SECOR
International Incorporated

September 28, 2000

Via Certified Mail No. Z 264 569 839

00 SEP 29 PM 2:40
ENVIRONMENTAL PROTECTION

Mr. Robert M. Senga, Unit Chief
California Environmental Protection Agency
Department of Toxic Substances Control
Southern California Region
5796 Corporate Avenue
Cypress, California 90630

Re: **Quarterly Progress Report**
June through August 2000
Safety-Kleen Systems, Inc., Service Center
400 Market Street
Oakland, California

Dear Mr. Senga:

Enclosed are three copies of the Quarterly Progress Report which presents the groundwater monitoring data for the above-referenced facility. This report covers the period of June through August 2000. Safety-Kleen Systems, Inc. (Safety-Kleen) is following the modified groundwater sampling schedule as described in the letter submitted on October 8, 1998, and as modified and approved by Alameda County Environmental Health Services in a response letter dated November 17, 1998, with the exception that monitoring well MW-9 continue to be sampled quarterly. As requested by Alameda County, Safety-Kleen will sample monitoring well MW-9 quarterly as long as no sheen or measurable product is present in the well.

Please note there is a new Safety-Kleen project manager for this project. Her name, address and contact numbers are presented below:

Sharon Halper
Senior Project Manager – Remediation
P.O. Box 1471
Benicia, CA 94510
Phone: 707-748-7507
Fax: 707-864-1659

I:\Safety-Kleen\Oakland\50914\3Q00\Oak3q00.ltr.doc
September 28, 2000
SECOR Job No. 007.50914

If you have any questions or require any additional information, please contact Sharon Halper with Safety-Kleen at (707) 748-7507 or myself at (925) 686-9780.

Sincerely,

Greg Hoehn
Principal Geologist
SECOR International Incorporated

Enclosure

cc: Steven LuQuire, Safety-Kleen
Heather Collins, Safety-Kleen
Sharon Halper, Safety-Kleen
B. Geoffrey Jones, Safety-Kleen
Branch Environmental File (999)
Larry Seto, Alameda County Environmental Health Services
Loretta Barsamian, California Regional Water Quality Control Board

SECOR
International Incorporated

QUARTERLY PROGRESS REPORT
JUNE 2000 – AUGUST 2000
SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
400 MARKET STREET
OAKLAND, CALIFORNIA
EPA ID NO. CAD053044053

SECOR Job No. 007.50914

Submitted By:
SECOR International Incorporated
1390 Willow Pass Road, Suite 360
Concord, CA 94520
925/ 686-9780

Prepared For:
B. Geoffrey Jones
Safety-Kleen Systems, Inc.
P.O. Box 1471
Benicia, CA 94510
707/ 748-7507

September 28, 2000

Prepared by:

Nyree Melancon

Nyree Melancon
Assistant Geologist

REGISTERED GEOLOGIST
JAMES W. GRASTY
Exp. 6/30/02
NO. 6102
STATE OF CALIFORNIA

Reviewed by:

James W. Grasty, R.G. #6102
Principal Geologist

Greg D. Hoehn
Principal Geologist

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

This Quarterly Progress Report presents the results of groundwater monitoring for the quarter of June through August 2000 at the Safety-Kleen Service Center located at 400 Market Street in Oakland, California (Figures 1 and 2). This report has been prepared in accordance with the Safety-Kleen Systems, Inc. (Safety-Kleen) Hazardous Waste Facility Permit's reporting requirements.

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.

A product pumping system was installed in recovery well RW-1 to remove separate-phase product from the water table and 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. On August 5, 1998, the passive recovery skimmer was removed and oxygen releasing compound (ORC) was suspended in RW-1 in an effort to enhance site remediation by oxidizing residual impacts in the vicinity of the USTs. On October 5, 1999, the ORC was removed before an *in situ* chemical oxidation pilot study was implemented.

During the UST replacement program, underground piping was installed for use as a soil vapor extraction (SVE) network. The SVE system consists of seven horizontal vapor extraction perforated pipelines 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 a granular activated carbon (GAC) treatment system. Figure 3 depicts the layout of the vapor extraction pipelines and the vapor treatment system.

Data collected from initial start-up through October 19, 1999, indicate a total of 5514 pounds of mineral spirits have been removed from the subsurface by the SVE system. After vapor sampling was completed on October 19, 1999, the SVE system operation was discontinued.

