STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY PETE WILSON, *Governor*

DEPARTMENT OF TRANSPORTATION
BOX 23660
OAKLAND, CA 94623-0660
(510) 286-4444
TDD (510) 286-4454

February 29, 1996

Ms. Susan Hugo, Senior Hazardous Waste Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Quarterly Groundwater Monitoring Reports for the Former Cal-East Foods Site

Dear Ms. Hugo:

Enclosed is the February 1996 quarterly report for the referenced site at 505 Cedar Street in Oakland. This is the second quarter of the year-long continuation of the site investigation. The third quarter (seventh sampling session overall) is scheduled to take place in late April 1996. If you have any question or comments, please call me at 286-5647.

Sincerely,

Christopher R. Wilson

Christopher R. Wilson, P.E.
Office of Environmental Engineering

cc: file

Attachment

FEBRUARY 1996
GROUNDWATER INVESTIGATION REPORT
CAL-EAST FOODS
505 CEDAR STREET
OAKLAND, CALIFORNIA 94607

Submitted By:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
OAKLAND, CALIFORNIA

February 27, 1996

Prepared By:

Christopher R. Wilson

Christopher R. Wilson, P.E.

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I Introduction

This report is on the February 1996 quarterly groundwater sampling and analysis at the former Cal-East Foods site located at 505 Cedar Street in Oakland. It is the sixth round of sampling that has been conducted at the site. The first four quarters of sampling were concluded in April 1995, but fluctuating hydrocarbon concentrations found in the groundwater warranted a continuation of the quarterly sampling to begin in October 1995 and continue for another year, as requested by the Alameda County Health Care Services Agency (ACHCSA).

II Site History

The subject site at 505 Cedar Street in Oakland (see Figure 1 for the location map) was occupied by Cal-East Foods, a frozen seafood processing facility, from 1975 to 1993. The site was purchased by the State Department of Transportation as part of the right of way for the Cypress freeway replacement. Past Cal-East Foods vehicle operations utilized gasoline from an underground storage tank (UST) located at the site's northeast corner (see Figure 2 for detailed site map). Following the State's purchase of the site, the 2500-gallon UST was removed in November 1993. Soil samples collected from the tank excavation pit had elevated levels of total petroleum hydrocarbons as gasoline (TPH-g) and gasoline components benzene, toluene, ethyl benzene, and xylenes (BTEX). In an effort to remove the petroleum hydrocarbon-impacted soil, the tank pit was over-excavated five days after the UST had been removed, and more soil samples from the tank pit were taken. Analyses of these samples showed considerably lower concentrations of TPH-g and BTEX than the first series of samples, but TPH-g was still found at concentrations up to 45 mg/kg, benzene at 0.32 mg/kg, toluene at 0.62 mg/kg, ethyl benzene at 0.40 mg/kg, and xylenes at 2.3 mg/kg. In December 1993 the UST excavation was backfilled with sand.

In July 1994, the installation of three monitoring wells around the former tank location was completed, and the first round of quarterly groundwater sampling was conducted. The four quarters of sampling over the next year showed consistently declining concentrations of the volatile organic compounds detected in MW1 (benzene and 1,2-dichloroethane); no detectable contamination in MW2, which was shown to be upgradient of the former tank location; and fluctuating concentrations of BTEX in MW3 (see Table 1 for a summary of the analysis results). Because of the variability of the BTEX concentrations found in MW3, ACHCSA requested the quarterly sampling be continued for another year.

During the first year of quarterly sampling, construction activities at the site and in the area have impacted the physical characteristics of the site. The former warehouse building was demolished in late 1994, and the lot was paved during the 1995 summer. The site is now being utilized as a parking lot for Southern Pacific Railroad employees. The monitoring wells have been maintained in good condition through these changes.

III Monitoring Well Sampling Procedures

The sixth round of sampling at the former Cal-East Foods site took place on February 1, 1996. The sampling was conducted by Caltrans' Office of Environmental Engineering. After the bolted well covers and the locking well caps were removed, the depth to water in each well was measured with an electric sounder and recorded. The wells were then purged of approximately four well casing volumes, using dedicated, disposable bailers. During purging activities, the groundwater conductivity, pH, and temperature were measured and recorded after approximately every well casing volume removed. See Table 2 for a historical summary of the site results and Appendix B for the field data from the February 1996 purging event.

After being purged of four casing volumes, the wells were allowed to recharge before sampling. The groundwater samples were collected using the dedicated bailers and were decanted into sterile, laboratory-supplied containers through disposable volatile compound samplers. The samples were immediately placed in a cooler containing blue ice. They were refrigerated overnight before being delivered the following morning, in the cooler and under chain of custody, to American Environmental Network (AEN), a state-certified laboratory in Pleasant Hill, for analysis. The samples were delivered to AEN within 18 hours of sampling.

After the conclusion of the first year of sampling, ACHCSA eliminated the diesel fuel, oil and grease, and metals analyses from the site's analytical program. As a result, the next four quarters of samples (including February 1996) were scheduled to be submitted to AEN for the following tests:

Total Petroleum Hydrocarbons as Gasoline (TPH-g) by EPA Method 8015-m
Volatile Organic Compounds (VOCs) by EPA Method 8240
Methyl Tertiary Butyl Ether (MTBE) by EPA Method 8020

MTBE is a relatively new additive to gasoline that was not screened for at the Cal-East site during the first four quarters of monitoring. The analysis was requested for the next four quarters by ACHCSA.

IV Analytical Results

The water level measurements found the water table at the site to be approximately 6 feet below ground surface, about the same depth as during the winter of 1995 and roughly 2 feet higher than during the summertime. A summary of the water level measurements is shown in Table 3. The groundwater table gradient derived from this quarter's measurements is 0.0077, with a direction of flow towards the southeast. Figure 3 shows the groundwater table contour map for this sampling period. The magnitude of the water table gradient and the direction of groundwater flow measured this quarter are consistent

with those measured in four of the five past sampling sessions. The one anomaly (January 1995) was during a period of unusually heavy rains that may have altered the normal groundwater table found in the area.

