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QUARTERLY MONITORING OF WELLS

THIRD QUARTER 1992

800 FRANKLIN STREET

OAKLAND, CALIFORNIA

for

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

November 13, 1992

File No: 124571 92Q3

KDM

ENVIRONMENTAL, INC.
Environmental Consulting Services

November 13, 1992
File No: 124571 92Q3

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

Subject: **QUARTERLY MONITORING OF WELLS - THIRD QUARTER 1992**
800 Franklin Street
Oakland, California

Dear Mr. Hiett:

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 by the Alameda County Health Care Services Agency ("ACHCSA") as outlined in their letters dated May 21 and September 28, 1992.

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/TR/tr
Distribution: 3 copies - Addressee
1 copy - Mr. Rich Hiett, RWQCB
1 copy - Mr. Michael Burns, Tracy Federal Bank

2149 O'Toole Avenue, Suite L • San Jose, California 95131
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File No: 124571 92Q3 November 13, 1992

QUARTERLY MONITORING OF WELLS
THIRD QUARTER 1992
800 FRANKLIN STREET
OAKLAND, CALIFORNIA

INTRODUCTION

This report presents the data from the Third Quarter - 1992 monitoring of the five groundwater monitoring wells in the vicinity of 800 Franklin Street in Oakland, California. This monitoring is required by the Alameda County Health Care Services Agency ("ACHCSA") .

The project site, located on the northeastern corner of Franklin and Eighth Street 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 which would indicate the contents of the tank, the date of removal, or who removed the tank. The Miller Environmental Company 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 indicated 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 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 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. 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 concentrations of TPHg up to 2.3 ppm and waste oil up to 80 ppm. The majority of the contamination in the excavation of the waste oil and solvent tanks, however, could not be excavated due to 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 TPH as waste oil at 400 ppm. The excavations were subsequently backfilled with clean imported and native fill.

The Miller Environmental Company 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 be to the west-northwest. Approval to proceed with the construction of a new commercial structure at the project site was granted by the 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. KDM Environmental was contracted in October 1992 to perform this monitoring. This report presents the results of the October 1992 sampling and analyses of the groundwater in the five groundwater monitoring wells.

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 project site is shown on the "Project Site Vicinity Map" (Plate 1). The project site is bounded by Franklin Street on the west, Eighth Street on the south, and commercially-developed parcels on the east and north. The project site includes a commercial structure.

The project site is approximately flat at an elevation of about 35 feet above Mean Sea Level. Drainage of the project site is to the south and west to the storm drainage systems of Franklin and Eighth Streets. Lake Merritt and the Oakland Inner Harbor are located approximately 3000 feet to the east and 2500 feet to the southwest of the project site, respectively.

General Geology/Hydrogeology

Holocene and Older Pleistocene alluvial fan deposits of fine to coarse sand underlie the project site. 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, erratic changes in the gradient direction have been reported in the vicinity of 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 sand. Groundwater was reported to have been encountered during drilling at depths of 25 and 26 feet.

METHODS AND PROCEDURES

Groundwater Elevations and Groundwater Sampling

The depths to groundwater were measured in the wells on October 21, 1992 (see Plate 2 and Table 1). The groundwater elevations were then calculated based on the elevations of the tops of the casings of the wells as reported in Miller Environmental Company (1992). Groundwater samples from all five groundwater monitoring wells at the project site were taken on October 21, 1992. All sampling procedures were performed in accordance with our "Standard Sampling Protocol" (Appendix C). A strong petroleum hydrocarbon odor was detected during the sampling of the groundwater in Monitoring Well MW2. Approximately 1/4 inch of free product was observed on the interface between the groundwater and the vadose zone in this well. No evidence of a sheen or free product was noted during the sampling of the groundwater in the other groundwater monitoring wells at the project site.

RESULTS OF CHEMICAL TESTING

Groundwater Sampling and Laboratory Testing

The groundwater in Groundwater Monitoring Wells MW1 through MW5 was sampled on October 21, 1992. 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. 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") show the analytical results of all known previous and 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. No contamination was detected in the field control blank taken prior to the sampling of the groundwater monitoring wells at the project site.