2.1 Regulatory Status

The Safety-Kleen Oakland facility operates under a Hazardous Waste Facility Permit (Part B Permit; ID No. CAD053044053). A RCRA Facility Assessment (RFA) performed by the Department of Toxic Substances Control (DTSC) identified three solid waste management units (SWMUs) and one area of concern (AOC) at the facility. The results of the RFA were transmitted in the RFA Report dated June 1993. The Corrective Action Module of the Part B Permit (Section V) specified the need to submit a RCRA Facility Investigation (RFI) Work Plan to assess impacts related to the three SWMUs and the AOC. The RFI Work Plan was submitted on February 1, 1996. The DTSC approved the RFI Work Plan in correspondence dated February 23, 1996. The RFI Work Plan summarized site characterization work conducted at the site to February 1996 for the AOC and SWMUs identified in the RFA.

Subsequent to approval of the RFI Work Plan, an RFI Report was submitted to the DTSC on March 27, 1996 and approved by that agency in correspondence dated May 20, 1996. The RFI Report states that the extent of total petroleum hydrocarbons as mineral spirits (TPHms) and volatile organic compound (VOC) impact at the facility is well defined and that the site characterization activities have adequately assessed the subsurface in the vicinity of the USTs and the return and fill shelter. The investigations have determined that soil impact is present immediately adjacent to the UST pit and has migrated along the capillary fringe as far as monitoring well MW-8 (see Figure 2).

In a letter dated September 20, 1996, the DTSC requested that Safety-Kleen prepare a Corrective Measures (CM) Report for the Oakland facility. Safety-Kleen submitted the CM Report on December 2, 1996. The purpose of the CM Report is to: (1) document the corrective measures which have been taken at the site to date, (2) evaluate the effectiveness of the corrective measures currently in use, and (3) provide an assessment of potential alternative methods. In a January 24, 2000 comment letter, the DTSC requested that Safety-Kleen prepare a Corrective Measures Work Plan. On April 6, 2000, Safety-Kleen submitted the Corrective Measures Study (CMS) Work Plan. Safety-Kleen is currently awaiting comments from the DTSC to the CMS Work Plan.

Safety-Kleen is following the modified groundwater sampling schedule as described in the letter submitted on October 8, 1998, and as modified and approved by Alameda County Environmental Health Services in a response letter dated November 17, 1998. With the exception that monitoring well MW-9 continue to be sampled quarterly if no sheen or product is present in the well, the modified groundwater sampling schedule is to sample six wells semi-annually, all wells annually, and continue to collect depth-to-groundwater data quarterly.

On March 8, 1999, an "*In Situ* Chemical Oxidation Pilot Study Work Plan (Work Plan)" was submitted to the California Regional Water Quality Control Board - San Francisco Bay Region (RWQCB) and to Alameda County. The injection of potassium permanganate ($KMnO_4$) and subsequent monitoring was verbally approved by the RWQCB on September 30, 1999 and documented in a SECOR letter dated October 5, 1999. The *in situ* chemical oxidation pilot study was implemented on November 1, 1999 and is ongoing.

3.0 SCOPE-OF-WORK

Groundwater sampling is conducted on a semi-annual schedule and was sampled last quarter on April 26, 2000. Groundwater monitoring conducted during this quarter consisted of measuring depth-to-water in nine groundwater monitoring wells and 1 recovery well on July 24, 2000. Monitoring well MW-9 was not sampled this quarter due to the presence of a sheen. The following section provides a description of the activities conducted this reporting period.

3.1 Groundwater Monitoring

On July 24, 2000, nine of the eleven monitoring wells and the one recovery well were monitored for depth-to-water. Wells MW-2 and MW-12 were inaccessible due to parked cars over the wells. All accessible monitoring wells and the recovery well were monitored for depth-to-water using a water-level indicator to the nearest 0.01-foot. The depth-to-water measurements were used with well survey data to prepare a groundwater potentiometric surface map (Figure 4). Field data sheets that include depth-to-water measurements are included in Appendix A. 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.

Groundwater elevations and depth-to-water measurements for the July 24, 2000, event are presented in Table 1. The average water-table elevation on July 24, 2000 was 2.57 feet above mean sea level (amsl), a decrease of 0.51 feet since the April 2000 event, consistent with historical data. A groundwater potentiometric surface map prepared with this data is presented as Figure 4.