The laboratory analyses showed the TPH-g concentration in MW1, which was 0.18 mg/L in April 1995 and 0.08 mg/L in October 1995, continued to decline; this quarter falling below the detection limit of 0.05 mg/L. 1,2-Dichloroethane (1,2-DCA) has been detected in MW1 every sampling session, and its concentrations have been consistently declining since first being detected at 43 ug/L in July 1994. The February 1996 results, however, found the 1,2-DCA concentration in MW1 increased by 1 ug/L over the last sampling session (October 1996) to 12 ug/L. This concentration is well above the State's Maximum Contaminant Level (MCL) for 1,2-DCA of 0.5 ug/L; however, the contaminated aquifer below the Cal-East Foods site and in the West Oakland area is not utilized as a drinking water source. 1,2-DCA was the only analyte detected in MW1 this sampling round.

As with all five past sampling rounds, the analyses of MW2 for VOCs and TPH-g were non-detect (ND) this quarter. The groundwater flow directions derived from the water level measurements taken in the wells have consistently shown MW2 is situated upgradient from the former UST location (see Figure 3), and, therefore, no contaminants have migrated towards MW2.

Because all four aromatic constituents of BTEX were detected in MW-3 for the first time during the fourth round (April 1995), ACHCSA required the quarterly monitoring to continue for another year. In the first quarter of that continuation (October 1995), the analyses of MW3 for BTEX, and all other VOCs, were ND. This was the result again in February 1996. All VOC analyte concentrations were below their detection limits in MW3.

While the concentrations of the individual aromatic constituents of gasoline in MW3 have decayed below detectable levels, TPH-g has been detected every sampling period, as has a gasoline odor during purging and sampling activities. The maximum TPH-g concentration in MW3 was detected during the third round (January 1995) at 2.90 mg/L. These levels steadily declined over the next two sampling sessions to 0.20 mg/L in October 1995. The results of the February 1996 quarter found the TPH-g levels have not continued to decline, but have stabilized at 0.20 mg/L. A summary of the laboratory analysis results is presented in Table 1, and the laboratory data sheets, including the QA/QC results, are in Appendix A.

V Conclusions

Although the remaining contaminant still found in MW1 (1,2-DCA) did not decay (but in fact increased very slightly) to the concentration predicted by the regression model established in the October 1995 quarterly report, the 1,2-DCA concentration in MW1 as a

function of time still has relationship consistent with first-order decay analysis. Incorporating the results of the February 1996 quarter into the regression model slightly alters some of the conclusions resulting from the mathematical model.

By assuming a first-order decay in the contaminant concentration, the change in concentration, C, with time, t, is given by:

$$\frac{dC}{dt} = -kC$$

where k is the first-order decay rate.

The solution to this differential equation is given by:

$$C(t) = C_0 e^{-(kt)}$$

where C(t) is the concentration at time t and C_0 is the contaminant concentration at t = 0.

If an equation of this form is plotted on semi-log paper with C(t) as the logarithmic ordinate value and time, t, as the linear abscissa value, the plot will be a straight line with a slope equal to the decay rate, k.

This analysis was applied to the 1,2-DCA contamination detected in MW1 by plotting the laboratory analytical results for all six sampling sessions against time in days, with t = 0 being July 1, 1994, and determining the line that best fits the linear regression. The results for 1,2-DCA in MW1 shown in Figure 4 include the results of the February 1996 quarter. The correlation coefficient for the plot is still very near to -1.0, showing a good fit to the theoretical relationship.

Chlorinated solvents tend to have very slow natural degradation rates, and this is the case with the 1,2-DCA contamination found in MW1. The derived decay rate for 1,2-DCA when the February 1996 results are included in the analysis is 0.26%/day (a decrease from the decay rate of 0.32%/day calculated in the October 1995 report). Using first-order analysis to project forward to when the 1,2-DCA concentration in MW1 will have regressed to its MCL of 0.5 ug/L, the time value is now found to be 1721 days from July 1, 1994, which is March 1999.

The results of the laboratory analyses of MW3 have no detected individual analytes for which the application of first-order decay analysis is appropriate. All BTEX analyses were ND again this quarter after they were last detected in MW3 during the fourth round of sampling (April 1995). TPH-g levels failed to decline in MW3 this quarter, remaining at the same concentration as the last quarter (0.20 mg/L). A resumption of the trends that saw declining contaminant levels in MW1 and MW3 for two successive quarters is anticipated when the next round of sampling is conducted in late April.

