / 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____

Depth to Bottom (feet) = — Purge (gal) = 2 GLS.

Depth to Water (feet) = 5.21 Purge Rate (☐ gal or ☐ liter/min) —

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (μmhos/cm)	pH (units)	Color (visual)	Turbidity (NTU)	D.O. (mg/l)	Depth (ft)
1/12	8:10	—	16.7	425	7.32	MW	254	7.84	5.21
"	—	—	16.9	420	7.12	"	250	7.60	—
"	—	—	16.9	412	9.43	"	293	7.62	—
"	—	—	16.8	413	9.87	"	319	7.68	—
"	—	—	16.8	413	10.15	"	327	7.70	—
"	8:20	2	16.9	412	10.27	"	327	7.61	5.31

SAMPLE INFORMATION

Sample Depth to Water: _____ Sample Turbidity: _____

Analyses: _____

Odor: _____ Sample Vessel/Preservative: _____

PURGING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC)

___Submersible Pump ___Bailer (Stainless Steel)

/ Peristaltic Pump ___Dedicated _____

Other: _____

Pump Depth: _____

SAMPLING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC or disposable)

___Submersible Pump ___Bailer (Stainless Steel)

/ Peristaltic Pump ___Dedicated _____

Other: _____

Well Integrity: OK Lock #: _____

Remarks: _____

NOTE: Sample after three consecutive readings are within:

pH - ± 0.1, turbidity and DO = ± 10%, conductivity = ± 3%.

Signature: _____ Page 1 of 1

SECOR International Incorporated

WATER SAMPLE FIELD DATA SHEET

Project #: 70005-009 Purged By: R. Nava Well I.D.: MW-3

Client Name: SL Sampled By: R. Nava Sample I.D.: MW-3

Location: OAK QA Samples: _____

Date Purged 1/12/98 Start (2400hr) 10:30 End (2400hr) 10:45

Date Sampled 1/12/98 Sample Time (2400hr) 11:00

Sample Type: ☑ Groundwater ☐ Other

Casing Diameter 2" ✓ 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____

Depth to Bottom (feet) = — Purge (gal) = 1.75

Depth to Water (feet) = 3.54 Purge Rate (☐ gal or ☐ liter/min) _____

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (μmhos/cm)	pH (units)	Color (visual)	Turbidity (NTU)	D.O. (mg/l)	Depth (ft)
1/12	10:30	—	16.9	159	10.92	Dark	95	4.61	3.54
"	—	—	17.1	148	9.57	"	95	4.33	—
"	—	—	17.2	144	9.54	"	97	4.26	—
"	10:45	1.75	17.2	144	10.06	"	116	4.25	3.60

SAMPLE INFORMATION

Sample Depth to Water: _____ Sample Turbidity: _____

Analyses: _____

Odor: _____ Sample Vessel/Preservative: _____

PURGING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC)

___Submersible Pump ___Bailer (Stainless Steel)

✓ Peristaltic Pump ___Dedicated _____

Other: _____

Pump Depth: _____

SAMPLING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC or disposable)

___Submersible Pump ___Bailer (Stainless Steel)

✓ Peristaltic Pump ___Dedicated _____

Other: _____

Well Integrity: OK Lock #: _____

Remarks: _____

NOTE: Sample after three consecutive roadings are within:

pH - ± 0.1, turbidity and DO = ± 10%, conductivity = ± 3%.

Signature: RM

SECOR International Incorporated

WATER SAMPLE FIELD DATA SHEET

Project #: 70005.009 Purged By: R MAGEE Well I.D.: MW-8

Client Name: SK Sampled By: R MAGEE Sample I.D.: MW-8

Location: OAK QA Samples: _____

Date Purged 1/12/98 Start (2400hr) 9:30 End (2400hr) 9:40

Date Sampled 1/12/98 Sample Time (2400hr) 9:45

Sample Type: ☑ Groundwater ☐ Other

Casing Diameter 2" ✓ 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____

Depth to Bottom (feet) = _____ Purge (gal) = 1.5

Depth to Water (feet) = 4.91 Purge Rate (☐ gal or ☐ liter/min) _____

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (µmhos/cm)	pH (units)	Color (visual)	Turbidity (NTU)	D.O. (mg/l)	Depth (ft)
1/12	9:30	—	16.9	105	10.34	DK	163	2.15	4.91
"	—	—	17.5	105	11.03	"	171	1.86	—
"	—	—	17.8	105	11.32	"	163	1.71	—
"	—	—	17.9	105	11.46	"	190	1.71	—
"	9:40	1.5	18.0	104	11.56	"	175	1.63	4.95

SAMPLE INFORMATION

Sample Depth to Water: _____ Sample Turbidity: _____

Analyses: _____

Odor: _____ Sample Vessel/Preservative: _____

PURGING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC)

___Submersible Pump ___Bailer (Stainless Steel)

✓ Peristaltic Pump ___Dedicated _____

Other: _____

Pump Depth: _____

SAMPLING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC or disposable)

___Submersible Pump ___Bailer (Stainless Steel)

✓ Peristaltic Pump ___Dedicated _____

Other: _____

Well Integrity: OK Lock #: _____

Remarks: _____

NOTE: Sample after three consecutive roadings are within:

pH - ± 0.1, turbidity and DO = ± 10%, conductivity = ± 3%.

