



**FLUOR DANIEL GTI**

RECEIVED  
ENVIRONMENTAL  
HEALTH SERVICES  
STATE 15 APR 10

STTD

# 1630

April 15, 1997

Mr. Dale Klettke, CHMM  
Hazardous Materials Specialist  
Alameda County, Health Care Services Agency  
Environmental Health Services Dept.  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

SUBJECT: Quarterly Groundwater Monitoring and Sampling Report  
Sears Store 1039  
1911 Telegraph Avenue, Oakland, California  
Fluor Daniel GTI Project 020200150

Dear Mr. Klettke:

On behalf of Sears, Roebuck and Co., Fluor Daniel GTI, Inc. presents the quarterly groundwater monitoring and sampling data collected on February 27, 1997 from the site referenced above. The seven groundwater monitoring wells were gauged to determine depth to groundwater and to check for the presence of separate-phase petroleum hydrocarbons. Separate-phase hydrocarbons were not detected in the monitoring wells. A potentiometric surface map is presented in attachment 1, figure 1. A summary of groundwater monitoring data is presented in attachment 2, table 1.

After measuring depth to water, the monitoring wells were purged and sampled. Groundwater monitoring and sample collection protocol and field data sheets are presented in attachment 3. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tert-butyl ether (MTBE), and total petroleum hydrocarbons (TPH) as gasoline (EPA Method 8020/8015M), and chlorinated hydrocarbons (EPA methods 8010). Additionally, wells MW-4 and MW-6 were analyzed for total oil and grease (SM5520 C&F). A summary of the groundwater analytical results is presented in table 2. A distribution map of dissolved benzene, TPH-as-gasoline and total oil and grease concentrations is presented in figure 2. Laboratory reports and chain-of-custody records are included in attachment 4. The analytical results from groundwater samples collected in February were generally consistent with past results.

If you have any comments or questions, please contact me at (510) 370-3990.

Sincerely,  
Fluor Daniel GTI, Inc.

Eileen Brennan, RG  
West Zone Project Manager

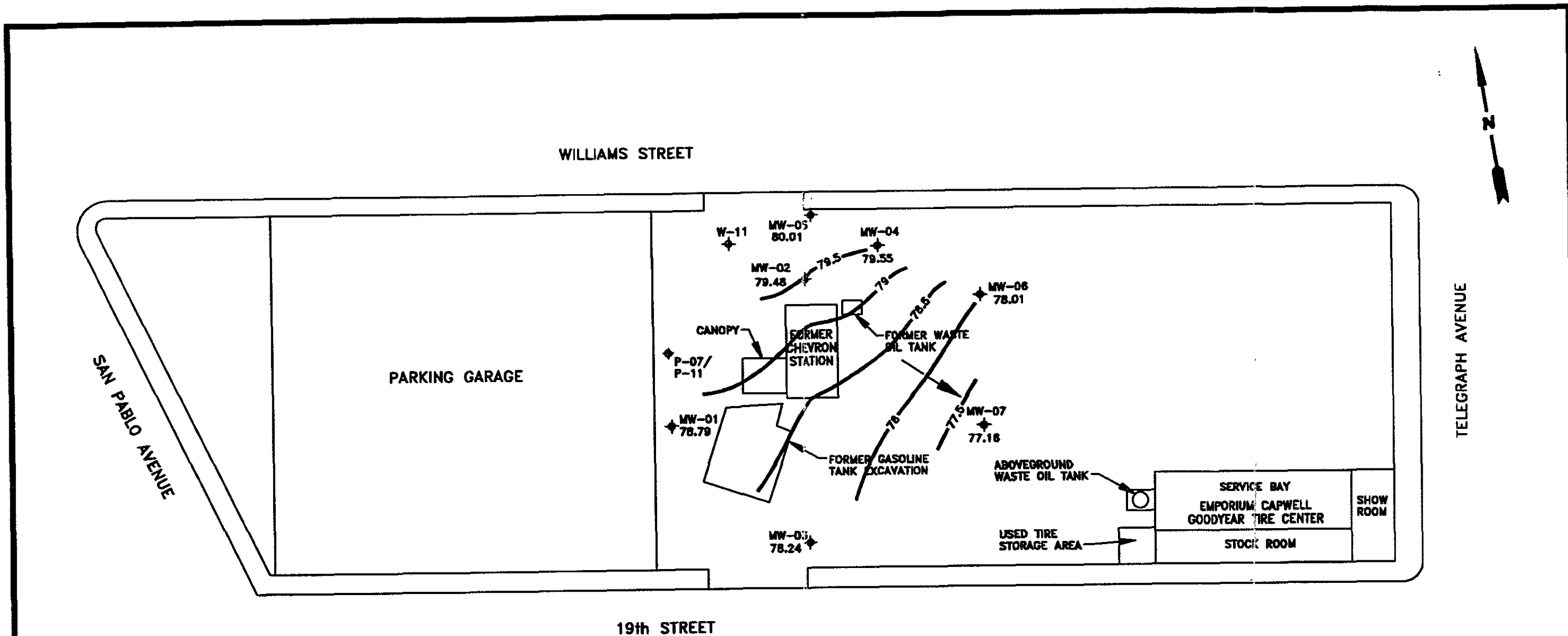
Attachments

c: Scott M. DeMuth - Sears, Roebuck and Co.

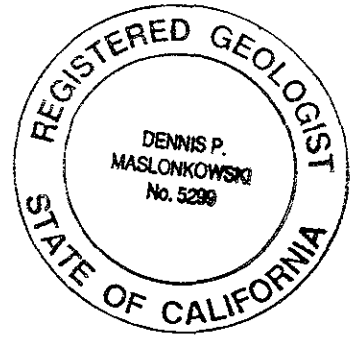
## **ATTACHMENT 1**


### **Figures**

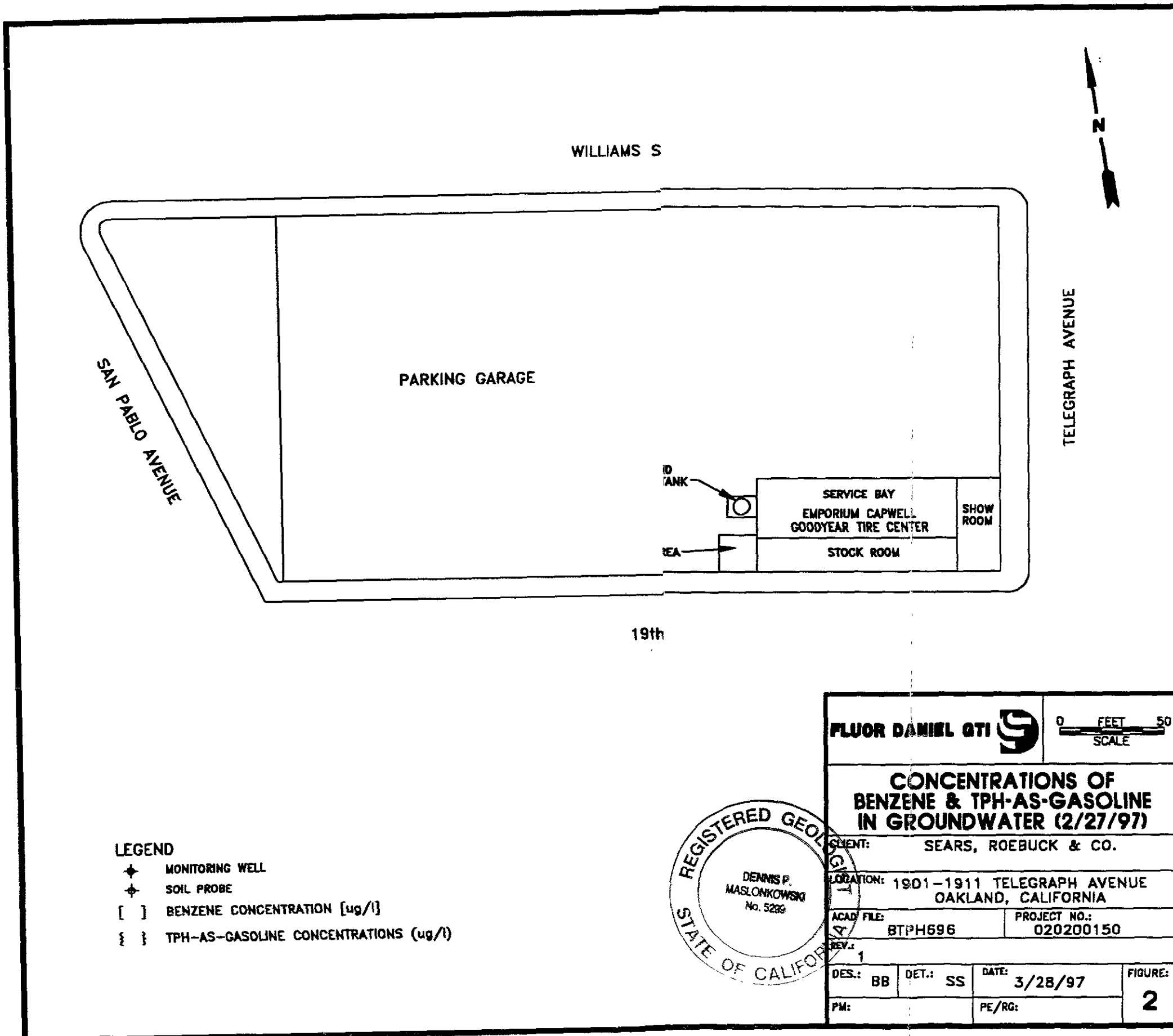
1. Potentiometric Surface Map (02/27/97)
2. Concentrations of Benzene, TPH-as-Gasoline and Total Oil and Grease in Groundwater (02/27/97)