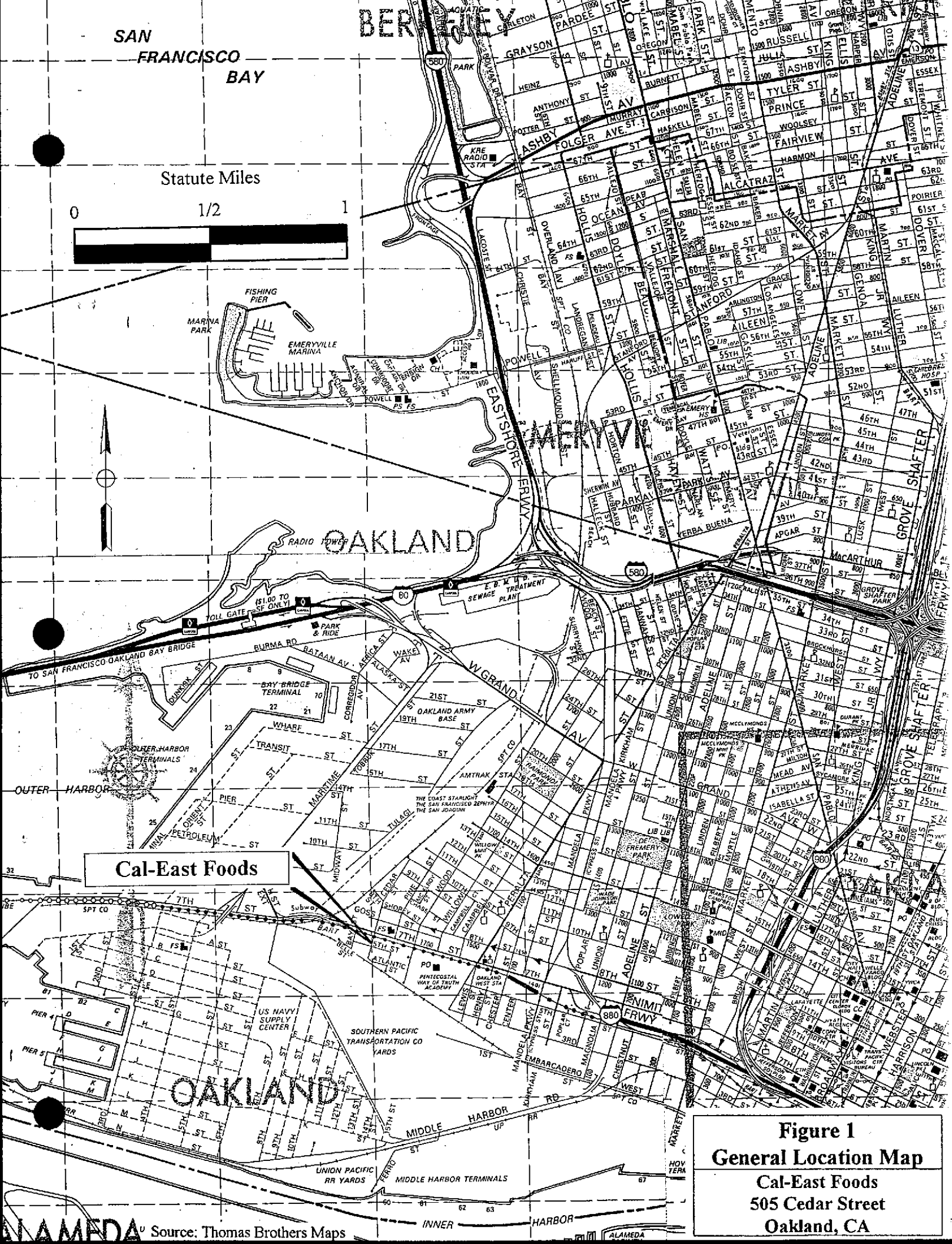

Figure 1
General Location Map
Cal-East Foods
505 Cedar Street
Oakland, CA

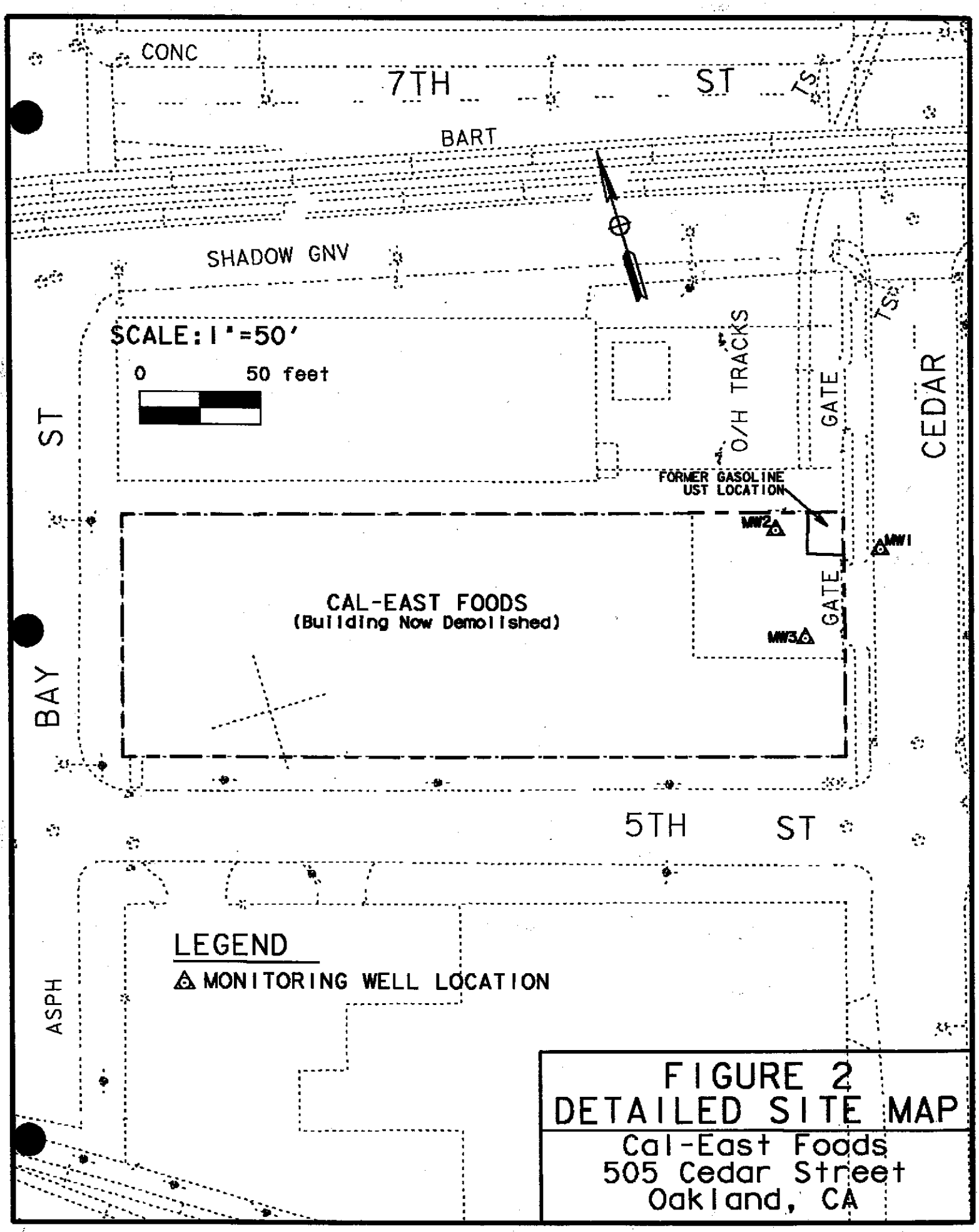

FIGURE 2
DETAILED SITE MAP

Cal-East Foods
505 Cedar Street
Oakland, CA

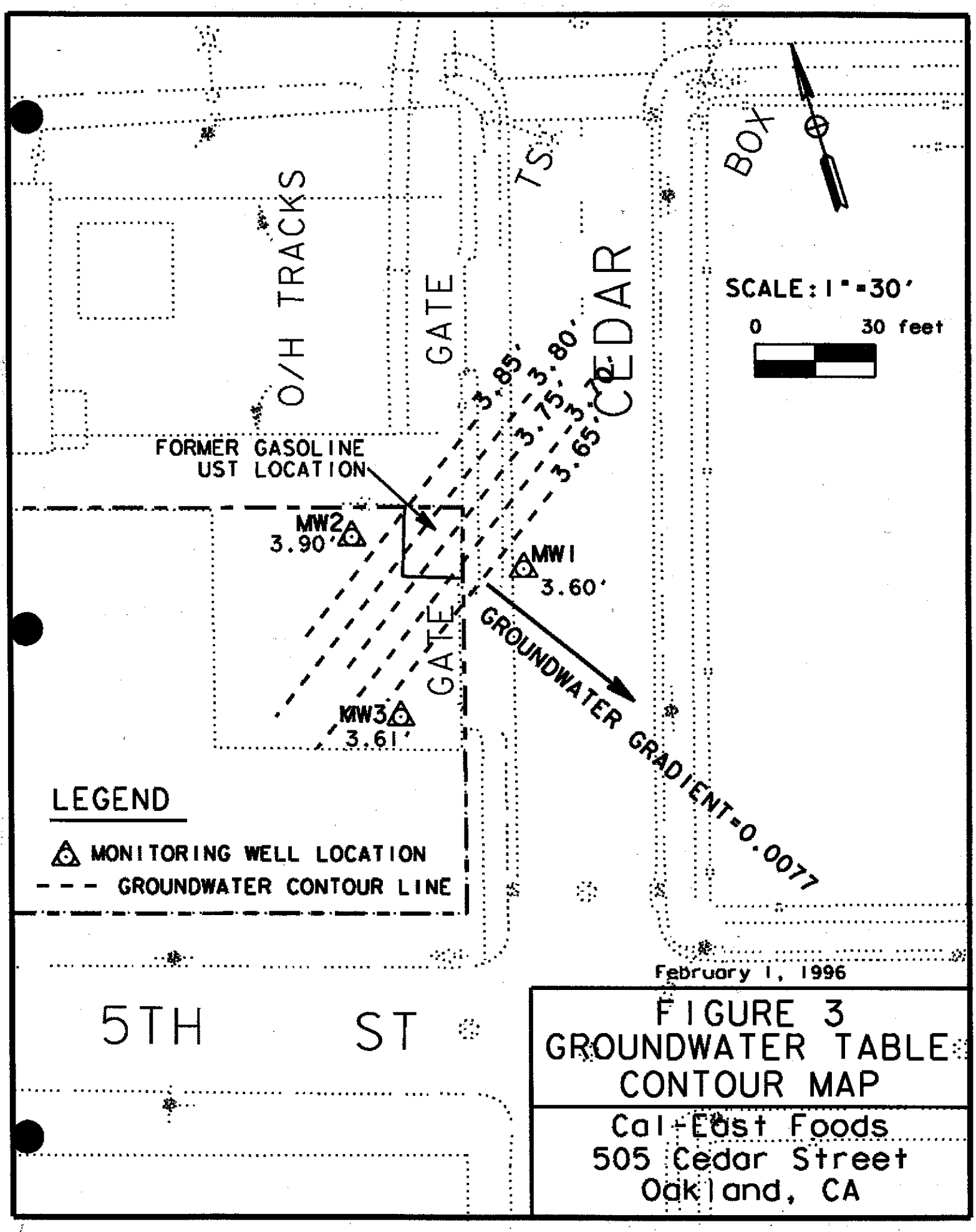

FIGURE 3
GROUNDWATER TABLE CONTOUR MAP

Cal-East Foods
505 Cedar Street
Oakland, CA

Figure 4
1,2-DCA Concentration Regression in MW1

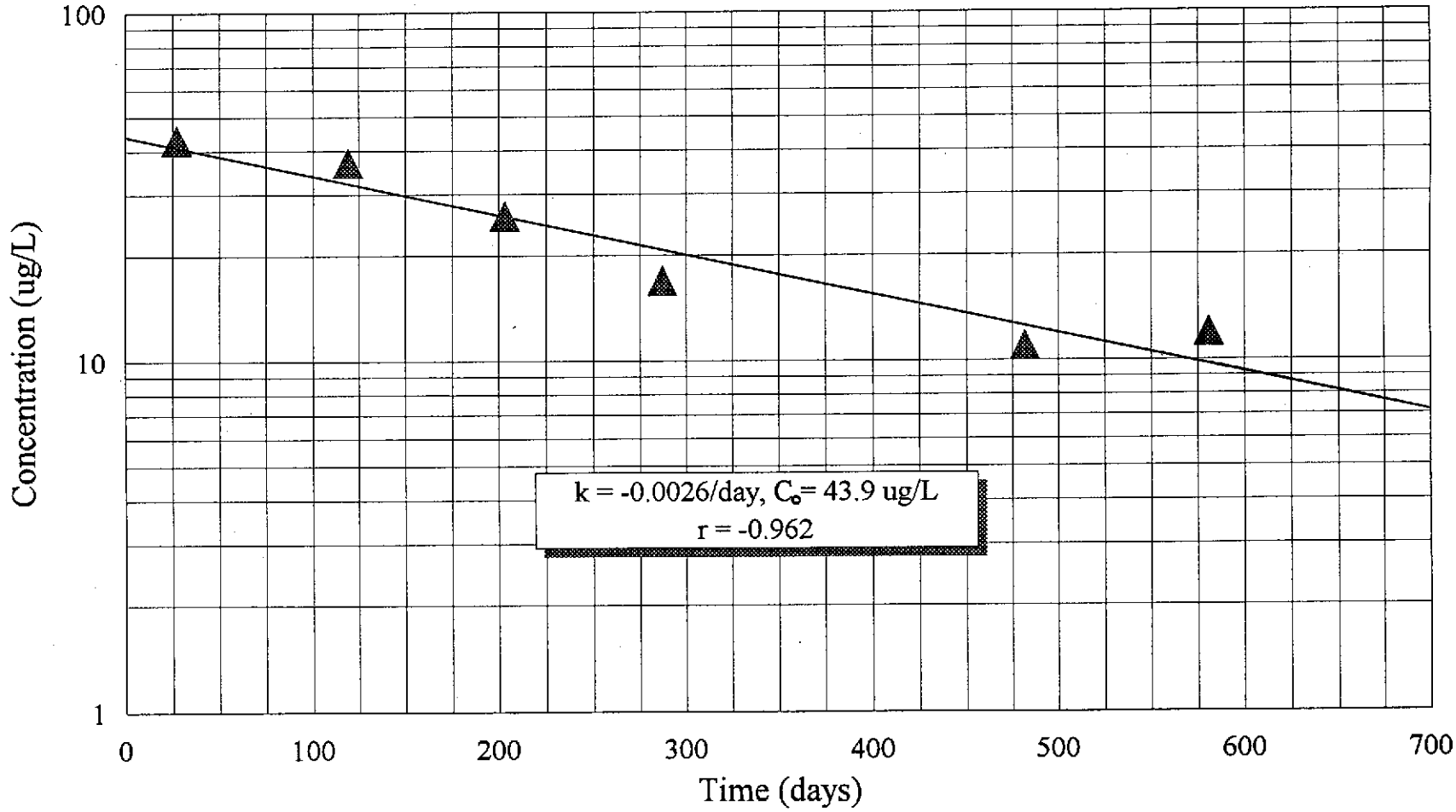

Table 1: Cal-East Foods Groundwater Analytical Results

MWell #	Date of Sampling	8240 VOCs (ug/L)	Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Methyl Ethyl Ketone	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	2-Chloroethyl Vinyl Ether	Chloroform	Chloromethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	1,2-Dichloropropane	Cis-1,3-Dichloropropene	Trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methylene Chloride	Methyl Isobutyl Ketone	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethene
MW1	07/27/94		ND	ND	ND	ND	ND	3.4	--	ND	ND	ND	ND	ND	ND	ND	ND	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW1	10/27/94		ND	37	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW1	01/19/95		