Signature: RM

SECOR International Incorporated

WATER SAMPLE FIELD DATA SHEET

Project #: 70005-009 | Purged By: R MARES | Well I.D.: MW-4

Client Name: SK | Sampled By: R MARES | Sample I.D.: MW-4

Location: OAK | QA Samples: _____

Date Purged 4/12/93 | Start (2400hr) 8:50 | End (2400hr) 8:55

Date Sampled 4/12/93 | Sample Time (2400hr) 900

Sample Type: ☑ Groundwater ☐ Other

Casing Diameter 2" ✓ 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____

Depth to Bottom (feet) = — | Purge (gal) = 1.5

Depth to Water (feet) = 6.87 | Purge Rate (☐ gal or ☐ liter/min) _____

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (μmhos/cm)	pH (units)	Color (visual)	Turbidity (NTU)	D.O. (mg/l)	Depth (ft)
4/12	8:50	—	17.3	99	10.56	CLR	171	1.84	6.87
"		—	17.7	100	10.72	"	172	1.75	—
"		—	17.8	100	10.87	"	172	1.66	—
"		—	17.9	100	10.96	"	173	1.60	—
"	8:55	1.5	18.0	100	11.00	"	172	1.58	6.91

SAMPLE INFORMATION

Sample Depth to Water: _____ | Sample Turbidity: _____

Analyses: _____

Odor: _____ | Sample Vessel/Preservative: _____

PURGING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC)

___Submersible Pump ___Bailer (Stainless Steel)

✓ Peristaltic Pump ___Dedicated _____

Other: _____

Pump Depth: _____

SAMPLING EQUIPMENT

___Bladder Pump ___Bailer (Teflon)

___Centrifugal Pump ___Bailer (PVC or disposable)

___Submersible Pump ___Bailer (Stainless Steel)

✓ Peristaltic Pump ___Dedicated _____

Other: _____

Well Integrity: OK | Lock #: _____

Remarks: _____

NOTE: Sample after three consecutive readings are within:

pH - ± 0.1, turbidity and DO = ± 10%, conductivity = ± 3%.

Signature: RM

Chain-of Custody Number:

SECOR Chain-of Custody Record

Field Office: Concord

Address: 1940 Willow Pass Rd
Concord, CA. 94520

☐ Additional documents are attached, and are a part of this Record.

Job Name: Safety Kleen Service Center

Location: 400 Market St.
Oakland, CA

Project # 70005-005 Task #

Project Manager Greg Hoehn

Laboratory Safety Kleen

Turnaround Time Standard

Sampler's Name R. Nixon

Sampler's Signature

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPHg/BTEX/WTPH-G 8015 (modified)/8020	TPHd/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	TPH diesel extended	BTEX	Comments/ Instructions	Number of Containers
MW-2	11/12/98	920	W							X						X	X		5
MW-3	"	1100	"							X						X	X		5
MW-4	"	900	"							X						X	X		5
MW-8	"	945	"							X						X	X		5
Trip Blank	"	700	"																2

Special Instructions/Comments:

Relinquished by:
Sign
Print R Nixon
Company SECOR
Time 1200 Date 11/12/98

Received by:
Sign T Cook
Print T Cook
Company FED EX
Time 1515 Date 11-12-98

Relinquished by:
Sign
Print
Company
Time Date

Received by:
Sign
Print
Company
Time Date

Sample Receipt

Total no. of containers:	
Chain of custody seals:	
Rec'd. in good condition/cold:	
Conforms to record:	

Client: SECOR

Client Contact: Greg Hoehn

Client Phone: (510) 686-9780

SECOR CUSTREC Rev. 1/95

Date: 11/12/98 Page 1 of 1

APPENDIX B

Laboratory Reports - Soil Vapor Extraction System Samples

Superior Analytical Laboratory

RECEIVED
JAN - 7 1998

Date: January 2, 1998

SECOR
1390 WILLOW PASS RD, STE. 360
CONCORD, CA 94520

Attn: GREG HOEHN

Laboratory Number : 23657

Project Number/Name : 70005-009-09
Facility/Site : SAFETY KLEAN
400 MARKET ST
OAKLAND

Dear GREG HOEHN:

Attached is Superior Analytical Laboratory report for the samples received on December 12, 1997. This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety. Following the cover letter is the Case Narrative detailing sample receipt and analysis. Also enclosed is a copy of the original Chain-of-Custody record confirming receipt of samples.

Please note that any unused portion of the sample will be discarded after January 11, 1998, unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please contact our Laboratory at (510) 313-0850.

Sincerely,

Afsaneh Salimpour
Project Manager

QA/QC
Approval

Superior
Analytical Laboratory

CASE NARRATIVE

SECOR
Project Number/Name: 70005-009-09 TASK #00
Laboratory Number: 23657

Sample Receipt

Two air samples were received by
Superior Analytical Laboratory on December 12, 1997.