- LEGEND**
- ◆ MONITORING WELL
  - ◆ SOIL PROBE
  - ( ) POTENTIOMETRIC SURFACE ELEVATION (RELATIVE)
  - POTENTIOMETRIC SURFACE CONTOUR
  - GROUNDWATER FLOW DIRECTION

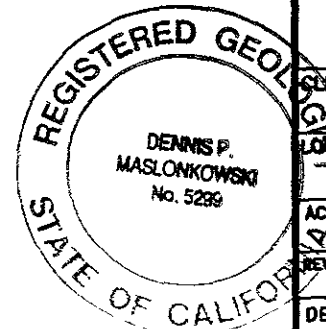



<b>FLUOR DANIEL GTI</b> 		0 FEET 50 SCALE	
<b>POTENTIOMETRIC SURFACE MAP (2/27/97)</b>			
CLIENT: SEARS, ROEBUCK & CO.			
LOCATION: 1901-1911 TELEGRAPH AVENUE OAKLAND, CALIFORNIA			
ACAD FILE:	PSM696	PROJECT NO.:	020200150
REV.:	1	DES.:	BB
		DET.:	SS
		DATE:	3/28/97
PM:		PE/RG:	
		FIGURE:	1



**LEGEND**

- ◆ MONITORING WELL
- ◆ SOIL PROBE
- [ ] BENZENE CONCENTRATION [ug/l]
- { } TPH-AS-GASOLINE CONCENTRATIONS (ug/l)



FLUOR DANIEL GTI 		0 FEET 50 SCALE	
<b>CONCENTRATIONS OF BENZENE &amp; TPH-AS-GASOLINE IN GROUNDWATER (2/27/97)</b>			
CLIENT:		SEARS, ROEBUCK & CO.	
LOCATION:		1901-1911 TELEGRAPH AVENUE OAKLAND, CALIFORNIA	
ACAD FILE:	BTPH696	PROJECT NO.:	020200150
REV.:	1	DES.:	BB
		DET.:	SS
		DATE:	3/28/97
		PE/RG:	
		FIGURE:	<b>2</b>

## **ATTACHMENT 2**

### **Tables**

1. **Summary of Historical Groundwater Monitoring Data**
2. **Summary of Historical Groundwater Sample Analyses**

**TABLE 1**  
**Summary of Historical Groundwater Monitoring Data**  
 (All measurements are in feet; all elevations are in feet above \*Relative Elevation)

Sears Store 1039  
 1911 Telegraph Avenue, Oakland, California

Well ID	Casing Elev.	Date	Depth to Water	Depth to Product	Product Thickness	Groundwater Elev.
MW-1	94.34	06/12/96	16.21	--	--	78.13
		09/05/96	16.89	--	--	77.45
		12/03/96	17.07	--	--	77.27
		02/27/97	15.55	--	--	78.79
MW-2	93.94	06/12/96	16.01	--	--	77.93
		09/05/96	16.66	--	--	77.28
		12/03/96	16.20	--	--	77.74
		02/27/97	14.46	--	--	79.48
MW-3	95.67	06/12/96	17.56	--	--	78.10
		09/05/96	18.32	--	--	77.35
		12/03/96	18.57	--	--	77.10
		02/27/97	17.43	--	--	78.24
MW-4	91.99	06/12/96	14.21	--	--	77.78
		09/05/96	14.83	--	--	77.16
		12/03/96	13.99	--	--	78.00
		02/27/97	12.44	--	--	79.55
MW-5	92.09	06/12/96	14.13	--	--	77.96
		09/05/96	14.77	--	--	77.32
		12/03/96	13.99	--	--	78.10
		02/27/97	12.08	--	--	80.01
MW-6	92.15	06/12/96	14.99	--	--	77.16
		09/05/96	15.50	--	--	76.65
		12/03/96	15.07	--	--	77.08
		02/27/97	14.14	--	--	78.01
MW-7	93.36	06/12/96	16.56	--	--	76.80
		09/05/96	17.10	--	--	76.26
		12/03/96	17.12	--	--	76.24
		02/27/97	16.20	--	--	77.16

Notes: "--" indicates no datum for the cell, including "product not detected"  
 \* = Relative elevation of 100 feet

