



October 1, 1993

Ms. Jennifer Eberle  
Alameda County  
Health Care Services Agency  
UST Local Oversight Program  
80 Swan Way, Room 200  
Oakland, California 94621

**Re: Submittal of the Quarterly Groundwater Monitoring and Soil Vapor Extraction Report for the Safety-Kleen Oakland Service Center in Oakland, California.**

Dear Mr. Ritchie:

Enclosed is the quarterly report which summarizes the groundwater monitoring and vapor extraction activities conducted at the Safety-Kleen Oakland Service Center during the period from June through August 1993. Also included is information regarding the product recovery system installed in January 1993.

If you have any questions, please call me at 310/546-2082.

Sincerely,

*for*  
Anne Lunt  
Senior Project Manager - Remediation  
Safety-Kleen Corporation

cc: Ms. Jane Spetalnick, Safety-Kleen Corporation  
Mr. Gary Long, Safety-Kleen Corporation  
Mr. Ray Orlando, Safety-Kleen Corporation  
Mr. Alfred Wong, State of California Department of Health Services  
Mr. Steven Ritchie, California Regional Water Quality Control Board  
Mr. Scott Comiso, BAAQMD  
Mr. Greg Hoehn, SEACOR®

SKOAKL02.L08  
10/01/93  
Job No. 70005-009-02

**QUARTERLY GROUNDWATER  
MONITORING AND SOIL VAPOR EXTRACTION  
REPORT**

**400 MARKET STREET  
OAKLAND, CALIFORNIA**

**Job No. 70005-009-02**

*10/1/93*

**Submitted by:  
Science & Engineering Analysis Corporation**

for  
Ms. Anne Lunt  
Safety-Kleen Corp.  
P.O. Box 1429  
San Pedro, California 90733

October 1, 1993

Prepared by:

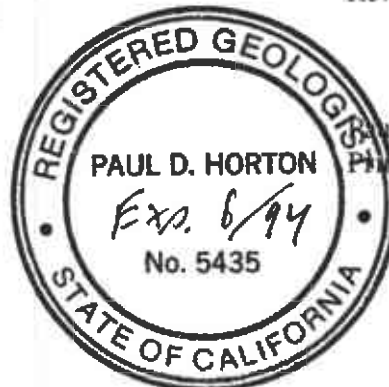
*Greg D. Hoehn*

Greg D. Hoehn  
Principal Geologist

Reviewed by:

*Paul D. Horton*

Paul D. Horton, R.G.  
Principal Hydrogeologist



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## 1.0 INTRODUCTION

This report presents the results of groundwater monitoring and sampling activities conducted for the quarter of June through August 1993 at the Safety-Kleen Service Center located at 400 Market Street in Oakland, California (Figure 1 and Figure 2). Also included is a description of the soil vapor extraction (SVE) system and the results of the first three months of SVE system operation.

## 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. Clean and spent mineral spirits are currently stored in the two double-walled USTs at the site. One UST is used to temporarily store spent mineral spirits prior to shipment to Safety-Kleen's recycling center in Reedley, California and one UST is used to store clean mineral spirits for 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. A system to extract and treat soil vapor began full-scale operation on June 1, 1993. The product recovery system installed in recovery well (RW-1) has not removed separate-phase product from the water table this quarter due to a lack of product accumulation in RW-1 and recently as a result of product pump failure.

### 3.0 SCOPE OF WORK

Work conducted during this quarter consisted of the initiation of SVE and vapor treatment system operation, and the monitoring and sampling of groundwater monitor wells. The following sections provide a description of the SVE system and detail the work steps conducted.

#### 3.1 SOIL VAPOR EXTRACTION SYSTEM

The SVE system began full-scale operation on June 1, 1993. The SVE consists of seven horizontal vapor extraction lines and a vapor treatment system consisting of a Padre™ adsorption system manufactured by Purus, Inc. followed by a granular activated carbon (GAC) polish. Vapors are extracted by a 10 horsepower regenerative blower. Figure 3 depicts the layout of the vapor extraction lines and the vapor treatment system. Prior to June 30, 1993, the SVE system startup and operation was conducted in accordance with the Bay Area Air Quality Management District (BAAQMD) Authority to Construct Permit dated March 4, 1993. System operation since June 30, 1993 has been conducted in accordance with the Permit to Operate dated June 30, 1993.

The vapor extraction lines are 20-foot lengths of 4-inch diameter slotted polyvinylchloride (PVC) pipe manifolded to the treatment compound via 2-inch diameter blank PVC pipe. The piping is placed at a depth of approximately 6-feet below surface grade in the tank backfill, and in the case of SV-1, in a trench 5-feet deep. The piping is covered with gravel, polyethylene film, and geotextile material. The polyethylene film is placed to direct the vacuum created by the regenerative blower away from the tank backfill to native soil which contains residual mineral spirits and associated compounds.

Extracted vapors are drawn through a water knock-out drum and through the Padre™ system. The vapor treatment portion of the Padre™ system consists of two beds that contain polymer adsorption material. The process involves one bed being on-line treating influent air, while the other bed is undergoing a desorption cycle. The beds are automatically switched back and forth between adsorption and desorption cycles at a programmed interval to optimize system efficiency based on the site conditions. While a bed is in the adsorption mode, organic compounds are adsorbed on the polymer bed and the treated vapor stream is then polished through two parallel piped 200 pound granular activated carbon canisters, prior to being vented to the atmosphere. When an adsorption bed approaches capacity, the vapor stream is diverted to the other adsorbent bed and the first bed begins a desorption cycle. The desorption cycle uses a combination of temperature, pressure, and a carrier gas (nitrogen) to remove organic compounds trapped in the adsorbent material, condense the organics, and then transfer as a liquid to a product recovery tank. The recovered product is periodically transferred to the on-site waste mineral spirits UST to be incorporated in the Safety-Kleen recycling process.

The SVE system was monitored daily from full-scale system startup on June 1, 1993 until weekly monitoring began on July 23, 1993. During each monitoring event, system influent, system effluent and each individual vapor extraction line were monitored with a flame-ionization detector (FID) or a photo-ionization detector (PID) to record system operating data and to document compliance with emission standards specified in the BAAQMD Permits.

Vapor samples were collected on June 10, June 23 and August 11, 1993 from the system influent and from the effluent of the Padre™ system to provide analytical data to calculate mineral spirits removal data. All samples were collected in Tedlar bags and transported under chain-of-custody to GTEL Environmental Laboratories, Inc. in Concord, California for analysis. The samples collected on June 10, 1993 were analyzed for total petroleum hydrocarbons as mineral spirits (TPHms) by modified U.S. Environmental Protection Agency (EPA) Method 8015. The samples collected on June 23 and August 11, 1993 were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8020, TPHms by modified EPA Method 8015, and purgeable halocarbons by EPA Method 8010.

### **3.2 RW-1 MINERAL SPIRITS RECOVERY**

The mineral spirits recovery skimming pump began operation on January 19, 1993. Recovered mineral spirits from recovery well RW-1 (Figure 2) is pumped directly to the waste mineral spirits tank operated at the site and is incorporated into the Safety-Kleen recycling process.

### **3.3 GROUNDWATER MONITORING AND SAMPLING**

On July 29, 1993, all on and off site monitor wells (12 total) were monitored for depth-to-water using a water level indicator calibrated to 0.01-foot (Figure 2). The depth-to-water measurements were used with well survey data to construct a potentiometric surface map.

Prior to using any equipment in a groundwater monitor well, the 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 was placed in Safety-Kleen supplied drums pending proper disposal.

On July 29 and 30, 1993, the monitor wells were purged by hand bailing (except well MW-13 which is sampled on an annual basis and well MW-9 which contains floating mineral spirits) until the measurements of pH, temperature, and conductivity had stabilized and/or three well volumes of groundwater had been removed. Following recovery of the groundwater levels in the wells, groundwater samples were collected using disposable bailers. The groundwater samples were placed into laboratory supplied sample containers. Field data sheets which include depth-to-water measurements and well purge data are included in Appendix A.



The groundwater samples were labeled, placed on ice, and delivered to a state-certified laboratory for analysis under chain-of-custody documentation. The groundwater samples were analyzed for the presence of BTEX by EPA Method 8020, for TPHms by modified EPA Method 8015 and for purgeable halocarbons by EPA Method 601.

## 4.0 RESULTS

### 4.1 SOIL VAPOR EXTRACTION SYSTEM

The results of system daily and weekly monitoring conducted through August 24, 1993 are summarized on Table 1 and Table 2. Table 1 presents data on the system flow rate and FID or PID measurements from the Padre™ system influent, effluent and stack effluent. The results of monitoring from the stack effluent document the system operated within the BAAQMD permit requirements of a maximum emission reading of 10 parts per million by volume (ppmv), based on FID or PID readings. Table 2 presents flow rate and vapor stream FID or PID data from the seven individual vapor extraction lines.

The TPHms analyses on system influent samples detected 320 µg/l on June 10, 400 µg/l on June 23 and 570 µg/l on August 11, 1993. Results of Padre™ effluent analyses (collected to determine Padre™ system efficiency) for the same dates were 30 µg/l, < 10 µg/l and 34 µg/l, respectively. The Padre™ effluent samples were collected from the vapor stream prior to the granular activated carbon filter and are not indicative of emissions from the effluent stack. Effluent stack data were recorded with an FID or a PID in accordance with BAAQMD Permits. Results of BTEX and purgeable halocarbon analyses on system influent samples were 1 µg/l ethylbenzene, 2 µg/l xylenes, and 1 µg/l 1,1,1-trichloroethane (TCA) on June 23 and 0.9 µg/l benzene, 2 µg/l toluene, 20 µg/l xylenes, and 0.6 µg/l 1,1,1-TCA on August 11, 1993. No BTEX or purgeable halocarbon compounds were detected in Padre® effluent samples collected on June 23 or August 11, 1993. Copies of vapor analytical reports are included as Appendix B.

The system monitoring data were used to calculate system mineral spirits removal rates and a cumulative mass of mineral spirits removed via vapor extraction. As shown on Table 3, analytical data collected through August 11, 1993 indicate 351.1 pounds of mineral spirits have been removed. Approximately 129.5 gallons of liquid have been removed by the Padre™ system and incorporated into the Safety-Kleen recycling process through August 19, 1993 (Table 4). Based on vapor stream analytical data versus liquid hydrocarbon recovery mass balance calculations, it appears that approximately 58% of the liquid recovered is water and 42% mineral spirits.

*do you think it's effective?*

### 4.2 RW-1 MINERAL SPIRITS RECOVERY

The mineral spirits recovery skimming pump has not removed floating mineral spirits since May 20, 1993. Recovery has been hindered due to a lack of mineral spirits accumulation in recovery well RW-1 and recently as a result of a pump breakdown. A total of 10.8 gallons of product have been removed since the pump was installed on January 19, 1993. Product recovery data are presented on Table 5.