No abnormalities were noted with sample receiving.

Sample Analysis

The samples were analyzed for methods 8010, 8015M and 8020.

Superior

Analytical Laboratory

SE
Att. . GREG HOEHN

Project 70005-009-09 TASK #00
Reported on December 15, 1997

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Chronology

Laboratory Number 23657

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
INF	12/11/97	12/12/97	12/12/97	12/12/97	DL121.08	01
EFF	12/11/97	12/12/97	12/12/97	12/12/97	DL121.08	02

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
DL121.08-01	Method Blank	MB	Water	12/12/97	12/12/97
DL121.08-02	Laboratory Spike	LS	Water	12/12/97	12/12/97
DL121.08-03	Laboratory Spike Duplicate	LSD	Water	12/12/97	12/12/97
DL121.08-04	RI-15s-1297	MS 23637-01	Water	12/13/97	12/13/97
DL121.08-05	RI-15s-1297	MSD 23637-01	Water	12/13/97	12/13/97

Superior
Analytical Laboratory

SEC...
Attn: GREG HOEHN

Project 70005-009-09 TASK #00
Reported on December 15, 1997

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
23657-01	INF	Air	1.0	-
23657-02	EFF	Air	1.0	-

RESULTS OF ANALYSIS

Compound	23657-01 Conc. PPB (V/V)	RL	23657-02 Conc. PPB (V/V)	RL
Chloromethane	ND	480	ND	480
Vinyl Chloride	ND	390	ND	390
Bromomethane	ND	250	ND	250
Chloroethane	ND	270	ND	270
Trichlorofluoromethane	ND	88	ND	88
1,1-Dichloroethene	ND	120	ND	120
D[illegible]chloromethane	ND	1100	ND	1100
t 2-Dichloroethene	ND	120	ND	120
1,1-Dichloroethane	ND	120	ND	120
c-1,2-Dichloroethene	ND	120	ND	120
Chloroform	ND	100	ND	100
1,1,1-Trichloroethane	ND	90	ND	90
Carbon tetrachloride	ND	78	ND	78
1,2-Dichloroethane	ND	120	ND	120
Trichloroethene	ND	92	ND	92
c-1,3-Dichloropropene	ND	110	ND	110
1,2-Dichloropropane	ND	110	ND	110
t-1,3-Dichloropropene	ND	110	ND	110
Bromodichloromethane	ND	68	ND	68
1,1,2-Trichloroethane	ND	90	ND	90
Tetrachloroethene	ND	73	ND	73
Dibromochloromethane	ND	58	ND	58
Chlorobenzene	ND	110	ND	110
Bromoform	ND	48	ND	48
1,1,2,2-Tetrachloroethane	ND	72	ND	72
1,3-Dichlorobenzene	ND	82	ND	82
1,2-Dichlorobenzene	ND	82	ND	82
1,4-Dichlorobenzene	ND	82	ND	82
>> Surrogate Recoveries (%) <<				
Bromochloromethane	106		112	
4-Bromofluorobenzene	95		90	

Superior
Analytical Laboratory

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Quality Assurance and Control Data

Laboratory Number: 23657
Method Blank(s)

	DL121.08-01 Conc. ug/L	RL
Chloromethane	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	0.5
Chloroethane	ND	0.5
Trichlorofluoromethane	ND	0.5
1,1-Dichloroethene	ND	0.5
Dichloromethane	ND	2.5
t-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
c-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon tetrachloride	ND	0.5
1 Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
c-1,3-Dichloropropene	ND	0.5
1,2-Dichloropropane	ND	0.5
t-1,3-Dichloropropene	ND	0.5
Bromodichloromethane	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5

>> Surrogate Recoveries (%) <<

Bromochloromethane	90
4-Bromofluorobenzene	86

Superior Analytical Laboratory

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Quality Assurance and Control Data

Laboratory Number: 23657

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
DL121.08 02 / 03 - Laboratory Control Spikes						
1,1-Dichloroethene		20	20/19	100/95	70-130	5
Trichloroethene		20	17/16	85/80	60-130	6
Chlorobenzene		20	18/18	90/90	75-130	0
>> Surrogate Recoveries (%) <<						
Bromochloromethane				98/100	70-120	
4-Bromofluorobenzene				89/92	60-125	
For Water Matrix (ug/L)						
DL121.08 04 / 05 - Sample Spiked: 23637 - 01						
1,1-Dichloroethene	ND	20	18/20	90/100	70-130	11
Trichloroethene	ND	20	16/17	80/85	60-130	6
Chlorobenzene	ND	20	18/19	90/95	75-130	5
>> Surrogate Recoveries (%) <<						
Bromochloromethane				102/105	70-120	
4-Bromofluorobenzene				91/92	60-125	

Definitions:
ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg = parts per million (ppm)

ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Superior
Analytical Laboratory

SE
Att. . GREG HOEHN

Project 70005-009-09 TASK #00
Reported on December 30, 1997
Revised on January 2, 1998

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

Chronology

Laboratory Number 23657

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
INF	12/11/97	12/12/97	12/12/97	12/12/97	DL122.37	01
EFF	12/11/97	12/12/97	12/12/97	12/12/97	DL122.37	02