As shown in Figure 4, the on- and off-site groundwater flow direction remains to the south-southwest, consistent with historic site data. The hydraulic gradient was 0.004 feet/foot (ft/ft) across the site as measured between monitoring wells MW-4 and MW-3. The hydraulic gradient is consistent with previous data for the site. A summary of groundwater elevations since January 1993 is provided as Table 2.

4.0 ACTIVITIES SCHEDULED FOR SEPTEMBER – NOVEMBER 2000

The following activities have been or are scheduled to be performed next quarter:

- Perform semi-annual groundwater monitoring and sampling in October 2000. Collect additional samples to evaluate the effectiveness of the ongoing $KMnO_4$ study.
- Address DTSC comments (if received) to the CMS Work Plan.
- Prepare a quarterly progress report.

5.0 CERTIFICATION STATEMENT

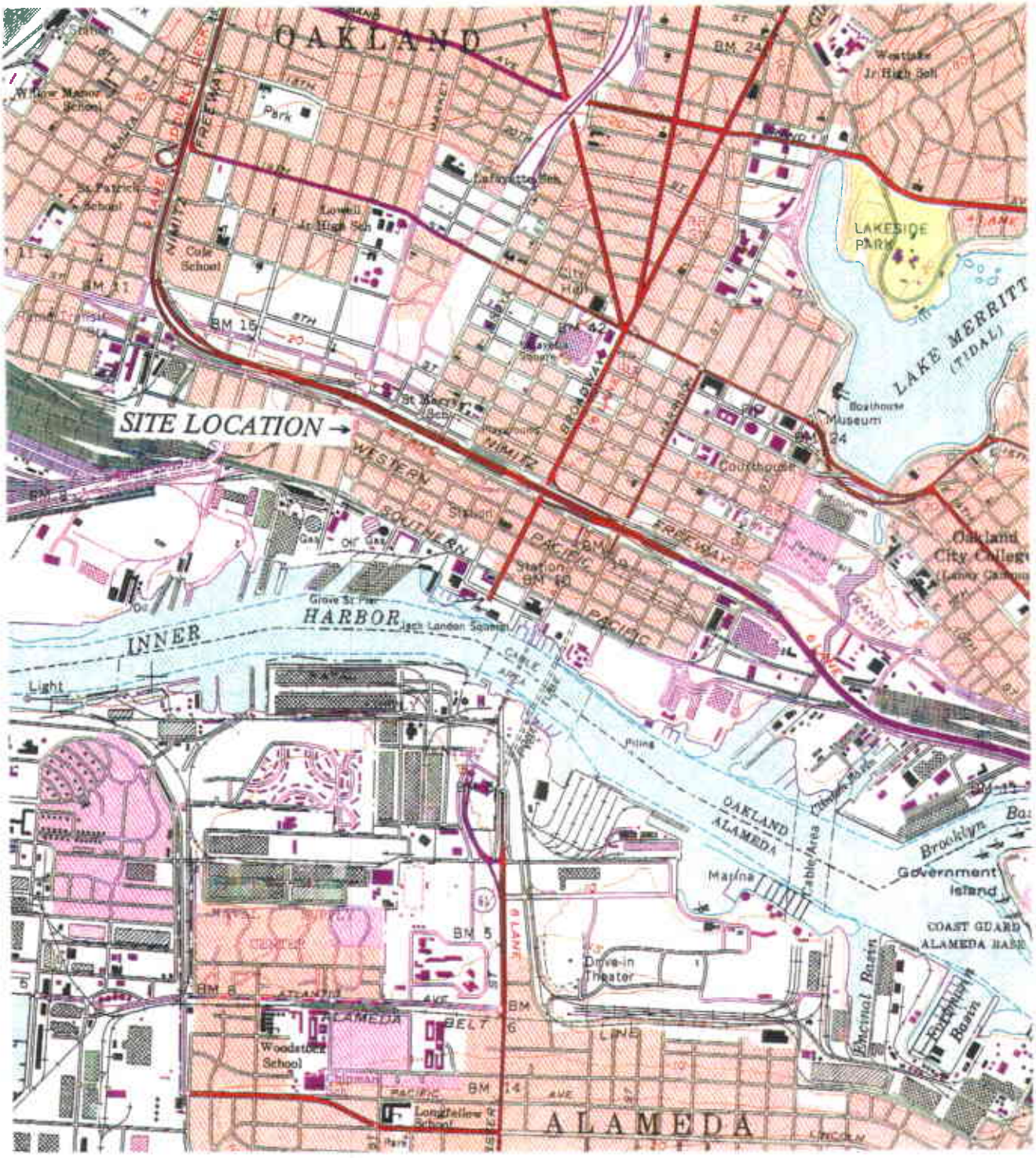
Quarterly Progress Report
Safety-Kleen Systems, Inc., Service Center
400 Market Street
Oakland, California
CAD 053044053