### 4.3 GROUNDWATER ELEVATIONS

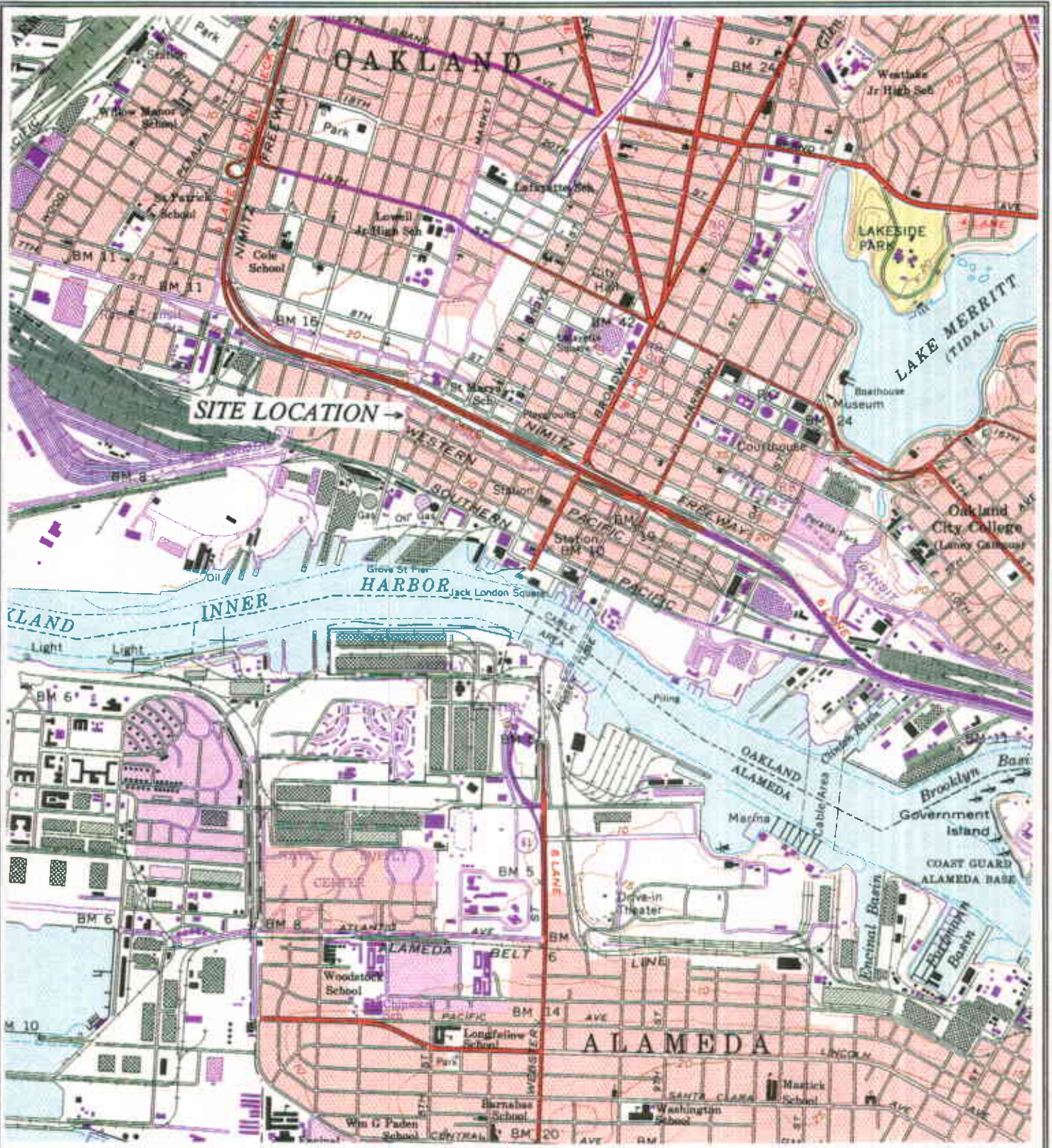
Groundwater elevations and depth-to-water readings as measured on July 29, 1993 are presented in Table 6. The average water table elevation at the site decreased by 0.77-feet since the April 20, 1993 monitoring and sampling event. A potentiometric surface map is presented as Figure 4. The groundwater flow direction remains to the south, consistent with historic site data. The hydraulic gradient is an average of 0.003 feet/foot across the site. This gradient is consistent with the previous quarter's data and is typical for the site.

### 4.4 GROUNDWATER CONDITIONS

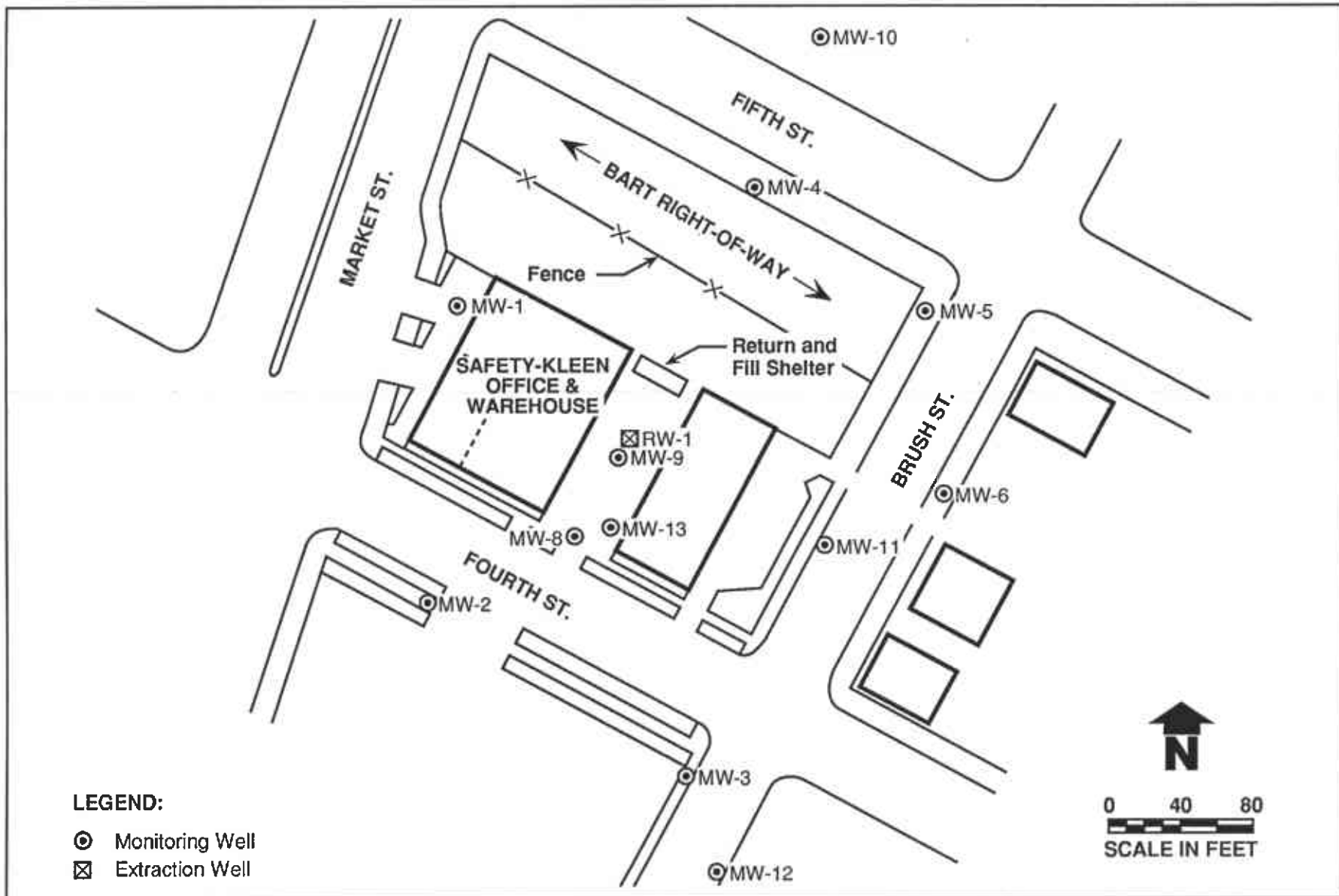
No concentrations of BTEX or TPHms were detected above the laboratory detection limits in any of the ten groundwater samples collected on <sup>July</sup> ~~August~~ 29 and 30, 1993. Volatile organic compounds (VOCs) were detected in groundwater samples from seven wells (MW-4, MW-5, MW-6, MW-8, MW-10, MW-11 and MW-12). VOCs detected during this sampling event consisted of 1,1-dichloroethene (DCE), 1,1-dichloroethane (DCA), 1,2-DCA, trichloroethene (TCE), chloroform, 1,2-DCE, 1,1,1-trichloroethane (TCA) and trichlorofluoromethane. Historic data indicate an upgradient TCE plume exists and has been detected in monitor wells MW-4 and MW-10. Analytical test results of the compounds detected this sampling event are summarized in Table 7. Laboratory analytical reports are included in Appendix C. Analytical test results of the compounds detected since the April 27, 1992 sampling event are summarized in Table 8.

*Do you think ~~it's~~ still from UG?  
VOCs are*

*No recommendations?  
more discussion?  
next step?*



DRAFTED BY: <b>TS</b>	CHECKED BY: <b>GDH</b>	<b>PROJECT NO. 70005-009-02</b>	<b>FIGURE 1</b>	<b>SEACOR</b> 1390 Willow Pass Road Suite 360 Concord, CA 94520
DWG. DATE: <b>12/14/92</b>	REV. DATE: <b>12/14/92</b>			
FILE NAME: <b>OAKLAND2.F01</b>				

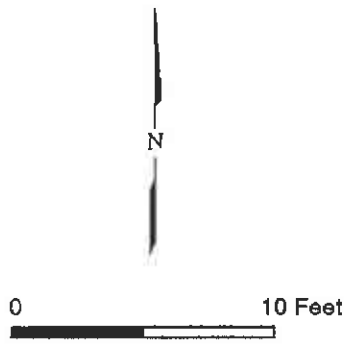
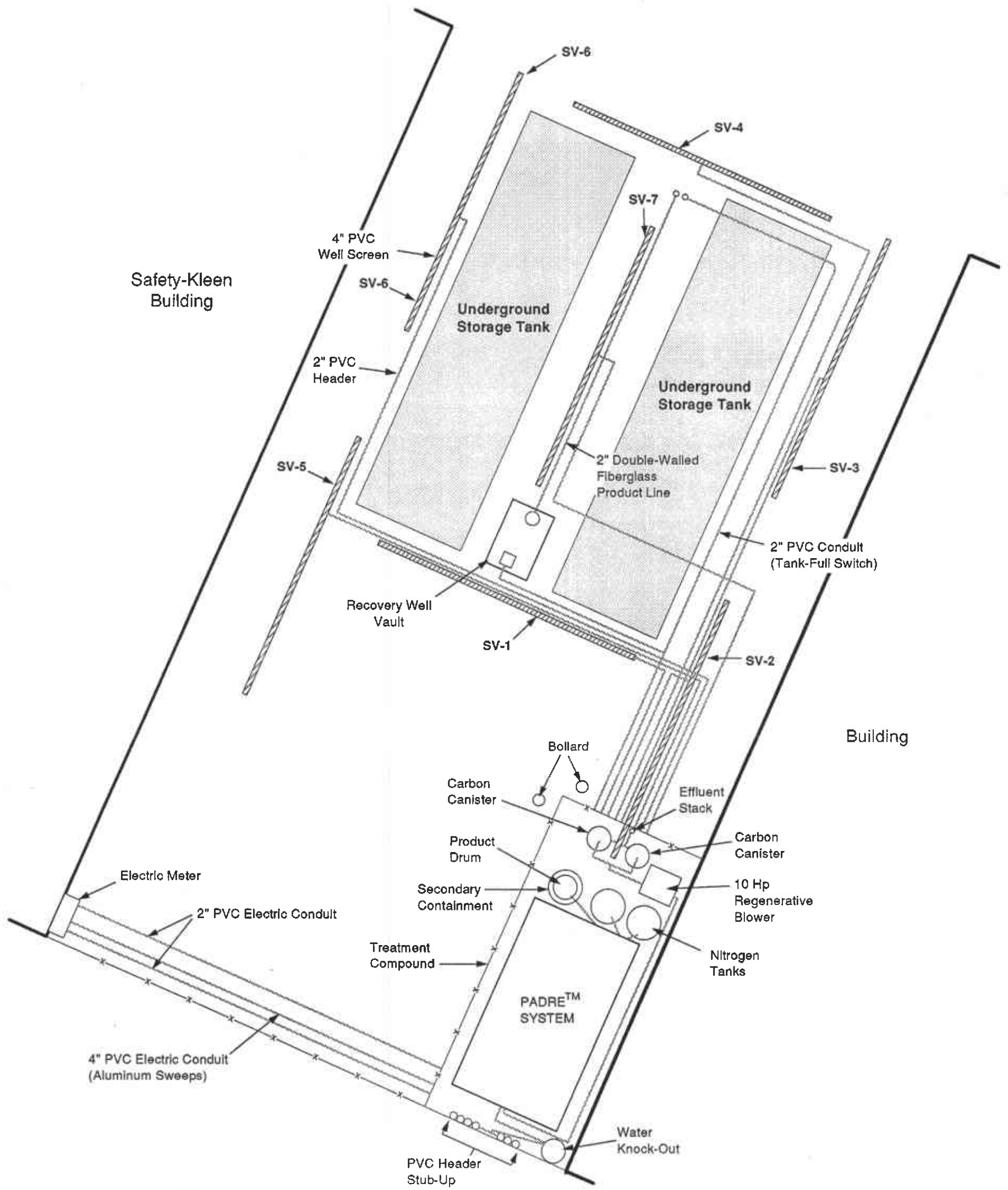