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
DL122.37-09	Method Blank	MB	Water	12/12/97	12/12/97
DL122.37-06	Laboratory Spike	LS	Water	12/12/97	12/12/97
DL122.37-07	1045 MW-3	MS 23649-01	Water	12/12/97	12/12/97
DL122.37-08	1045 MW-3	MSD 23649-01	Water	12/12/97	12/12/97

Superior
Analytical Laboratory

SEC...
Attn: GREG HOEHN

Project 70005-009-09 TASK #00
Reported on December 30, 1997
Revised on January 2, 1998

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
23657-01	INF	Air	1.0	-
23657-02	EPF	Air	1.0	-

RESULTS OF ANALYSIS

Compound	23657-01 Conc. ug/L	RL	23657-02 Conc. ug/L	RL
Benzene	ND	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5
Xylenes	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<				
Trifluorotoluene (SS)	104		102	

Superior
Analytical Laboratory

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

Quality Assurance and Control Data

Laboratory Number: 23657
Method Blank(s)

	DL122.37-09 Conc. ug/L	 RL
Benzene	ND	0.5
Toluene	ND	0.5
Ethyl Benzene	ND	0.5
Xylenes	ND	0.5
>> Surrogate Recoveries (%) <<		
Trifluorotoluene (SS)	98	

Superior Analytical Laboratory

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

Quality Assurance and Control Data

Laboratory Number: 23657

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
DL122.37 06 / - Laboratory Control Spikes						
Benzene		20	21	105	65-135	
Toluene		20	21	105	65-135	
Ethyl Benzene		20	21	105	65-135	
Xylenes		60	63	105	65-135	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				99	50-150	
For Water Matrix (ug/L)						
DL122.37 07 / 08 - Sample Spiked: 23649 - 01						
Benzene	ND	20	20/20	100/100	65-135	0
Toluene	ND	20	20/21	100/105	65-135	5
Ethyl Benzene	ND	20	20/20	100/100	65-135	0
Xylenes	ND	60	59/60	98/100	65-135	2
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				95/98	50-150	

Definitions:

ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg = parts per million (ppm)
ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Superior

Analytical Laboratory

:EC
Att... GREG HOEHN

Project 70005-009-09 TASK #00
Reported on December 30, 1997
Revised on January 2, 1998

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

Laboratory Number 23657

Chronology

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
INF	12/11/97	12/12/97	12/12/97	12/12/97	DL122.37	01
EFF	12/11/97	12/12/97	12/12/97	12/12/97	DL122.37	02

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
DL122.37-01	Method Blank	MB	Water	12/12/97	12/12/97
DL122.37-02	Laboratory Spike	LS	Water	12/12/97	12/12/97
DL122.37-03	1045 MW-3	MS 23649-01	Water	12/12/97	12/12/97
DL122.37-04	1045 MW-3	MSD 23649-01	Water	12/12/97	12/12/97

Superior
Analytical Laboratory

3E
Attn: GREG HOEHN

Project 70005-009-09 TASK #00
Reported on December 30, 1997
Revised on January 2, 1998

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
23657-01	INF	Air	1.0	-
23657-02	EFF	Air	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	23657-01 Conc. ug/L	RL	23657-02 Conc. ug/L	RL
Mineral Spirits	ND	50	ND	50
>> Surrogate Recoveries (%) <<				
4-Bromofluorobenzene (SS)	109		102	

Superior
Analytical Laboratory

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

Quality Assurance and Control Data

Laboratory Number: 23657
Method Blank(s)

	DL122.37-01 Conc.	RL
Gasoline	NA	50
Mineral Spirits	ND	50
>> Surrogate Recoveries (%) <<		
4-Bromofluorobenzene (SS)	100	

Superior Analytical Laboratory

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

Quality Assurance and Control Data

Laboratory Number: 23657

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
DL122.37 02 / - Laboratory Control Spikes						
Gasoline		2000	2000	100	65-135	
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene (SS)				110	50-150	
For Water Matrix (ug/L)						
DL122.37 03 / 04 - Sample Spiked: 23649 - 01						
Gasoline	ND	2000	2100/2000	105/100	65-135	0
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene (SS)				123/120	50-150	

Definitions:

ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg = parts per million (ppm)

ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

2360'

Chain-of Custody Number:

SECOR Chain-of Custody Record

Field Office: SECOR

Address: 1390 Willow Pass Road Suite 360
Concord CA 94519

☐ Additional documents are attached, and are a part of this Record.

