



ALCO
HAZMAT

KAPREALIAN ENGINEERING
INCORPORATED

95107-9 AM 8:15

November 7, 1994

Alameda County Health Care Services
1131 Harbor Way Parkway
Alameda, CA 94501

Attention: Ms. Susan Hugo

RE: Wells Fargo Bank
(Walter Blumert Co., Inc.)
490 - 43rd Street
Oakland, California

Dear Ms. Hugo:

Per the request of Mr. Paul Paradiso of Paradiso Mechanical, Inc., enclosed please find our report dated November 2, 1994, for the above referenced site.

If you should have any questions, please feel free to call our office at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Judy A. Dewey

jad\65

Enclosure

cc: Mr. Paul Paradiso



KAPREALIAN ENGINEERING
INCORPORATED

KEI-P91-1201.QR3
November 2, 1994

Wells Fargo Bank
525 Market Street, 18th Floor
MAC #0103-181
San Francisco, CA 94105

Attention: Mr. Jeffrey Hirsch

RE: Quarterly Report
Wells Fargo Bank
(Walter Blumert Co., Inc.)
490 - 43rd Street
Oakland, California

Dear Mr. Hirsch:

This report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced property by Kaprealian Engineering, Inc. (KEI). The wells are currently monitored monthly and sampled on a quarterly basis.

SITE DESCRIPTION AND BACKGROUND

The subject property formerly contained one underground gasoline storage tank and one underground paint thinner storage tank. The two underground storage tanks were removed from the site in December of 1991. The underground storage tank pit was subsequently overexcavated in order to remove contaminated soil. Three monitoring wells (one on-site and two off-site) have been installed and two exploratory borings (off-site) have been drilled at and in the vicinity of the site.

A site description, detailed background information including a summary of all of the soil and ground water subsurface investigation/remediation work conducted to date, site hydrogeologic conditions, and tables that summarize all of the soil and ground water sample analytical results are presented in KEI's report (KEI-P91-1201.R6) dated July 20, 1994.

RECENT FIELD ACTIVITIES

The three monitoring wells (MW1 through MW3) were monitored three times and were sampled once during the quarter. During monitoring, the wells were checked for depth to water and the presence of free product. Prior to sampling, the wells were also checked for the presence of a sheen. No free product was noted in any of the wells during the quarter. The monitoring data collected this quarter are summarized in Table 1.

Ground water samples were collected from the wells on September 13, 1994. Prior to sampling, the wells were each purged of approximately 8 gallons of water by the use of a surface pump. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize and a minimum of four casing volumes had been removed from each well, water samples were collected by the use of a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory.

HYDROLOGY

The measured depth to ground water at the property on September 13, 1994, ranged between 12.18 and 12.41 feet. Based on the water level data gathered during the quarter, the ground water flow direction appeared to be to the south-southwest during the three monitoring events, as shown on the attached Ground Water Flow Direction Maps, Figures 1, 2, and 3. The ground water flow direction has been predominantly to the southwest for the past six consecutive monthly monitoring events. The average hydraulic gradient at the site on September 13, 1994, was approximately 0.02.

Based on review of regional geologic maps (USGS, Miscellaneous Geologic Investigations, Map I-239, Areal and Engineering Geology of the Oakland West Quadrangle, California, by D.H. Radbruch, 1957), the subject site is underlain by the Quaternary-age alluvial fan deposits of the Temescal formation (Qt_c). These deposits are described as typically consisting of clayey gravel, sandy and silty clays, and sand-clay-silt mixtures. The depth to bedrock at the subject site is presently unknown to KEI.

Based on the results of our subsurface study, the property is underlain by alluvium to the maximum depth explored (23 feet below grade). The alluvium underlying the site consists predominantly of clayey or sandy silt, with lesser amounts of clayey or silty gravel and clayey or silty sand.

As of June of 1994, the unsaturated zone beneath the property is approximately 12 feet thick and consists mainly of clayey or sandy silt, clayey gravel, clayey or silty sand, and clay, in order of decreasing abundance.

The first water bearing units beneath the property (first aquifer) also consist largely of sandy or clayey silt, with subordinate amounts of silty or clayey gravel and silty sand. The units

immediately above and below the water table consist of gravelly or sandy silt in MW1 and MW3, and silty or clayey gravel in MW2.