**TABLE 2**  
 Summary of Historical Groundwater Sample Analyses  
 (All results expressed in parts per billion)

Sears Store 1039  
 1911 Telegraph Avenue, Oakland, California

Well ID	Date Sampled	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH as Gasoline	TCE	1,2 DCA	CIS 1,2 DCE	1,1 DCE	Oil/Grease	PCE
MW-1	10/95	--	ND	ND	ND	ND	<50	ND	ND	--	--	--	9.9
	01/96	--	ND	ND	ND	ND	<50	14	ND	--	--	--	9.9
	06/12/96	--	<0.5	1.4	<0.5	<2	<50	<0.5	<0.5	--	--	--	12
	09/05/96	<5.0	<0.5	<0.5	<0.5	<2	<50	<0.5	<0.5	--	--	--	12
	12/03/96	<5.0	<0.5	<0.5	<0.5	<2	<50	<0.5	<0.5	<0.5	<0.5	--	<0.5
	02/27/97	<5.0	<0.5	<0.5	<0.5	<2	<50	1.3	<0.5	<0.5	<0.5	--	31
MW-2	10/95	--	1200	5.4	41	5.9	2900	40	280	--	--	--	ND
	01/96	--	1100	11	100	6.9	780	38	270	--	--	--	ND
	06/12/96	--	890	7	56	10	3600	40	160	--	--	--	<3
	09/05/96	<5	350	3.0	17	10	2100	29	55	1.9	55	--	<0.5
	12/03/96	40	230	2.4	7.8	7	1,100	20	86	7	<0.5	--	<0.5
	02/27/97	12	210	2.2	6.0	3	1,000	25	43	<0.5	<0.5	--	0.8
MW-3	10/95	--	ND	ND	ND	ND	<50	ND	ND	--	--	--	ND
	01/96	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	ND
	06/12/96	--	<0.5	<0.5	<0.5	<2	<50	<0.5	<0.5	--	--	<0.5	<0.5
	09/05/96	<5	<0.5	<0.5	<0.5	<2	<50	<0.5	<0.5	--	--	<0.5	<0.5
	12/03/96	<5	<0.5	<0.5	<0.5	<2	<50	<0.5	<0.5	<0.5	<0.5	--	2.3
	02/27/97	<5	<0.5	<0.5	<0.5	<2	<50	<0.5	<0.5	<0.5	<0.5	--	6.3
MW-4	10/95	--	4.1	ND	ND	ND	<50	ND	ND	--	--	--	ND
	01/96	--	5.8	ND	ND	ND	<50	ND	ND	--	--	--	ND
	06/12/96	--	11	<0.5	<0.5	<2	320	<0.5	<0.5	--	--	<0.5	<0.5
	09/05/96	--	5.6	<0.5	<0.5	<2	70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12/03/96	15	11	<0.5	<0.5	<2	270	<0.5	0.9	<0.5	<0.5	<0.5	<0.5
	02/27/97	<5	3.1	<0.5	<0.5	<2	190	<0.5	<0.5	<0.5	<0.5	<500	<0.5
MW-5	10/95	--	86	ND	ND	ND	260	ND	ND	--	--	--	ND
	01/96	--	160	3.6	ND	ND	180	ND	ND	--	--	--	ND
	06/12/96	--	54	1.1	<0.5	<2	260	<0.5	<0.5	--	--	--	<0.5
	09/05/96	<5	22	1.0	<0.5	<2	160	<0.5	<0.5	--	--	--	<0.5
	12/03/96	6	18	0.6	<0.5	<2	170	<0.5	<0.5	<0.5	<0.5	--	<0.5
	02/27/97	<5	74	2.0	<0.5	<2	230	<0.5	<0.5	<0.5	<0.5	--	<0.5
MW-6	10/95	--	ND	ND	ND	ND	<50	11	33	--	--	--	6.2
	01/96	--	ND	ND	ND	ND	<50	12	5.3	--	--	--	7.2
	06/12/96	--	<0.5	<0.5	<0.5	<2	<50	5.0	7.9	--	--	<0.5	3.6
	09/05/96	<5	0.8	<0.5	<0.5	<2	<50	5.2	7.5	--	--	<0.5	5.4
	12/03/96	<5	<0.5	<0.5	<0.5	<2	<50	0.6	0.5	<0.5	<0.5	<0.5	0.9
	02/27/97	<5	<0.5	<0.5	<0.5	<2	<50	0.5	<0.5	<0.5	<0.5	<500	1.3

**TABLE 2**  
 Summary of Historical Groundwater Sample Analyses  
 (All results expressed in parts per billion)

Sears Store 1039  
 1911 Telegraph Avenue, Oakland, California

Well ID	Date Sampled	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH as Gasoline	TCE	1,2 DCA	CIS 1,2 DCE	1,1 DCE	Oil/Grease	PCE
MW-7	10/95	--	ND	ND	ND	ND	<50	3.5	8.3	--	---	---	5.3
	01/96	--	ND	ND	ND	ND	<50	4.8	5.7	--	---	---	9.3
	06/12/96	--	0.6	<0.5	<0.5	<2	<50	3.4	2.9	--	---	---	6.1
	09/05/96	<5	1.2	<0.5	<0.5	<2	<50	4.2	5.9	--	---	---	8.3
	12/03/96	<5	850	<5	<5	30	120	4.0	75	<3	<3	<0.5	4
	02/27/97	<30	1500	3	23	<10	2500	4.0	65	<0.5	<0.5	--	2.2

Source: AEN Environmental Laboratories for results dated 9/20/96

Notes: "--" indicates no datum for the cell, including "not analyzed for this constituent". Values beginning with "<" indicate the compound was not detected above the laboratory reporting limits. Historical data before June 1996 as reported by previous consultants

ug/l = Micrograms per liter  
 TPH = Total petroleum hydrocarbons  
 ND = Non-detectable (detection limits for each metal is listed in laboratory reports,

included in attachment 4)

PCE = Tetrachlorethane  
 1,2 DCA = 1,2 Dichloroethane  
 TCE = Trichloroethene  
 MTBE = Methyl tert-Butyl ether  
 cis 1,2 DCE = CIS-1,2-Dichloroethene  
 1,1-DCE = 1,1 Dichloroethene



**ATTACHMENT 3**

**Groundwater Monitoring and Sample Collection Protocol  
and  
Field Data Sheets**

# GROUNDWATER TECHNOLOGY GROUNDWATER MONITORING AND SAMPLE COLLECTION PROTOCOL

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## Groundwater Monitoring

Groundwater monitoring is accomplished using a INTERFACE PROBE™ Well Monitoring System. The INTERFACE PROBE™ Well Monitoring System is a hand held, battery operated device for measuring the depth to separate-phase hydrocarbons and depth to water. The INTERFACE PROBE™ Well Monitoring System consists of a dual-sensing probe which utilizes an optical liquid sensor and electrical conductivity to distinguish between water and petroleum products.

Monitoring is accomplished by measuring from the surveyed top of well casing or grade to groundwater and separate-phase hydrocarbons if present. The static water elevation is then calculated for each well and a potentiometric surface map is constructed. If separate-phase hydrocarbons are detected the water elevation is adjusted by the following calculation:

$$(\text{Product thickness}) \times (0.8) + (\text{Water elevation}) = \text{Corrected water elevation}$$

Groundwater monitoring wells are monitored in order of wells with lowest concentrations of volatile organic compounds to wells with the highest concentrations, based upon historical concentrations. If separate-phase hydrocarbons are encountered in a well, the product is visually inspected to confirm and note color, amount, and viscosity. Monitoring equipment is washed with laboratory grade detergent and rinsed with distilled or deionized water before monitoring each well.

## Groundwater Sampling

Before groundwater samples are collected, sufficient water is purged from each well to ensure representative formation water is entering the well. Wells are purged and sampled in the same order as monitoring, from wells with the lowest concentrations of volatile organic compounds to wells with the highest concentrations. Wells are purged using either a polyvinyl chloride (PVC) bailer fitted with a check valve or with a stainless steel submersible Grundfos pump. The purge equipment is decontaminated before use in each well by washing with laboratory grade detergent and triple rinsing with deionized or distilled water. A minimum of 3 well-casing volumes of water are removed from each well while pH, electrical conductivity, and temperature are recorded to verify that "fresh" formation water is being sampled and the parameters have stabilized. If the well is low yielding, it may be purged dry and sampled before 3 casing volumes are purged. The wells are then allowed to recharge to approximately 80 percent of the initial water level before a sample is collected.

Groundwater samples are collected from each well using a new, prepackaged disposable bailer and string. The water sample is decanted from the bailer into laboratory-provided containers (appropriate for the analyses required) so that there is no headspace in the containers. Samples collected for benzene, toluene, ethylbenzene, xylene, and total petroleum hydrocarbons (TPH)-as-gasoline analyses are collected in 40-milliliter vials fitted with Teflon® septum lids. Samples are preserved with hydrochloric acid (HCL) to a pH of less than 2. Dissolved metals samples are filtered through a 0.45-micron paper filter in the field and preserved as required before submitting to the laboratory for analyses. All samples are labeled immediately upon collection and logged on the chain-of-custody record. Sample label and chain-of-custody recorded information includes the project name and number, sample identification, date and time of collection, analyses requested, and the sampler's name. Sample bottles are placed in plastic bags (to protect the bottles and labels) and on ice (frozen water) in an insulated cooler and are shipped under chain-of-custody protocol to the laboratory.

The chain-of-custody record documents who has possession of the samples until the analyses is performed. Other pertinent information is also noted for the laboratory use on the chain-of-custody record.

Trip blanks (TBLBs) are used for each project as a quality assurance/quality control measure. The TBLBs are prepared by the laboratory and are placed in the insulated cooler and accompany the field samples throughout the sampling event.