Job Name: Safety Kleen

Location: 400 Market St.
Oakland

Project # 70005-009-09 Task # 90

Project Manager Greg Hoehn

Laboratory Superior

Turnaround Time STANDARD

Sampler's Name GARY CLIFT - IC ENVIRO

Sampler's Signature [signature]

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPHg/BTEX/WTPH-G 8015 (modified)/8020	TPHd/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	TPH As M.S.	BTEX	Comments/ Instructions	Number of Containers
INF	12-11		AIR							X						X	X		1
EFF	12-11		AIR							X						X	X		1

Special Instructions/Comments:

Relinquished by: SECOR
Sign [signature]
Print GARY CLIFT
Company SECOR
Time 8:00 Date 12-12-97

Received by:
Sign [signature]
Print EUGENE L. EUGENE
Company SDL
Time 10 AM Date 12/12/97

Relinquished by:
Sign [signature]
Print EUGENE L. EUGENE
Company SDL
Time 10:21 P Date 12/12/97

Received by:
Sign [signature]
Print [signature]
Company
Time 10:21 Date 12/12/97

Sample Receipt
Total no. of containers: 2
Chain of custody seals:
Rec'd. in good condition/cold:
Conforms to record:

Client: SECOR
Client Contact: Greg Hoehn
Client Phone: (510)6869780

SECOR CUSTREC Rev. 1/95

Date: 12, 12, 97 Page 1 of 1

Superior

Analytical Laboratory

RECEIVED
JAN - 7 1998

Date: January 5, 1998

SECOR
1390 WILLOW PASS RD, STE. 360
CONCORD, CA 94520

Attn: GREG HOEHN

Laboratory Number : 23686

Project Number/Name : 70005-009

Dear GREG HOEHN:

Attached is Superior Analytical Laboratory report for the samples received on December 22, 1997. This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety. Following the cover letter is the Case Narrative detailing sample receipt and analysis. Also enclosed is a copy of the original Chain-of-Custody record confirming receipt of samples.

Please note that any unused portion of the sample will be discarded after January 21, 1998, unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please contact our Laboratory at (510) 313-0850.

Sincerely,

Afsaneh Salimpour
Project Manager

QA/QC
Approval

Superior

Analytical Laboratory

CASE NARRATIVE

SECOR
Project Number/Name: 90005-009
Laboratory Number: 23686

Sample Receipt

Two air samples were received by Superior Analytical Laboratory on December 22, 1997.

No abnormalities were noted with sample receiving.

Sample Analysis

The samples were analyzed for methods 8010, 8015M and 8020.

Superior
Analytical Laboratory

SECOR
Attn: GREG HOEHN

Project 90005-009
Reported on December 23, 1997

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Chronology

Laboratory Number 23686

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
INF	12/22/97	12/22/97	12/22/97	12/22/97	DL222.08	01
EFF	12/22/97	12/22/97	12/23/97	12/23/97	DL222.08	02

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
DL222.08-01	Method Blank	MB	Water	12/22/97	12/22/97
DL222.08-02	Laboratory Spike	LS	Water	12/22/97	12/22/97
DL222.08-03	Laboratory Spike Duplicate	LSD	Water	12/22/97	12/22/97
DL222.08-04	SO3-B1	MS 23677-02	Water	12/23/97	12/23/97
DL222.08-05	SO3-B1	MSD 23677-02	Water	12/23/97	12/23/97

SECOR
Attn: GREG HOEHN

Project 90005-009
Reported on December 23, 1997

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
23686-01	INF	Air	1.0	-
23686-02	EFF	Air	1.0	-

RESULTS OF ANALYSIS

Compound	23686-01 Conc. PPB (V/V)	RL	23686-02 Conc. PPB (V/V)	RL
Chloromethane	ND	480	ND	480
Vinyl Chloride	ND	390	ND	390
Bromomethane	ND	250	ND	250
Chloroethane	ND	270	ND	270
Trichlorofluoromethane	ND	88	ND	88
1,1-Dichloroethene	ND	120	ND	120
D[illegible]hloromethane	ND	1100	ND	1100
t 2-Dichloroethene	ND	120	ND	120
1,1-Dichloroethane	ND	120	ND	120
c-1,2-Dichloroethene	ND	120	ND	120
Chloroform	ND	100	ND	100
1,1,1-Trichloroethane	ND	90	ND	90
Carbon tetrachloride	ND	78	ND	78
1,2-Dichloroethane	ND	120	ND	120
Trichloroethene	ND	92	ND	92
c-1,3-Dichloropropene	ND	110	ND	110
1,2-Dichloropropane	ND	110	ND	110
t-1,3-Dichloropropene	ND	110	ND	110
Bromodichloromethane	ND	68	ND	68
1,1,2-Trichloroethane	ND	90	ND	90
Tetrachloroethene	ND	73	ND	73
Dibromochloromethane	ND	58	ND	58
Chlorobenzene	ND	110	ND	110
Bromoform	ND	48	ND	48
1,1,2,2-Tetrachloroethane	ND	72	ND	72
1,3-Dichlorobenzene	ND	82	ND	82
1,2-Dichlorobenzene	ND	82	ND	82
1,4-Dichlorobenzene	ND	82	ND	82
>> Surrogate Recoveries (%) <<				
Bromochloromethane	100		100	
4-Bromofluorobenzene	94		88	

Superior
Analytical Laboratory

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Quality Assurance and Control Data

Laboratory Number: 23686
Method Blank(s)