**LEGEND:**

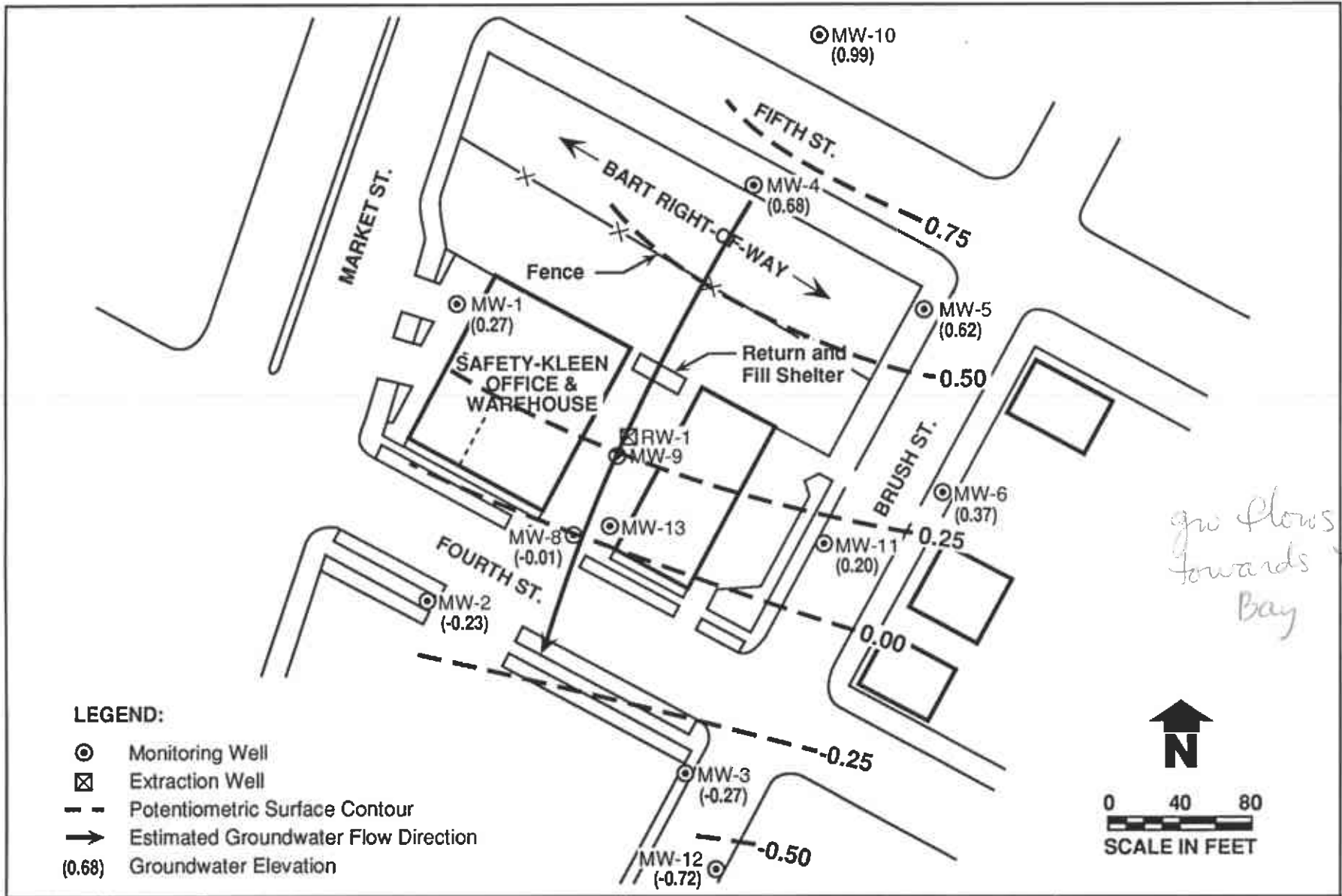
- ⊙ Monitoring Well
- ⊠ Extraction Well



DRAFTED BY: LC	CHECKED BY: GH	PROJECT NO. 70005-009	FIGURE 2	<b>SEACOR</b> 1390 Willow Pass Rd. Suite 360 Concord, CA 94520
DWG. DATE: 1/14/93	REV. DATE: 1/18/93	SAFETY-KLEEN CORPORATION	SITE PLAN	
FILE NAME: S/SK-OKLND/02		OAKLAND, CALIFORNIA		



DRAFTED BY: DH	CHECKED BY:	PROJECT NO. 70005-009	FIGURE 3	<b>SEACOR</b> 1390 Willow Pass Road Suite 360 Concord, CA 94520
DRWG. DATE:	REV. DATE:	Safety-Kleen Service Center 400 Market Street Oakland, California	Soil Vapor Extraction System Layout	
FILE NAME:				



DRAFTED BY: LC	CHECKED BY: GH	PROJECT NO. 70005-009	FIGURE 4	<b>SEACOR</b> 1390 Willow Pass Rd. Suite 360 Concord, CA 94520
DWG. DATE: 8/16/93	REV. DATE: 8/18/93	SAFETY-KLEEN CORPORATION	POTENTIOMETRIC SURFACE MAP	
FILE NAME: S/SK-OKLND/05		OAKLAND, CALIFORNIA	7-29-93	

Table 1  
Vapor Extraction System Monitoring Data

Date	Extraction Vacuum in. H2O	Extraction Flowrate scfm	KO Vacuum in. H2O(1)	Padre Influent (ppmv)	Padre Effluent (ppmv)	Stack Effluent (ppmv)	Sampler	Notes
05-27-93	2	114	22	40	4	0	GGA	24 hours run from 05/27-28
06-01-93	2.3	122	16	450	3	0.5	GGA	
06-02-93	3.25	123	16	200	1.5	3	GGA	
06-03-93	10	114	22	70	4	1.1	GGA	Shut down for weekend
06-04-93	10.5	114	22.5	80	2.5	1.5	RAR	
06-07-93	12	113	34	120	1	0.5	GGA	
06-08-93	10	117	22	300	1.5	0	GGA	Shut down for weekend
06-09-93	7	117	20	375	29	2	NAB	
06-10-93	8	117	22	400	6	0	NAB	
06-11-93	8	118	18	320	8	0	NAB	Shut down for weekend
06-14-93	8.5	118	18	250	11.75	3	NAB	
06-15-93	7	118	19	250	0.75	1	NAB	
06-16-93	7	117	18	200	0	0	NAB	Shut down for weekend
06-17-93	7	117	18	200	0	0	NAB	
06-18-93	6	118	19	300	10	8.5	NAB	
06-21-93	5.5	117	18	250	0	0.75	NAB	Shut down on 6/25 and weekend 38.8 gallons removed on 6/25
06-22-93	5.5	117	18	290	0.5	0	NAB	
06-23-93	5	118	18	210	0	0	NAB	
06-24-93	5	118	18	200	0	0	NAB	Shut down on 6/25 and weekend 38.8 gallons removed on 6/25
06-28-93	5	120	18	190	0	0	NAB	
06-29-93	4.5	117	18	150	0	0	NAB	
06-30-93	4	117	18	150	0	0	NAB	Shut down for weekend
07-07-93	4	117	18	250	0.5	0	NAB	
07-08-93	4	117	18	200	0	0.5	NAB	
07-09-93	5	120	18	200	0	0	NAB	Shut down for weekend
07-12-93	5	120	18	190	0	0	NAB	
07-13-93	5	118	18	160	0	1	NAB	
07-23-93	6	118	20	230	9	1	GGA	Weekly monitoring to begin on 7/23 55.2 gallons removed on 7/23 (94.0 total)
07-27-93	6	120	19	300	3	3	NAB	
08-05-93	5.75	117	20	350	1.5	1	NAB	
08-11-93	5.8	118	24	125	6.4	7.6	RPR	Began monitoring with PID 35.5 gallons removed on 8/19 (129.5 total)
08-20-93	6	118	24	113	12.6	9.3	RPR	
08-24-93	5.75	117	24	128	6	7.3	RPR	

(1) Knockout Pot Effluent Vacuum.