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

B. Geoffrey Jones
Safety-Kleen Systems, Inc.

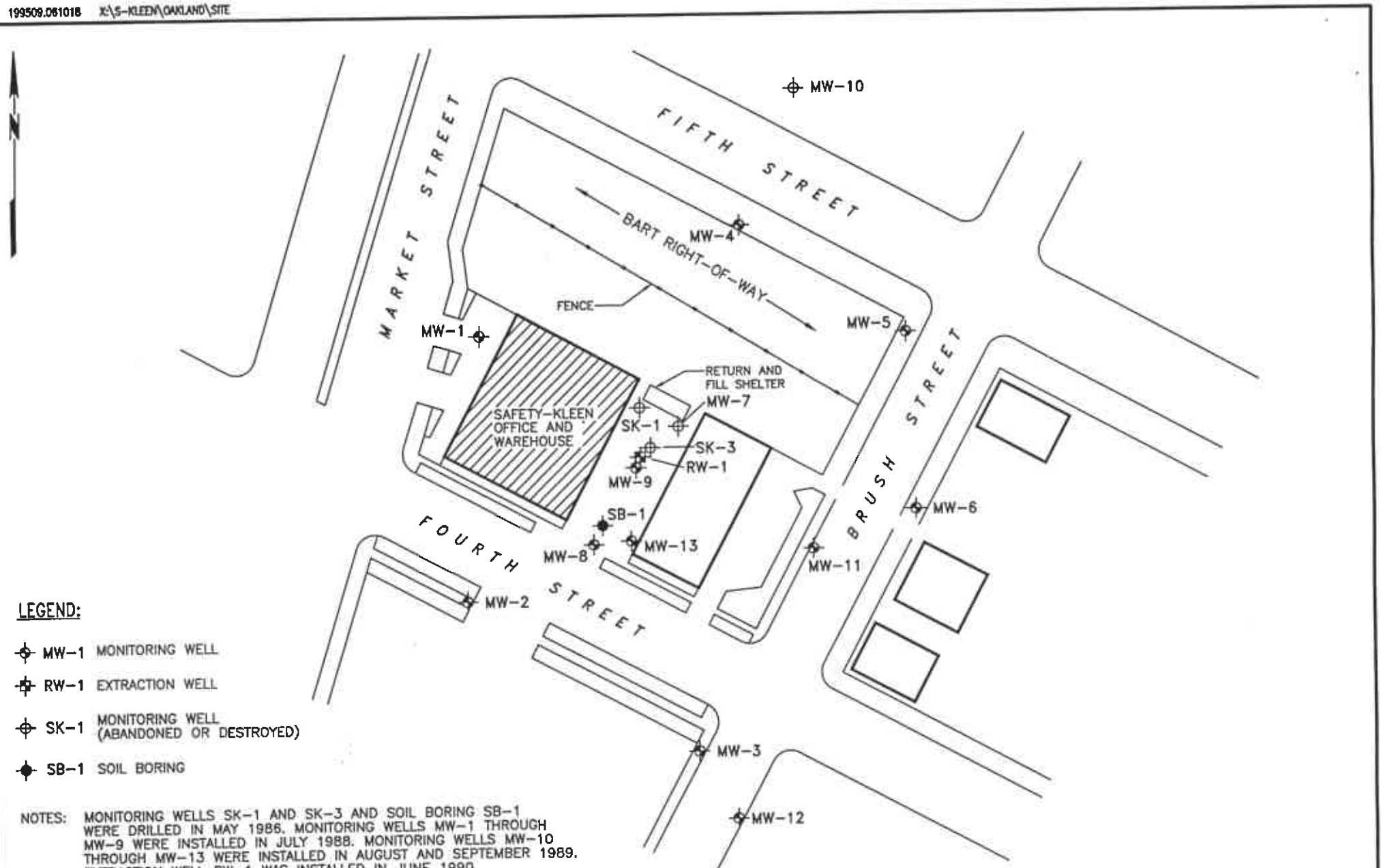
9/26/00
Date

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



LEGEND:

- MW-1 MONITORING WELL
- RW-1 EXTRACTION WELL
- SK-1 MONITORING WELL (ABANDONED OR DESTROYED)
- SB-1 SOIL BORING

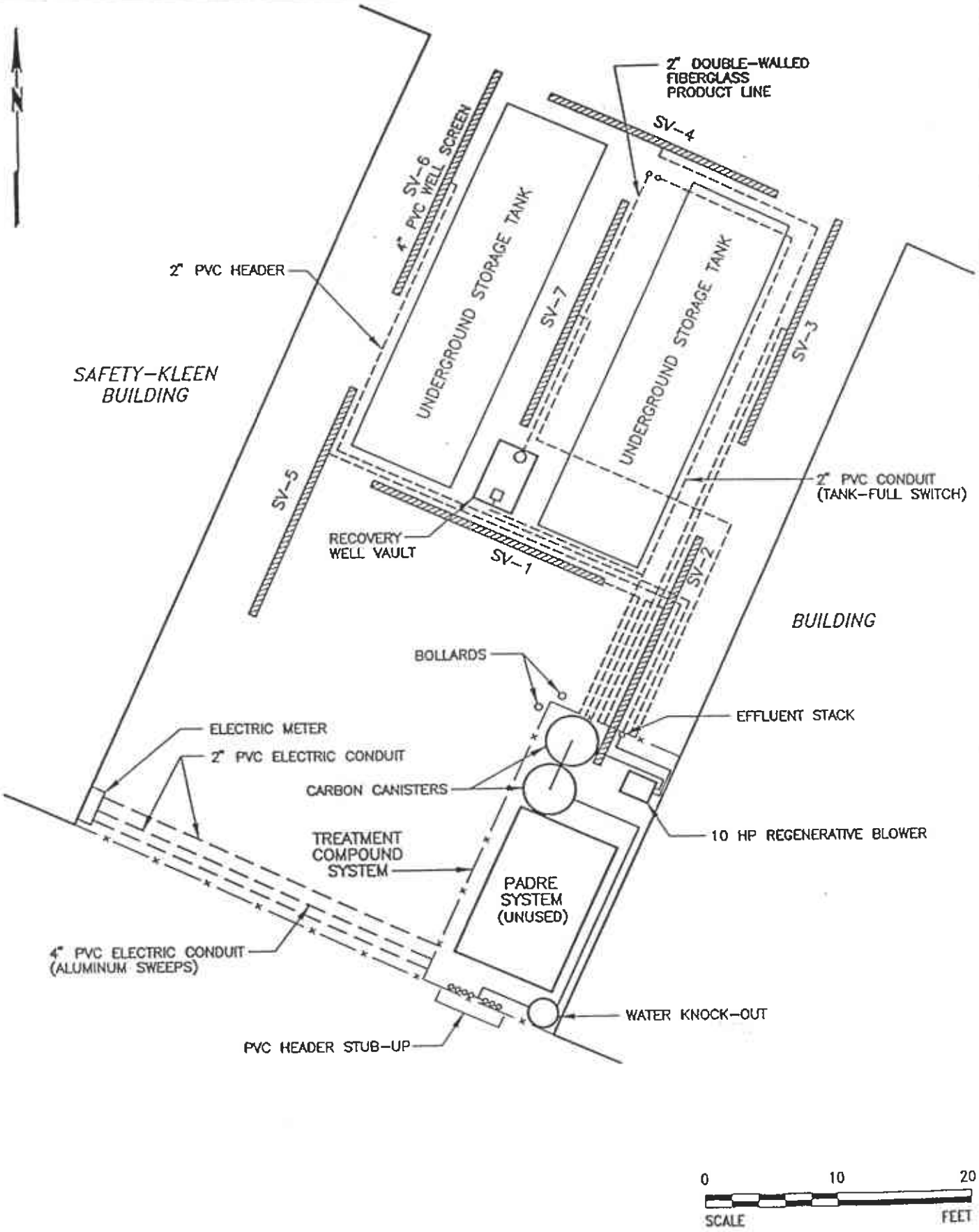
NOTES: MONITORING WELLS SK-1 AND SK-3 AND SOIL BORING SB-1 WERE DRILLED IN MAY 1986. MONITORING WELLS MW-1 THROUGH MW-9 WERE INSTALLED IN JULY 1988. MONITORING WELLS MW-10 THROUGH MW-13 WERE INSTALLED IN AUGUST AND SEPTEMBER 1989. EXTRACTION WELL RW-1 WAS INSTALLED IN JUNE 1990.