Results

Detectable concentrations of TPHg were noted in all the groundwater monitoring wells ranging from .41 ppm TPHg in MW4 to 270 ppm TPHg in MW2. Total BTEX in all the wells ranged from 0.0859 ppm in MW4 to 79.8 ppm in MW2.

INTERPRETATION OF DATA

Hydrogeology

1. Groundwater elevation measurements previously taken at the project site by the Miller Environmental Company indicate that the down-gradient direction of the shallow aquifer beneath the project site was to the west. The down-gradient direction measured during the Third Quarter-1992 sampling appears to be to the northwest.

Extent of Contamination - Soils

2. 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. The extent 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

3. TPHg and BTEX were detected in the groundwater samples from all the groundwater monitoring wells during this phase of sampling. It appears, therefore, that petroleum hydrocarbon contamination in the groundwater is underneath the intersection of Eighth and Franklin Streets, approximately as shown on the "Project Site Map; Concentration of TPHg" (Plate 3). The concentrations of BTEX measured in each of the wells and the concentration contours of Total BTEX in the groundwater correspond with the concentrations and concentration contours of TPHg as shown on Plate 3.

CONCLUSIONS AND RECOMMENDATIONS FOR NEXT ACTION

1. It is likely that the recent change of the down-gradient from west to northwest has extended the plume to the northwest of the tank excavation, however, the full extent of this plume in this direction could not be determined from the five wells currently at the project site. The length of the plume in this direction is dependent upon the time the gradient has been in this direction. It is possible that the recent gradient direction measured during this sampling is part of a regular temporal variation, or that it is a short-lived result of the rains at the project site just prior to the sampling. We recommend continued quarterly groundwater level measurements to monitor the gradient direction at the project site.

2. We recommend continued quarterly sampling and testing of the groundwater in the groundwater monitoring wells for TPHg and BTEX in accordance with ACHCSA requirements and guidelines to help monitor the groundwater contamination at the project site.

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.

4. 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.

Tom Rooze
Senior Engineering Geologist

Rick Haltenhoff
Engineering Geologist 1038
Registered Environmental Assessor 1614