The particle size analysis (sieve and hydrometer) of the soil sample collected from the saturated zone in monitoring well MW3 at a depth of 14 to 15 feet below grade indicates that the sample is composed of approximately 65% sand, 33% silt and clay, and 2% gravel. The sample is classified as silty sand with gravel (SM).

ANALYTICAL RESULTS

The ground water samples collected this quarter were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline by EPA method 5030/modified 8015, BTEX by EPA method 8020, and TPH as paint thinner by EPA method 3510/modified 8015.

Analytical results for all of the ground water samples collected from the monitoring wells to date are summarized in Table 3. The concentrations of TPH as gasoline, benzene, and TPH as paint thinner detected in the ground water samples collected this quarter are shown on the attached Figure 4. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

DISCUSSION

On August 2, 1994, a meeting was held between representatives of the property owner (the Blumert Trust), KEI, and Ms. Susan Hugo of the Alameda County Health Care Services (ACHCS) Agency, regarding the subject property. Ms. Hugo noted that the owner of the downgradient underground storage tank (UST) has been directed to remove the tank. The location of the UST is shown on the attached Figure 1. It was agreed that the installation of additional downgradient wells by the Blumert Trust would be re-evaluated following a review of the analytical results from the tank removal work.

Additionally, it was agreed that KEI would initiate monthly purging of monitoring wells MW1, MW2, and MW3 during the monthly ground water monitoring events. Ground water purging will be continued on a monthly basis in order to attempt to reduce the concentrations of dissolved hydrocarbons in these wells.

Based on the analytical results for the ground water samples collected and evaluated to date, and no evidence of free product in any of the wells, KEI recommends continuation of the current

monitoring and sampling program at the subject property. The wells are currently monitored on a monthly basis and sampled quarterly. Ground water samples are analyzed for TPH as gasoline, TPH as paint thinner, and BTEX.

Lastly, during the recent quarter, KEI conducted a reconnaissance of the subject site in order to determine an appropriate location for the installation of an additional on-site monitoring well, upgradient of MW1. It was determined that a monitoring well can be installed approximately 40 feet north (upgradient) of MW1, under the sheltered equipment storage area, using a limited access drill rig. KEI will submit a work plan for the additional monitoring well in the near future.

DISTRIBUTION

A copy of this report should be sent to Ms. Susan Hugo of the ACHCS, and to the Regional Water Quality Control Board, San Francisco Bay Region.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

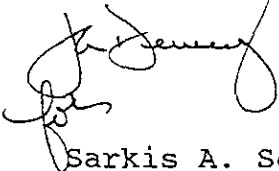
The results of this study are based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We have analyzed these data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

KEI-P91-1201.QR3
November 2, 1994
Page 5

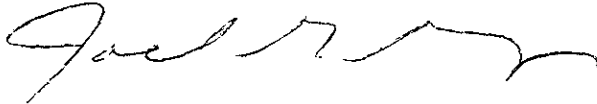
If you have any questions regarding this report, please do not hesitate to call at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

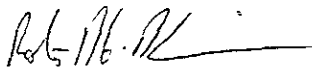
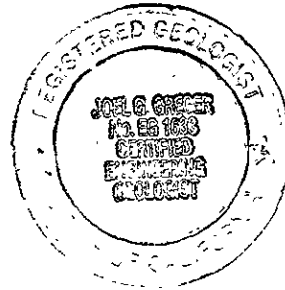


Sarkis A. Soghomonian
Project Engineer



Joel G. Greger, C.E.G.
Senior Engineering Geologist

License No. EG 1633
Exp. Date 8/31/96



Robert H. Kezerian
Project Manager

\jad

Attachments: Tables 1, 2 & 3
Location Map
Ground Water Flow Direction Maps - Figures 1, 2 & 3
Petroleum Hydrocarbon Concentrations - Figure 4
Laboratory Analyses
Chain of Custody documentation

TABLE 1

SUMMARY OF MONITORING DATA

<u>Well #</u>	<u>Ground Water Elevation (feet)</u>	<u>Depth to Water (feet)</u>	<u>Product Thickness (feet)</u>	<u>Sheen</u>	<u>Water Purged (gallons)+</u>
(Monitored and Sampled on September 13, 1994)					
MW1	78.84	12.18	0	No	12
MW2	78.34	12.21	0	Yes	12
MW3	78.49	12.41	0	Yes	20
(Monitored on August 16, 1994)					
MW1	78.93	12.09	0	No	16
MW2	78.40	12.15	0	No	12
MW3	78.62	12.28	0	No	20
(Monitored on July 11, 1994)					
MW1	78.95	12.07	0	--	0
MW2	78.50	12.05	0	--	0
MW3	78.68	12.22	0	--	0

<u>Well #</u>	<u>Top of Casing Elevation (feet) Mean Sea Level*</u>
MW1	91.02
MW2	90.55
MW3	90.90

* Based on City of Oakland Benchmark #2859 (elevation = 83.05 feet Mean Sea Level).