ND	16	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW1	04/13/95		ND	3.5	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW1	10/25/95		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW1	02/01/96		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW2	07/27/94		ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW2	10/27/94		ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW2	01/19/95		ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW2	04/13/95		ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW2	10/25/95		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW2	02/01/96		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW3	07/27/94		ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW3	10/27/94		ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW3	01/19/95		ND	7.3	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND
MW3	04/13/95		ND	23	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND
MW3	10/25/95		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW3	02/01/96		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND=Not Detected
--=Not Analyzed

Table 1: Cal-East Foods Groundwater Analytical Results

MWell #	Date of Sampling	8240 VOCs (ug/L) cont.	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Total Xylenes	Methyl t-Butyl Ether (EPA 8020)	Hydrocarbons (mg/L)	8015m TPH-gasoline
MW1	07/27/94		ND	ND	ND	ND	ND	ND	ND	ND	--		0.12
MW1	10/27/94		ND	ND	ND	ND	ND	ND	ND	ND	--		0.45
MW1	01/19/95		ND	ND	ND	ND	ND	ND	ND	ND	--		ND
MW1	04/13/95		ND	ND	ND	ND	ND	ND	ND	ND	--		0.18
MW1	10/25/95		ND	ND	ND	ND	--	ND	ND	ND	ND		0.08
MW1	02/01/96		ND	ND	ND	ND	--	ND	ND	ND	ND		ND
MW2	07/27/94		ND	ND	ND	ND	ND	ND	ND	ND	--		ND
MW2	10/27/94		ND	ND	ND	ND	ND	ND	ND	ND	--		ND
MW2	01/19/95		ND	ND	ND	ND	ND	ND	ND	ND	--		ND
MW2	04/13/95		ND	ND	ND	ND	ND	ND	ND	ND	--		ND
MW2	10/25/95		ND	ND	ND	ND	--	ND	ND	ND	ND		ND
MW2	02/01/96		ND	ND	ND	ND	--	ND	ND	ND	ND		ND
MW3	07/27/94		ND	ND	ND	ND	ND	ND	ND	ND	--		0.13
MW3	10/27/94		ND	ND	ND	ND	ND	ND	ND	ND	--		0.07
MW3	01/19/95		ND	ND	ND	ND	ND	ND	ND	7.7	--		2.90
MW3	04/13/95		2.7	ND	ND	ND	ND	ND	ND	11.0	--		1.30
MW3	10/25/95		ND	ND	ND	ND	--	ND	ND	ND	ND		0.20
MW3	02/01/96		ND	ND	ND	ND	--	ND	ND	ND	ND		0.20

ND=Not Detected
--=Not Analyzed

Table 2
Cal-East Foods Groundwater Investigation
505 Cedar Street
Groundwater Conductivity, pH, and Temperature Measurements