Karen Macdonald

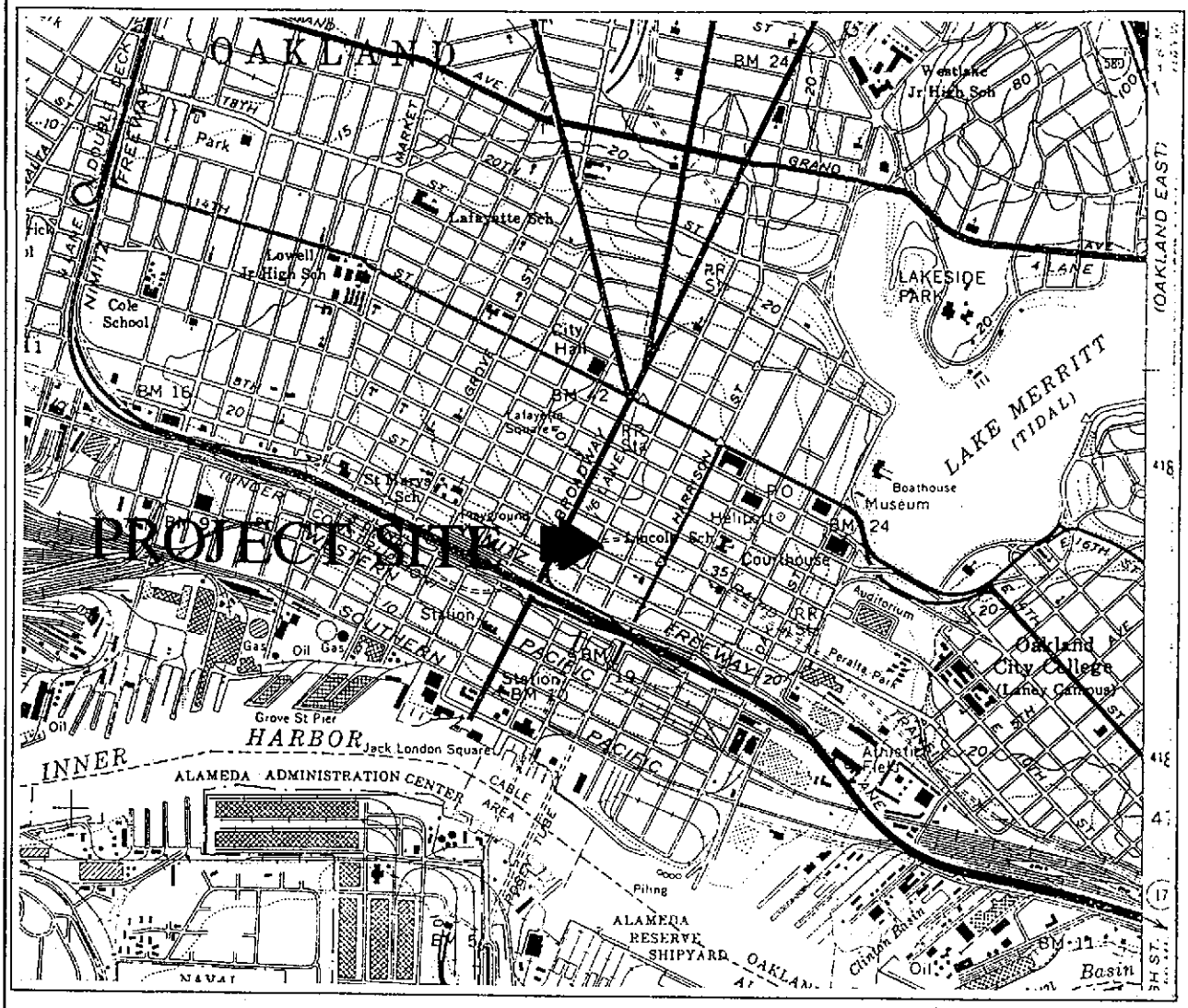
Karen Macdonald
President

Attachments as shown on "Table of Contents".

REFERENCES

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'.