**SITE VISIT FORM  
GROUNDWATER TECHNOLOGY, INC.**

Project: Sears/Oakland #2  
Store #: 1039, 1911 Telegraph Ave.  
Project Manager: Mike Wray

Technician: *HEctor Medina*  
Schedule: *3/27/97*  
Job No. 020200150.030543

**WELL WATER SAMPLING - TASK Nr: 030504 [QUARTERLY]**  
Gauge wells for volume of water & bail 3 well Vol,s. DECON  
all equipment & change gloves, string, etc. between each well.

Well  
ID

MW-1:	DTB_24.25	DTW <u>15.55</u>	SAT. THICK <input type="checkbox"/>	#GAL. BAILED <input type="checkbox"/>
MW-2:	DTB_24.10	DTW <u>14.46</u>	SAT. THICK <input type="checkbox"/>	#GAL. BAILED <input type="checkbox"/>
MW-3:	DTB_27.75	DTW <u>17.43</u>	SAT. THICK <input type="checkbox"/>	#GAL. BAILED <input type="checkbox"/>
MW-4:	DTB_23.55	DTW <u>12.44</u>	SAT. THICK <input type="checkbox"/>	#GAL. BAILED <input type="checkbox"/>
MW-5:	DTB_25.10	DTW <u>12.08</u>	SAT. THICK <input type="checkbox"/>	#GAL. BAILED <input type="checkbox"/>
MW-6:	DTB_26.75	DTW <u>14.14</u>	SAT. THICK <input type="checkbox"/>	#GAL. BAILED <input type="checkbox"/>
MW-7:	DTB_26.20	DTW <u>16.20</u>	SAT. THICK <input type="checkbox"/>	#GAL. BAILED <input type="checkbox"/>

NOTES: MONITORED AND SAMPLED ALL WELLS  
FOR BTEX TPH GAS/MTBE TOOK ADDITIONAL  
SAMPLES FROM MW4+6 AND DUP FROM  
MW2. ALL WENT WELL. 2 DRUMS  
INSIDE OLD SERVICE GARAGE.

HOURS ESTIMATED:

HOURS USED:

FINAL CHECKS

Are Wells Locked? YES NO Why Not?

Are Manholes Bolted Down? YES NO Why Not?

**ATTACHMENT 4**  
**Laboratory Reports**  
**and Chain-of-Custody Record**

# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

FLUOR DANIEL GTI  
757 ARNOLD DRIVE, STE. D  
MARTINEZ, CA 94553

REPORT DATE: 03/14/97

DATE(S) SAMPLED: 02/27/97

DATE RECEIVED: 02/28/97

ATTN: BRIDGET BAXTER/MIKE WRAY  
CLIENT PROJ. ID: 020200150030543  
CLIENT PROJ. NAME: TELEGRAPH AVE.

AEN WORK ORDER: 9702325

### PROJECT SUMMARY:

On February 28, 1997, this laboratory received 6 water sample(s).

Client requested sample(s) be analyzed for chemical 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

## FLUOR DANIEL GTI

SAMPLE ID: MW-1  
 AEN LAB NO: 9702325-01  
 AEN WORK ORDER: 9702325  
 CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
 DATE RECEIVED: 02/28/97  
 REPORT DATE: 03/14/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
<b>BTEX &amp; Gasoline HCs</b>					
	<b>EPA 8020</b>				
Benzene	71-43-2	ND	0.5	ug/L	03/06/97
Toluene	108-88-3	ND	0.5	ug/L	03/06/97
Ethylbenzene	100-41-4	ND	0.5	ug/L	03/06/97
Xylenes, Total	1330-20-7	ND	2	ug/L	03/06/97
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	03/06/97
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	03/06/97
<b>EPA 8010 - Water matrix</b>					
	<b>EPA 8010</b>				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	03/13/97
Bromoform	75-25-2	ND	0.5	ug/L	03/13/97
Bromomethane	74-83-9	ND	2	ug/L	03/13/97
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	03/13/97
Chlorobenzene	108-90-7	ND	0.5	ug/L	03/13/97
Chloroethane	75-00-3	ND	2	ug/L	03/13/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	03/13/97
Chloroform	67-66-3	ND	0.5	ug/L	03/13/97
Chloromethane	74-87-3	ND	2	ug/L	03/13/97
Dibromochloromethane	124-48-1	ND	0.5	ug/L	03/13/97
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	03/13/97
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	03/13/97
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	03/13/97
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	03/13/97
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	03/13/97
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	03/13/97
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	03/13/97
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	03/13/97
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	03/13/97
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	03/13/97
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	03/13/97
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	03/13/97
Methylene Chloride	75-09-2	ND	2	ug/L	03/13/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	03/13/97
Tetrachloroethene	127-18-4	31 *	0.5	ug/L	03/13/97
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	03/13/97
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	03/13/97
Trichloroethene	79-01-6	1.3 *	0.5	ug/L	03/13/97
Trichlorofluoromethane	75-69-4	ND	2	ug/L	03/13/97
1,1,2-Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	03/13/97
Vinyl Chloride	75-01-4	ND	2	ug/L	03/13/97

FLUOR DANIEL GTI

SAMPLE ID: MW-1  
AEN LAB NO: 9702325-01  
AEN WORK ORDER: 9702325  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/14/97

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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ND = Not detected at or above the reporting limit  
\* = Value at or above reporting limit

## FLUOR DANIEL GTI

SAMPLE ID: MW-3  
 AEN LAB NO: 9702325-02  
 AEN WORK ORDER: 9702325  
 CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
 DATE RECEIVED: 02/28/97  
 REPORT DATE: 03/14/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
<b>BTEX &amp; Gasoline HCs</b>					
	<b>EPA 8020</b>				
Benzene	71-43-2	ND	0.5	ug/L	03/06/97
Toluene	108-88-3	ND	0.5	ug/L	03/06/97
Ethylbenzene	100-41-4	ND	0.5	ug/L	03/06/97
Xylenes, Total	1330-20-7	ND	2	ug/L	03/06/97
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	03/06/97
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	03/06/97
<b>EPA 8010 - Water matrix</b>					
	<b>EPA 8010</b>				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	03/13/97
Bromoform	75-25-2	ND	0.5	ug/L	03/13/97
Bromomethane	74-83-9	ND	2	ug/L	03/13/97
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	03/13/97
Chlorobenzene	108-90-7	ND	0.5	ug/L	03/13/97
Chloroethane	75-00-3	ND	2	ug/L	03/13/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	03/13/97
Chloroform	67-66-3	ND	0.5	ug/L	03/13/97
Chloromethane	74-87-3	ND	2	ug/L	03/13/97
Dibromochloromethane	124-48-1	ND	0.5	ug/L	03/13/97
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	03/13/97
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	03/13/97
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	03/13/97
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	03/13/97
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	03/13/97
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	03/13/97
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	03/13/97
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	03/13/97
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	03/13/97
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	03/13/97
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	03/13/97
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	03/13/97
Methylene Chloride	75-09-2	ND	2	ug/L	03/13/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	03/13/97
Tetrachloroethene	127-18-4	6.3 *	0.5	ug/L	03/13/97
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	03/13/97
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	03/13/97
Trichloroethene	79-01-6	ND	0.5	ug/L	03/13/97
Trichlorofluoromethane	75-69-4	ND	2	ug/L	03/13/97
1,1,2-Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	03/13/97
Vinyl Chloride	75-01-4	ND	2	ug/L	03/13/97



FLUOR DANIEL GTI

SAMPLE ID: MW-3  
AEN LAB NO: 9702325-02  
AEN WORK ORDER: 9702325  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/14/97

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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ND = Not detected at or above the reporting limit  
\* = Value at or above reporting limit