Well Number	Measuring Date	Conductivity (umhos/cm)	pH	Temperature (degrees fahrenheit)
MW1	07/27/94	1158	NA	67
	10/27/94	1103	7.0	70
	01/19/95	1410	6.6	66
	04/13/95	1110	7.1	63
	10/25/95	3650	6.6	65
	02/01/96	1240	6.0	61
MW2	07/27/94	1040	NA	65
	10/27/94	916	7.1	68
	01/19/95	740	7.0	63
	04/13/95	571	6.3	63
	10/25/95	810	6.8	65
	02/01/96	257	6.6	61
MW3	07/27/94	1756	NA	67
	10/27/94	1374	6.8	68
	01/19/95	980	6.6	60
	04/13/95	532	6.6	62
	10/25/95	1050	6.8	66
	02/01/96	307	6.3	60

NA=Not Available

Table 3
Cal-East Foods Groundwater Investigation
505 Cedar Street
Water Level Data

Well Number	Top of Casing Elevation*	Measuring Date	Depth To Water**	Water Level Elevation*
MW1	9.25	07/27/94	8.83	0.42
		10/27/94	8.32	0.94
		01/19/95	4.91	4.34
		04/13/95	5.28	3.97
		10/25/95	7.36	1.89
		02/01/96	5.65	3.60
MW2	9.84	07/27/94	9.24	0.60
		10/27/94	8.82	1.02
		01/19/95	5.31	4.53
		04/13/95	5.74	4.10
		10/25/95	7.68	2.16
		02/01/96	5.94	3.90
MW3	9.41	07/27/94	8.94	0.47
		10/27/94	8.41	1.00
		01/19/95	3.78	5.63
		04/13/95	5.36	4.05
		10/25/95	7.37	2.04
		02/01/96	5.80	3.61

*=Measurement in feet above USGS Mean Sea Level

**=Measurement in feet from top of casing

R-3,5-1

Reporting Information:

1. Client: Caltrans Office of Env. Eng.
Address: 111 Grand Ave., 14th Floor
Oakland, CA 94612
Contact: Chris Wilson
Alt. Contact: Joel Howie

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

Page 1 of 1

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9602020
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: Standard Turn Around Time
Date Report Required:
Client Phone No.: (510) 286-5647
Client FAX No.: (510) 286-6374

Address Report To:

2. Chris Wilson, Office of Env. Eng.
Caltrans
111 Grand Ave., 14th Floor
Oakland, CA 94612

Send Invoice To:

3. Same as #2

Send Report To: 1 or (2) (Circle one)

Client P.O. No.: _____ Client Project I.D. No.: Cal-East Foods

Sample Team Member (s) _____

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: TPH-g 8015/8020	ANALYSIS: VOC's 8240	Comments / Hazards
9602020-1	MW-1		2/1 4:15	7	HCL	6	VOA	X	X	Please include methyl tertiary butyl ether (MTBE) in the TPH-g (8015m/8020) analysis
9602020-2	MW-2		2/1 3:35	7	HCL	6	VOA	X	X	
9602020-3	MW-3		2/1 3:55	7	HCL	6	VOA	X	X	

		DATE	TIME			DATE	TIME
Relinquished by: (Signature)	Christopher Wilson	2/2/96	9:35	Received by: (Signature)	Lynda Gillespie	2-2-96	0435
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		DATE	TIME
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		DATE	TIME
Method of Shipment				Lab Comments			

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other _____ 11) Other _____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

CALTRANS
OFFICE OF ENV. ENG.
111 GRAND AVE., 14th FLOOR
OAKLAND, CA 94612

ATTN: CHRISTOPHER WILSON
CLIENT PROJ. ID: CAL-EAST FOODS

REPORT DATE: 02/20/96

DATE(S) SAMPLED: 02/01/96

DATE RECEIVED: 02/02/96

AEN WORK ORDER: 9602020

PROJECT SUMMARY:

On February 2, 1996, this laboratory received 3 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-1
AEN LAB NO: 9602020-01
AEN WORK ORDER: 9602020
CLIENT PROJ. ID: CAL-EAST FOODS

DATE SAMPLED: 02/01/96
DATE RECEIVED: 02/02/96
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	02/09/96
Toluene	108-88-3	ND	0.5	ug/L	02/09/96
Ethylbenzene	100-41-4	ND	0.5	ug/L	02/09/96
Xylenes, Total	1330-20-7	ND	2	ug/L	02/09/96
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	02/09/96
Methyl t-Butyl Ether	EPA 8020	ND	50	ug/L	02/09/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	02/09/96
Benzene	71-43-2	ND	5	ug/L	02/09/96
Bromodichloromethane	75-27-4	ND	5	ug/L	02/09/96
Bromoform	75-25-2	ND	5	ug/L	02/09/96
Bromomethane	74-83-9	ND	10	ug/L	02/09/96
2-Butanone	78-93-3	ND	100	ug/L	02/09/96
Carbon Disulfide	75-15-0	ND	10	ug/L	02/09/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	02/09/96
Chlorobenzene	108-90-7	ND	5	ug/L	02/09/96
Chloroethane	75-00-3	ND	10	ug/L	02/09/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	02/09/96
Chloroform	67-66-3	ND	5	ug/L	02/09/96
Chloromethane	74-87-3	ND	10	ug/L	02/09/96
Dibromochloromethane	124-48-1	ND	5	ug/L	02/09/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	02/09/96
1,2-Dichloroethane	107-06-2	12 *	5	ug/L	02/09/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	02/09/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	02/09/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	02/09/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	02/09/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	02/09/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	02/09/96
Ethylbenzene	100-41-4	ND	5	ug/L	02/09/96
2-Hexanone	591-78-6	ND	50	ug/L	02/09/96
Methylene Chloride	75-09-2	ND	20	ug/L	02/09/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	02/09/96
Styrene	100-42-5	ND	5	ug/L	02/09/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	02/09/96
Tetrachloroethene	127-18-4	ND	5	ug/L	02/09/96
Toluene	108-88-3	ND	5	ug/L	02/09/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	02/09/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	02/09/96

