

July 17, 1996

Mr. Dale Klettke, CHMM Hazardous Materials Specialist Alameda County, Health Care Services Agency 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. submits the quarterly monitoring and sampling data collected on June 12, 1996, 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 seven 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 BTEX/MTBE/TPH-G (EPA Method 8020/8015M) and chlorinated hydrocarbons (EPA methods 8010). Wells MW-4 and MW-6 were additionally analyzed for oil and grease. A summary of the groundwater analytical results is presented in table 2. A distribution map of dissolved benzene, and TPH-asgasoline concentrations is presented in figure 2. Laboratory reports and chain-of-custody records are included in attachment 4.

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

Sincerely,

Fluor Daniel GTI, Inc.

Michael J. Wray

**Project Manager** 

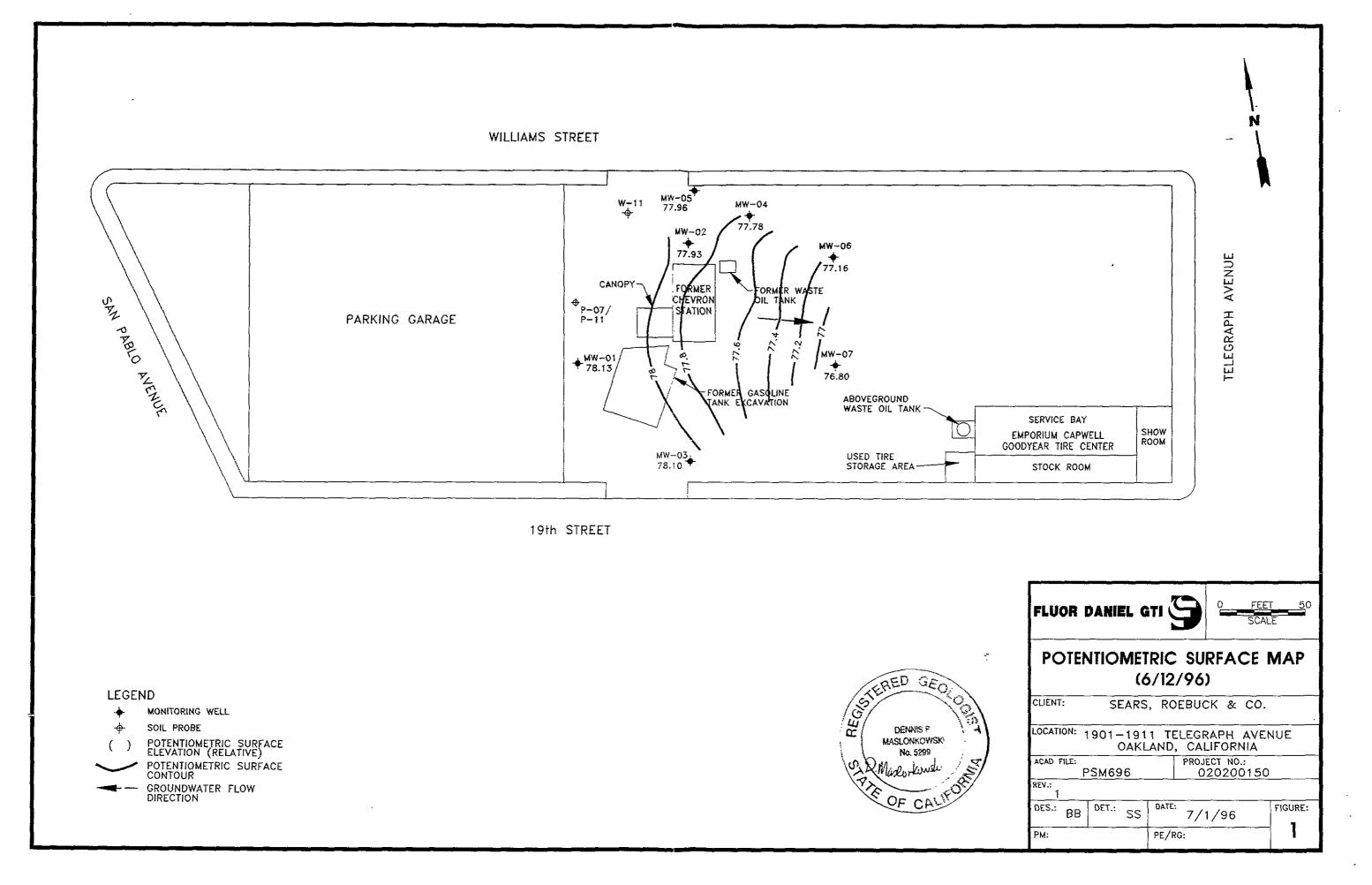
**Attachments** 

Scott M. DeMuth - Sears, Roebuck and Co.

