KDM

ENVIRONMENTAL, INC.
Environmental Consulting Services

June 28, 1993

Ms. Jennifer Eberle
Alameda County Hazmat Division
80 Swan Way, Room 200
Oakland, California 94621

37

SUBJECT: **800 Franklin Street**
Oakland, California

Dear Ms. Eberle:

Enclosed are the reports on the project site of 800 Franklin Street, Oakland, California submitted by KDM ENVIRONMENTAL, Inc.

Thank you. Please contact us if you have any questions.

Sincerely,

KDM ENVIRONMENTAL, Inc.

Carrie Haltenhoff

Enclosures

Distribution: 1 copy - Addresse
1 copy - Mr. Tommy Chiu, Continental Homes, Inc.

2149 O'Toole Avenue, Suite L • San Jose, California 95131
(408) ~~432-0171~~ Fax (408) 434-6748
434 1622

rec'd 7-7-93

37

QUARTERLY MONITORING OF WELLS

FIRST QUARTER 1993

800 FRANKLIN STREET

OAKLAND, CALIFORNIA

for

Mr. Tommy Chiu
Continental Homes, Inc.
812 5th Avenue
Oakland, California

June 16, 1993

File No: 124571 93Q1

KDM

ENVIRONMENTAL, INC.
Environmental Consulting Services

June 16, 1993
File No: 124571 93Q1

Mr. Tommy Chiu
Continental Homes, Inc.
812 5th Avenue
Oakland, California

Subject: **QUARTERLY MONITORING REPORT - FIRST QUARTER 1993**
800 Franklin Street
Oakland, California

Dear Mr. Chiu:

We are pleased to present to you with this letter the results of the Quarterly Monitoring of the five monitoring wells at the project site. This report is required as outlined in letters dated May 21 and September 28, 1992 FROM the Alameda County Health Care Services Agency.

Please do not hesitate to call us if you have any questions. Thank you.

Respectfully submitted,

KDM ENVIRONMENTAL, Inc.

Karen Macdonald

Karen Macdonald
President

KM/RH
Distribution: 3 copies - Addressee
1 copy - Ms. Jennifer Eberle, Alameda County Hazmat Division
1 copy - Mr. Michael Burns, Tracy Federal Bank

2149 O'Toole Avenue, Suite L • San Jose, California 95131
(408) 432-0171 Fax (408) 434-6748

TABLE OF CONTENTS

Attachments:

Plate 1: Project Site Vicinity Map
Plate 2: Project Site Map; Groundwater Gradient Map; April 27, 1993
Plate 3: Project Site Map; Total Petroleum Hydrocarbons as Gasoline - April 27, 1993

Table 1: Compilation of Groundwater Elevations in Groundwater Monitoring Wells
Table 2: Compilation of Compound Concentrations (in ppm) in Groundwater Samples

Appendix A: Relevant Field Notes
Appendix B: Laboratory Data Sheets and Chain of Custody Documents
Appendix C: Standard Sampling Protocol

File No: 124571 93Q1 June 16, 1993

QUARTERLY MONITORING REPORT
FIRST QUARTER 1993
800 FRANKLIN STREET
OAKLAND, CALIFORNIA

INTRODUCTION

This report presents the data from the First Quarter - 1993 monitoring of five existing groundwater monitoring wells in the vicinity of 800 Franklin Street in Oakland, California. This report is required as outlined in letters dated May 21 and September 28, 1992 from the Alameda County Health Care Services Agency.

The project site, located on the northeastern corner of Franklin and Eighth Streets in Oakland, was formerly occupied by a service station. This site is known to have had five underground storage tanks that contained petroleum product, solvents and waste oil. One of these tanks was removed from the project site before June 1988. No information was available to us to about the contents of the tank, the date of removal, or who removed the tank. The Miller Environmental Company (1992) reported that they believed that Monitoring Well MW1 is located near the original location of this excavated tank.

A soils investigation performed at the project site by LW Environmental Services, Inc. in August 1988 discovered concentrations of Total Petroleum Hydrocarbons as gasoline ("TPHg") at 1,580 and 8,340 parts per million ("ppm") near the four remaining underground storage tanks. It is our understanding that the Robert J. Miller Company subsequently removed two 6,000-gallon gasoline tanks, one 550-gallon waste oil tank, and one 1,000-gallon solvent tank in June 1989. Soils samples taken from the excavation for the removal of the two gasoline tanks, located along the western boundary of the project site, and the excavation of the waste oil and solvent tanks, located along the southern boundary, indicated elevated concentrations of TPHg and waste oil, and purgeable and semi-volatile organic

compounds in concentrations all less than 1 ppm. The former tank excavations were subsequently over-excavated and additional contaminated soil was removed. Soils samples collected from the sidewalls and bottom of the excavation of the two gasoline tanks indicated residual concentrations of TPHg up to 2.3 ppm and waste oil up to 80 ppm. The majority of the contaminated soils in the excavation for the removal of the waste oil and solvent tanks could not, however, be excavated due to the presence of underground utility lines and the proximity of Eighth Street. Soils samples taken from the sidewall of this excavation indicated concentrations of TPHg at 10,000 ppm, TPH as diesel ("TPHd") at 250 ppm, and waste oil at 400 ppm. The excavations were subsequently backfilled with clean imported and native fill.