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-1
AEN LAB NO: 9602020-01
AEN WORK ORDER: 9602020
CLIENT PROJ. ID: CAL-EAST FOODS

DATE SAMPLED: 02/01/96
DATE RECEIVED: 02/02/96
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichloroethene	79-01-6	ND	5	ug/L	02/09/96
Vinyl Acetate	108-05-4	ND	50	ug/L	02/09/96
Vinyl Chloride	75-01-4	ND	10	ug/L	02/09/96
Xylenes, Total	1330-20-7	ND	10	ug/L	02/09/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-2
AEN LAB NO: 9602020-02
AEN WORK ORDER: 9602020
CLIENT PROJ. ID: CAL-EAST FOODS

DATE SAMPLED: 02/01/96
DATE RECEIVED: 02/02/96
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	**EPA 8020**				
Benzene	71-43-2	ND	0.5	ug/L	02/09/96
Toluene	108-88-3	ND	0.5	ug/L	02/09/96
Ethylbenzene	100-41-4	ND	0.5	ug/L	02/09/96
Xylenes, Total	1330-20-7	ND	2	ug/L	02/09/96
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	02/09/96
Methyl t-Butyl Ether	**EPA 8020**	ND	50	ug/L	02/09/96
Volatile Organic Compounds	**EPA 8240**				
Acetone	67-64-1	ND	100	ug/L	02/09/96
Benzene	71-43-2	ND	5	ug/L	02/09/96
Bromodichloromethane	75-27-4	ND	5	ug/L	02/09/96
Bromoform	75-25-2	ND	5	ug/L	02/09/96
Bromomethane	74-83-9	ND	10	ug/L	02/09/96
2-Butanone	78-93-3	ND	100	ug/L	02/09/96
Carbon Disulfide	75-15-0	ND	10	ug/L	02/09/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	02/09/96
Chlorobenzene	108-90-7	ND	5	ug/L	02/09/96
Chloroethane	75-00-3	ND	10	ug/L	02/09/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	02/09/96
Chloroform	67-66-3	ND	5	ug/L	02/09/96
Chloromethane	74-87-3	ND	10	ug/L	02/09/96
Dibromochloromethane	124-48-1	ND	5	ug/L	02/09/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	02/09/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	02/09/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	02/09/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	02/09/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	02/09/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	02/09/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	02/09/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	02/09/96
Ethylbenzene	100-41-4	ND	5	ug/L	02/09/96
2-Hexanone	591-78-6	ND	50	ug/L	02/09/96
Methylene Chloride	75-09-2	ND	20	ug/L	02/09/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	02/09/96
Styrene	100-42-5	ND	5	ug/L	02/09/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	02/09/96
Tetrachloroethene	127-18-4	ND	5	ug/L	02/09/96
Toluene	108-88-3	ND	5	ug/L	02/09/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	02/09/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	02/09/96

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-2
AEN LAB NO: 9602020-02
AEN WORK ORDER: 9602020
CLIENT PROJ. ID: CAL-EAST FOODS

DATE SAMPLED: 02/01/96
DATE RECEIVED: 02/02/96
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichloroethene	79-01-6	ND	5	ug/L	02/09/96
Vinyl Acetate	108-05-4	ND	50	ug/L	02/09/96
Vinyl Chloride	75-01-4	ND	10	ug/L	02/09/96
Xylenes, Total	1330-20-7	ND	10	ug/L	02/09/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-3
AEN LAB NO: 9602020-03
AEN WORK ORDER: 9602020
CLIENT PROJ. ID: CAL-EAST FOODS

DATE SAMPLED: 02/01/96
DATE RECEIVED: 02/02/96
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	**EPA 8020**				
Benzene	71-43-2	ND	0.5	ug/L	02/09/96
Toluene	108-88-3	ND	0.5	ug/L	02/09/96
Ethylbenzene	100-41-4	ND	0.5	ug/L	02/09/96
Xylenes, Total	1330-20-7	ND	2	ug/L	02/09/96
Purgeable HCs as Gasoline	5030/GCFID	0.2 *	0.05	mg/L	02/09/96
Methyl t-Butyl Ether	**EPA 8020**	ND	50	ug/L	02/09/96
Volatile Organic Compounds	**EPA 8240**				
Acetone	67-64-1	ND	100	ug/L	02/09/96
Benzene	71-43-2	ND	5	ug/L	02/09/96
Bromodichloromethane	75-27-4	ND	5	ug/L	02/09/96
Bromoform	75-25-2	ND	5	ug/L	02/09/96
Bromomethane	74-83-9	ND	10	ug/L	02/09/96
2-Butanone	78-93-3	ND	100	ug/L	02/09/96
Carbon Disulfide	75-15-0	ND	10	ug/L	02/09/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	02/09/96
Chlorobenzene	108-90-7	ND	5	ug/L	02/09/96
Chloroethane	75-00-3	ND	10	ug/L	02/09/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	02/09/96
Chloroform	67-66-3	ND	5	ug/L	02/09/96
Chloromethane	74-87-3	ND	10	ug/L	02/09/96
Dibromochloromethane	124-48-1	ND	5	ug/L	02/09/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	02/09/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	02/09/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	02/09/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	02/09/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	02/09/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	02/09/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	02/09/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	02/09/96
Ethylbenzene	100-41-4	ND	5	ug/L	02/09/96
2-Hexanone	591-78-6	ND	50	ug/L	02/09/96
Methylene Chloride	75-09-2	ND	20	ug/L	02/09/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	02/09/96
Styrene	100-42-5	ND	5	ug/L	02/09/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	02/09/96
Tetrachloroethene	127-18-4	ND	5	ug/L	02/09/96
Toluene	108-88-3	ND	5	ug/L	02/09/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	02/09/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	02/09/96