-- Sheen determination was not performed.

+ Ground water samples were collected subsequent to the purging of approximately four casing volumes. Purging was continued after samples were collected. The gallons shown above reflect the cumulative total per well.

KEI-P91-1201.QR3
 November 2, 1994

TABLE 2

RECORD OF THE TEMPERATURE, CONDUCTIVITY, AND pH VALUES
 IN THE MONITORING WELLS DURING PURGING AND PRIOR TO SAMPLING

(Measured on September 13, 1994)

<u>Well #</u>	<u>Gallons per Casing Volume</u>	<u>Time</u>	<u>Gallons Purged</u>	<u>Casing Volumes Purged</u>	<u>Temperature (°F)</u>	<u>Conductivity ([μmhos/cm]x100)</u>	<u>pH</u>
MW1	1.75	9:35	2	1.1	68.9	4.43	6.57
		9:37	4	2.3	70.0	4.33	6.50
		9:39	6	3.4	69.7	4.30	6.48
		9:41	8	4.6	69.8	4.32	6.47
MW2	1.56	10:15	2	1.3	71.2	6.23	5.48
		10:17	4	2.6	71.4	6.45	5.20
		10:19	6	3.8	70.9	6.40	5.19
		10:21	8	5.1	71.0	6.39	5.22
MW3	1.60	10:45	2	1.3	71.9	5.01	6.75
		10:47	4	2.5	71.0	4.85	6.80
		10:49	6	3.8	71.0	4.80	6.75
		10:51	8	5.0	71.1	4.83	6.80

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Sample Number</u>	<u>TPH as Paint Thinner</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethylbenzene</u>	<u>Xylenes</u>
(Collected on September 13, 1994)						
MW1	73	170	6.6	1.6	2.4	3.3
MW2	5,400	12,000	1,400	50	200	89
MW3	8,700	6,800	430	14	45	37
(Collected on June 16, 1994)						
MW1	1,200	2,100	250	12	27	38
MW2	11,000	18,000	2,100	ND	200	70
MW3	4,700	7,700	910	ND	86	50
(Collected on December 13, 1993)						
MW1	820*	1,700♦	170	22	19	48
MW2	2,600	11,000♦	1,400	66	150	94
MW3	3,500	6,200♦	580	120	65	120
(Collected on April 29, 1993)						
MW1**	600	290	31	1.9	2.7	5.4
MW2**	4,100	11,000	2,400	51	76	160
MW3**	5,800	8,500	840	17	40	42

♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

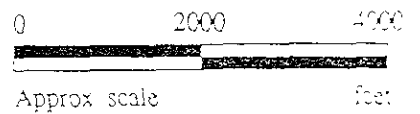
* Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a paint thinner and non-paint thinner mixture.


** TPH as diesel was detected in MW1, MW2, and MW3 at concentrations of 650 ppb, 3,600 ppb, and 4,300 ppb, respectively; however, Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be diesel.