The Miller Environmental Company (1992) constructed three groundwater monitoring wells (MW1 to MW3) in the vicinity of the project site in September 1989. Concentrations of TPHg in the water samples taken from these wells ranged from "Not Detected" in MW1 to 87 ppm in MW3. The groundwater gradient measured in these wells appeared to them to be to the west-northwest. Approval to proceed with the construction of a new commercial structure at the project site was granted by ACHCSA in January 1990.

Two soils borings (B1 and B2) and two additional groundwater monitoring wells (MW4 and MW5) were drilled and constructed at the project site by the Miller Environmental Company from September to October 1991. The results of the groundwater testing of all five groundwater monitoring wells is included in Table 2. A one year groundwater monitoring program consisting of quarterly monitoring of the five groundwater monitorings wells in the vicinity of the project site was required by ACHCSA and instituted. KDM Environmental was contracted in October 1992 to perform this monitoring, and completed the Third Quarter 1992 Monitoring Report on November 13, 1992. The Fourth Quarter 1992 Monitoring Report was completed on March 8, 1993. This report presents the results of the First Quarter 1993 sampling and analyses of the groundwater in the five groundwater monitoring wells and gradient analysis.

SITE DESCRIPTION

Physical Description

The project site is located on the northeastern corner of Franklin and Eighth Streets in Oakland, California. The location of the site is shown on the "Project Site Vicinity Map" (Plate 1). The site is bounded by Franklin Street on the west, Eighth Street on the south, and commercially-developed parcels on the east and north. There is a commercial structure on the site.

The project site is approximately flat at an elevation of about 35 feet above Mean Sea Level. Drainage of the site is to the south and west to existing storm drainage systems on Franklin and Eighth Streets. Lake Merritt and the Oakland Inner Harbor are located approximately 3,000 feet to the east and 2,500 feet to the southwest of the project site, respectively.

General Geology/Hydrogeology

Holocene and Older Pleistocene alluvial fan deposits of fine- to coarse-grained sand underlie the project site. The materials encountered in Borings B1 and B2 and Groundwater Monitoring Wells MW4 and MW5 were reported by the Miller Environmental Company to consist predominantly of a brown and gray, loose, fine-grained sand. Groundwater was reported to have been encountered during drilling at depths of 25 and 26 feet.

Based on topographical features and information generally available, the regional groundwater is believed to flow generally in a southwesterly direction toward San Francisco Bay, however, irregular changes in the gradient direction can occur and have been reported in the vicinity of the project site.

METHODS AND PROCEDURES

Groundwater Elevations

The depths to the stabilized groundwater levels were measured in all the wells on April 27, 1993 (see Plate 2 and Table 1). The elevation of the groundwater in each well was then calculated based on the elevations of the tops of the casings of the wells reported by Miller Environmental Company (1992).

Groundwater Sampling

Groundwater samples were taken from all five groundwater monitoring wells on the same day. All sampling procedures were performed in accordance with the "Standard Sampling Protocol" (Appendix C). The groundwater in groundwater monitoring wells MW1 through MW4 was noted to be cloudy, and that in MW5 was noted to be brownish-orange in color.

Laboratory Testing

Laboratory testing was performed to help determine the presence and quantity of contamination in the groundwater samples recovered. All the groundwater samples were analyzed for TPHg with BTEX, as were a bailer blank and a trip blank. For this testing we used Chromalab in San Ramon, California, which is EPA-certified for these analyses. The laboratory analyses, including the quality control results, and the "Chain of Custody" documents are included in Appendix B. Table 2 ("Compound Concentrations in Groundwater Samples") shows the analytical results of all the previous groundwater samplings known to us and the present sampling at the project site.

All samples were tracked under a chain-of-custody from sample collection until receipt by the laboratory. All laboratory testing of the samples was performed within the specified holding times. For the laboratory analyses of the samples, spike recoveries were considered acceptable.

RESULTS OF CHEMICAL TESTING

Detectable concentrations of TPHg were noted in all the groundwater monitoring wells, ranging from 0.1 ppm TPHg in MW4 to 50.00 ppm TPHg in MW3. Total BTEX in the wells ranged from 0.9 ppb in MW4 to 23.30 ppm in MW3; BTEX was not detected in MW4 and MW5. Neither blank contained any detectable levels of TPHg or BTEX.

INTERPRETATION OF DATA

Hydrogeology

1. Review of all of the groundwater elevation data available since 1989 indicates that all of the groundwater elevation measurements were taken during or just after the rainy winter months. The average elevations in the wells based on the measurements taken for this quarterly report are the highest recorded to date. This is likely a function of the relatively rainy winter this year that has exceeded most recent years, and the fact that these measurements were taken just after late winter rains. There is no obvious indication in these data that the gradient at the site is being affected by a point source of either discharge or recharge.

2. Interpretation by Miller Environmental Company (1992) of groundwater elevation measurements taken by them at the project site in 1989 and 1991 indicated to them that the (down) gradient direction of the shallowest aquifer beneath the project site was to the west-northwest in 1989 and to the southwest in 1991. Their conclusion that the gradient direction in 1991 was to the southwest was based on consideration of the groundwater elevations in only three of the four wells available to them at that time, MW3, MW4, and MW5 (pp. 16 and 22); they chose to disregard the groundwater elevation information in MW2. what about MW1?