## FLUOR DANIEL GTI

SAMPLE ID: MW-7  
 AEN LAB NO: 9702325-03  
 AEN WORK ORDER: 9702325  
 CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
 DATE RECEIVED: 02/28/97  
 REPORT DATE: 03/14/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
<b>BTEX &amp; Gasoline HCs</b>	<b>EPA 8020</b>				
Benzene	71-43-2	1,500 *	3 ug/L		03/07/97
Toluene	108-88-3	3 *	3 ug/L		03/07/97
Ethylbenzene	100-41-4	23 *	3 ug/L		03/07/97
Xylenes, Total	1330-20-7	ND	10 ug/L		03/07/97
Purgeable HCs as Gasoline	5030/GCFID	2.5 *	0.3 mg/L		03/07/97
Methyl t-Butyl Ether	1634-04-4	ND	30 ug/L		03/07/97
<b>EPA 8010 - Water matrix</b>	<b>EPA 8010</b>				
Bromodichloromethane	75-27-4	ND	0.5 ug/L		03/13/97
Bromoform	75-25-2	ND	0.5 ug/L		03/13/97
Bromomethane	74-83-9	ND	2 ug/L		03/13/97
Carbon Tetrachloride	56-23-5	ND	0.5 ug/L		03/13/97
Chlorobenzene	108-90-7	ND	0.5 ug/L		03/13/97
Chloroethane	75-00-3	ND	2 ug/L		03/13/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 ug/L		03/13/97
Chloroform	67-66-3	ND	0.5 ug/L		03/13/97
Chloromethane	74-87-3	ND	2 ug/L		03/13/97
Dibromochloromethane	124-48-1	ND	0.5 ug/L		03/13/97
1,2-Dichlorobenzene	95-50-1	ND	0.5 ug/L		03/13/97
1,3-Dichlorobenzene	541-73-1	ND	0.5 ug/L		03/13/97
1,4-Dichlorobenzene	106-46-7	ND	0.5 ug/L		03/13/97
Dichlorodifluoromethane	75-71-8	ND	2 ug/L		03/13/97
1,1-Dichloroethane	75-34-3	ND	0.5 ug/L		03/13/97
1,2-Dichloroethane	107-06-2	65 *	0.5 ug/L		03/13/97
1,1-Dichloroethene	75-35-4	ND	0.5 ug/L		03/13/97
cis-1,2-Dichloroethene	156-59-2	ND	0.5 ug/L		03/13/97
trans-1,2-Dichloroethene	156-60-5	ND	0.5 ug/L		03/13/97
1,2-Dichloropropane	78-87-5	ND	0.5 ug/L		03/13/97
cis-1,3-Dichloropropene	10061-01-5	ND	0.5 ug/L		03/13/97
trans-1,3-Dichloropropene	10061-02-6	ND	0.5 ug/L		03/13/97
Methylene Chloride	75-09-2	ND	2 ug/L		03/13/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5 ug/L		03/13/97
Tetrachloroethene	127-18-4	2.2 *	0.5 ug/L		03/13/97
1,1,1-Trichloroethane	71-55-6	ND	0.5 ug/L		03/13/97
1,1,2-Trichloroethane	79-00-5	ND	0.5 ug/L		03/13/97
Trichloroethene	79-01-6	4.0 *	0.5 ug/L		03/13/97
Trichlorofluoromethane	75-69-4	ND	2 ug/L		03/13/97
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5 ug/L		03/13/97
Vinyl Chloride	75-01-4	ND	2 ug/L		03/13/97

FLUOR DANIEL GTI

SAMPLE ID: MW-7  
AEN LAB NO: 9702325-03  
AEN WORK ORDER: 9702325  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/14/97

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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Reporting limits elevated for gas/BTEX/MTBE due to high levels of target compounds. Sample run at dilution.

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

## FLUOR DANIEL GTI

SAMPLE ID: MW-6  
 AEN LAB NO: 9702325-04  
 AEN WORK ORDER: 9702325  
 CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
 DATE RECEIVED: 02/28/97  
 REPORT DATE: 03/14/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5 ug/L		03/07/97
Toluene	108-88-3	ND	0.5 ug/L		03/07/97
Ethylbenzene	100-41-4	ND	0.5 ug/L		03/07/97
Xylenes, Total	1330-20-7	ND	2 ug/L		03/07/97
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05 mg/L		03/07/97
Methyl t-Butyl Ether	1634-04-4	ND	5 ug/L		03/07/97
#Water Extrn for HCs		-		Extrn Date	03/05/97
Hydrocarbons (IR)	SM 5520F	ND	0.5 mg/L		03/05/97
Oil & Grease (IR)	SM 5520C	ND	0.5 mg/L		03/05/97
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5 ug/L		03/13/97
Bromoform	75-25-2	ND	0.5 ug/L		03/13/97
Bromomethane	74-83-9	ND	2 ug/L		03/13/97
Carbon Tetrachloride	56-23-5	ND	0.5 ug/L		03/13/97
Chlorobenzene	108-90-7	ND	0.5 ug/L		03/13/97
Chloroethane	75-00-3	ND	2 ug/L		03/13/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 ug/L		03/13/97
Chloroform	67-66-3	ND	0.5 ug/L		03/13/97
Chloromethane	74-87-3	ND	2 ug/L		03/13/97
Dibromochloromethane	124-48-1	ND	0.5 ug/L		03/13/97
1,2-Dichlorobenzene	95-50-1	ND	0.5 ug/L		03/13/97
1,3-Dichlorobenzene	541-73-1	ND	0.5 ug/L		03/13/97
1,4-Dichlorobenzene	106-46-7	ND	0.5 ug/L		03/13/97
Dichlorodifluoromethane	75-71-8	ND	2 ug/L		03/13/97
1,1-Dichloroethane	75-34-3	ND	0.5 ug/L		03/13/97
1,2-Dichloroethane	107-06-2	ND	0.5 ug/L		03/13/97
1,1-Dichloroethene	75-35-4	ND	0.5 ug/L		03/13/97
cis-1,2-Dichloroethene	156-59-2	ND	0.5 ug/L		03/13/97
trans-1,2-Dichloroethene	156-60-5	ND	0.5 ug/L		03/13/97
1,2-Dichloropropane	78-87-5	ND	0.5 ug/L		03/13/97
cis-1,3-Dichloropropene	10061-01-5	ND	0.5 ug/L		03/13/97
trans-1,3-Dichloropropene	10061-02-6	ND	0.5 ug/L		03/13/97
Methylene Chloride	75-09-2	ND	2 ug/L		03/13/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5 ug/L		03/13/97
Tetrachloroethene	127-18-4	1.3 *	0.5 ug/L		03/13/97
1,1,1-Trichloroethane	71-55-6	ND	0.5 ug/L		03/13/97
1,1,2-Trichloroethane	79-00-5	ND	0.5 ug/L		03/13/97

## FLUOR DANIEL GTI

SAMPLE ID: MW-6  
AEN LAB NO: 9702325-04  
AEN WORK ORDER: 9702325  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/14/97

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichloroethene	79-01-6	0.5 *	0.5	ug/L	03/13/97
Trichlorofluoromethane	75-69-4	ND	2	ug/L	03/13/97
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	03/13/97
Vinyl Chloride	75-01-4	ND	2	ug/L	03/13/97