0 80 160
SCALE FEET

SECOR International Incorporated

DRAWN	TJZ
APPR	RH
DATE	1JUN99
JOB NO.	70005-009

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



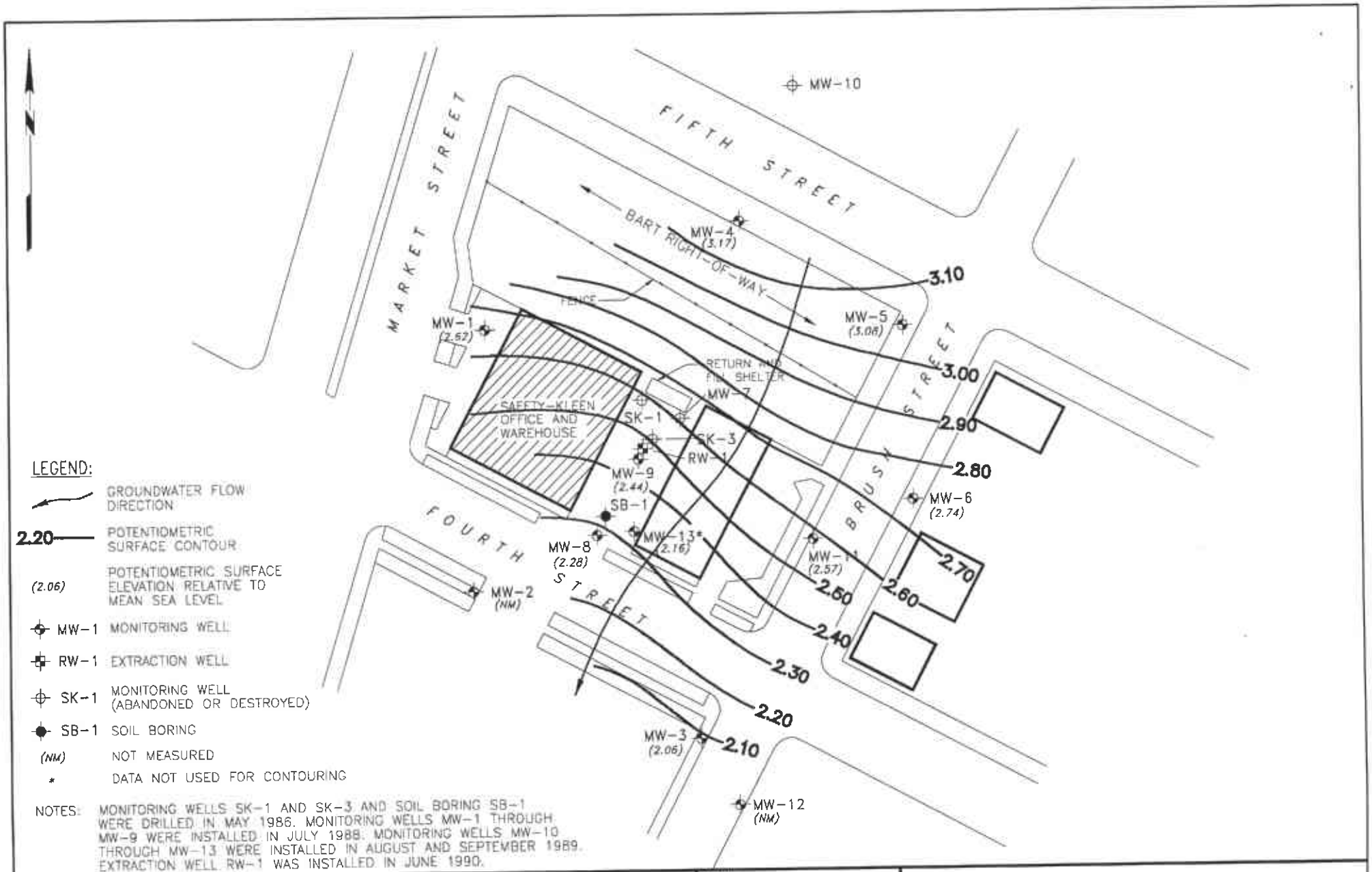
SECOR
INTERNATIONAL
INCORPORATED

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

199312.071928 X:\18-KLEEN\OAKLAND\SITE2



SECOR International Incorporated

DRAWN	TJZ
APPR	RH
DATE	9/10/00
JOB NO.	70005-009

FIGURE 4

SAFETY-KLEEN SERVICE CENTER
400 MARKET STREET
OAKLAND, CALIFORNIA

POTENTIOMETRIC SURFACE MAP JULY 24, 2000

Table 1
Groundwater Monitoring Data
July 24, 2000

Safety-Kleen Systems, Inc. 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	5.37	-	-	2.62
MW-2	8.20	--	-		--
MW-3	6.66	4.60	-	-	2.06
MW-4	10.32	7.15	-	-	3.17
MW-5	10.28	7.20	-	-	3.08
MW-6	8.97	6.23	-	-	2.74
MW-7*	-	-	-	-	-
MW-8	7.80	5.52	-	-	2.28
MW-9	8.21	5.77	Sheen	-	2.44
MW-10**	-	-	-	-	-
MW-11	7.91	5.34	-	-	2.57
MW-12	6.74	--	-	-	--
MW-13	8.08	5.92	-	-	2.16
RW-1	-	4.74	Sheen	-	-

Notes:
* Well destroyed in May 1990.
** Well destroyed in July 1995.

TOC = Top-of-casing
DTW = Depth-to-water
DTP = Depth-to-product
PT = Product thickness
ft msl = Feet relative to mean sea level
-- = Well covered by a car.

Table 2