Table 2  
Soil Vent Line Monitoring Data

Date	SV-1		SV-2		SV-3		SV-4		SV-5		SV-6		SV-7	
	(fpm)	(ppmv)	(fpm)	(ppmv)	(fpm)	(ppmv)	(fpm)	(ppmv)	(fpm)	(ppmv)	(fpm)	(ppmv)	(fpm)	(ppmv)
05-27-93	600	400	1200	500	1750	500	1300	400	1550	530	1600	480	1500	380
06-01-93	600	400	1400	450	1920	500	1450	400	1700	500	1800	500	1600	410
06-02-93	900	300	1950	310	2000	200	2000	300	1700	200	2000	200	2000	225
06-03-93	1800	120	2000	150	2000	140	1950	150	2000	110	1700	110	2000	100
06-04-93	1200	100	2000	90	1900	110	2000	125	2000	65	2000	60	2000	60
06-07-93	1300	180	2000	150	2000	120	2000	200	2000	130	2000	120	2000	120
06-08-93	500	250	2000	220	200	210	2000	400	2000	200	2000	150	1700	250
06-09-93	500	575	2000	475	1425	250	2000	450	2000	200	2000	300	1700	250
06-10-93	500	600	2000	350	1450	20	2000	350	2000	190	2000	280	2000	20
06-11-93	500	480	1800	400	1450	180	2000	270	1200	180	2000	230	2000	180
06-14-93	500	400	2000	260	1450	180	2000	320	2000	180	2000	180	2000	100
06-15-93	250	375	2000	300	2000	220	2000	300	2000	160	2000	180	2000	150
06-16-93	200	275	2000	210	2000	170	2000	250	2000	130	2000	150	2000	130
06-17-93	150	250	2000	190	2000	110	2000	210	2000	110	2000	100	2000	110
06-18-93	200	300	2000	330	2000	200	2000	300	1500	200	2000	200	1500	220
06-21-93	150	250	2000	275	2000	290	2000	260	2000	250	2000	200	1350	200
06-22-93	100	300	2000	200	2000	200	2000	290	2000	200	2000	210	2000	180
06-23-93	100	220	2000	160	200	240	2000	170	2000	280	2000	210	2000	200
06-24-93	50	210	2000	160	2000	210	2000	150	2000	210	2000	220	2000	180
06-28-93	50	200	2000	290	2000	220	2000	300	2000	210	2000	200	2000	170
06-29-93	50	160	2000	130	2000	170	2000	150	2000	170	2000	160	2000	110
06-30-93	50	140	2000	120	2000	150	2000	150	2000	150	2000	140	1900	100
07-07-93	50	280	50	190	2000	280	2000	200	2000	270	2000	230	2000	85
07-08-93	50	160	700	170	2000	210	2000	170	2000	200	1500	190	2000	80
07-09-93	50	200	700	180	2000	280	2000	170	2000	270	2000	250	2000	140
07-12-93	50	100	50	110	2000	180	2000	80	2000	180	200	170	2000	80
07-13-93	50	80	50	85	2000	150	2000	70	2000	130	1700	140	2000	50
07-23-93	500	150		110	2000	320	2000	80	2000	260	2000	230	2000	170
07-27-93	50	160	50	140	2000	280	2000	60	2000	250	2000	280	2000	150
08-05-93	50	190	2000	70	2000	320	2000	280	2000	320	2000	350	2000	220
08-11-93	50	89	50	54	2000	111	1500	33	2000	84	2000	87	2000	54
08-20-93	50	41	50	12	2000	85	1700	14	2000	115	2000	80	2000	56
08-24-93	50	72	50	43	2000	115	2000	55	2000	94	2000	87	2000	72

**Table 3**  
**Vapor Extraction System Mineral Spirits Removal Data**

Date	Elapsed Time (days)	TPHms Influent ug/l	Flow (cfm)	TPHms Removed (lbs)	Removal Rate (lbs/day)
06-10-93	0	320	117	0	3.36
06-23-93	13	400	118	55.1	4.24
08-11-93	62	570	118	351.1	6.04

**TABLE 4**  
**PRODUCT RECOVERY DATA**  
From PADRE™ System

<i>Date</i>	<i>Product Recovered This Period (gallons)</i>	<i>Cummulative Product Recovered (gallons)</i>
June 25, 1993	38.8	38.8
July 23, 1993	55.2	94.0
August 19, 1993	35.5	129.5

**TABLE 5**  
**PRODUCT RECOVERY DATA**  
From Well RW-1

<i>Date</i>	<i>Product Recovered This Period (gallons)</i>	<i>Cummulative Product Recovered (gallons)</i>
01/19/93	-	-
02/25/93	6.5	6.5
05/20/93	4.3	10.8
08/27/93	-	10.8

**TABLE 6  
GROUNDWATER MONITORING DATA  
JULY 29, 1993**

<i>Well I.D.</i>	<i>TOC Elevation (ft msl)</i>	<i>DTW (ft)</i>	<i>DTP (ft)</i>	<i>PT (ft)</i>	<i>ADJ Elevation (ft msl)</i>
MW-1	7.99	7.72	-	-	0.27
MW-2	8.20	8.43	-	-	-0.23
MW-3	6.66	6.93	-	-	-0.27
MW-4	10.32	9.64	-	-	0.68
MW-5	10.28	9.66	-	-	0.62
MW-6	8.97	8.60	-	-	0.37
MW-8	7.80	7.81	-	-	-0.01
MW-9	8.21	* 8.89	7.49	1.40	* -0.68
MW-10	10.43	9.44	-	-	0.99
MW-11	7.91	7.71	-	-	0.20
MW-12	6.74	7.46	-	-	-0.72
MW-13	8.08	8.23	-	-	-0.15

TOC = Top of casing  
 DTW = Depth-to-water  
 DTP = Depth-to-product (separate-phase hydrocarbons)  
 PT = product thickness  
 ADJ  
 ELEVATION = Adjusted groundwater elevation.  
 ft msl = Measurement in feet (ft) relative to mean sea level (msl)  
 \* = Measurement is approximate due to emulsion layer between groundwater and product

**TABLE 7**  
**ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**  
**EPA METHOD 8010**  
**JULY 29 AND 30, 1993**  
 (Results in parts per billion)

<i>Well I.D.</i>	<i>1,1-DCE</i>	<i>1,1-DCA</i>	<i>1,2-DCA</i>	<i>Chloroform</i>	<i>TCE</i>	<i>1,2-DCE</i>	<i>1,1,1-TCA</i>	<i>TCFM</i>
MW-1	-	-	-	-	-	-	-	-
MW-2	-	-	-	-	-	-	-	-
MW-3	-	-	-	-	-	-	-	-
MW-4	-	-	-	-	1,100	53	-	-
MW-5	0.6	-	-	-	6.0	-	-	19
MW-6	-	-	-	-	5.0	-	-	-
MW-8	-	-	5.0	-	31	1.0	-	-
MW-10	2.0	-	-	0.5	54	17	0.8	-
MW-11	2.0	-	-	-	36	3.0	2.0	-
MW-12	-	2.0	2.0	-	30	3.0	-	-

ONLY DETECTED COMPOUNDS ARE LISTED. FOR A COMPLETE LIST OF ANALYTES SEE APPENDIX B.

-	=	Not Detected	TCE	=	trichloroethene
1,1-DCE	=	1,1-dichloroethene	1,2-DCE	=	1,2-dichloroethene
1,1-DCA	=	1,1-dichloroethane	1,1,1-TCA	=	1,1,1-trichloroethane
1,2-DCA	=	1,2-dichloroethane	TCFM	=	trichlorofluoromethane

**TABLE 8**  
**SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**  
**(Results in Parts Per Billion)**

Compound	MW-1						MW-2					
	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/29/93	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/30/93
1,1-Dichloroethene	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	-	-	1.5	-	-	-	-	-	-	-	-	-
Chlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	0.9	-	-	0.6	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Toluene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Ethylbenzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Xylenes	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-

- = Not Detected

NA = Not Analyzed

NS = Not Sampled

**TABLE 8 - Continued**  
**SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**  
**(Results in Parts Per Billion)**

Compound	MW-3						MW-4					
	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/29/93	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/29/93
1,1-Dichloroethene	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	4.8	-	2.7	2.0	-	-	-	-	-	-	-	-
1,2-Dichloroethane	2.3	1.5	1.8	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene	1.4	-	-	-	-	-	82	40	-	-	-	53
Chloroform	-	-	-	-	-	-	2.4	-	1.8	-	7.6	-
1,1,1-Trichloroethane	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	7.2	4.3	44	1.3	0.7	-	1300	520	270	5500	2400	1100
Chlorobenzene	1.8	2.0	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	0.5	-	-	-	-	-	-	-	-	0.5	-	-
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Toluene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Ethylbenzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Xylenes	NA	NA	NA	0.5	-	-	NA	NA	NA	-	-	-

- = Not Detected

NA = Not Analyzed

NS = Not Sampled



**TABLE 8 - Continued**  
**SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**  
**(Results in Parts Per Billion)**

Compound	MW-5						MW-6					
	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/29/93	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/29/93
1,1-Dichloroethene	-	-	-	-	1.5	0.6	-	-	-	-	-	-
1,1-Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	-	-	-	-	-	-	0.7	-	-	-	-	-
1,1,1-Trichloroethane	1.7	0.9	-	-	-	-	-	-	-	-	-	-
Trichloroethene	10	4.6	3.7	11	4.0	6.0	1.2	-	1.5	1.8	-	5.0
Chlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	6.5	-	-	-	18	19	-	-	-	-	-	-
Tetrachloroethene	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Toluene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Ethylbenzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Xylenes	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-

- = Not Detected

NA = Not Analyzed

NS = Not Sampled

**TABLE 8 - Continued**  
**SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**  
**(Results in Parts Per Billion)**

Compound	MW-8						MW-10					
	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/30/93	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/30/93
1,1-Dichloroethene	-	-	-	-	-	-	0.6	-	1.4	-	-	2.0
1,1-Dichloroethane	2.4	2.4	0.7	-	3.4	-	-	-	-	-	-	-
1,2-Dichloroethane	5.3	4.8	3.3	-	7.4	5.0	-	-	-	-	-	-
1,2-Dichloroethene	0.9	1.8	-	-	-	1.0	34	25	-	-	-	17
Chloroform	-	-	-	-	-	-	2.3	1.0	1.1	-	1.2	0.5
1,1,1-Trichloroethane	-	-	-	-	-	-	-	-	-	-	-	0.8
Trichloroethene	23	19	14	1.4	14	31	190	70	86	53	45	54
Chlorobenzene	7.2	5.7	4.5	-	11	-	-	-	-	-	-	-
1,2-Dichloropropane	0.7	-	-	-	0.6	-	-	-	-	-	-	-
Trichlorofluoromethane	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.1	1.1	-	-	1.8	-	-	-	-	-	-	-
1,4-Dichlorobenzene	2.0	2.0	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	-	1.1	1.9	-	2.6	-	-	-	-	-	-	-
Vinyl Chloride	-	-	-	-	-	-	-	0.83	-	-	-	-
Benzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Toluene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Ethylbenzene	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-
Xylenes	NA	NA	NA	-	-	-	NA	NA	NA	-	-	-

- = Not Detected

NA = Not Analyzed

NS = Not Sampled

**TABLE 8 - Continued**  
**SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**  
**(Results in Parts Per Billion)**

Compound	MW-11						MW-12					
	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/30/93	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/30/93
1,1-Dichloroethene	NS	-	1.9	-	-	2.0	-	-	-	-	-	-
1,1-Dichloroethane	NS	-	-	-	-	-	3.3	2.4	2.9	-	2.6	2.0
1,2-Dichloroethane	NS	-	-	-	-	-	2.2	1.3	1.5	-	-	2.0
1,2-Dichloroethene	NS	7.3	14	-	-	3.0	2.8	2.9	-	-	-	3.0
Chloroform	NS	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	NS	-	1.2	-	-	2.0	-	-	-	-	-	-
Trichloroethene	NS	50	77	47	9.1	36	41	18	4	22	17	30
Chlorobenzene	NS	-	-	-	-	-	-	-	2.0	-	-	-
1,2-Dichloropropane	NS	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	NS	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	NS	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	NS	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	NS	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	NS	-	-	-	-	-	-	-	-	-	-	-
Benzene	NS	NA	NA	-	-	-	NA	NA	NA	-	-	-
Toluene	NS	NA	NA	-	-	-	NA	NA	NA	-	-	-
Ethylbenzene	NS	NA	NA	-	-	-	NA	NA	NA	-	-	-
Xylenes	NS	NA	NA	-	-	-	NA	NA	NA	-	-	-

- = Not Detected

NA = Not Analyzed

NS = Not Sampled

**TABLE 8 - Continued**  
**SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLES**  
**(Results in Parts Per Billion)**