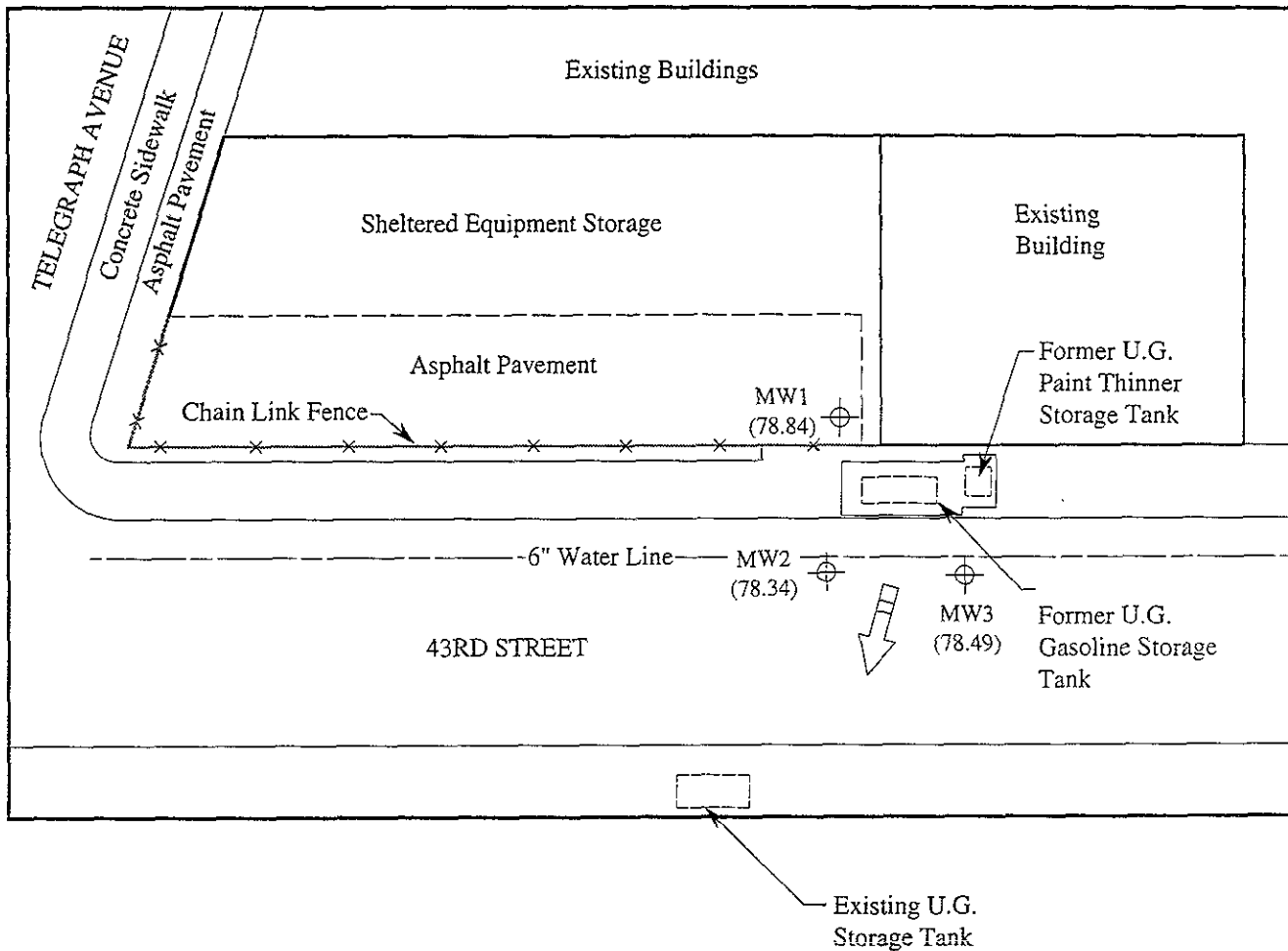
Results in parts per billion (ppb), unless otherwise indicated.






Base modified from 7.5 minute U.S.G.S. Oakland East and West Quadrangles
 (both photorevised 1980)

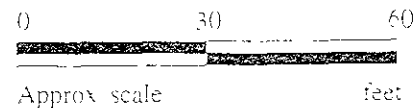


 <p>KAPREALIAN ENGINEERING INCORPORATED</p>	<p>WELLS FARGO BANK (WALTER BLUMERT CO. INC.) 490 43RD STREET OAKLAND, CA</p>	<p>LOCATION MAP</p>
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LEGEND

-  Monitoring well
-  Ground water elevation in feet above Mean Sea Level
-  Direction of ground water flow