Historical Summary of Groundwater Elevations
(in feet relative to mean sea level)

Safety-Kleen Systems, Inc. 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
01/20/93	1.29	1.00	0.86	1.57	1.48	1.27	1.08	1.15	1.73	1.16	0.44	0.58
04/20/93	1.09	0.51	0.38	1.52	1.42	1.08	0.74	0.95	1.85	0.90	0.10	0.40
07/20/93	0.27	-0.23	-0.27	0.68	0.62	0.37	-0.01	-0.68	0.99	0.20	-0.72	-0.15
10/20/93	-0.02	-0.51	-0.66	0.32	0.17	-0.12	-0.35	0.14	0.62	-0.22	-0.91	-0.57
01/19/94	-0.01	-0.52	-0.77	0.33	0.48	-0.10	-0.37	-0.49	0.60	-0.14	-1.05	-0.65
04/20/94	0.55	0.05	-0.09	0.85	0.74	0.46	0.22	0.33	-	0.34	-0.76	-0.09
07/19/94	0.25	-0.20	-0.31	0.62	0.55	0.23	-0.03	0.08	0.90	0.09	-0.70	-0.22
10/19/94	0.08	-0.33	-0.44	0.41	0.38	0.12	-0.15	0.01	-	0.01	-0.59	-0.33
01/04/95	1.95	1.53	1.64	2.41	2.49	2.24	1.79	1.85	-	2.06	1.44	1.33
04/10/95	3.09	2.46	2.49	3.71	3.73	3.42	2.79	2.95	-	3.18	2.22	1.98
07/11/95	2.04	1.53	1.53	2.54	2.50	2.26	1.76	1.93	-	2.01	1.33	1.53
10/12/95	1.38	0.94	1.01	1.81	1.27	1.56	1.15	1.32	-	1.42	0.94	1.06
01/09/96	1.82	1.40	0.64	2.21	2.21	2.04	1.61	1.54	-	1.85	-	1.51
04/02/96	2.81	2.40	2.46	3.33	3.36	3.17	2.58	2.51	-	2.91	2.24	2.38

Table 2
Historical Summary of Groundwater Elevations
(in feet relative to mean sea level)