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

## FLUOR DANIEL GTI

SAMPLE ID: MW-4  
 AEN LAB NO: 9702325-05  
 AEN WORK ORDER: 9702325  
 CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
 DATE RECEIVED: 02/28/97  
 REPORT DATE: 03/14/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
<b>BTEX &amp; Gasoline HCs</b>	<b>EPA 8020</b>				
Benzene	71-43-2	3.1 *	0.5 ug/L		03/06/97
Toluene	108-88-3	ND	0.5 ug/L		03/06/97
Ethylbenzene	100-41-4	ND	0.5 ug/L		03/06/97
Xylenes, Total	1330-20-7	ND	2 ug/L		03/06/97
Purgeable HCs as Gasoline	5030/GCFID	0.19 *	0.05 mg/L		03/06/97
Methyl t-Butyl Ether	1634-04-4	ND	5 ug/L		03/06/97
<b>#Water Extrn for HCs</b>		-		Extrn Date	03/05/97
<b>Hydrocarbons (IR)</b>	<b>SM 5520F</b>	ND	0.5 mg/L		03/05/97
<b>Oil &amp; Grease (IR)</b>	<b>SM 5520C</b>	ND	0.5 mg/L		03/05/97
<b>EPA 8010 - Water matrix</b>	<b>EPA 8010</b>				
Bromodichloromethane	75-27-4	ND	0.5 ug/L		03/13/97
Bromoform	75-25-2	ND	0.5 ug/L		03/13/97
Bromomethane	74-83-9	ND	2 ug/L		03/13/97
Carbon Tetrachloride	56-23-5	ND	0.5 ug/L		03/13/97
Chlorobenzene	108-90-7	ND	0.5 ug/L		03/13/97
Chloroethane	75-00-3	ND	2 ug/L		03/13/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 ug/L		03/13/97
Chloroform	67-66-3	ND	0.5 ug/L		03/13/97
Chloromethane	74-87-3	ND	2 ug/L		03/13/97
Dibromochloromethane	124-48-1	ND	0.5 ug/L		03/13/97
1,2-Dichlorobenzene	95-50-1	ND	0.5 ug/L		03/13/97
1,3-Dichlorobenzene	541-73-1	ND	0.5 ug/L		03/13/97
1,4-Dichlorobenzene	106-46-7	ND	0.5 ug/L		03/13/97
Dichlorodifluoromethane	75-71-8	ND	2 ug/L		03/13/97
1,1-Dichloroethane	75-34-3	ND	0.5 ug/L		03/13/97
1,2-Dichloroethane	107-06-2	ND	0.5 ug/L		03/13/97
1,1-Dichloroethene	75-35-4	ND	0.5 ug/L		03/13/97
cis-1,2-Dichloroethene	156-59-2	ND	0.5 ug/L		03/13/97
trans-1,2-Dichloroethene	156-60-5	ND	0.5 ug/L		03/13/97
1,2-Dichloropropane	78-87-5	ND	0.5 ug/L		03/13/97
cis-1,3-Dichloropropene	10061-01-5	ND	0.5 ug/L		03/13/97
trans-1,3-Dichloropropene	10061-02-6	ND	0.5 ug/L		03/13/97
Methylene Chloride	75-09-2	ND	2 ug/L		03/13/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5 ug/L		03/13/97
Tetrachloroethene	127-18-4	ND	0.5 ug/L		03/13/97
1,1,1-Trichloroethane	71-55-6	ND	0.5 ug/L		03/13/97
1,1,2-Trichloroethane	79-00-5	ND	0.5 ug/L		03/13/97

## FLUOR DANIEL GTI

SAMPLE ID: MW-4  
AEN LAB NO: 9702325-05  
AEN WORK ORDER: 9702325  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/14/97

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichloroethene	79-01-6	ND	0.5	ug/L	03/13/97
Trichlorofluoromethane	75-69-4	ND	2	ug/L	03/13/97
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	03/13/97
Vinyl Chloride	75-01-4	ND	2	ug/L	03/13/97

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

## FLUOR DANIEL GTI

SAMPLE ID: MW-5  
 AEN LAB NO: 9702325-06  
 AEN WORK ORDER: 9702325  
 CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
 DATE RECEIVED: 02/28/97  
 REPORT DATE: 03/14/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
<b>BTEX &amp; Gasoline HCs</b>	<b>EPA 8020</b>				
Benzene	71-43-2	74 *	0.5 ug/L		03/06/97
Toluene	108-88-3	2.0 *	0.5 ug/L		03/06/97
Ethylbenzene	100-41-4	ND	0.5 ug/L		03/06/97
Xylenes, Total	1330-20-7	ND	2 ug/L		03/06/97
Purgeable HCs as Gasoline	5030/GCFID	0.23 *	0.05 mg/L		03/06/97
Methyl t-Butyl Ether	1634-04-4	ND	5 ug/L		03/06/97
<b>EPA 8010 - Water matrix</b>	<b>EPA 8010</b>				
Bromodichloromethane	75-27-4	ND	0.5 ug/L		03/13/97
Bromoform	75-25-2	ND	0.5 ug/L		03/13/97
Bromomethane	74-83-9	ND	2 ug/L		03/13/97
Carbon Tetrachloride	56-23-5	ND	0.5 ug/L		03/13/97
Chlorobenzene	108-90-7	ND	0.5 ug/L		03/13/97
Chloroethane	75-00-3	ND	2 ug/L		03/13/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 ug/L		03/13/97
Chloroform	67-66-3	ND	0.5 ug/L		03/13/97
Chloromethane	74-87-3	ND	2 ug/L		03/13/97
Dibromochloromethane	124-48-1	ND	0.5 ug/L		03/13/97
1,2-Dichlorobenzene	95-50-1	ND	0.5 ug/L		03/13/97
1,3-Dichlorobenzene	541-73-1	ND	0.5 ug/L		03/13/97
1,4-Dichlorobenzene	106-46-7	ND	0.5 ug/L		03/13/97
Dichlorodifluoromethane	75-71-8	ND	2 ug/L		03/13/97
1,1-Dichloroethane	75-34-3	ND	0.5 ug/L		03/13/97
1,2-Dichloroethane	107-06-2	ND	0.5 ug/L		03/13/97
1,1-Dichloroethene	75-35-4	ND	0.5 ug/L		03/13/97
cis-1,2-Dichloroethene	156-59-2	ND	0.5 ug/L		03/13/97
trans-1,2-Dichloroethene	156-60-5	ND	0.5 ug/L		03/13/97
1,2-Dichloropropane	78-87-5	ND	0.5 ug/L		03/13/97
cis-1,3-Dichloropropene	10061-01-5	ND	0.5 ug/L		03/13/97
trans-1,3-Dichloropropene	10061-02-6	ND	0.5 ug/L		03/13/97
Methylene Chloride	75-09-2	ND	2 ug/L		03/13/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5 ug/L		03/13/97
Tetrachloroethene	127-18-4	ND	0.5 ug/L		03/13/97
1,1,1-Trichloroethane	71-55-6	ND	0.5 ug/L		03/13/97
1,1,2-Trichloroethane	79-00-5	ND	0.5 ug/L		03/13/97
Trichloroethene	79-01-6	ND	0.5 ug/L		03/13/97
Trichlorofluoromethane	75-69-4	ND	2 ug/L		03/13/97
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5 ug/L		03/13/97
Vinyl Chloride	75-01-4	ND	2 ug/L		03/13/97



FLUOR DANIEL GTI

SAMPLE ID: MW-5  
AEN LAB NO: 9702325-06  
AEN WORK ORDER: 9702325  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/14/97

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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ND = Not detected at or above the reporting limit  
\* = Value at or above reporting limit

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9702325

CLIENT PROJECT ID: 020200150030543

Quality Control 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 8010

AEN JOB NO: 9702325  
 INSTRUMENT: I  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Bromochloro-methane	1-Bromo-3-chloro-propane
03/13/97	MW-1	01	100	106
03/13/97	MW-3	02	104	110
03/13/97	MW-7	03	100	98
03/13/97	MW-6	04	106	107
03/13/97	MW-4	05	110	101
03/13/97	MW-5	06	104	102
QC Limits:			70-130	70-130

DATE ANALYZED: 03/12/97  
 SAMPLE SPIKED: 9702224-05  
 INSTRUMENT: I

## Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
1,1-Dichloroethene	20	107	4	37-156	20
Trichloroethene	20	111	11	54-122	20
Chlorobenzene	20	96	2	54-141	20

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9702325  
 INSTRUMENT: F  
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
03/06/97	MW-1	01	96
03/06/97	MW-3	02	95
03/07/97	MW-7	03	102
03/07/97	MW-6	04	94
03/06/97	MW-4	05	94
03/07/97	MW-5	06	96
QC Limits:			70-130

DATE ANALYZED: 03/05/97  
 SAMPLE SPIKED: 9702311-01  
 INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	18.5	94	1	85-109	17
Toluene	64.4	96	1	87-111	16
Hydrocarbons as Gasoline	500	96	<1	66-117	19