3. The calculated gradient directions and magnitudes to date are summarized in the table below:

Date	Gradient Direction	Gradient Magnitude
10/12/89	N72°W	.011 ft/ft
11/06/91	N82°W	.001 ft/ft
10/21/92	N41°W	.009 ft/ft
02/25/93	N37°W	.009 ft/ft
04/27/93	N32°W	.011 ft/ft

4. The gradient direction listed above for 10/12/89 is based on a three-point solution to the three wells that existed at that time, MW1, MW2, and MW3. The gradient direction listed above for 11/06/91 is based on contouring of the groundwater elevations the four wells from which it was possible to obtain elevation data on that date. This contouring produces a very long and narrow trough plunging towards N82°W. A three-point solution for that date using just wells MW3, MW4, and MW5 shows a gradient direction of S25°W with a magnitude of .009 ft/ft. The gradient directions listed above for 10/21/92, 02/25/93 and 04/27/93 are each based upon three-point solutions for the three largest triangles using the four wells from which it was possible to obtain elevation information on those dates.

5. Inspection of the data above reveals that all of the gradient directions and magnitudes are consistent except for those on 11/06/91. This is the only gradient directly towards MW5. The gradient directions on all the other dates are significantly to the north of MW5 with respect to the former locations of the tanks, and those on 10/21/92, 02/25/93 and 04/27/93 are away from MW5 with respect to the former locations of the tanks. Based on this, contamination from the former locations of the tanks on the project site should be expected to more easily be detected in MW2 and MW3 than in MW4 or MW5. Inspection of Table 2 shows that the highest levels of contamination have indeed thus far consistently been measured in MW2 and MW3.

6. The contamination thus far measured in MW4 and MW5 may not entirely be from the project site, but may be from one or more of the other at least 16

petroleum hydrocarbon releases reported in the site area. It is possible, however, that temporal variations or even reversals of the groundwater gradient direction over time, as may occur during recharge or drawdown in a nearby well, may account for some spread of the site contamination into these wells.

7. The preponderance of the gradient information suggests that MW5 is not evaluating the contamination in the direction down gradient from the former locations of the tanks; MW3 is more in a position to do that. A significant amount of the contamination may be nearer the north corner of Franklin and Eight Streets than MW5 or MW3. A well on Franklin Street near the north corner of Franklin and Eight Streets would provide better information.

Extent of Contamination - Soils

we're talking 10,000 ppm TPHg etc.

8. It is our understanding that the majority of the soils contamination in the excavation for the two gasoline tanks was excavated prior to being backfilled. It appears, however, that all of the contaminated soils in the excavation for the waste oil and solvent tanks could not be removed due to the presence of the sidewalk and street and the limitations of the excavation equipment. Evaluation of the extents and concentrations of the remaining contaminated soils in the vicinity of the excavated waste oil and solvent tanks are not a part of the required monitoring program.

Extent of Contamination - Groundwater

9. Overall, the level of TPHg and BTEX in MW2 has decreased significantly to 49 ppm from the high of 270 ppm reported in October 1992, and the levels in MW3 show a rise since the last sampling.

10. The extent of the petroleum hydrocarbon contamination as TPHg in the groundwater beneath the intersection of Franklin and Eighth Streets is approximately as shown to the extent possible from the sampling and testing for this quarterly report on the "Project Site Map; Concentration of TPHg" (Plate 3). The levels of Total BTEX measured in each of the wells is also noted on that map.

CONCLUSIONS AND RECOMMENDATIONS FOR NEXT ACTION

1. The full extent of the plume in the down gradient direction measured to date cannot be determined from the five wells currently at the project site. It is possible that the gradient directions to the northwest measured during this and three of the four past samplings is the result of temporal variations, and the same is possible with respect to the November 1991 direction reported by Miller Environmental Company (1992). However, the preponderance of gradient information to date indicates that a well should be installed in the vicinity of the north corner of Franklin and Eighth Streets.

2. We recommend that the gradient direction and magnitude at the project site continue to be measured at least quarterly, which will produce information for other seasons of the year; and monthly measurements and gradient determinations are advisable. Future site activities should be based upon that information.

3. We recommend continued sampling and testing of the groundwater in the groundwater monitoring wells for TPHg and BTEX at least quarterly in accordance with County requirements and guidelines to help monitor the groundwater contamination at the project site. The next sampling, testing and ground water level measurements should take place in July 1993.

LIMITATIONS

1. This report has been prepared in accordance with generally accepted Engineering Geologic practices. The conclusions and recommendations contained in this report have resulted from Engineering Geologic and Hydrogeologic analyses based upon our interpretations of the surface and subsurface soils and geologic conditions reported by others in their borings at locations chosen by them at the project site, and that the soils conditions and geologic conditions at the project site do not deviate from those reported. No warranty, expressed or implied, is made.