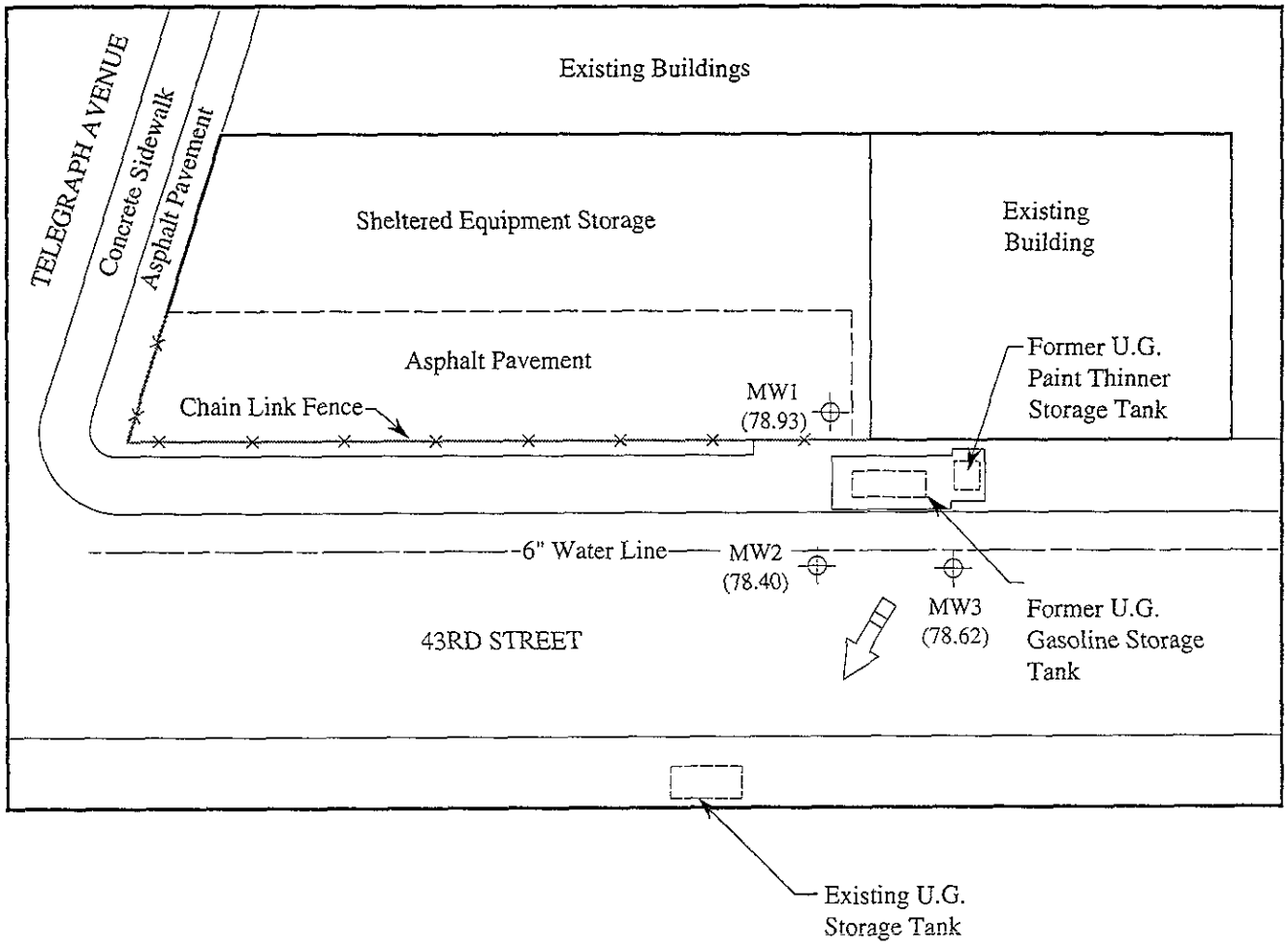


GROUND WATER FLOW DIRECTION MAP FOR THE SEPTEMBER 13, 1994 MONITORING EVENT





KAPREALIAN ENGINEERING
INCORPORATED

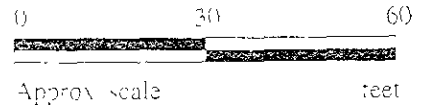
WELLS FARGO BANK
(WALTER BLUMERT CO. INC.)
490 43RD STREET
OAKLAND, CALIFORNIA

FIGURE
1

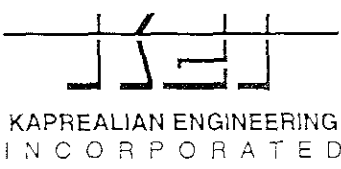


LEGEND

-  Monitoring well
-  Ground water elevation in feet above Mean Sea Level
-  Direction of ground water flow