	DL222.08-01 Conc. ug/L	RL
Chloromethane	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	0.5
Chloroethane	ND	0.5
Trichlorofluoromethane	ND	0.5
1,1-Dichloroethene	ND	0.5
Dichloromethane	ND	2.5
t-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
c-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
c-1,3-Dichloropropene	ND	0.5
1,2-Dichloropropane	ND	0.5
t-1,3-Dichloropropene	ND	0.5
Bromodichloromethane	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
>> Surrogate Recoveries (%) <<		
Bromochloromethane	88	
4-Bromofluorobenzene	83	

Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Quality Assurance and Control Data

Laboratory Number: 23686

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
DL222.08 02 / 03 - Laboratory Control Spikes						
1,1-Dichloroethene		20	20/20	100/100	70-130	0
Trichloroethene		20	18/18	90/90	60-130	0
Chlorobenzene		20	20/20	100/100	75-130	0
>> Surrogate Recoveries (%) <<						
Bromochloromethane				99/95	70-120	
4-Bromofluorobenzene				93/90	60-125	
For Water Matrix (ug/L)						
DL222.08 04 / 05 - Sample Spiked: 23677 - 02						
1,1-Dichloroethene	ND	20	17/19	85/95	70-130	11
Trichloroethene	3.4	20	20/20	83/83	60-130	0
Chlorobenzene	ND	20	17/18	85/90	75-130	6
>> Surrogate Recoveries (%) <<						
Bromochloromethane				92/91	70-120	
4-Bromofluorobenzene				83/87	60-125	

Definitions:

ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg = parts per million (ppm)

ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Superior

Analytical Laboratory

SF ?
At. : GREG HOEHN

Project 90005-009
Reported on January 2, 1998

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

Chronology

Laboratory Number 23686

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
INF	12/22/97	12/22/97	12/22/97	12/22/97	DL222.37	01
EFF	12/22/97	12/22/97	12/22/97	12/22/97	DL222.37	02

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
DL222.37-05	Method Blank	MB	Water	12/22/97	12/22/97
DL222.37-02	Laboratory Spike	LS	Water	12/22/97	12/22/97
DL222.37-03	DANS-EFFLUENT	MS 23682-01	Water	12/22/97	12/22/97
DL222.37-04	DANS-EFFLUENT	MSD 23682-01	Water	12/22/97	12/22/97

Superior
Analytical Laboratory

SE[illegible]
Attn: GREG HOEHN

Project 90005-009
Reported on January 2, 1998

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
23686-01	INF	Air	1.0	-
23686-02	EFF	Air	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	23686-01 Conc. ug/L	RL	23686-02 Conc. ug/L	RL
Benzene	ND	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5
Xylenes	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<				
Trifluorotoluene (SS)	92		97	

Superior
Analytical Laboratory

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

Quality Assurance and Control Data

Laboratory Number: 23686
Method Blank(s)

	DL222.37-05 Conc. ug/L	 RL
Benzene	ND	0.5
Toluene	ND	0.5
Ethyl Benzene	ND	0.5
Xylenes	ND	0.5
>> Surrogate Recoveries (%) <<		
Trifluorotoluene (SS)	96	

Superior Analytical Laboratory

Volatile Aromatic Hydrocarbons by EPA SW-846 Method 5030/8020

Quality Assurance and Control Data

Laboratory Number: 23686

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L) DL222.37 02 / - Laboratory Control Spikes						
Benzene		20	20	100	65-135	
Toluene		20	21	105	65-135	
Ethyl Benzene		20	21	105	65-135	
Xylenes		60	63	105	65-135	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				99	50-150	
For Water Matrix (ug/L) DL222.37 03 / 04 - Sample Spiked: 23682 - 01						
Benzene	ND	20	20/20	100/100	65-135	0
Toluene	ND	20	20/20	100/100	65-135	0
Ethyl Benzene	ND	20	20/20	100/100	65-135	0
Xylenes	ND	60	60/60	100/100	65-135	0
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				94/94	50-150	

Definitions:

ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg = parts per million (ppm)

ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Superior
Analytical Laboratory

;EC
Att... GREG HOEHN

Project 90005-009
Reported on January 2, 1998

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

Laboratory Number 23686

Chronology

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
INF	12/22/97	12/22/97	12/22/97	12/22/97	DL222.37	01
EFF	12/22/97	12/22/97	12/22/97	12/22/97	DL222.37	02

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
DL222.37-06	Method Blank	MB	Water	12/22/97	12/22/97
DL222.37-07	Laboratory Spike	LS	Water	12/22/97	12/22/97
DL222.37-08	DANS-EFFLUENT	MS 23682-01	Water	12/22/97	12/22/97
DL222.37-09	DANS-EFFLUENT	MSD 23682-01	Water	12/22/97	12/22/97

Superior
Analytical Laboratory

SECOR
Attn: GREG HOEHN

Project 90005-009
Reported on January 2, 1998

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
23686-01	INF	Air	1.0	-
23686-02	EFF	Air	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	23686-01 Conc. ug/L	RL	23686-02 Conc. ug/L	RL
Mineral Spirits	ND	50	ND	50
>> Surrogate Recoveries (%) <<				
4-Bromofluorobenzene (SS)	97		102	