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

QUALITY CONTROL DATA

METHOD: SM 5520

AEN JOB NO: 9702325  
DATE EXTRACTED: 03/05/97  
DATE ANALYZED: 03/05/97  
SAMPLE SPIKED: LCS  
INSTRUMENT: IR  
MATRIX: WATER

Laboratory Control Sample

Analyte	Spike Added (mg/L)	Percent Recovery	QC Limits
			Percent Recovery
Oil	6.97	95	73-112

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

\*\*\* END OF REPORT \*\*\*

Reporting Information:

1. Client: **FLUOR DANIEL CFI**  
 Address: **757 ARNOLD DR. SUITE D**  
**ADARTING CA**  
 Contact: **BRIDGET BAXTER**  
 Alt. Contact: **MIKE WRAY**

American Environmental Network

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

**AEN**

Page \_\_\_\_\_ of \_\_\_\_\_

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: **9702325**  
 Lab Destination: \_\_\_\_\_  
 Date Samples Shipped: \_\_\_\_\_  
 Lab Contact: \_\_\_\_\_  
 Date Results Required: \_\_\_\_\_  
 Date Report Required: \_\_\_\_\_  
 Client Phone No.: \_\_\_\_\_  
 Client FAX No.: \_\_\_\_\_

Address Report To:

2. **SAME AS 1**

Send Invoice To:

3. **SAME AS 1+2**

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

Client P.O. No.: \_\_\_\_\_

Client Project I.D. No.: **020200150.030573**

Sample Team Member (s): **HECTOR MERINO**

**1911 Telegraph Avenue, Oakland**

Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type <sup>1</sup>	Pres.	No. of Cont.	Type of Cont.	ANALYSIS				Comments / Hazards	
01A-6	MW-1		2-12-97 12:30	Wellbore		7	90ml	X	X	X	X		Per original history - date = 55001 by Ryan
02A-6	MW-3		12:33	Wellbore		7	90ml	X	X	X	X		
03A-6	MW-7		12:36	Wellbore		7	90ml	X	X	X	X		
04A-1	MW-6		12:40	Wellbore		9	90ml	X	X	X	X		
05A-1	MW-A		12:45	Wellbore		9	90ml	X	X	X	X		
06A-6	MW-5		12:47	Wellbore		7	90ml	X	X	X	X		
07-26	MW-2		12:50	Wellbore		7	90ml	X	X	X	X		
08-26	DUP- TBLB		12:53	Wellbore		2	90ml				X		
97						1	90ml				X		

Relinquished by: (Signature) <b>[Signature]</b>	DATE <b>2-28-97</b>	TIME <b>14:45</b>	Received by: (Signature) <b>[Signature]</b>	DATE <b>2-28-97</b>	TIME <b>14:46</b>
Relinquished by: (Signature) <b>[Signature]</b>	DATE <b>2-28-97</b>	TIME <b>16:16</b>	Received by: (Signature) <b>[Signature]</b>	DATE <b>2/28/97</b>	TIME <b>17:00</b>
Relinquished by: (Signature) _____	DATE _____	TIME _____	Received by: (Signature) _____	DATE _____	TIME _____
Method of Shipment _____			Lab Comments _____		

<sup>1</sup>Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polyorb. 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: \_\_\_\_\_

002  
P. 01/01  
GROUNDWATER FAX NO. 5109300256  
AEN CALIFORNIA  
03/04/97 TUE 07:37 FAX  
HAK-US-97 TION 06:22

**RUSH**

**RUSH**

AMERICAN ENVIRONMENTAL NETWORK (AEN)  
3440 VINCENT ROAD  
PLEASANT HILL, CA 94523

FAX TRANSMISSION COVER

AEN FAX NO. (510) 930-0256

AEN PH NO. (510) 930-9090

DATE: 3/3/97

# OF PAGES (including cover) 2

REPLY REQUESTED? NO  YES  URGENT  FAX  PHONE REPLY  FYI

TO: Bridget Baxter  
FDGTI  
FROM: Robin Byars

SUBJECT: 020200150

Incomplete COC.  
Can attached COC be completed  
for analysis & faxed back?  
Call if you need anything else

Reporting Information:

1. Client: ELVOR DANIEL C/ TI  
 Address: 757 ARNOLD DR. SUITE D  
MARTINEZ CA.  
 Contact: BRIDGET BAXTER  
 Alt. Contact: MIKE WRAY

American Environmental Network

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

**AEN**

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9702325  
 Lab Destination: \_\_\_\_\_  
 Date Samples Shipped: \_\_\_\_\_  
 Lab Contact: \_\_\_\_\_  
 Date Results Required: \_\_\_\_\_  
 Date Report Required: \_\_\_\_\_  
 Client Phone No.: \_\_\_\_\_  
 Client FAX No.: \_\_\_\_\_

Address Report To:

2. SAME AS 1

Send Invoice To:

3. SAME AS 1+2

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: \_\_\_\_\_ Client Project I.D. No.: 020200150, 030573

Sample Team Member (s) HECTOR MERVINO

1911 Telegraph Avenue, Oakland

Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS				Comments / Hazards	
								BTEXPHG-MTBE	CHARCOALATED PVC	TOTAL OIL GREASE	BTEX 8020		
01A-G	MW-1		2 12:30	7	HELLNONE	7	40ml						
02A-G	MW-3		12:33	7	HELLNONE	7	40ml						
03A-G	MW-7		12:36	7	HELLNONE	7	40ml						
04A-I	MW-6		12:40	7	HELLNONE	9	40ml						
05A-I	MW-4		27 12:45	7	HELLNONE	9	40ml	X					
06A-G	MW-5		12:47	7	HELLNONE	7	40ml						
07	MW-2		12:50	7	HELLNONE	7	40ml			X			
08	DUP.		12:53	7	HELLNONE	2	40ml			X			
09	TBLB			7		1	40ml						

Relinquished by: (Signature) <u>[Signature]</u>	DATE <u>2-28-97</u> TIME <u>14:45</u>	Received by: (Signature) <u>[Signature]</u>	DATE <u>2-28-97</u> TIME <u>14:46</u>
Relinquished by: (Signature) <u>[Signature]</u>	DATE <u>2-28-97</u> TIME <u>16:16</u>	Received by: (Signature) <u>Jarena Pedronza</u>	DATE <u>2/28/97</u> TIME <u>17:00</u>
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 \_\_\_\_\_



# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

FLUOR DANIEL GTI  
757 ARNOLD DRIVE, STE. D  
MARTINEZ, CA 94553

REPORT DATE: 03/12/97

DATE(S) SAMPLED: 02/27/97

DATE RECEIVED: 02/28/97

ATTN: BRIDGET BAXTER  
CLIENT PROJ. ID: 020200150030543  
CLIENT PROJ. NAME: TELEGRAPH AVE.

AEN WORK ORDER: 9702326

### PROJECT SUMMARY:

On February 28, 1997, this laboratory received 3 water sample(s).