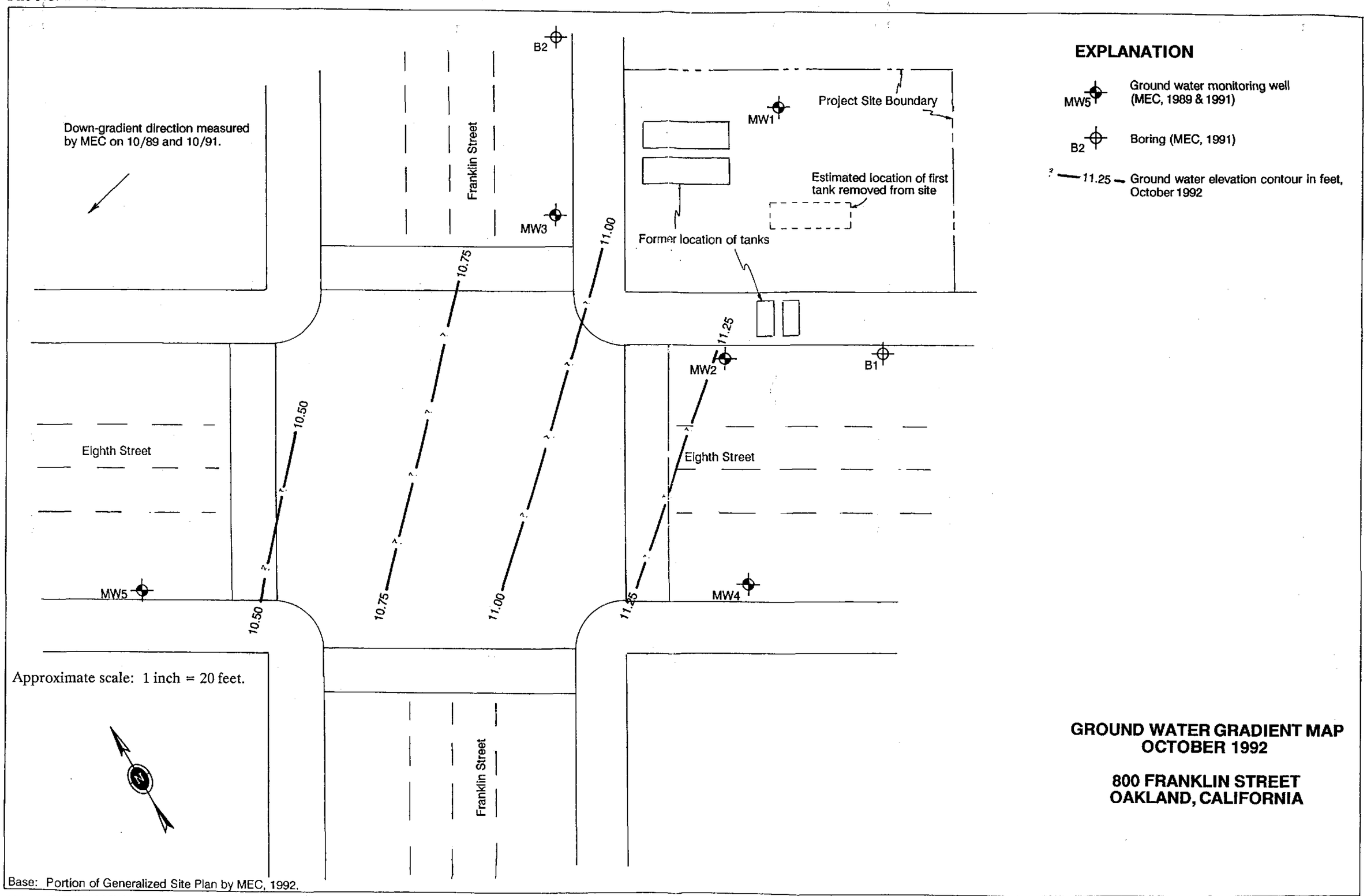
PROJECT SITE VICINITY MAP

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, October 1992

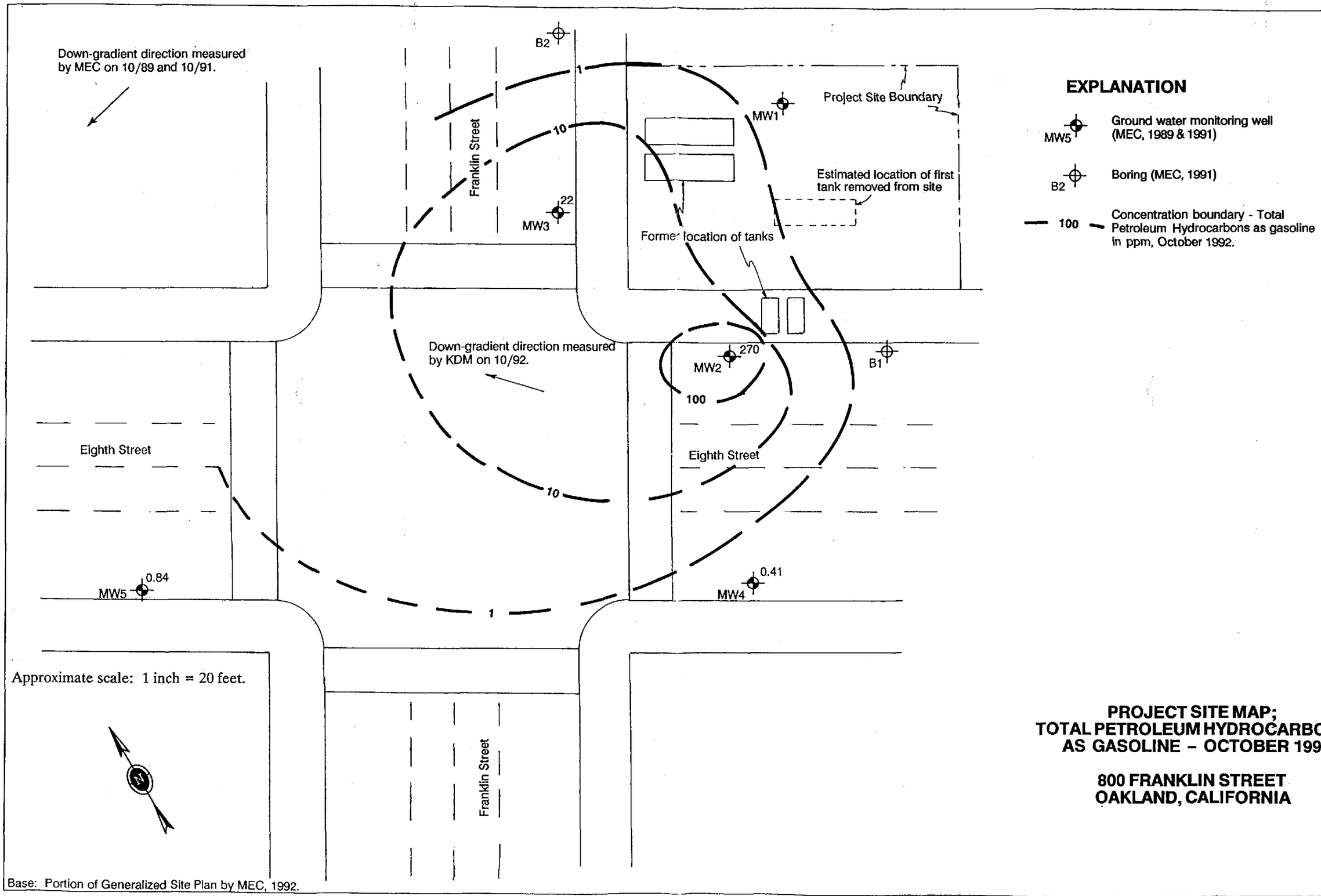
GROUND WATER GRADIENT MAP
OCTOBER 1992

800 FRANKLIN STREET
OAKLAND, CALIFORNIA

KDM ENVIRONMENTAL, Inc.

Plate 2

File No: 124571



PROJECT SITE MAP;
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE - OCTOBER 1992

800 FRANKLIN STREET
OAKLAND, CALIFORNIA

File No: 124571 92Q3

TABLE 1

GROUND WATER ELEVATIONS IN

GROUND WATER MONITORING WELLS

800 Franklin Street
Oakland, California

WATER ELEVATIONS (through October 1992)

WELL	Elevations	10/12/89**	11/6/91**	10/21/92
MW1	33.42*	10.55	-	-
MW2	33.66	10.40	9.64	11.24
MW3	34.23	10.21	10.71	10.91
MW4	33.64	-	10.32	11.54
MW5	33.56	-	9.56	10.27

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

** Reported by Miller Environmental Company (1992)

File No: 124571