2. The migration of contaminants in vadose zone soils and shallow aquifers is somewhat irregular and poorly understood, and the state-of-the-art in environmental investigation does not provide the means to completely evaluate such conditions. However, every reasonable effort has been made within the scope of work agreed to between the Client and Consultant to characterize the extent of the contamination at the project site based upon location of the wells and the well head elevations reported by others, and the groundwater elevations in the monitoring wells and the chemical testing results from this quarterly monitoring program. It remains, however, that it cannot be stated with certainty that all locations and the full extent of contamination in the groundwater at the project site have been discovered and evaluated.

3. The findings of this report are valid as of the present time. However, the passing of time will change conditions on the existing property due to natural processes or the works of man. In addition, legislation or the broadening of knowledge may require other recommendations. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

Very truly yours,

KDM ENVIRONMENTAL, Inc.

Rick Haltenhoff
Engineering Geologist 1038
Registered Environmental Assessor 1614

Karen Macdonald

Karen Macdonald
President

Attachments as shown on "Table of Contents".

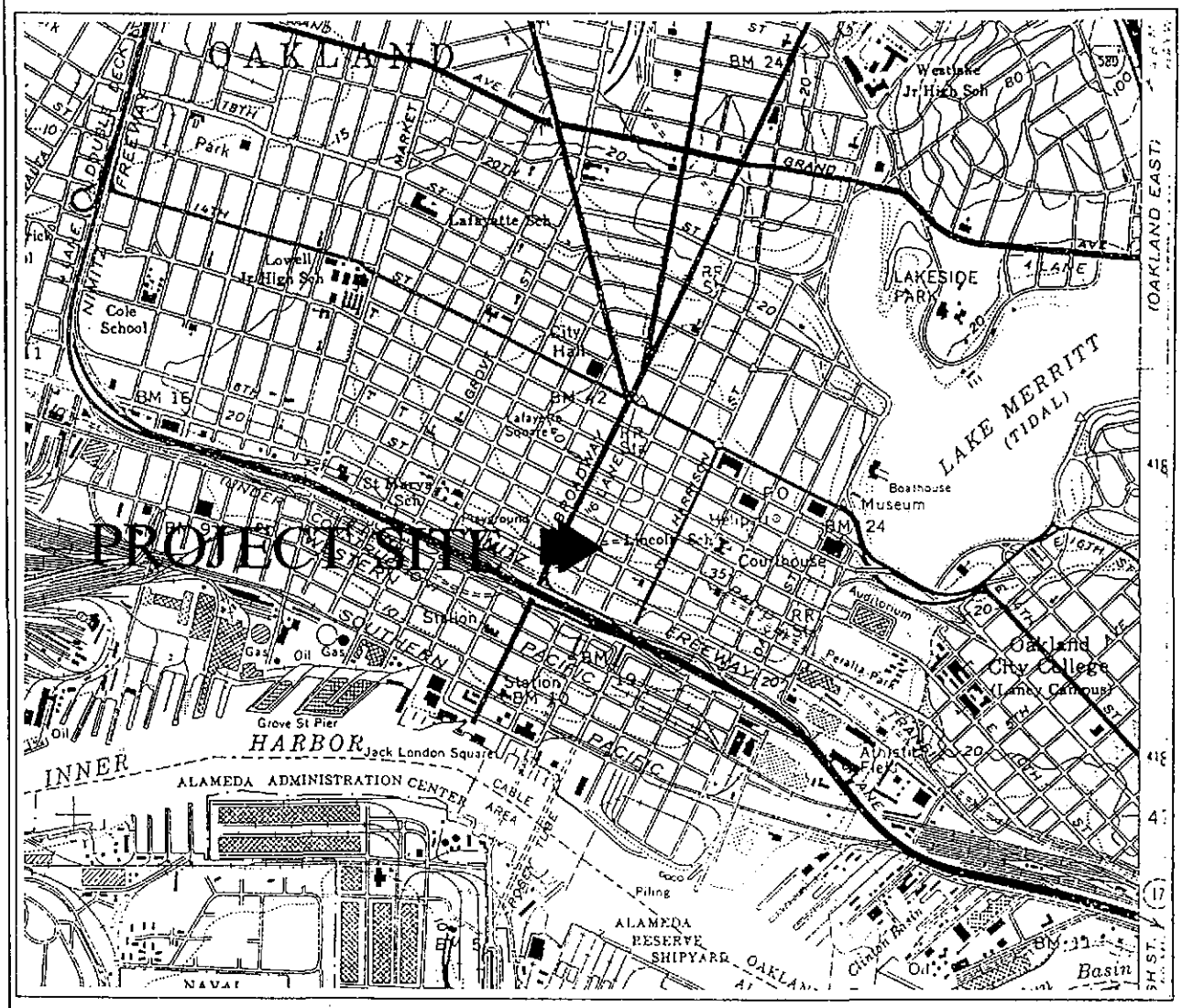
REFERENCES

KDM Environmental, Inc., 1992, Quarterly monitoring of wells, third quarter 1992, 800 Franklin Street, Oakland, California: an unpublished report for Mr. Tommy Chiu of Continental Homes, Inc., Oakland, California.

_____, 1993, Quarterly monitoring of wells, fourth quarter 1992, 800 Franklin Street, Oakland, California: an unpublished report for Mr. Tommy Chiu of Continental Homes, Inc., Oakland, California.