Client requested sample(s) be analyzed for chemical 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

## FLUOR DANIEL GTI

SAMPLE ID: MW-2  
 AEN LAB NO: 9702326-01  
 AEN WORK ORDER: 9702326  
 CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
 DATE RECEIVED: 02/28/97  
 REPORT DATE: 03/12/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
<b>BTEX &amp; Gasoline HCs</b>					
	<b>EPA 8020</b>				
Benzene	71-43-2	210 *	0.5 ug/L		03/06/97
Toluene	108-88-3	2.2 *	0.5 ug/L		03/06/97
Ethylbenzene	100-41-4	6.0 *	0.5 ug/L		03/06/97
Xylenes, Total	1330-20-7	3 *	2 ug/L		03/06/97
Purgeable HCs as Gasoline	5030/GCFID	1.0 *	0.05 mg/L		03/06/97
Methyl t-Butyl Ether	1634-04-4	12 *	5 ug/L		03/06/97
<b>EPA 8010 - Water matrix</b>					
	<b>EPA 8010</b>				
Bromodichloromethane	75-27-4	ND	0.5 ug/L		03/11/97
Bromoform	75-25-2	ND	0.5 ug/L		03/11/97
Bromomethane	74-83-9	ND	2 ug/L		03/11/97
Carbon Tetrachloride	56-23-5	ND	0.5 ug/L		03/11/97
Chlorobenzene	108-90-7	ND	0.5 ug/L		03/11/97
Chloroethane	75-00-3	ND	2 ug/L		03/11/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5 ug/L		03/11/97
Chloroform	67-66-3	ND	0.5 ug/L		03/11/97
Chloromethane	74-87-3	ND	2 ug/L		03/11/97
Dibromochloromethane	124-48-1	ND	0.5 ug/L		03/11/97
1,2-Dichlorobenzene	95-50-1	ND	0.5 ug/L		03/11/97
1,3-Dichlorobenzene	541-73-1	ND	0.5 ug/L		03/11/97
1,4-Dichlorobenzene	106-46-7	ND	0.5 ug/L		03/11/97
Dichlorodifluoromethane	75-71-8	ND	2 ug/L		03/11/97
1,1-Dichloroethane	75-34-3	ND	0.5 ug/L		03/11/97
1,2-Dichloroethane	107-06-2	43 *	0.5 ug/L		03/11/97
1,1-Dichloroethene	75-35-4	ND	0.5 ug/L		03/11/97
cis-1,2-Dichloroethene	156-59-2	ND	0.5 ug/L		03/11/97
trans-1,2-Dichloroethene	156-60-5	ND	0.5 ug/L		03/11/97
1,2-Dichloropropane	78-87-5	ND	0.5 ug/L		03/11/97
cis-1,3-Dichloropropene	10061-01-5	ND	0.5 ug/L		03/11/97
trans-1,3-Dichloropropene	10061-02-6	ND	0.5 ug/L		03/11/97
Methylene Chloride	75-09-2	ND	2 ug/L		03/11/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5 ug/L		03/11/97
Tetrachloroethene	127-18-4	0.8 *	0.5 ug/L		03/11/97
1,1,1-Trichloroethane	71-55-6	ND	0.5 ug/L		03/11/97
1,1,2-Trichloroethane	79-00-5	ND	0.5 ug/L		03/11/97
Trichloroethene	79-01-6	25 *	0.5 ug/L		03/11/97
Trichlorofluoromethane	75-69-4	ND	2 ug/L		03/11/97
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5 ug/L		03/11/97
Vinyl Chloride	75-01-4	ND	2 ug/L		03/11/97

FLUOR DANIEL GTI

SAMPLE ID: MW-2  
AEN LAB NO: 9702326-01  
AEN WORK ORDER: 9702326  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/12/97

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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ND = Not detected at or above the reporting limit  
\* = Value at or above reporting limit

## FLUOR DANIEL GTI

SAMPLE ID: DUP  
AEN LAB NO: 9702326-02  
AEN WORK ORDER: 9702326  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/12/97

---

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	210 *	0.5 ug/L		03/06/97
Toluene	108-88-3	2.3 *	0.5 ug/L		03/06/97
Ethylbenzene	100-41-4	6.6 *	0.5 ug/L		03/06/97
Xylenes, Total	1330-20-7	3 *	2 ug/L		03/06/97

---

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

## FLUOR DANIEL GTI

SAMPLE ID: TBLB  
AEN LAB NO: 9702326-03  
AEN WORK ORDER: 9702326  
CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 02/27/97  
DATE RECEIVED: 02/28/97  
REPORT DATE: 03/12/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	03/05/97
Toluene	108-88-3	ND	0.5	ug/L	03/05/97
Ethylbenzene	100-41-4	ND	0.5	ug/L	03/05/97
Xylenes, Total	1330-20-7	ND	2	ug/L	03/05/97

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

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9702326

CLIENT PROJECT ID: 020200150030543

Quality Control 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 8010

AEN JOB NO: 9702326  
 INSTRUMENT: G  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Bromochloro-methane	1-Bromo-3-chloro-propane
03/11/97	MW-2	01	108	125
QC Limits:			70-130	70-130

DATE ANALYZED: 03/11/97  
 SAMPLE SPIKED: 9702224-04  
 INSTRUMENT: G

## Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
1,1-Dichloroethene	20	56	18	37-156	20
Trichloroethene	20	94	1	54-122	20
Chlorobenzene	20	68	2	54-141	20

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

## QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9702326  
 INSTRUMENT: F  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Fluorobenzene	
03/06/97	MW-2	01	93	
03/06/97	DUP	02	97	
03/05/97	TBLB	03	95	
QC Limits:			70-130	

DATE ANALYZED: 03/05/97  
 SAMPLE SPIKED: 9702311-01  
 INSTRUMENT: F

## Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	18.5	94	1	85-109	17
Toluene	64.4	96	1	87-111	16
Hydrocarbons as Gasoline	500	96	<1	66-117	19

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

\*\*\* END OF REPORT \*\*\*



Reporting Information:

1. Client: ELVOR DANIEL CETI  
 Address: 757 ARNOLD DR. SUITED  
MARTINEZ-CA.  
 Contact: BRIDGET BAXTER  
 All. Contact: MIKE WREAY

American Environmental Network  
 1440 Vincent Road, Pleasant Hill, CA 94523  
 Phone (510) 930-9090  
 FAX (510) 930-0256

**AEN COPY** Page \_\_\_\_ of \_\_\_\_  
 REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9702325 + 9702326  
 Lab Destination: \_\_\_\_\_  
 Date Samples Shipped: \_\_\_\_\_  
 Lab Contact: \_\_\_\_\_  
 Date Results Required: \_\_\_\_\_  
 Date Report Required: \_\_\_\_\_  
 Client Phone No.: \_\_\_\_\_  
 Client FAX No.: \_\_\_\_\_

Address Repeat To:

2. SAME AS 1

Send Invoice To:

3. SAME AS 1+2

Send Report To: D or S (Circle one)

Client P.O. No.: \_\_\_\_\_ Client Project I.D. No.: 020250150.030573

Sample Team Member (s): HECTOR MERVINO

1911 Telegraph Avenue, Oakland

Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS	Comments / Hazards
01A-6	MW-1		2-28-97 12:30	Wellbore		7	40ml	X X	
02A-6	MW-3		12:33	Wellbore		7	40ml	X X	
03A-6	MW-7		12:36	Wellbore		7	40ml	X X	
04A-6	MW-6		12:40	Wellbore		9	40ml	X X	
05A-6	MW-4		27 12:45	Wellbore		9	40ml	X X X	
06A-6	MW-5		12:47	Wellbore		7	40ml	X X	
07A-6	MW-2	DIA-6	12:50	Wellbore		7	40ml	X X	
08A-6	DUP-03A	D2AB	12:53	Wellbore		2	40ml	X	
09A-6	TBUB	03A				1	40ml	X	

ANALYSIS  
 PSEPH-G-MTB  
 CHLORAMPHENICOL  
 TOTAL OIL GREASES  
 BTEX SOA

Relinquished by: (Signature) <u>[Signature]</u>	DATE <u>2-28-97</u> TIME <u>14:45</u>	Received by: (Signature) <u>[Signature]</u>	DATE <u>2-28-97</u> TIME <u>14:46</u>
Relinquished by: (Signature) <u>[Signature]</u>	DATE <u>2-28-97</u> TIME <u>16:46</u>	Received by: (Signature) <u>[Signature]</u>	DATE <u>2/28/97</u> TIME <u>17:00</u>
Relinquished by: (Signature) _____	DATE _____ TIME _____	Received by: (Signature) _____	DATE _____ TIME _____

Method of Shipment: \_\_\_\_\_ Lab Comments: \_\_\_\_\_

\*Sample type (Specify): 1) 37mm 0.8 µm MCEP 2) 25mm 0.8 µm MCEP 3) 25mm 0.4 µm polyorb. 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: \_\_\_\_\_

P. 01/01

GROUNDWATER FAX NO. 5109300256

AEN CALIFORNIA

PAR-03-97 MON 06:22