Safety-Kleen Systems, Inc. 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
07/01/96	2.16	1.70	1.75	2.67	2.63	2.35	1.90	1.93	-	2.18	-	1.84
11/01/96	1.09	0.70	0.75	1.47	1.47	1.18	0.90	0.86	-	-	-	0.78
01/17/97	2.89	2.39	2.58	3.48	3.52	3.34	2.70	2.57	-	-	-	2.50
04/10/97	2.43	1.89	1.99	2.92	2.86	2.53	2.18	2.19	-	2.45	1.71	1.99
07/17/97	1.70	1.19	1.25	2.15	2.12	1.86	1.44	1.29	-	-	1.12	1.35
10/08/97	1.40	0.94	0.97	1.79	1.76	1.51	1.16	1.35	-	-	0.84	1.06
01/12/98	3.02	2.99	3.12	3.45	3.49	3.34	2.89	2.63	-	3.15	2.50	2.48
04/13/98	3.92	3.20	3.43	4.77	4.50	4.17	3.63	3.91	-	3.91	3.08	3.37
07/21/98	2.79	2.15	2.13	3.37	3.37	3.05	2.50	2.71	-	2.85	2.21	2.35
10/12/98	2.28	1.68	1.79	2.97	2.90	2.55	2.04	1.47	-	2.33	1.72	1.93
01/22/99	2.30	1.78	2.06	2.81	2.82	2.51	2.10	1.88	-	2.41	1.71	1.76
04/14/99	3.15	2.49	2.78	3.75	3.75	3.49	2.86	3.01	-	3.24	2.33	2.59
07/06/99	2.21	1.64	1.76	2.72	2.72	2.40	1.94	1.41	-	2.24	1.71	1.81
10/08/99	1.81	1.27	1.35	2.35	2.26	1.98	1.57	1.75	-	1.80	1.21	1.44

Table 2
Historical Summary of Groundwater Elevations
(in feet relative to mean sea level)

Safety-Kleen Systems, Inc. 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
02/23/00	3.37	2.84	2.76	3.99	3.44	3.66	3.08	3.29	-	3.41	--	2.74
04/26/00	3.27	2.52	2.63	3.90	3.81	3.44	2.95	3.12	-	3.23	2.43	2.60
07/24/00	2.62	--	2.06	3.17	3.08	2.74	2.28	2.44	-	2.57	--	2.16

Notes:
Groundwater elevations are in feet relative to mean sea-level datum.
- = Not measured
-- = Not measured because the well was covered.

APPENDIX A
FIELD DATA SHEETS

HYDROLOGIC DATA SHEET

SAFETY-KLEEN SYSTEMS, INC
400 MARKET STREET
OAKLAND, CALIFORNIA

PROJECT NO.: 007.03788.007

DATE: 7-24-00
START TIME: 11:00
END TIME: 12:30

WELL ID	Well Diameter (inches)	Top Of Casing Elevation (ft msl)	Depth To Water (feet)	Depth To Product (feet)	Product Thickness (feet)	Total Depth (feet)	Adjusted Groundwater Elevation (ft msl)
MW-1	2	7.99	5.37				2.62
MW-2	2	8.20	Car over well				–
MW-3	2	6.66	4.60				2.06
MW-4	2	10.32	7.15				3.17
MW-5	2	10.28	7.20				3.08
MW-6	2	8.97	6.23				2.74
MW-8	2	7.80	5.52				2.28
MW-9	4	8.21	5.77	5.77	Sheen		2.44
MW-11	2	7.91	5.34				2.57
MW-12	2	6.74	Car over well				–
MW-13	4	8.08	5.92				2.16
RW-1	10	-	4.74	4.74	Sheen	--	–

Notes:

SECOR

IN-SITU CHEMICAL OXIDATION PILOT STUDY
FIELD DATA SHEET

SAFETY-KLEEN SYSTEMS, INC
400 MARKET STREET
OAKLAND, CALIFORNIA

PROJECT NO.: 007.03788.012

DATE: 7-24-00
START TIME: 11:00
END TIME: 12:30

WELL ID	DTW (feet)	Oxidation Reduction Potential (millivolts)	Dissolved Oxygen (mg/L)	pH	Electrical Conductivity (umhos/cm)	$KMnO_4$	
						Purple Color Present	Concentration (g/L)
MW-1	5.37						
MW-2	Car over well						
MW-3	4.60						
MW-4	7.15						
MW-5	7.20						
MW-6	6.23						
MW-8	5.52	227	0.97	6.60	812	none	—
MW-9	5.77	-33	0.42	6.72	1,460	none	—
MW-11	5.34						
MW-12	Car over well						
MW-13	5.92						
RW-1	4.74	626	0.81	6.72	1,264	yes	

Notes:

Sheen in MW-9 and RW-1