Compound	MW-13											
	4/27/92	7/9/92	10/19/92	1/20/93	4/20/93	7/29/93						
1,1-Dichloroethene	-	-	-	-	-	NS						
1,1-Dichloroethane	-	-	-	-	-	NS						
1,2-Dichloroethane	-	-	-	-	-	NS						
1,2-Dichloroethene	-	-	-	-	-	NS						
Chloroform	-	-	-	-	-	NS						
1,1,1-Trichloroethane	-	-	-	-	-	NS						
Trichloroethene	-	-	-	-	-	NS						
Chlorobenzene	-	-	-	-	-	NS						
1,2-Dichloropropane	-	-	-	-	-	NS						
Trichlorofluoromethane	-	-	-	-	-	NS						
Tetrachloroethene	-	-	-	-	-	NS						
1,4-Dichlorobenzene	-	-	-	-	-	NS						
1,2-Dichlorobenzene	-	-	-	-	-	NS						
Vinyl Chloride	-	-	-	-	-	NS						
Benzene	NA	NA	NA	0.5	-	NS						
Toluene	NA	NA	NA	0.4	-	NS						
Ethylbenzene	NA	NA	NA	0.3	-	NS						
Xylenes	NA	NA	NA	1	-	NS						

- = Not Detected

NA = Not Analyzed

NS = Not Sampled

***APPENDIX A***  
***FIELD DATA SHEETS***

**HYDROLOGIC DATA SHEET**

DATE: 7-29-93 PROJECT: Safety-Kleen Oakland PROJECT # 70005-009-02 SK08

EVENT: Qtly Sampling

SAMPLER: FE

WELL OR LOCATION	TIME	MEASUREMENT					COMMENTS
		TOC	DTW	DTP	PT	ELEV	
MW1	0925	7.99	7.72	-	-	0.27	
MW2		8.20	8.43	-	-	-0.23	
MW3		6.66	6.93	-	-	-0.27	
MW4		10.32	9.64	-	-	0.68	
MW5		10.28	9.66	-	-	0.62	
MW6		8.97	8.60	-	-	0.37	
MW8		7.80	7.81	-	-	-0.01	
MW9		8.21	8.89*	7.49	1.40	-0.68	
MW10		10.43	9.44	-	-	0.99	
MW11		7.91	7.71	-	-	0.20	
MW12	1510/7-30-93	6.74	7.46	-	-	-0.72	
MW13 (deep)		8.08	8.23	-	-	-0.15	
RW-1	1040/7-30-93	-	6.84*	6.68	0.16		

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)  
 \* - Estimated

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 2005-009  
 PURGED BY: ERL  
 SAMPLED BY: ERL

WELL ID: MW1  
 SAMPLE ID: MW1  
 CLIENT NAME: SEACOR/Seabrook  
 LOCATION: SK-Oakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>7.99</u>	VOLUME IN CASING (gal): <u>2.3</u>
DEPTH TO WATER (feet): <u>7.72</u>	CALCULATED PURGE (gal): <u>6.8</u>
DEPTH OF WELL (feet): <u>21.05</u>	ACTUAL PURGE VOL. (gal): <u>7</u>

DATE PURGED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr) 1130  
 DATE SAMPLED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr) 1530

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): none

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
_____	<u>7</u>	<u>7.15</u>	<u>918</u>	<u>71.9</u>	<u>clr</u>	<u>low</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_ Clear  
 Cloudy  
 Yellow  
 Brown

ODOR: none

#### PURGING EQUIPMENT

2" Bladder Pump     Bailer (Teflon®)  
 Centrifugal Pump     Bailer (PVC)  
 Submersible Pump     Bailer (Stainless Steel)  
 Well Wizard™     Dedicated

Other: \_\_\_\_\_

#### SAMPLING EQUIPMENT

2" Bladder Pump     Bailer (Teflon®)  
 DDL Sampler     Bailer (PVC (disposable))  
 Submersible Pump     Bailer (Stainless Steel)  
 Well Wizard™     Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_

SIGNATURE: [Signature] Page 1 of 10

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 20005-009  
 PURGED BY: For  
 SAMPLED BY: For

WELL ID: MW 4  
 SAMPLE ID: MW 4  
 CLIENT NAME: Safety Kileen  
 LOCATION: \_\_\_\_\_

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>1032</u>	VOLUME IN CASING (gal): <u>2.8</u>
DEPTH TO WATER (feet): <u>9.64</u>	CALCULATED PURGE (gal): <u>8.2</u>
DEPTH OF WELL (feet): <u>25.80</u>	ACTUAL PURGE VOL (gal): <u>8</u>

DATE PURGED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1158  
 DATE SAMPLED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1605

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): None

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
_____	<u>5.5</u>	<u>-</u>	<u>707</u>	<u>66.1</u>	<u>brn</u>	<u>mod</u>
_____	<u>7</u>	<u>-</u>	<u>752</u>	<u>66.1</u>	<u>-</u>	<u>"</u>
_____	<u>8</u>	<u>-</u>	<u>763</u>	<u>66.1</u>	<u>-</u>	<u>"</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_ Clear  
 Cloudy  
 Yellow  
 Brown

ODOR: None

#### PURGING EQUIPMENT

\_\_\_\_\_ 2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 \_\_\_\_\_ Centrifugal Pump  Bailer (PVC)  
 \_\_\_\_\_ Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 \_\_\_\_\_ Well Wizard™ \_\_\_\_\_ Dedicated

Other: \_\_\_\_\_

#### SAMPLING EQUIPMENT

\_\_\_\_\_ 2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 \_\_\_\_\_ DDL Sampler  Bailer (PVC disposable)  
 \_\_\_\_\_ Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 \_\_\_\_\_ Well Wizard™ \_\_\_\_\_ Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature] Page 2 of 10



# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70005-009  
 PURGED BY: BOE  
 SAMPLED BY: BOE

WELL ID: MWS  
 SAMPLE ID: MWS  
 CLIENT NAME: S-K-act  
 LOCATION: Oakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>10.28</u>	VOLUME IN CASING (gal): <u>3.3</u>
DEPTH TO WATER (feet): <u>9.66</u>	CALCULATED PURGE (gal): <u>10</u>
DEPTH OF WELL (feet): <u>29.20</u>	ACTUAL PURGE VOL. (gal): <u>10.711</u>

DATE PURGED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) ~~1215~~ 1220  
 DATE SAMPLED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1015

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): \_\_\_\_\_

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
	<u>5</u>		<u>792</u>	<u>66.5</u>	<u>Brs</u>	<u>mod</u>
	<u>8</u>		<u>820</u>	<u>66.1</u>	<u>"</u>	<u>"</u>
	<u>9.5</u>		<u>822</u>	<u>65.9</u>	<u>"</u>	<u>"</u>
	<u>11</u>	<u>7.04</u>	<u>827</u>	<u>65.8</u>	<u>"</u>	<u>"</u>

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_ Clear  
 Cloudy  
 Yellow  
 Brown

ODOR: none

#### PURGING EQUIPMENT

2" Bladder Pump  
 Centrifugal Pump   
 Submersible Pump  
 Well Wizard™  
 Bailer (Teflon®)  
 Bailer (PVC)  
 Bailer (Stainless Steel)  
 Dedicated

#### SAMPLING EQUIPMENT

2" Bladder Pump  
 DDL Sampler   
 Submersible Pump  
 Well Wizard™  
 Bailer (Teflon®)  
 Bailer (PVC disposable)  
 Bailer (Stainless Steel)  
 Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature] Page 3 of 10

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70005-009  
 PURGED BY: Bob  
 SAMPLED BY: Bob

WELL ID: MWG  
 SAMPLE ID: MWG  
 CLIENT NAME: Safety Kleen  
 LOCATION: Oakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>8.97</u>	VOLUME IN CASING (gal): <u>3.6</u>
DEPTH TO WATER (feet): <u>8.60</u>	CALCULATED PURGE (gal): <u>10.7</u>
DEPTH OF WELL (feet): <u>29.50</u>	ACTUAL PURGE VOL. (gal): <u>12</u>

DATE PURGED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1330  
 DATE SAMPLED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1630

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): None

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
7	7	6.92	541	69.7	tan	mod
9	9	7.35	466	68.4	-	-
12	12	7.38	490	68.5	-	-

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_ Clear  
 Cloudy  
 Yellow  
 Brown

ODOR: \_\_\_\_\_

#### PURGING EQUIPMENT

2' Bladder Pump     Bailer (Teflon®)  
 Centrifugal Pump     Bailer (PVC)  
 Submersible Pump     Bailer (Stainless Steel)  
 Well Wizard™     Dedicated

Other: \_\_\_\_\_

#### SAMPLING EQUIPMENT

2' Bladder Pump     Bailer (Teflon®)  
 DDL Sampler     Bailer (PVC (disposable))  
 Submersible Pump     Bailer (Stainless Steel)  
 Well Wizard™     Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNATURE: [Signature] Page 2 of 10

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 700055-009  
 PURGED BY: BR  
 SAMPLED BY: BR

WELL ID: MW3  
 SAMPLE ID: MW3  
 CLIENT NAME: Safety Kleen  
 LOCATION: Oakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>6.66</u>	VOLUME IN CASING (gal): <u>3.9</u>
DEPTH TO WATER (feet): <u>6.73</u>	CALCULATED PURGE (gal): <u>11.6</u>
DEPTH OF WELL (feet): <u>27.60</u>	ACTUAL PURGE VOL (gal): <u>12.5</u>

DATE PURGED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr) 1520  
 DATE SAMPLED: 7-29-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr) 1605

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): none

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
	<u>8</u>	<u>7.50</u>	<u>475</u>	<u>71.0</u>	<u>Brn</u>	<u>mod</u>
	<u>10</u>	<u>7.35</u>	<u>382</u>	<u>70.0</u>	<u>"</u>	<u>"</u>
	<u>11</u>	<u>7.78</u>	<u>510</u>	<u>68.6</u>	<u>"</u>	<u>"</u>
	<u>12.5</u>	<u>7.70</u>	<u>550</u>	<u>68.4</u>	<u>"</u>	<u>"</u>

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_  
 Clear \_\_\_\_\_  
 Cloudy   
 Yellow \_\_\_\_\_  
 Brown   
 ODOR: none

#### PURGING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®) \_\_\_\_\_  
 Centrifugal Pump  Bailer (PVC) \_\_\_\_\_  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel) \_\_\_\_\_  
 Well Wizard™ \_\_\_\_\_ Dedicated \_\_\_\_\_

Other: \_\_\_\_\_

#### SAMPLING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®) \_\_\_\_\_  
 DDL Sampler  Bailer (PVC disposable) \_\_\_\_\_  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel) \_\_\_\_\_  
 Well Wizard™ \_\_\_\_\_ Dedicated \_\_\_\_\_

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature] Page 5 of 10

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70005-009  
 PURGED BY: PK  
 SAMPLED BY: PK

WELL ID: M410  
 SAMPLE ID: M410  
 CLIENT NAME: Safety Kleen  
 LOCATION: Atlanta

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>1043</u>	VOLUME IN CASING (gal): <u>3.4</u>
DEPTH TO WATER (feet): <u>9.44</u>	CALCULATED PURGE (gal): <u>10.2</u>
DEPTH OF WELL (feet): <u>29.45</u>	ACTUAL PURGE VOL. (gal): <u>11.5</u>

DATE PURGED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1252  
 DATE SAMPLED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1600