Superior
Analytical Laboratory

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

Quality Assurance and Control Data

Laboratory Number: 23686
Method Blank(s)

DL222.37-06

	Conc.	RL
Gasoline	NA	50
Mineral Spirits	ND	50
>> Surrogate Recoveries (%) <<		
4-Bromofluorobenzene (SS)	95	

Superior Analytical Laboratory

Total Volatile Petroleum Hydrocarbons by EPA SW-846 5030/8015M

Quality Assurance and Control Data

Laboratory Number: 23686

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
DL222.37 07 / - Laboratory Control Spikes						
Gasoline		2000	2000	100	65-135	
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene (SS)				122	50-150	
For Water Matrix (ug/L)						
DL222.37 08 / 09 - Sample Spiked: 23682 - 01						
Gasoline	ND	2000	1900/1800	95/90	65-135	5
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene (SS)				123/120	50-150	

Definitions:

ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg = parts per million (ppm)

ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

2'5686

Chain-of Custody Number:

SECOR Chain-of Custody Record

Field Office: SECOR

Address: 1390 Willow Pass Road 360
Concord CA 94520

☐ Additional documents are attached, and are a part of this Record.

Job Name: SAFety kleen

Location: 400 Market St.
Oakland CA

Project # 70005-009 Task #

Project Manager Greg Hoehn

Laboratory Superior

Turnaround Time STandard

Sampler's Name GARY CLIFT

Sampler's Signature

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPHg/BTEX/WTPH-G 8015 (modified)/8020	TPHd/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	TPH AS M.S. BTEX	Comments/ Instructions	Number of Containers
INF	12-22	10:30	AIR							X						X		1
EFF	12-22	10:00	AIR							X						X		1

Please initial:
Samples Shipped in ice. yes
Appropriate containers NA
Samples preserved NA
VOA's w/head space Hand Delivered
Comments:

Special Instructions/Comments:

Relinquished by: SECOR
Sign
Print Gary Clift
Company SECOR
Time 11:25 Date 12-22-97

Relinquished by:
Sign
Print
Company
Time Date

Received by:
Sign
Print
Company
Time Date

Received by:
Sign
Print Gerald Poulsen
Company SAL
Time 1130 Date 12/22/97

Sample Receipt
Total no. of containers: 2
Chain of custody seals:
Rec'd. in good condition/cold:
Conforms to record:

Client: SECOR
Client Contact: Greg Hoehn
Client Phone: (510) 6869780

SECOR CUSTREC Rev. 1/95

Date: 12/22/97 Page 1 of 1

APPENDIX C

Laboratory Reports - Groundwater Samples

safety-kleen ®
Allan A. Manteuffel Technical Center

January 27, 1998

Mr. Greg Hoehn
Secor International
1390 Willow Pass Road
Suite 360
Concord, CA 94520

Re: SK Lab Project #98-010
Project ID Name: Oakland, CA

Dear Greg:

Enclosed please find the analytical results for the sample received by SK Environmental Laboratory on 1/13/98.

A formal Quality Control/Quality Assurance program is maintained by Safety-Kleen, which is designed to meet or exceed the EPA requirements. This information is available upon request.

This report may not be reproduced except in its entirety.

If you have any questions concerning this analysis, or if we can be of further assistance, please contact me at 773-825-7351.

Sincerely,

Richard H. Cook
Environmental Section Leader

P.O. Box 92050
Elk Grove Village, IL
60009-2050

12555 W. Old Higgins Road
Elk Grove Village, IL 60007
Telephone: 773/694-2700
Fax: 773/825-7850

Project ID #: 70005-009
Project ID Name: Oakland, CA
SK Lab Project #: 98-010
Date Reported: 1/26/98

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Mineral Spirits in Water

Modified EPA Method 8015

Reporting Limit: 50.0

Work Order #	Collector's Sample #	Date Sampled	Date Analyzed	Concentration ug/L
01	MW-2	1/12/98	1/14/98	<50
02	MW-3	1/12/98	1/14/98	<50
03	MW-4	1/12/98	1/14/98	<50
04	MW-8	1/12/98	1/19/98	<50
05	Trip Blank	1/12/98	1/19/98	<50

Analytical Review / Date: 1/27/98

Project ID #: 70005-009
Project ID Name: Oakland, CA
SK Lab Project #: 98-010
Date Reported: 1/26/98