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

Well (Smpl Date)	TPHg	Wst Oil	TPHd	Benz	Tol	Eth benz	Xyl	DCA (ppb)
MW1								
10/12/89	ND	ND	-	ND	ND	ND	ND	8.6
10/31/91	0.63	1.7	0.96	0.0032	ND	ND	0.13	0.0098
10/21/92	0.52	-	-	0.078	0.038	ND	0.12	ND
MW2								
10/12/89	38	3.9	-	1.3	1.2	ND	4.7	ND
10/31/91	10	ND	1.5	1.8	1.2	0.27	0.96	0.17
10/21/92	270	-	-	9.7	4.54	9.6	56	15.4
MW3								
10/12/89	87	4.5	-	3.2	8.8	ND	6.5	70
10/31/91	310	ND	25	9.3	25	5.6	27	0.058
10/21/92	22	-	-	10	4.3	0.79	2.1	ND
MW4								
10/31/91	ND	ND	ND	ND	ND	ND	ND	ND
10/21/92	0.41	-	-	0.0031	0.029	0.0068	0.047	ND
MW5								
10/31/91	ND	ND	ND	ND	ND	ND	ND	ND
10/21/92	0.84	-	-	0.017	0.12	0.039	0.18	ND

ND Not Detected - Not Analyzed

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

FIELD WELL SAMPLING LOG

Job Location: 800 Franklin St., Oakland, C[illegible]