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): None

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
	<u>9</u>	<u>6.57</u>	<u>68943</u>	<u>68.2</u>	<u>Bra</u>	<u>high</u>
	<u>10</u>	<u>6.75</u>	<u>940</u>	<u>66.7</u>	<u>-</u>	<u>-</u>
	<u>11</u>	<u>6.73</u>	<u>931</u>	<u>67.3</u>	<u>-</u>	<u>-</u>
	<u>11.5</u>	<u>6.71</u>	<u>938</u>	<u>67.1</u>	<u>-</u>	<u>-</u>

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_  
 ODOR: None

Clear  
 Cloudy  
 Yellow  
 Brown

#### PURGING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 Well Wizard™ \_\_\_\_\_ Dedicated

#### SAMPLING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 DDL Sampler  Bailer (PVC/disposable)  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 Well Wizard™ \_\_\_\_\_ Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature] Page 6 of 10

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70006-009  
 PURGED BY: BOC  
 SAMPLED BY: BOC

WELL ID: MW11  
 SAMPLE ID: MW11  
 CLIENT NAME: Safety-Kleen  
 LOCATION: Cakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>7.91</u>	VOLUME IN CASING (gal): <u>2.8</u>
DEPTH TO WATER (feet): <u>7.71</u>	CALCULATED PURGE (gal): <u>8.5</u>
DEPTH OF WELL (feet): <u>24.35</u>	ACTUAL PURGE VOL. (gal): <u>8.5</u>

DATE PURGED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1200  
 DATE SAMPLED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1615

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): None

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (microhm/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
	<u>5</u>	<u>6.98</u>	<u>815</u>	<u>69.3</u>	<u>BKN</u>	<u>High</u>
	<u>7</u>	<u>7.02</u>	<u>835</u>	<u>68.6</u>	<u>"</u>	<u>"</u>
	<u>8.5</u>	<u>6.93</u>	<u>844</u>	<u>69.0</u>	<u>"</u>	<u>"</u>

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_  
 ODOR: None

Clear  
 Cloudy  
 Yellow  
 Brown

#### PURGING EQUIPMENT

2" Bladder Pump  
 Centrifugal Pump   
 Submersible Pump  
 Well Wizard™  
 Bailer (Teflon®)  
 Bailer (PVC)  
 Bailer (Stainless Steel)  
 Dedicated

#### SAMPLING EQUIPMENT

2" Bladder Pump  
 DDL Sampler   
 Submersible Pump  
 Well Wizard™  
 Bailer (Teflon®)  
 Bailer (PVC/disposable)  
 Bailer (Stainless Steel)  
 Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: Roots in well

SIGNATURE: [Signature] Page 7 of 10

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 20005-009  
 PURGED BY: BT  
 SAMPLED BY: Tal

WELL ID: MW2  
 SAMPLE ID: MW2  
 CLIENT NAME: Safety Kleen  
 LOCATION: Oakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>8.20</u>	VOLUME IN CASING (gal): <u>3.2</u>
DEPTH TO WATER (feet): <u>8.43</u>	CALCULATED PURGE (gal): <u>9.6</u>
DEPTH OF WELL (feet): <u>27.3</u>	ACTUAL PURGE VOL. (gal): <u>10</u>

DATE PURGED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1030  
 DATE SAMPLED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1625

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): none

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
	<u>5</u>	<u>7.25</u>	<u>225</u>	<u>66.8</u>	<u>Bru</u>	<u>High</u>
	<u>8</u>	<u>6.49</u>	<u>547</u>	<u>66.3</u>	<u>"</u>	<u>"</u>
	<u>9</u>	<u>7.12</u>	<u>511</u>	<u>66.0</u>	<u>"</u>	<u>"</u>
	<u>10</u>	<u>7.15</u>	<u>536</u>	<u>66.5</u>	<u>"</u>	<u>"</u>

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_ Clear  
 Cloudy  
 Yellow  
 Brown

ODOR: none

#### PURGING EQUIPMENT

2" Bladder Pump  Bailer (Teflon®)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Well Wizard™  Dedicated

Other: \_\_\_\_\_

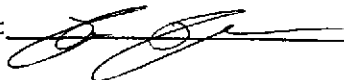
#### SAMPLING EQUIPMENT

2" Bladder Pump  Bailer (Teflon®)  
 DDL Sampler  Bailer (PVC/disposable)  
 Submersible Pump  Bailer (Stainless Steel)  
 Well Wizard™  Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: 

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 20005-009  
 PURGED BY: Bob  
 SAMPLED BY: Bob

WELL ID: MJ8  
 SAMPLE ID: MJ8  
 CLIENT NAME: Safety Klean  
 LOCATION: Oakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>7.80</u>	VOLUME IN CASING (gal): <u>3.6</u>
DEPTH TO WATER (feet): <u>7.81</u>	CALCULATED PURGE (gal): <u>10.7</u>
DEPTH OF WELL (feet): <u>29.18</u>	ACTUAL PURGE VOL. (gal): <u>11</u>

DATE PURGED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1116  
 DATE SAMPLED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1640

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): None

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
	<u>8</u>	<u>7.41</u>	<u>384</u>	<u>68.0</u>	<u>Bsm</u>	<u>High</u>
	<u>9</u>	<u>7.43</u>	<u>290</u>	<u>66.8</u>	<u>"</u>	<u>"</u>
	<u>10</u>	<u>7.29</u>	<u>372</u>	<u>67.0</u>	<u>"</u>	<u>"</u>
	<u>11</u>	<u>7.21</u>	<u>373</u>	<u>67.4</u>	<u>"</u>	<u>"</u>

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_  
 ODOR: \_\_\_\_\_  
 Clear \_\_\_\_\_  
 Cloudy   
 Yellow \_\_\_\_\_  
 Brown

#### PURGING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 Well Wizard™ \_\_\_\_\_ Dedicated

Other: \_\_\_\_\_

#### SAMPLING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 DDL Sampler  Bailer (PVC (disposable))  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 Well Wizard™ \_\_\_\_\_ Dedicated

Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_  
 REMARKS: Sheen on water noted when purging

SIGNATURE: [Signature] Page 9 of 10

# SEACOR WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 70005-009  
 PURGED BY: BoL  
 SAMPLED BY: BoL

WELL ID: MW12  
 SAMPLE ID: MW12  
 CLIENT NAME: Safety Klean  
 LOCATION: Oakland

TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION: (feet/MSL): <u>6.74</u>	VOLUME IN CASING (gal): <u>3.5</u>
DEPTH TO WATER (feet): <u>7.46</u>	CALCULATED PURGE (gal): <u>10.6</u>
DEPTH OF WELL (feet): <u>28.25</u>	ACTUAL PURGE VOL. (gal): <u>11.5</u>

DATE PURGED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1535  
 DATE SAMPLED: 7-30-93 Start (2400 Hr) \_\_\_\_\_ End (2400 Hr.) 1650

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): None

### FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
	<u>9</u>	<u>6.95</u>	<u>802</u>	<u>71.1</u>	<u>802</u>	<u>High</u>
	<u>10</u>	<u>6.89</u>	<u>762</u>	<u>70.2</u>	<u>"</u>	<u>"</u>
	<u>11.5</u>	<u>6.83</u>	<u>747</u>	<u>70.1</u>	<u>"</u>	<u>"</u>

D.O. (ppm): \_\_\_\_\_ COLOR, COBALT (0-100): \_\_\_\_\_  
 ODOR: None

Clear \_\_\_\_\_  
 Cloudy  
 Yellow \_\_\_\_\_  
 Brown

#### PURGING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 Well Wizard™ \_\_\_\_\_ Dedicated  
 Other: \_\_\_\_\_

#### SAMPLING EQUIPMENT

2" Bladder Pump \_\_\_\_\_ Bailer (Teflon®)  
 DDL Sampler  Bailer (PVC disposable)  
 Submersible Pump \_\_\_\_\_ Bailer (Stainless Steel)  
 Well Wizard™ \_\_\_\_\_ Dedicated  
 Other: \_\_\_\_\_

WELL INTEGRITY: \_\_\_\_\_ LOCK #: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SIGNATURE: [Signature] Page 10 of 10



***APPENDIX B***  
***CERTIFIED LABORATORY RESULTS - VAPOR***



RECEIVED  
JUN 21 1993

Client Number: SEA01SFK01  
Consultant Project Number: 70005-009-01  
Work Order Number: C3-06-0180

4080 Pike Lane  
Concord, CA 94520  
(510) 685-7852  
(800) 544-3422 Inside CA  
(800) 423-7143 Outside CA  
(510) 825-0720 FAX

June 17, 1993

Greg Hoehn  
SEACOR  
90 New Montgomery, Ste. 620  
San Francisco, CA 94105

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 06/10/93, under chain of custody record 7547.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,  
GTEL Environmental Laboratories, Inc.

Eileen F. Bullen  
Laboratory Director

**Table 1**

**ANALYTICAL RESULTS**

**Total Petroleum Hydrocarbons as Mineral Spirits in Air**

**Modified EPA Method 8015<sup>a</sup>**

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. BFB surrogate recovery acceptability limits are 70-130%.

GTEL Sample Number		01	02	061193GCE	
Client Identification		I-1	E-1	METHOD BLANK	
Date Sampled		06/10/93	06/10/93	-	
Date Analyzed		06/11/93	06/11/93	06/11/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Mineral Spirits	10	320	30	<10	
Detection Limit Multiplier		1	1	1	
BFB surrogate, % recovery		107	101	104	

# SEACOR Chain-of-Custody Record

Address

90 New Montgomery Suite 620  
San Francisco CA 94105

## C3060180

Project # 70005-009-01 Task # SK10

Project Manager Greg Hoehn

Laboratory G-TEL 4080 Pikes Lane Concord

Turn-around time: normal 5 Day ea

Sampler's Name: Nancy Bond

Sampler's Signature: [Signature]

### Analysis Request

Sample ID	Date	Time	Matrix	TPHg/BTEX 8015 (modified)/8020	TPHd 8015 (modified)	TPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCB's 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Comments/ Instructions	Number of Containers
I-1 01	6/10/93	2:30 pm	air		X										TPH as Mineral Spirits	1
E-1 02	6/10/93	2:00 pm	air		X										TPH as Mineral Spirits	1
PD-1 03	6/10/93	1:45 pm	water												Please HOLD	
PD-2 04	6/10/93	1:45 pm	water												Please HOLD	

Special Instructions/Comments:

Relinquished by: [Signature]  
 Sign Nancy Bond  
 Print Nancy Bond  
 Company SEACOR  
 Time 2:30 pm Date 6/10/93

Relinquished by: [Signature]  
 Sign [Signature]  
 Print Rich Williams  
 Company Concord Business  
 Time 3:00 Date 6/10/93

Received by: [Signature]  
 Sign [Signature]  
 Print Rich Williams  
 Company Concord Business  
 Time 2:40 Date 6/10/93

Received by: [Signature]  
 Sign [Signature]  
 Print Brian Crisp  
 Company GTEL  
 Time 1:50 Date 6/10/93

### Sample Receipt

Total no. of containers 4  
 Chain of custody seals: Y  
 Rec'd good condition/cold: Y  
 Conforms to record: Y

Client: \_\_\_\_\_  
 Client Contact: \_\_\_\_\_  
 Client Phone Number: \_\_\_\_\_

RECEIVED  
JUL 14 1993



# GTEL

ENVIRONMENTAL  
LABORATORIES, INC.