Miller Environmental Company, 1992, Report on subsurface investigation related to well installation and borings, 800 Franklin Street, Oakland, CA: Richmond, California, an unpublished report for Mr. Tommy Chiu of the Montclair Valle Vista Partnership, Oakland California.

FILE NO: 124571



Approximate scale: 1" = 2000';
Contour interval = 5'.

N

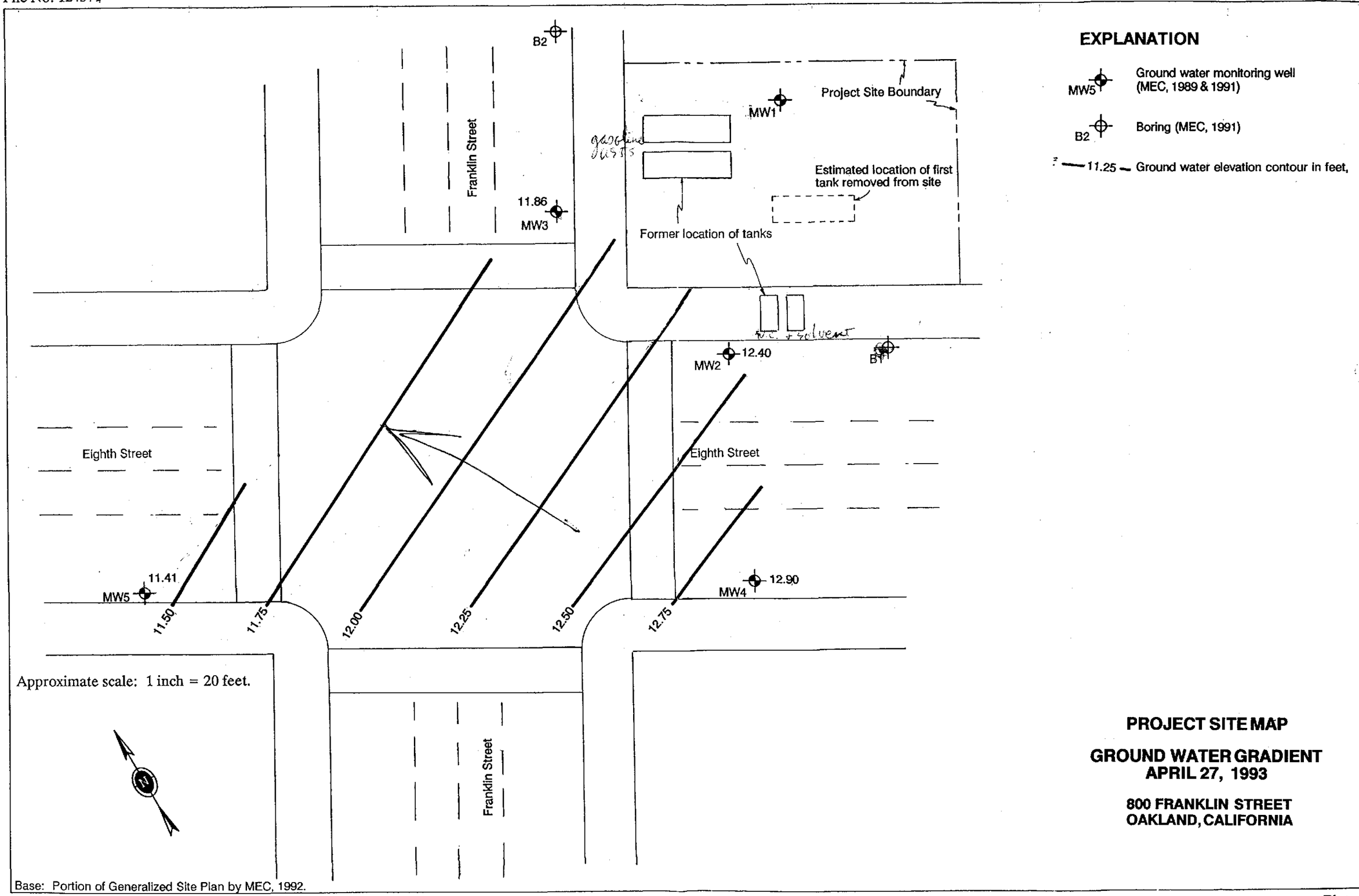
PROJECT SITE VICINITY MAP

800 FRANKLIN STREET

OAKLAND, CALIFORNIA

BASE: Portion of the U.S.G.S., Oakland West 7.5 minute quadrangle, California, photorevised 1968 .

File No: 124571



EXPLANATION

MW5 — Ground water monitoring well (MEC, 1989 & 1991)

B2 — Boring (MEC, 1991)

11.25 — Ground water elevation contour in feet,

Approximate scale: 1 inch = 20 feet.