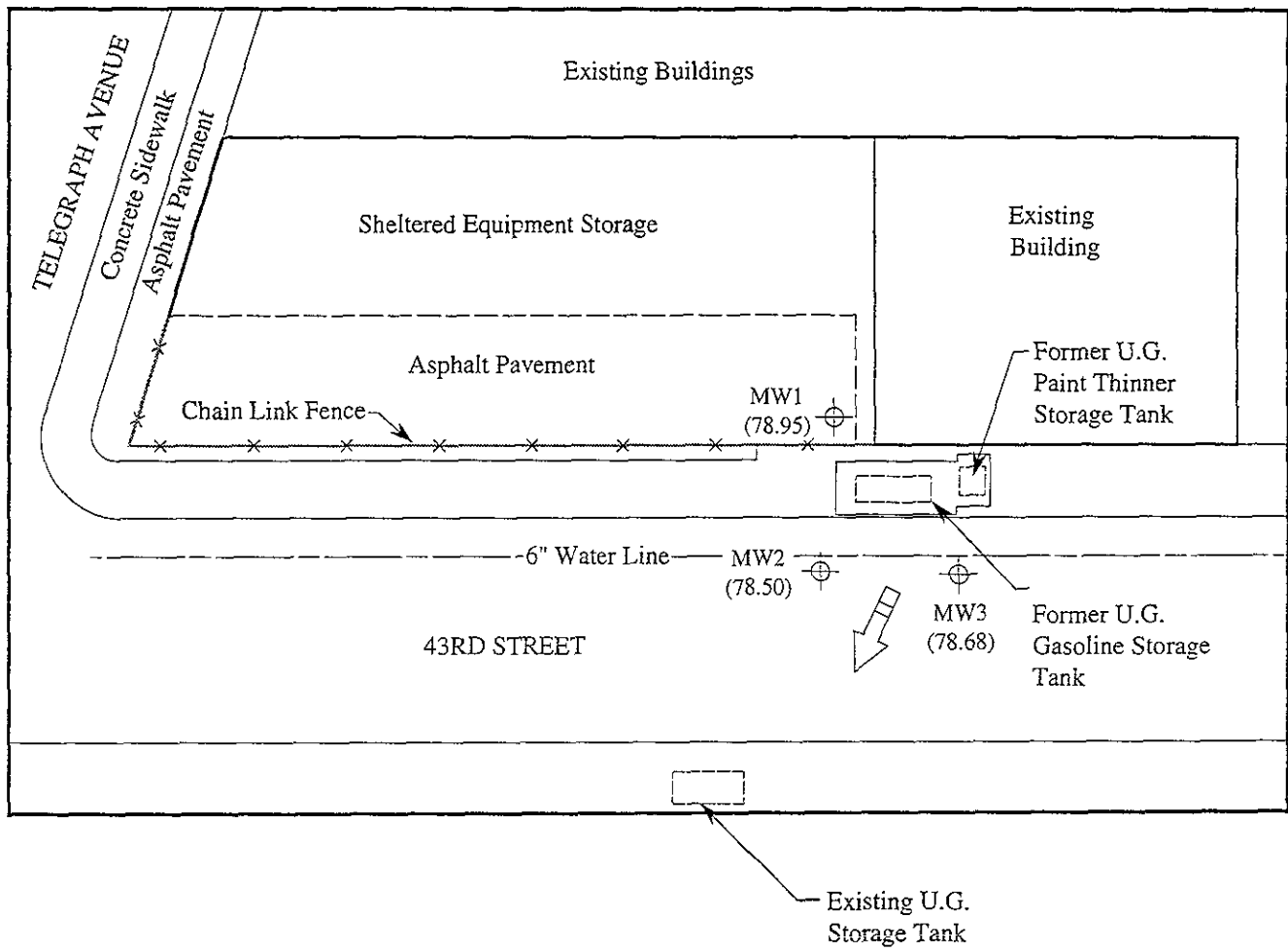


GROUND WATER FLOW DIRECTION MAP FOR THE AUGUST 16, 1994 MONITORING EVENT



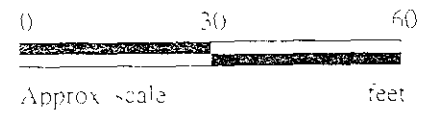
WELLS FARGO BANK
(WALTER BLUMERT CO. INC.)
490 43RD STREET
OAKLAND, CALIFORNIA

FIGURE
2



LEGEND

- ⊕ Monitoring well
- () Ground water elevation in feet above Mean Sea Level
- ⇒ Direction of ground water flow