4080 Pike Lane  
Concord, CA 94520  
(510) 685-7852  
(800) 544-3422 Inside CA  
(800) 423-7143 Outside CA  
(510) 825-0720 FAX

Client Number: SEAS02SFK01  
Consultant Project Number: 70005-009-01  
Project ID: Not Given  
Work Order Number: C3-06-0439

July 13, 1993

Greg Hoehn  
SEACOR  
90 New Montgomery, Ste. 620  
San Francisco, CA 94105

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 06/23/93, under chain of custody record 7546.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certificate numbers 194 and 1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,  
GTEL Environmental Laboratories, Inc.

Eileen F. Bullen  
Laboratory Director

Client Number: SEAS02SFK01  
 Consultant Project Number: 70005-009-01  
 Project ID: Not Given  
 Work Order Number: C3-06-0439

**Table 1**

**ANALYTICAL RESULTS**

**Total Petroleum Hydrocarbons as Mineral Spirits in Air**

**Modified EPA Method 8015<sup>a</sup>**

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. BFB surrogate recovery acceptability limits are 70-130%.

GTEL Sample Number		01	02	062493GCE	
Client Identification		I-2	E-2	METHOD BLANK	
Date Sampled		06/23/93	06/23/93	--	
Date Analyzed		06/24/93	06/24/93	06/24/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Mineral Spirits	10	400	<10	<10	
Detection Limit Multiplier		1	1	1	
BFB surrogate, % recovery		113	107	86.9	

# SEACOR Chain-of-Custody Record

Address 90 New Montgomery Suite 620  
San Francisco CA 94105

## C3060439

Project # <u>76005-009-01</u> Task # <u>K10</u>				Analysis Request												Number of Containers	
Project Manager <u>Greg Hoehn</u>				TPHg/BTEX 8015 (modified)/8020	TPHg 8015 (modified)	TPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601 (8010)	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCB's 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Comments/ Instructions		
Laboratory <u>GTEL - Concord</u>																	
Turn-around time: <u>normal</u>																	
Sampler's Name: <u>Nancy Bond</u>																	
Sampler's Signature: <u>[Signature]</u>																	
Sample ID	Date	Time	Matrix														
I-2	6/23/93	3:45 pm	air	X				X								TPH as Mineral Spirits	1
E-2	6/23/93	3:30 pm	air	X				X								TPH as Mineral Spirits	1

Special Instructions/Comments:	Relinquished by: <u>[Signature]</u> Sign <u>Nancy Bond</u> Print <u>Nancy Bond</u> Company <u>SEACOR</u> Time <u>4:02 AM</u> Date <u>6/23/93</u>	Received by: <u>[Signature]</u> Sign <u>[Signature]</u> Print _____ Company _____ Time _____ Date _____	<h3 style="text-align: center;">Sample Receipt</h3> Total no. of containers <u>2</u> Chain of custody seals: _____ Rec'd good condition/cold: _____ Conforms to record: <u>yes</u>
	Relinquished by: Sign _____ Print _____ Company _____ Time _____ Date _____	Received by: <u>[Signature]</u> Sign <u>Corinne Belsky</u> Print _____ Company <u>GTEL</u> Time <u>6:05</u> Date <u>6/23/93</u>	

RECEIVED

JUL 14 1993



Client Number: SEAC2SFK01  
Consultant Project Number: 70005-009-01  
Project ID: Not Given  
Work Order Number: C3-06-0439

**Northwest Region**  
4080-C Pike Lane  
Concord, CA 94520  
(510) 685-7852  
(800) 544-3422 from inside California  
(800) 423-7143 from outside California  
(510) 825-0720 (FAX)

July 10, 1993

Greg Hoehn  
SEACOR  
90 New Montgomery, Ste. 620  
San Francisco, CA 94105

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 06/23/93, under chain of custody record 7546.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certificate numbers 194 and 1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,  
GTEL Environmental Laboratories, Inc.

Eileen F. Bullen  
Laboratory Director



**Table 1**  
**ANALYTICAL RESULTS**  
**Volatile Halocarbons and Aromatics in Air**  
**EPA Method 601 and 602<sup>a</sup>**

GTEL Sample Number		01	02	C062493	
Client Identification		I-2	E-2	METHOD BLANK	
Date Sampled		06/23/93	06/23/93	-	
Date Analyzed		06/25/93	06/25/93	06/24/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5	<0.5	
Bromomethane	0.5	<0.5	<0.5	<0.5	
Vinyl chloride	1	<1	<1	<1	
Chloroethane	0.5	<0.5	<0.5	<0.5	
Methylene chloride	0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethene	0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethane	0.5	<0.5	<0.5	<0.5	
1,2-Dichloroethene	0.5	<0.5	<0.5	<0.5	
Chloroform	0.5	<0.5	<0.5	<0.5	
1,2-Dichloroethane	0.5	<0.5	<0.5	<0.5	
1,1,1-Trichloroethane	0.5	1	<0.5	<0.5	
Carbon tetrachloride	0.5	<0.5	<0.5	<0.5	
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	
cis-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	
Trichloroethene	0.5	<0.5	<0.5	<0.5	
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	
trans-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	
2-Chloroethylvinyl ether	1	<1	<1	<1	
Bromoform	0.5	<0.5	<0.5	<0.5	
Tetrachloroethene	0.5	<0.5	<0.5	<0.5	
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	
Chlorobenzene	0.5	<0.5	<0.5	<0.5	
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
Trichlorofluoromethane	0.5	<0.5	<0.5	<0.5	
Benzene	0.5	<0.5	<0.5	<0.5	
Toluene	0.5	<0.5	<0.5	<0.5	
Ethylbenzene	0.5	1	<0.5	<0.5	
Xylenes, total	0.5	2	<0.5	<0.5	
Detection Limit Multiplier		1	1	1	
BFB surrogate, %recovery		121	125	72.8	

a. Federal Register, Vol. 49, October 26, 1984.

# SEACOR Chain-of-Custody Record

Address

90 New Montgomery Suite 620  
San Francisco CA 94105

C3060439

Project # 76005-009-01 Task # SK10  
Project Manager Greg Hoehn  
Laboratory B-Tel (Concord)  
Turn-around time: normal

Sampler's Name: Nancy Bond  
Sampler's Signature: [Signature]

## Analysis Request

Sample ID	Date	Time	Matrix	TPHg/BTEX 8015 (modified)/8020	TPHd 8015 (modified)	TPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601 (8010)	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCB's 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Comments/ Instructions	Number of Containers
I-2	6/23/93	3:45 pm	air	X					X						TPH as Mineral Spirits	1
E-2	6/23/93	3:30 pm	air	X					X						TPH as Mineral Spirits	1

Special Instructions/Comments:

Relinquished by:  
Sign [Signature]  
Print Nancy Bond  
Company SEACOR  
Time 4:02 pm Date 6/23/93

Received by:  
Sign [Signature]  
Print \_\_\_\_\_  
Company \_\_\_\_\_  
Time \_\_\_\_\_ Date \_\_\_\_\_

### Sample Receipt

Total no. of containers 2  
Chain of custody seals: \_\_\_\_\_  
Rec'd good condition/cold: \_\_\_\_\_  
Conforms to record: yes

Relinquished by:  
Sign \_\_\_\_\_  
Print \_\_\_\_\_  
Company \_\_\_\_\_  
Time \_\_\_\_\_ Date \_\_\_\_\_

Received by:  
Sign [Signature]  
Print \_\_\_\_\_  
Company BTEL  
Time 6:05 Date 6/23/93

Client: \_\_\_\_\_  
Client Contact: \_\_\_\_\_  
Client Phone Number: \_\_\_\_\_



RECEIVED  
AUG 20 1993

Client Number: SEA02SFK01  
Consultant Project Number: 70005-009-04  
Project ID: Safety Kleen  
Work Order Number: C3-08-0163

**Northwest Region**  
4080 Pike Lane  
Suite C  
Concord, CA 94520  
(510) 685-7852  
(800) 544-3422 Inside CA  
FAX (510) 825-0720

August 19, 1993

Greg Hoehn  
SEACOR  
1390 Willow Pass Rd., Ste. 360  
Concord, CA 94520

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 08/12/93, under chain of custody record 8443.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,  
GTEL Environmental Laboratories, Inc.

*Eileen F. Bullen*  
*Asst. Lab Director for*  
Eileen F. Bullen  
Laboratory Director

Client Number: SEA02SFK01  
 Consultant Project Number: 70005-009-04  
 Project ID: Safety Kleen  
 Work Order Number: C3-08-0163

**Table 1**

**ANALYTICAL RESULTS**

**Aromatic Volatile Organics and  
 Total Petroleum Hydrocarbons as Mineral Spirits in Air**

**Modified EPA Methods 8020 and 8015<sup>a</sup>**

GTEL Sample Number		01	02	E081393	
Client Identification		PADRE INF	BLOWER EFL	METHOD BLANK	
Date Sampled		08/11/93	08/11/93	--	
Date Analyzed		08/13/93	08/13/93	08/13/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	0.9	<0.5	<0.5	
Toluene	0.5	2	<0.5	<0.5	
Ethylbenzene	0.5	<0.5	<0.5	<0.5	
Xylene, total	0.5	20	<0.5	<0.5	
BTEX, total	--	23	--	--	
TPH as mineral spirits	10	570	34	<10	
Detection Limit Multiplier		1	1	1	
TFT surrogate, % recovery		126	124	94.9	

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. TFT surrogate recovery acceptability limits are 70-130%.

**Table 1**  
**ANALYTICAL RESULTS**  
 Purgeable Halocarbons in Air  
 EPA Method 601<sup>a</sup>

GTEL Sample Number		01	02	C081393	
Client Identification		PADRE INF	BLOWER EFL	METHOD BLANK	
Date Sampled		08/11/93	08/11/93	--	
Date Analyzed		08/13/93	08/13/93	08/13/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5	<0.5	
Bromomethane	0.5	<0.5	<0.5	<0.5	
Vinyl chloride	1	<1	<1	<1	
Chloroethane	0.5	<0.5	<0.5	<0.5	
Methylene chloride	0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethene	0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethane	0.5	<0.5	<0.5	<0.5	
1,2-Dichloroethene	0.5	<0.5	<0.5	<0.5	
Chloroform	0.5	<0.5	<0.5	<0.5	
1,2-Dichloroethane	0.5	<0.5	<0.5	<0.5	
1,1,1-Trichloroethane	0.5	0.6	<0.5	<0.5	
Carbon tetrachloride	0.5	<0.5	<0.5	<0.5	
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	
cis-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	
Trichloroethene	0.5	<0.5	<0.5	<0.5	
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	
trans-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	
2-Chloroethylvinyl ether	1	<1	<1	<1	
Bromoform	0.5	<0.5	<0.5	<0.5	
Tetrachloroethene	0.5	<0.5	<0.5	<0.5	
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	
Chlorobenzene	0.5	<0.5	<0.5	<0.5	
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	
Trichlorofluoromethane	0.5	<0.5	<0.5	<0.5	
Detection Limit Multiplier		1	1	1	
BFB surrogate, % recovery		93.4	87.6	100	

a. Federal Register, Vol. 49, October 26, 1984. BFB surrogate recovery acceptability limits are 65-135%.