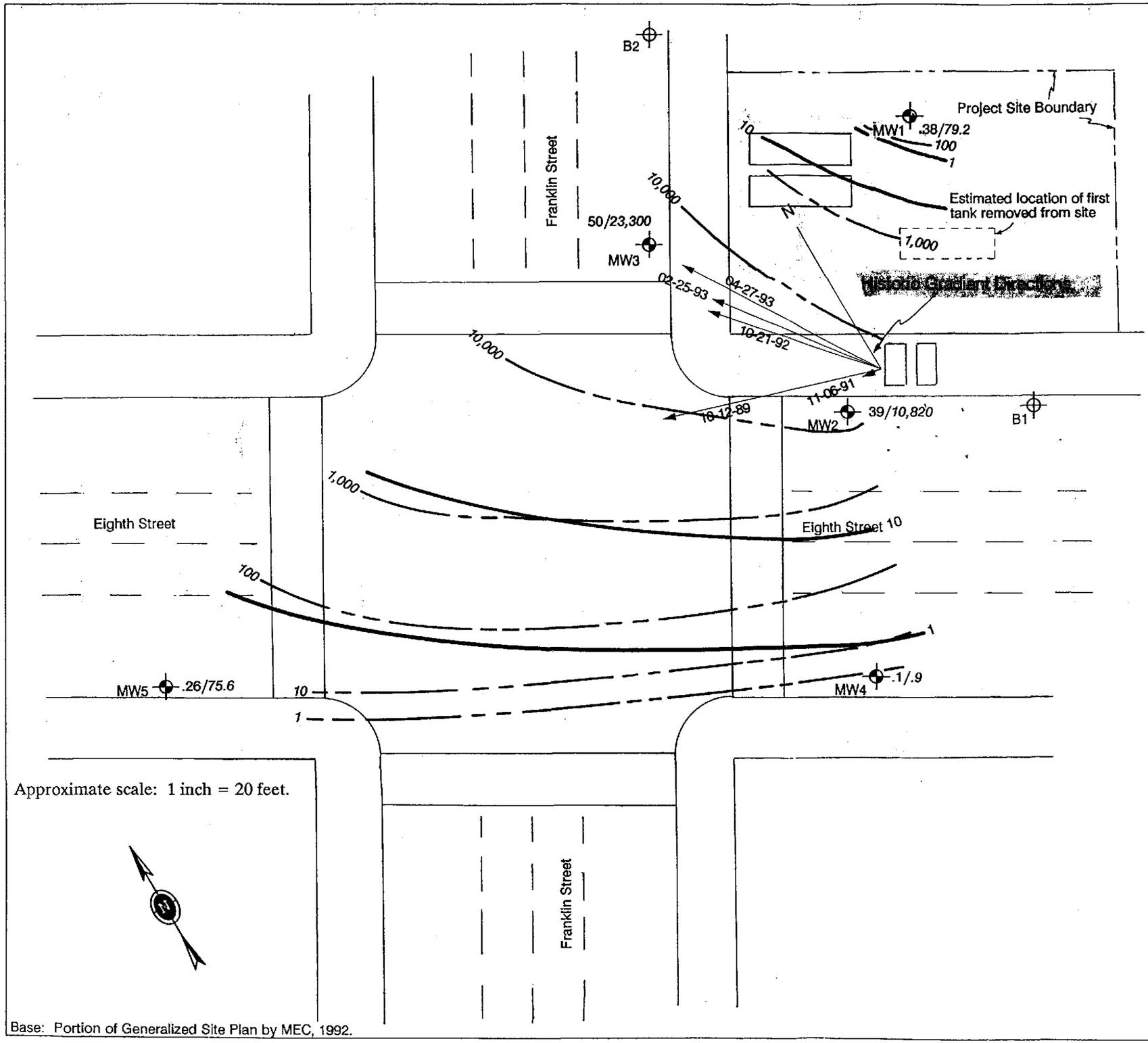
Base: Portion of Generalized Site Plan by MEC, 1992.

PROJECT SITE MAP

GROUND WATER GRADIENT
APRIL 27, 1993

800 FRANKLIN STREET
OAKLAND, CALIFORNIA

File No: 124571



EXPLANATION

- MW5 — Ground water monitoring well (MEC, 1989 & 1991)
- B2 — Boring (MEC, 1991)
- 39/*10,820* — TPHg (ppm)/*Total BTEX (ppb)*
- 100 — Approximate concentration boundary - TPHg in ppm
- 10,000 — Approximate concentration boundary - Total BTEX in ppb

Approximate scale: 1 inch = 20 feet.

Base: Portion of Generalized Site Plan by MEC, 1992.

PROJECT SITE MAP

TOTAL PETROLEUM HYDROCARBONS AS GASOLINE AND TOTAL BTEX APRIL 27, 1993

800 FRANKLIN STREET OAKLAND, CALIFORNIA

TABLE 1

COMPILATION OF

GROUNDWATER ELEVATIONS IN GROUNDWATER MONITORING WELLS

800 Franklin Street, Oakland, California

Well	Top of Casing	10/12/89**	11/06/91**	10/21/92	02/25/93	04/27/93
MW1	33.42*	10.55	-	-	-	-
MW2	33.66	10.40	9.64	11.24	12.16	12.40
MW3	34.23	10.21	10.71	10.91	11.72	11.86
MW4	33.64	-	10.32	11.54	12.51	12.90
MW5	33.56	-	9.56	10.32	11.16	11.41