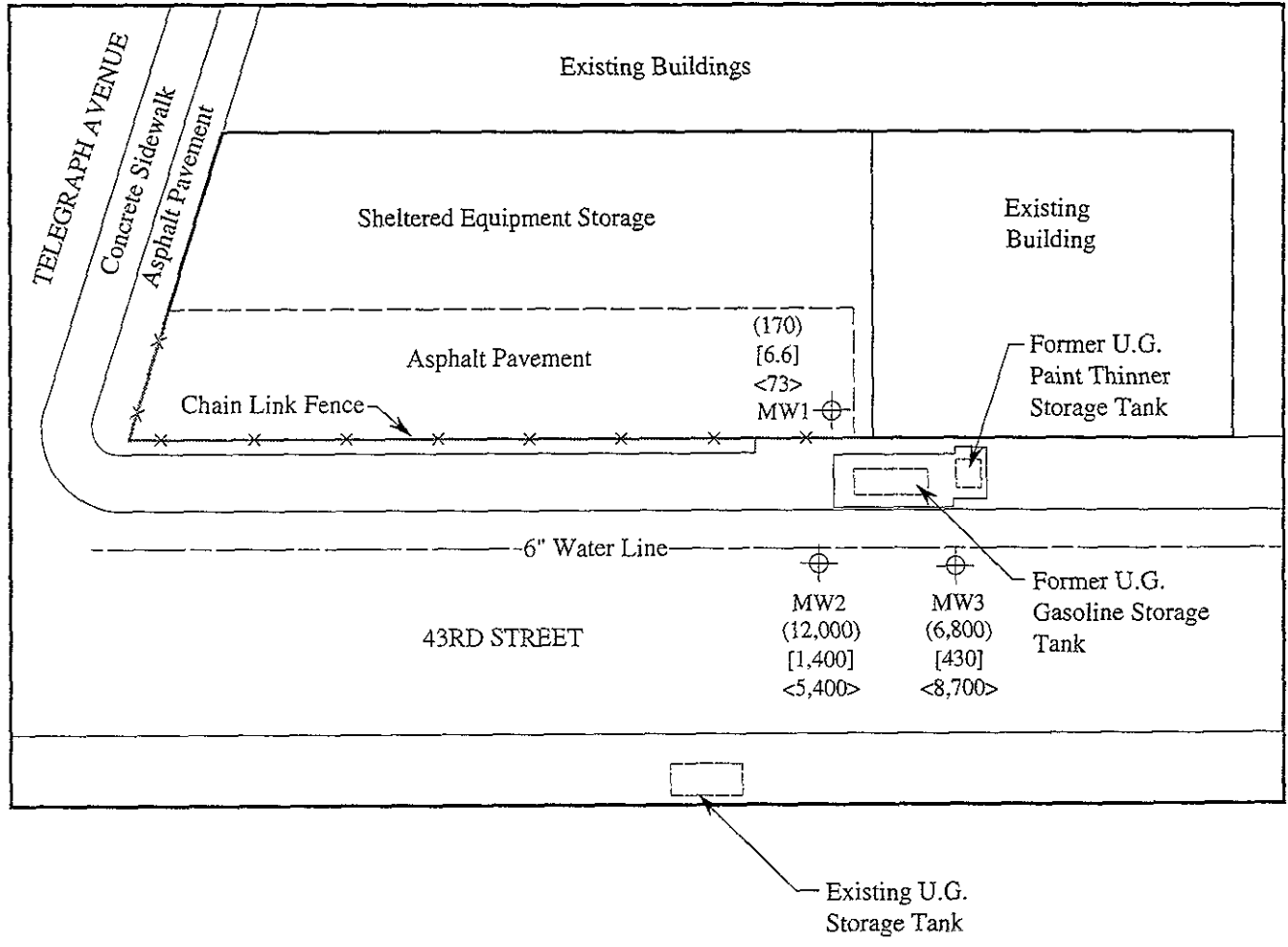


GROUND WATER FLOW DIRECTION MAP FOR THE JULY 11, 1994 MONITORING EVENT

KAPREALIAN ENGINEERING
INCORPORATED

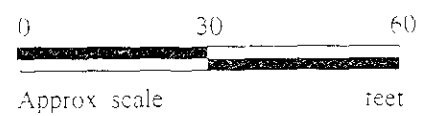
WELLS FARGO BANK
(WALTER BLUMERT CO. INC.)
490 43RD STREET
OAKLAND, CALIFORNIA

FIGURE
3



LEGEND

- ⊕ Monitoring well
- () Concentration of TPH as gasoline in ppb
- [] Concentration of benzene in ppb
- < > Concentration of TPH as paint thinner in ppb