Weather Conditions: Sunny - Some clouds

Laboratory Name: CHROMA LAB

Equipment Rental: N/A

Purchased Water (type,gallon,etc.) Lady Lee Distilled water

File No.: 700271

File Name: Chiu

Sampling Team: Bruce Beale

WELL NO.	SAMPLING DATE	BOTTOM OF WELL (ft)	INITIAL WATER LEVEL (ft)	PURGING In Well (gallon)	PURGING Removed (gallon)	PURGING Start time	PURGING End Time	SAMPLING TIME Blank	SAMPLING TIME Sample	SAMPLING METHOD B	SAMPLING METHOD P	COMMENTS (appearance of sample, maintenance performed, etc.)	Initial
1	10/21/92	33.75	23.48	1.69	6.6	12:06	12:21		12:25	X		Brownish - orange Susp. Sol.	BDB
2	10/21/92	34.20	22.42	1.98	7.6	15:36	13:53		13:55	X		Orange - Clear	BDB
3	10/21/92	33.50	23.32	1.13	4.5	13:06	13:14		13:16	X		Drk Grey	BDB
4	10/21/92	33.72	22.10	1.86	7.5	15:39	15:55		16:00	X		Light Brown - orange	BDB
5	10/21/92	34.38	23.24	1.78	7.1	14:42	14:55		14:55	X			BDB
71	10/21/92							a.m.				Distilled water Lady Lee Exp. Date Sept 13,1993	BDB

B - Sample taken with bailer

P - Sample taken with pump

C - Cleaning

L - Locking device or lock

N - None

O - Other

ASSOCIATED TERRA CONSULTANTS, Inc.

WATER LEVEL MEASUREMENTS TABLE

Date: 10/21/92
File Name: Chic
File No: 700271 / 124571

Measured By: Bruce Beale
Weather Condition: Sunny

Well Number	Well Elevation	Depth to Water	Water Elevation	Comments
~~ATC-~~ MW1	–	23.48	–	Top of casing cut off - measured
~~ATC-~~ MW2	33.66	22.42	11.24	from top of slab
~~ATC-~~ MW3	34.23	23.32	10.91	
~~ATC-~~ MW4	33.64	22.10	11.54	
~~ATC-~~ MW5	33.51	23.24	10.27	
ATC-				
ATC-				
ATC-				
ATC-				
ATC-				
ATC-				
ATC-				

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

October 30, 1992 ChromaLab File No.: 1092204

KDM ENVIRONMENTAL

Attn: Bruce Beale

RE: Six water samples for Gasoline and BTEX analysis

Project Name: CHIU
Project Number: 700271
Date Sampled: Oct. 21, 1992 Date Submitted: Oct. 22, 1992
Date Analyzed: October 27, 1992

RESULTS:

Sample I.D.	Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
102-01	520	78	38	N.D.	120
102-02	270000	9700	4500	9600	56000
102-03	22000	10000	4300	790	2100
102-04	410	3.1	29	6.8	47
102-05	840	17	120	39	180
102-21	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	96%	91%	92%	89%	92%
DUP SPIKE RECOVERY	----	93%	97%	93%	94%
DETECTION LIMIT	50	0.5	0.5	0.5	1.5
METHOD OF ANALYSIS	5030/8015	602	602	602	602

ChromaLab, Inc.

Billy Thach
Analytical Chemist

Eric Tam
Laboratory Director

cc

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

CHA[illegible]OF [illegible]TOD[illegible]EC[illegible]

~~Associated Terra Consultants, Inc.~~ KDM 2149 O'Toole Avenue, Suite L San Jose, CA 95131 (408) 434-1622 Fax 434-6748	Sampler (s): Bruce Beale
Job Name: Chia	Job Number: 700271 Sampling Round Number: 5

Well or Sample Number	Date	Time	Comp.	Grab	Sample Container: No. of Samples	Sample Container: Type of Container	Analytes Requested / Remarks
102-01	10/21/92	12:25		X	2	40 ml w/cv	EPA TPH-G / BETX
102-02		13:55					
102-03		13:16					
102-04		16:00					
102-05		14:58					
102-21	↓	08:00		↓	↓	↓	* Trip Blanks

CHROMALAB FILE # 1092204
ORDER # 6250

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
[signature]	10/21/92	18:00	1310 10-22-92 [signature]				

Relinquished by: (Signature)	Received for Laboratory by: (Signature)

→ Stored overnight in a locked secure place 10/21/92 - 10/22/92 RCB

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.