* Top of casing destroyed between 10/12/89 and 11/6/91

** Reported by Miller Environmental Company (1992)

Datum is Mean Sea Level, based on surveying by LLS Jeffery D. Black, 11/05/91

File No: 124571 93Q1

TABLE 2
COMPILATION OF
COMPOUND CONCENTRATIONS (in ppm) IN GROUNDWATER SAMPLES
800 Franklin Street, Oakland, California

Well (Smpl Date)	TPHg	Wst Oil	TPHd	Benzene	Toluene	Eth Benz	Xylenes	DCA (ppb)
MW1								
10/12/89	ND	ND	-	ND	ND	ND	ND	8.6
10/31/91	0.630	1.7	0.96	0.003	ND	ND	0.130	0.0098
10/21/92	0.520	-	-	0.078	0.038	ND	0.120	ND
02/25/93	1.600	-	-	0.160	0.190	0.034	0.350	-
04/27/93	0.380	-	-	0.005	ND	ND	0.074	-
MW2								
10/12/89	38.000	3.9	-	1.300	1.200	ND	4.700	ND
10/31/91	10.000	ND	1.5	1.800	1.200	0.270	0.960	0.17
10/21/92	270.000	-	-	9.700	4.540	9.600	56.000	15.4
02/25/93	49.000	-	-	4.300	11.000	1.300	9.100	-
04/27/93	39.000	-	-	1.400	4.000	0.220	5.200	-
MW3								
10/12/89	87.000	4.5	-	3.200	8.800	ND	6.500	70
10/31/91	310.000	ND	25	9.300	25.000	5.600	27.000	0.058
10/21/92	22.000	-	-	10.000	4.300	0.790	2.100	ND
02/25/93	29.000	-	-	8.400	5.400	1.300	3.300	-
04/27/93	50.000	-	-	8.200	8.700	1.000	5.400	-
MW4								
10/31/91	ND	ND	ND	ND	ND	ND	ND	ND
10/21/92	0.410	-	-	0.003	0.029	0.007	0.047	ND
02/25/93	0.170	-	-	ND	ND	ND	ND	-
04/27/93	0.100	-	-	ND	ND	ND	0.001	-
MW5								
10/31/91	ND	ND	ND	ND	ND	ND	ND	ND
10/21/92	0.840	-	-	0.017	0.120	0.039	0.180	ND
02/25/93	ND	-	-	ND	ND	ND	ND	-
04/27/93	0.260	-	-	0.053	0.019	0.001	0.002	-

ND Not Detected - Not Analyzed

Values rounded-off to three decimal places. See laboratory data sheets for exact reported values.

Testing 10/12/89 and 10/31/91 as reported by Miller Environmental Company.

WATER LEVEL MEASUREMENTS TABLE

Date: 4/27/93
File Name: Franklin ST. Oakland
File No: 12457 1

Measured By: Bruce Beale
Weather Condition: Sunny

Well Number	Well Elevation	Depth to Water	Water Elevation	Comments
ATC-MW-1	33.42	22.36	11.06	x 4 = 7.4
ATC-MW-2	33.66	21.26	12.40	2.0 x 4 = 8.0
ATC-MW-3	33.23	22.37	11.86	1.97 x 4 = 8.0
ATC-MW-4	33.64	20.74	12.90	2.0 x 4 = 8.0
ATC-MW-5	33.56	22.15	11.41	1.89 x 4 = 7.58
ATC-				
ATC-				
ATC-				
ATC-				
ATC-				
ATC-				
ATC-				

FIELD WELL SAMPLING LOG

Job Location: 800 Franklin ST, Oakland
Weather Conditions: Sunny
Laboratory Name: Chromalab
Equipment Rental:
Purchased Water (type,gallon,etc.)

File No.: 254571
File Name: Chin
Sampling Team: Bruce Beale

WELL NO.	SAMPLING DATE	BOTTOM OF WELL (ft)	INITIAL WATER LEVEL (ft)	PURGING				SAMPLING TIME		SAMPLING METHOD		COMMENTS (appearance of sample, maintenance performed, etc.)	Initial
				In Well (gallon)	Removed (gallon)	Start time	End Time	Blank	Sample	B	P		
MW-1	4/23/03	33.42				11:55	12:05		12:08	X		Cloudy	BDB
MW-2		33.66				13:05	13:18		13:22	X		"	BDB
MW-3		34.83				12:30	12:42		12:45	X		"	BDB
MW-4		33.64				13:40	13:55		12:58	X		"	BDB
MW-5	↓	33.56				11:20	11:30		11:35	X	X	Brownish orange	BDB
Trip Blank								11:00		X			BDB
Bailer Blank	↓							8:30		X			BDB

B - Sample taken with bailer
P - Sample taken with pump
C - Cleaning
L - Locking device or lock
N - None
O - Other

KDM ENVIRONMENTAL, Inc.

FIELD RECORD

KDM ENVIRONMENTAL, Inc.

Date: 4-27-93 Job No: 124571 Page No: 1/1

Project: Qtrly monitoring

Location: 800 Franklin St.