# SEACOR Chain-of-Custody Record

Address: 1290 Willow Park Rd Ste 300  
Concord CA 94520  
510 686 9780

Project # 2005-009-04 Task # \_\_\_\_\_  
 Project Manager Greg Hehn  
 Laboratory GTEL  
 Turn-around time: \_\_\_\_\_  
 Sampler's Name: Bob Robitaille  
 Sampler's Signature: [Signature]

## Analysis Request

Sample ID	Date	Time	Matrix	TPHg/BTEX 8015 (modified)/8020	TPHd 8015 (modified)	TPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCB's 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	BTEX / TPH-GS- Mineral Spirits	Comments/ Instructions	Number of Containers
<u>81</u> Padre Inf.	<u>8-11-93</u>	<u>16:10</u>	<u>Vapor</u>						X						X		1
<u>82</u> Blower Eff.	<u>8-11-93</u>	<u>16:15</u>	<u>Vapor</u>						X						X		2
															*		

[Signature]  
8/11/93

C3080163

Special Instructions/Comments:

Relinquished by:  
 Sign [Signature]  
 Print Bob Robitaille  
 Company SEACOR  
 Time \_\_\_\_\_ Date \_\_\_\_\_

Relinquished by:  
 Sign [Signature]  
 Print Greg Hehn  
 Company SEACOR  
 Time 11:10 Date 8-12

Received by:  
 Sign [Signature]  
 Print Greg Hehn  
 Company SEACOR  
 Time 0700 Date 8-12

Received by:  
 Sign [Signature]  
 Print John Weber  
 Company GTEL  
 Time 11:10 Date 8-12-93

**Sample Receipt**

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

Client: \_\_\_\_\_  
 Client Contact: \_\_\_\_\_  
 Client Phone Number: \_\_\_\_\_

*APPENDIX C*  
*CERTIFIED LABORATORY RESULTS - GROUNDWATER*



**ENVIRONMENTAL  
LABORATORIES, INC.**

**Northwest Region**

4080 Pike Lane  
Suite C  
Concord, CA 94520  
(510) 685-7852  
(800) 544-3422 Inside CA  
FAX (510) 825-0720

Client Number: SEA02SFK01  
Consultant Project Number: 70005-009  
Project ID: Safety Kleen  
400 Market St.  
Oakland, CA  
Work Order Number: C3-08-0012

August 17, 1993

Greg Hoehn  
Seacor  
1390 Willow Pass Rd., Ste. 360  
Concord, CA 94520

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 07/30/93, under chain of custody record 8444.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,  
GTEL Environmental Laboratories, Inc.

Eileen F. Bullen  
Laboratory Director



Client Number: SEA02SFK01  
 Consultant Project Number: 70005-009  
 Project ID: Safety Kleen  
 400 Market St.  
 Oakland, CA  
 Work Order Number: C3-08-0012

**Table 1**

**ANALYTICAL RESULTS**

**Aromatic Volatile Organics and  
 Total Petroleum Hydrocarbons as Mineral Spirits in Water**

EPA Methods 5030, 8020, and Modified 8015<sup>a</sup>

GTEL Sample Number		01	02	03	04
Client Identification		MW1	MW4	MW5	MW6
Date Sampled		07/29/93	07/29/93	07/29/93	07/29/93
Date Analyzed		08/11/93	08/11/93	08/11/93	08/11/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	<0.3	<0.3
Xylene, total	0.5	<0.5	<0.5	<0.5	<0.5
BTEX, total	--	--	--	--	--
TPH as Mineral Spirits	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
TFT surrogate, % recovery		109	444 <sup>b</sup>	109	115

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.
- b. TFT recovery high due to matrix interference.

Client Number: SEA02SFK01  
 Consultant Project Number: 70005-009  
 Project ID: Safety Kleen  
 400 Market St.  
 Oakland, CA  
 Work Order Number: C3-08-0012

**Table 1 (Continued)**

**ANALYTICAL RESULTS**

**Aromatic Volatile Organics and  
 Total Petroleum Hydrocarbons as Mineral Spirits in Water**

EPA Methods 5030, 8020, and Modified 8015<sup>a</sup>

GTEL Sample Number		05	06	07	08
Client Identification		MW3	MW10	MW11	MW2
Date Sampled		07/29/93	07/30/93	07/30/93	07/30/93
Date Analyzed		08/11/93	08/11/93	08/11/93	08/11/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	<0.3	<0.3
Xylene, total	0.5	<0.5	<0.5	<0.5	<0.5
BTEX, total	--	--	--	--	--
TPH as Mineral Spirits	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
TFT surrogate, % recovery		110	106	107	111

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: SEA02SFK01  
 Consultant Project Number: 70005-009  
 Project ID: Safety Kleen  
 400 Market St.  
 Oakland, CA  
 Work Order Number: C3-08-0012

**Table 1 (Continued)**

**ANALYTICAL RESULTS**

**Aromatic Volatile Organics and  
 Total Petroleum Hydrocarbons as Mineral Spirits in Water**

**EPA Methods 5030, 8020, and Modified 8015<sup>a</sup>**

GTEL Sample Number		09	10	GC-S BLANK	
Client Identification		MW8	MW12	METHOD BLANK	
Date Sampled		07/30/93	07/30/93	--	
Date Analyzed		08/11/93	08/11/93	08/11/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	
Toluene	0.3	<0.3	<0.3	<0.3	
Ethylbenzene	0.3	<0.3	<0.3	<0.3	
Xylene, total	0.5	<0.5	<0.5	<0.5	
BTEX, total	--	--	--	--	
TPH as Mineral Spirits	100	<100	<100	<100	
Detection Limit Multiplier		1	1	1	
TFT surrogate, % recovery		109	108	101	

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: SEA02SFK01  
 Consultant Project Number: 70005-009  
 Project ID: Safety Kleen  
 400 Market St.  
 Oakland, CA  
 Work Order Number: C3-08-0012

**Table 1**  
**ANALYTICAL RESULTS**  
**Purgeable Halocarbons in Water**  
**EPA Method 601a**

GTEL Sample Number		01	02	03	04
Client Identification		MW1	MW4	MW5	MW6
Date Sampled		07/29/93	07/29/93	07/29/93	07/29/93
Date Analyzed		08/12/93	08/12/93	08/12/93	08/12/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	1	<1	<1	<1	<1
Chloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	0.5	<0.5	<0.5	0.6	<0.5
1,1-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene	0.5	<0.5	53	<0.5	<0.5
Chloroform	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	0.5	<0.5	1100	6	5
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinyl ether	1	<1	<1	<1	<1
Bromoform	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	0.5	<0.5	<0.5	19	<0.5
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		92.0	86.6	104	103

a. Federal Register, Vol. 49, October 26, 1984. BFB surrogate recovery acceptability limits are 65-135%.

Client Number: SEA02SFK01  
 Consultant Project Number: 70005-009  
 Project ID: Safety Kleen  
 400 Market St.  
 Oakland, CA  
 Work Order Number: C3-08-0012

**Table 1 (Continued)**  
**ANALYTICAL RESULTS**  
 Purgeable Halocarbons in Water  
 EPA Method 601a

GTEL Sample Number		05	06	07	08
Client Identification		MW3	MW10	MW11	MW2
Date Sampled		07/29/93	07/30/93	07/30/93	07/30/93
Date Analyzed		08/12/93	08/12/93	08/12/93	08/12/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	1	<1	<1	<1	<1
Chloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	0.5	<0.5	2	2	<0.5
1,1-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene	0.5	<0.5	17	3	<0.5
Chloroform	0.5	<0.5	0.5	<0.5	<0.5
1,2-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5	<0.5	0.8	2	<0.5
Carbon tetrachloride	0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	0.5	<0.5	54	36	<0.5
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinyl ether	1	<1	<1	<1	<1
Bromoform	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	0.5	<0.5	<0.5	<0.5	<0.5
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		103	90.0	69.8	85.0

a. Federal Register, Vol. 49, October 26, 1984. BFB surrogate recovery acceptability limits are 65-135%.

Client Number: SEA02SFK01  
 Consultant Project Number: 70005-009  
 Project ID: Safety Kleen  
 400 Market St.  
 Oakland, CA  
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**Table 1 (Continued)**  
**ANALYTICAL RESULTS**  
 Purgeable Halocarbons in Water  
 EPA Method 601a

GTEL Sample Number		09	10	C08
Client Identification		MW8	MW12	METHOD BLANK
Date Sampled		07/30/93	07/30/93	--
Date Analyzed		08/12/93	08/12/93	08/12/93
Analyte	Detection Limit, ug/L	Concentration, ug/L		
Chloromethane	0.5	<0.5	<0.5	<0.5
Bromomethane	0.5	<0.5	<0.5	<0.5
Vinyl chloride	1	<1	<1	<1
Chloroethane	0.5	<0.5	<0.5	<0.5
Methylene chloride	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	0.5	<0.5	2	<0.5
1,2-Dichloroethane	0.5	1	3	<0.5
Chloroform	0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5	5	2	<0.5
1,1,1-Trichloroethane	0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5
Trichloroethene	0.5	31	30	<0.5
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5
Dibromochloromethane	0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5
2-Chloroethylvinyl ether	1	<1	<1	<1
Bromoform	0.5	<0.5	<0.5	<0.5
Tetrachloroethene	0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5
Chlorobenzene	0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	0.5	<0.5	<0.5	<0.5
Detection Limit Multiplier		1	1	1
BFB surrogate, % recovery		86.4	72.4	108

a. Federal Register, Vol. 49, October 26, 1984. BFB surrogate recovery acceptability limits are 65-135%.

# SEACOR Chain-of-Custody Record

C3080012

Address  
 1390 Willow Pass Rd Ste 360  
 Concord CA 94520  
 (510) 686-9780

Project # 2005-009 Task # \_\_\_\_\_  
 Project Manager Greg Hoehn  
 Laboratory GTCL  
 Turn-around time: Normal  
 Sampler's Name: Bob Robitaille  
 Sampler's Signature: [Signature]

## Analysis Request

Sample ID	Date	Time	Matrix	TPHg/BTEX 8015 (modified)/8020	TPHd 8015 (modified)	TPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCB's 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	BTEX - TPH 225 - Mineral Spirits	Comments/ Instructions	Number of Containers	
01	MW1	ND	7-29-95	1550	GW				X						X			
02	MW4	ND	↓	1605					X						X			
03	MW5	ND		1615					X							X		
04	MW6	NP		1630					X							X		
05	MW3	NP		1645					X							X		
06	MW10	NP		7-30-95	1600				X							X		
07	MW11	NP		1615					X							X		
08	MW2	NP		1625					X							X		
09	MW8	NP		1640					X							X		
10	MW12	NP		1650					X							X		

U. Blomby  
8/1/93

Special Instructions/Comments:  
 Safety Kleen  
 400 Market St.  
 Oakland CA.

Relinquished by:  
 Sign [Signature]  
 Print Bob Robitaille  
 Company SEACOR  
 Time 8:20 Date 7-30-95

Relinquished by:  
 Sign \_\_\_\_\_  
 Print \_\_\_\_\_  
 Company \_\_\_\_\_  
 Time \_\_\_\_\_ Date \_\_\_\_\_

Received by:  
 Sign [Signature]  
 Print Brian S. Crisp  
 Company GTCL  
 Time 0820 Date 8/2/93

Received by:  
 Sign \_\_\_\_\_  
 Print \_\_\_\_\_  
 Company \_\_\_\_\_  
 Time \_\_\_\_\_ Date \_\_\_\_\_

**Sample Receipt**

Total no. of containers 10  
 Chain of custody seals: Y  
 Rec'd good condition/cold: 3°C  
 Conforms to record: Y

Client: \_\_\_\_\_  
 Client Contact: \_\_\_\_\_  
 Client Phone Number: \_\_\_\_\_