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-3
AEN LAB NO: 9602020-03
AEN WORK ORDER: 9602020
CLIENT PROJ. ID: CAL-EAST FOODS

DATE SAMPLED: 02/01/96
DATE RECEIVED: 02/02/96
REPORT DATE: 02/20/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichloroethene	79-01-6	ND	5	ug/L	02/09/96
Vinyl Acetate	108-05-4	ND	50	ug/L	02/09/96
Vinyl Chloride	75-01-4	ND	10	ug/L	02/09/96
Xylenes, Total	1330-20-7	ND	10	ug/L	02/09/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9602020

CLIENT PROJECT ID: CAL-EAST FOODS

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9602020
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
02/09/96	MW-1	01	94
02/09/96	MW-2	02	93
02/09/96	MW-3	03	95
QC Limits:			70-130

DATE ANALYZED: 02/09/96
SAMPLE SPIKED: LCS
INSTRUMENT: F

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	19.1	94	7	60-120	20
Toluene	63.4	104	6	60-120	20
Hydrocarbons as Gasoline	500	113	2	60-120	20

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9602020
INSTRUMENT: 13
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
02/09/96	MW-1	01	100	94	99
02/09/96	MW-2	02	100	93	92
02/09/96	MW-3	03	110	100	100
QC Limits:			76-114	88-110	86-115

DATE ANALYZED: 02/09/96
SAMPLE SPIKED: 9601354-05
INSTRUMENT: 13

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	50	127	5	59-155	25
Trichloroethene	50	118	2	71-157	25
Benzene	50	130	3	37-151	25
Toluene	50	112	5	47-150	25
Chlorobenzene	50	115	<1	37-160	25

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

END OF REPORT

CALTRANS DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
MONITORING WELL PURGE AND SAMPLE FORM

Project Name: Cal-East Foods Date: 2/1/96

Well Number: MW-1 Tested By: Chris Wilson & Joel Howie

Measuring Datum Description: Top of Casing = 9.25'

Water Level Measurement Method: Electric Sounder Depth To Water: 5.65'

Purge Method: disposable bailer Sample Method: bailer/VOA Sampler

Sampling Start Time: 4:15 Sampling Depth:

Comments:

Well Volume Calculation: (complete before purging)	Well Depth (ft)	Depth To Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Water Volume (gal)
				2"	4"	6"	
	20	5.65	14.35	0.16	0.65	1.47	9.3

Time	1:43	2:09	2:35	3:01	3:27	4:30	
Volume Purged (gal)	0	9	18	27	36	After Sampling	
Purge Rate (gpm)	—	0.35	0.35	0.35	0.35	—	
Conductivity (umhos/cm)	629	815 ~~817~~	1,250	1,260	1,270	1,240	
Temperature (deg F or C)	64.3 °F	64	64	63	63	61	
pH	6.10	5.85	5.74	5.99	5.86	5.96	
Odor							
Turbidity/Color	clear	clear →	→	→	→	→	
Number of Casing Volumes Purged	0	0.97	1.94	2.90	3.87	—	
Dewatered							

CALTRANS DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
MONITORING WELL PURGE AND SAMPLE FORM

Project Name: Cal-East Foods Date: 2/1/96

Well Number: MW-2 Tested By: Chris Wilson & Joel Howie

Measuring Datum Description: Top of Casing = 9.84'

Water Level Measurement Method: Electric Sounder Depth To Water: 5.94'

Purge Method: Disposable Bailer Sample Method: Bailer/VOA Samples

Sampling Start Time: 3:35 Sampling Depth:

Comments: Changed ~~State~~ conductivity magnification factor on meter from X1000 to X100 at 8 gallons reading and got more accurate reading

Well Volume Calculation: (complete before purging)	Well Depth (ft)	Depth To Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Water Volume (gal)
				(2")	4"	6"	
	19	5.94	13.06	0.16	0.65	147	2.09

Time	12:27	12:38	12:46	12:54	1:03	1:10	3:46
Volume Purged (gal)	0	2	4	6	8	9	After Sampling
Purge Rate (gpm)	—	0.18	0.25	0.25	0.22	0.14	—
Conductivity (umhos/cm)	420	410	400	400	265	261	257
Temperature (deg F or C)	66°F	66°F	66	67	66	65	61
pH	6.85	~~7.88~~ ~~7.48~~ 6.40	6.56	6.48	6.40	6.46	6.55
Odor							
Turbidity/Color	Clear	Clouded	→	→	Clearer		Clear
Number of Casing Volumes Purged	0	0.96	1.91	2.87	3.83	4.31	—
Dewatered							

CALTRANS DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
MONITORING WELL PURGE AND SAMPLE FORM

Project Name: Cal-East Foods Date: 2/1/96

Well Number: MW-3 Tested By: Chris Wilson & Joel Howie

Measuring Datum Description: Top of Casing = 9.41'

Water Level Measurement Method: Electric Sounder Depth To Water: 5.80'

Purge Method: Disposable Bailer Sample Method: Bailer/VOA Sampler

Sampling Start Time: ~~3:35~~ 3:55 Sampling Depth:

Comments:

Well Volume Calculation: (complete before purging)	Well Depth (ft)	Depth To Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Water Volume (gal)
				(2")	4"	6"	
	15	5.80	9.2	0.16	0.65	1.47	1.47

Time	1:17	1:22	1:26	1:30	1:36	4:05	
Volume Purged (gal)	0	1.5	3.0	4.5	6.0	After sampling	
Purge Rate (gpm)	—	0.30	0.38	0.38	0.25	—	
Conductivity (umhos/cm)	309	307	313	316	310	307	
Temperature (deg F or C)	64 °F	64	65	65	64	60	
pH	6.23	6.15	6.21	6.17	6.13	6.32	
Odor	gasoline odor	lesser odor	slight odor	fading →		gasoline odor	
Turbidity/Color	clear		slightly clouded →			clear	
Number of Casing Volumes Purged	0	1.02	2.04	3.06	4.08	—	
Dewatered							