Contractor: Owner: Chiu

Weather: Sunny Temp:

Present at Site: BB

To: Karen McDonald

From: Bruce Beale

The following was noted:

08:00 KDM Env. Arrival ; loaded Van for Sampling in Oakland

09:00 Left KDM Env. for Oakland

10:00 Site Arrival ; Took water level measurements

11:20 Began Sampling

14:00 finished sampling , moved Van for SJ

14:30 Left Site

16:00 ~~End of Day~~ SJ. Arrival, prepaired samples for Delivery

17:00 End of Day

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

May 5, 1993 ChromaLab File No.: 0493326

KDM Environmental, Inc.

Attn: Bruce Beale

RE: Seven water samples for Gasoline and BTEX analysis

Project Name: CHIU
Project Number: 124571
Date Sampled: April 27, 1993 Date Submitted: April 28, 1993
Date Analyzed: May 4, 1993

RESULTS:

Sample I.D.	Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
MW-1	380	5.2	N.D.	N.D.	74
MW-2	39000	1400	4000	220	5200
MW-3	50000	8200	8700	1000	5400
MW-4	100	N.D.	N.D.	N.D.	0.9
MW-5	260	53	19	1.2	2.4
BAILER BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
TRIP BLANKS	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	89%	90%	97%	100%	98%
DUP SPIKE RECOVERY	---	89%	90%	84%	93%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/8015	602	602	602	602

ChromaLab, Inc.

Billy Thach
Analytical Chemist

Eric Tam
Laboratory Director

do

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

CHROMALAB [redacted] E [redacted]
ORDER # 11493

KDM Environmental, Inc.
2149 O'Toole Avenue, Suite L
San Jose, CA 95131 (408) 434-1622 Fax 434-6748

Bruce Beale

Job Name :	Location:	Job Number :	Sampling Round Number :
Chiu	800 Franklin St. Oakland, CA	124571	5

Well or Sample Number	Date	Time	~~Comp.~~ # of Samples	Grab	Sample Container	Analytes Requested / Remarks
mw-1	4/27/93	12:08	2	X	w/cv 40 ml	EPA TPH-G / BETX
mw-2		13:22				
mw-3		12:45				
mw-4		12:58				
mw-5		11:35				
Bailer Blanks		11:00				
Trip Blanks		08:30				
						5 day TAT

Relinquished by : (Signature)	Date	Time	Received by : (Signature)	Relinquished by : (Signature)	Date	Time	Received by : (Signature)
[signature]	4/28/93	11:10					

Relinquished by : (Signature)	Received for Laboratory by : (Signature)
	[signature] 4/28/93 16:32

→ Samples stored in a locked secure overnight from 4/27/93 To 4/28/93

APPENDIX C

STANDARD SAMPLING PROTOCOL
800 FRANKLIN STREET
OAKLAND, CALIFORNIA

General

1. All chemical sampling, handling, and storage will be conducted under the direction of our Registered Environmental Assessor.

2. All sample containers will be properly tagged and identified in the field with a label containing the date, sample identification, and the Associated Terra Consultants, Inc. job number for the work being performed.

3. At no time will the time elapsed between sample acquisition and sample delivery to the outside laboratory be greater than three days.

4. Under no circumstances will preservatives be added to the samples.

5. At no time will sample containers be opened by other than laboratory personnel who will perform the specified chemical analyses.

6. We have been advised by our outside laboratory that the useful duration of ground water samples for the appropriate chemical testing is two weeks.

7. Ground water samples will be disposed of in Class 1 or Class 2-1 sites as necessary after acceptance of our report or upon receipt of your authorization.

Ground Water Samples for Laboratory Testing

8. Water samples will be withdrawn from the well using a teflon bailer or a ground water sampling pump only after at least three to five well bore volumes have been evacuated from the casing by pumping or bailing, and withdrawal has been of sufficient duration to result in stabilized pH, temperature, and electrical conductivity levels. A field log will be maintained of all evacuation procedures and parameter monitoring.

9. The pump, hose, bailer and wire connectors will be thoroughly steam-cleaned, or rinsed in tap water and then in de-ionized water between samplings. Any rubber gloves worn for protection during sampling also will be cleaned in the same manner.

10. All water samples will be placed in cleaned teflon screw-cap sample containers designated for that purpose. Samples will be taken in duplicate with one set of samples delivered to the laboratory for analysis, and one set kept under refrigeration in our laboratory. The sample containers will be thoroughly cleaned and sealed prior to delivery to the site. The vials will be topped-off to avoid air space, and the screw cap sealed. All vials will be inverted to check for air bubbles, and re-sampled as necessary if air bubbles are found. Samples will be kept refrigerated at all times.

11. Water sample blanks using de-ionized water will be placed in cleaned 40 ml screw-cap teflon sample containers designated for that purpose. One water sample blank will be taken for each ground water sample obtained. The water sample blank will be poured into the sample vial directly from the teflon bailer after the bailer has been thoroughly steam-cleaned or rinsed and re-rinsed with de-ionized water, or pumped directly into the sample vial from the ground water sampling pump as the last stages of de-ionized cleaning water.

SAMPLE RECORDS AND CUSTODY

12. Sample records for each sample will contain information on sample type and source; our job number; the date of sampling; location; significant weather conditions; laboratory name; well data; and sampling method.

13. A chain of positive, signature custody and transference will be strictly maintained at all times.