ANALYTICAL RESULTS

Volatile Organics in Water

EPA Method 8010

Work Order #		01	02	03	04	05
Collector's Sample #		MW-2	MW-3	MW-4	MW-8	Trip Blank
Date Sampled		1/12/98	1/12/98	1/12/98	1/12/98	1/12/98
Date Analyzed		1/17/98	1/17/98	1/17/98	1/17/98	1/19/98
Dilution Factor		1	1	1	1	1
Analyte	Report Limit µg/L	Concentration µg/L				
Benzyl Chloride	1	<1	<1	<1	<1	<1
Bromobenzene	1	<1	<1	<1	<1	<1
Bromodichloromethane	1	<1	<1	<1	<1	<1
Bromoform	1	<1	<1	<1	<1	<1
Bromomethane	1	<1	<1	<1	<1	<1
Carbon Tetrachloride	1	<1	<1	<1	<1	<1
Chlorobenzene	1	<1	<1	<1	<1	<1
Chloroethane	1	<1	<1	<1	<1	<1
Chloroform	1	<1	<1	**1.0**	<1	<1
Chloromethane	1	<1	<1	<1	<1	<1
Chlorotoluene	1	<1	<1	<1	<1	<1
Dibromochloromethane	1	<1	<1	<1	<1	<1
Dibromomethane	1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	1	<1	<1	<1	<1	<1
1,1-Dichloroethane	1	<1	<1	<1	<1	<1
1,2-Dichloroethane	1	<1	<1	<1	<1	<1
1,1-Dichloroethylene	1	<1	<1	**11.7**	<1	<1

Project ID #: 70005-009
Project ID Name: Oakland, CA
SK Lab Project #: 98-010
Date Reported: 1/26/98

ANALYTICAL RESULTS

Volatile Organics in Water

EPA Method 8010

Work Order #		01	02	03	04	05
Collector's Sample #		MW-2	MW-3	MW-4	MW-8	Trip Blank
Date Sampled		1/12/98	1/12/98	1/12/98	1/12/98	1/12/98
Date Analyzed		1/17/98	1/17/98	1/17/98	1/17/98	1/19/98
Dilution Factor		1	1	1	1	1
Analyte	Report Limit µg/L	Concentration µg/L				
cis-1,2-Dichloroethylene	1	<1	<1	**15.5**	**5.8**	<1
trans-1,2-Dichloroethylene	1	<1	<1	<1	<1	<1
Dichloromethane	1	<1	<1	<1	<1	**2.2**
1,2-Dichloropropane	1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropylene	1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1
Tetrachloroethylene	1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<1	<1	<1	<1	<1
Trichloroethylene	1	<1	<1	**163 ***	**19.5**	<1
Trichlorofluoromethane	1	<1	<1	<1	<1	<1
Trichloropropane	1	<1	<1	<1	<1	<1
Vinyl Chloride	1	<1	<1	<1	<1	<1

* Diluted so result is within the calibration curve.

Analytical Review / Date: 1/27/98

Project ID #: 70005-009
Project ID Name: Oakland, CA
SK Lab Project #: 98-010
Date Reported: 1/26/98

ANALYTICAL RESULTS

Volatile Organics in Water

EPA Method 8020

Work Order #	01	02	03	04	05
Collector's Sample #	MW-2	MW-3	MW-4	MW-8	Trip Blank
Date Sampled	1/12/98	1/12/98	1/12/98	1/12/98	1/12/98
Date Analyzed	1/17/98	1/17/98	1/17/98	1/17/98	1/19/98
Dilution Factor	1	1	1	1	1
Analyte	Report Limit ug/L	Concentration µg/L				
Benzene	1	<1	<1	<1	<1	<1
Toluene	1	<1	<1	<1	<1	<1
Ethylbenzene	1	<1	<1	<1	<1	<1
Xylenes	1	<1	<1	<1	<1	<1

Analytical Review / Date: [signature] 1/27/98

98-010 (con...
Chain-of-Custody Number: NOT MARKED (VOA)

SECOR Chain-of-Custody Record

Field Office: CONCORD
Address: 1390 Willow Pass Rd
CONCORD, CA. 94520

☐ Additional documents are attached, and are a part of this Record.

Job Name: SAFETY KLEEN SERVICE CENTER
Location: 400 MARKET ST.
OAKLAND, CA.

Project # 70005-009 Task # ____
Project Manager GREG HOEHN
Laboratory SAFETY KLEEN
Turnaround Time STANDARD

Sampler's Name R. MOORE
Sampler's Signature RM

Analysis Request

	Sample ID	Date	Time	Matrix	HCID	TPHg/BTEX/WTPH-G 8015 (modified)/8020	TPHd/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	TPH mineral spirits TPH-...	BTEX 8020	Comments/ Instructions	Number of Containers
01	MW-2	1/12/98	820	W							X						X	X	9800151 VOA	5
02	MW-3	"	1100	"							X						X	X	152	5
03	MW-4	"	900	"							X						X	X	153	5
04	MW-8	"	945	"							X						X	X	154	5
05	Trip Blank	"	700	"							x						x	x	155	

Special Instructions/Comments:
All Vials rec'd pH<2 CS 1/14/98

Relinquished by:
Sign RM
Print R. MOORE
Company SECOR
Time 1200 Date 1/12/98

Received by: C. Anth...
Sign
Print 3°C
Company
Time 11:30A Date 1/13/98

Relinquished by:
Sign
Print
Company
Time ____ Date ____

Received by:
Sign
Print
Company
Time ____ Date ____

Sample Receipt
Total no. of containers:
Chain of custody seals:
Rec'd. in good condition/cold:
Conforms to record:

Client: SECOR
Client Contact: GREG HOEHN
Client Phone: (510) 686-9780

SECOR CUSTREC Rev. 1/95

Last proj 97-315 Date: 1/12/98 Page 1 of 1