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON SEPTEMBER 13, 1994



WELLS FARGO BANK
 (WALTER BLUMERT CO. INC.)
 490 43RD STREET
 OAKLAND, CALIFORNIA

FIGURE
4



Sequoia Analytical

680 Chesapeake Drive Redwood City, CA 94063 (415) 364-9600 FAX (415) 364-9233
 1900 Bates Avenue, Suite L Concord, CA 94520 (510) 686-9600 FAX (510) 686-9689
 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Kaprealian Engineering, Inc.
 2401 Stanwell Dr., Ste. 400
 Concord, CA 94520
 Attention: Avo Avedissian

Client Project ID: Wells Fargo Bank, 490 43rd. St., Oakland
 Sample Matrix: Water
 Analysis Method: EPA 5030/8015/8020
 First Sample #: 409-0753

Sampled: Sep 13, 1994
 Received: Sep 14, 1994
 Reported: Oct 10, 1994

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 409-0753 MW 1	Sample I.D. 409-0754 MW 2	Sample I.D. 409-0755 MW 3
Purgeable Hydrocarbons	50	170	12,000	6,800
Benzene	0.50	6.6	1,400	430
Toluene	0.50	1.6	50	14
Ethyl Benzene	0.50	2.4	200	45
Total Xylenes	0.50	3.3	89	37
Chromatogram Pattern:		Gasoline	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	100	40
Date Analyzed:	9/21/94	9/21/94	9/21/94
Instrument Identification:	HP-5	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	84	105	98

Purgeable hydrocarbons are quantitated against a fresh gasoline standard.
 Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


 Alan B. Kemp
 Project Manager



Kaprealian Engineering, Inc. Client Project ID: Wells Fargo Bank, 490 43rd. St., Oakland Sampled: Sep 13, 1994
 2401 Stanwell Dr., Ste. 400 Sample Matrix: Water Received: Sep 14, 1994
 Concord, CA 94520 Analysis Method: EPA 3510/8015 Reported: Oct 10, 1994
 Attention: Avo Avedissian First Sample #: 409-0753

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS AS PAINT THINNER

Analyte	Reporting Limit µg/L	Sample I.D. 409-0753 MW 1	Sample I.D. 409-0754 MW 2	Sample I.D. 409-0755 MW 3
Extractable Hydrocarbons	50	73	5400	8700

Chromatogram Pattern: Paint Thinner Paint Thinner Paint Thinner

Quality Control Data

Report Limit Multiplication Factor:	1.0	10	10
Date Extracted:	9/16/94	9/16/94	9/16/94
Date Analyzed:	10/6/94	10/7/94	10/7/94
Instrument Identification:	HP-3A	HP-3A	HP-3A

Extractable Hydrocarbons are quantitated against a fresh paint thinner standard
 Analytes reported as N.D. were not detected above the stated reporting limit

SEQUOIA ANALYTICAL, #1271


 Alan B. Kemp
 Project Manager



Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Wells Fargo Bank, 490 43rd. St., Oakland
Matrix: Liquid

QC Sample Group: 4090753-755

Reported: Oct 11, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 Mod
Analyst:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon	K.V.S.

MS/MSD Batch#:	4090941	4090941	4090941	4090941	BLK091694
Date Prepared:	9/21/94	9/21/94	9/21/94	9/21/94	9/16/94
Date Analyzed:	9/21/94	9/21/94	9/21/94	9/21/94	9/19/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	90	100	100	102	65
Matrix Spike Duplicate % Recovery:	90	100	100	105	63
Relative % Difference:	0.0	0.0	0.0	2.9	3.1

LCS Batch#:	2LCS092194	2LCS092194	2LCS092194	2LCS092194	BLK091694
Date Prepared:	9/21/94	9/21/94	9/21/94	9/21/94	9/16/94
Date Analyzed:	9/21/94	9/21/94	9/21/94	9/21/94	9/19/94
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3A
LCS % Recovery:	84	93	95	98	65

% Recovery Control Limits:	55-145	47-149	47-155	56-140	28-122
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Please Note

The LCS is a control sample of known, intererent free matrix that is analyzed using the same reagents preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

[Signature]
Alan B. Kemp
Project Manager