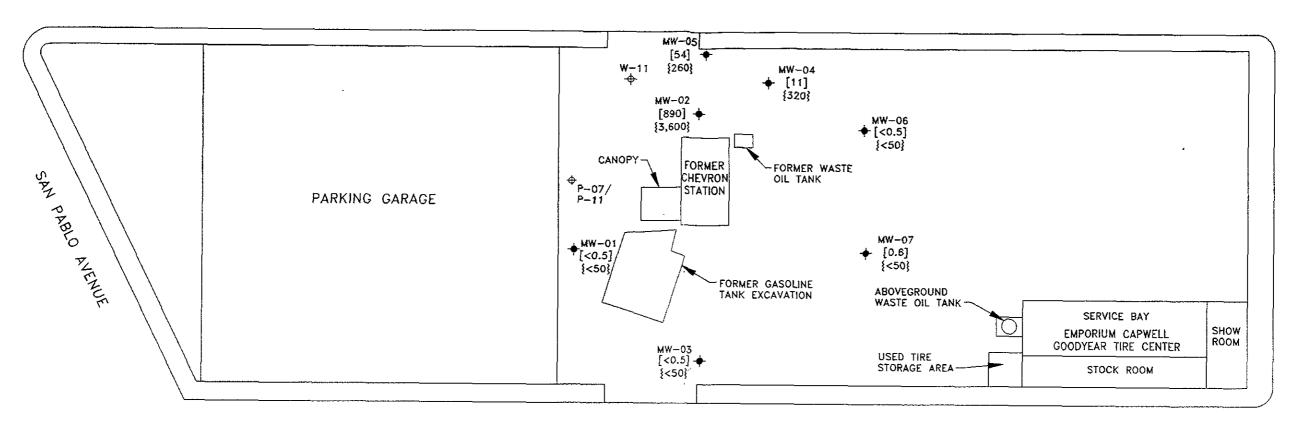
## **ATTACHMENT 1**

## **Figures**

- 1.
- Potentiometric Surface Map (06/12/96) Concentrations of Benzene, TPH-as-Gasoline and TPH-as-Motor Oil in Groundwater (06/14/96) 2.



## WILLIAMS STREET

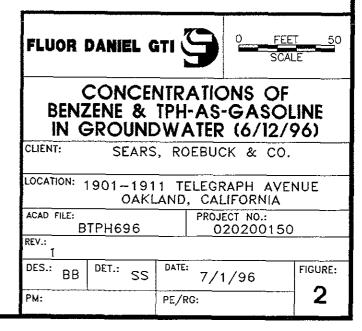


19th STREET

## LEGEND

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





TELEGRAPH AVENUE

## **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 Thicknes s	Groundwater Elev.
MW-1	94.34	06/12/96	16.21			78.13
MW-2	93.94	06/12/96	16.01		_	77.93
MW-3	95.67	06/12/96	17.56			78.10
MW-4	91.99	06/12/96	14.21		<u> </u>	77.78
MW-5	92.09	06/12/96	14.13			77.96
MW-6	92.15	06/12/96	14.99			77.16
MW-7	93.36	06/12/96	16.56	-		76.80

Notes: "--" indicates no datum for the cell, including "product not detected"

NM = Not monitored NA = Not Available

\* = 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 LD	Date Sampled	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH as Gasoline	TCE	1,2 DCA	Oil/Grease	PCE
MW-1	10/95 01/96 06/12/96	ND ND <0.5	ND ND 1.4	ND ND <0.5	ND ND V	\$6 \$5 \$5	ND 14 <0.5	ND ND √0.5		9.9 9.9 12
MW-2	10/95 01/96 06/12/96	1200 1100 890	5.4 11 7	41 100 56	5.9 6.9 10	2900 780 3600	40 38 40	280 270 160		ND ND V3
E-WM	10/95 01/96 06/12/96	ND ND <0.5	ND ND <0.5	ND ND <0.5	ND ND V2	\$ ND √50	ND ND <0.5	ND ND <0.5	  	3.1 11 3.1
MW-4	10/95 01/96 06/12/96	4.1 5.8 11	ND ND <0.5	ND ND <0.5	ND NO	<50 <50 320	ND ND <0.5	ND ND <0.5	  <0.5	ND ND <0.5
MW-5	10/95 01/96 06/12/96	86 160 54	ND 3.6 1.1	ND ND <0.5	ND ND V	260 180 <260	ND ND <0.5	ND ND <0.5		ND ND <0.5
MW-6	10/95 01/96 06/12/96	ND ND <0.5	ND ND <0.5	ND ND <0.5	ND ND V2	<50 <50 <50	11 12 5.0	33 5.3 7.9	  <0.5	6.2 7.2 3.6
MW-7	10/95 01/96 06/12/96	ND ND 0.6	ND ND <0.5	ND ND <0.5	ND ND <2	<50 <50 <50	3.5 4.8 3.4	8.3 5.7 2.9		5.3 9.3 6.1
MW-8										

Source: AEN Environmental Laboratories for results dated 6/12/96

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 = Mircograms per liter

TPH = Total petroleum hydrocarbons

ND = Non-detectable (detection limits for each metal is listed in laboratory reports, included in attachment 4)

## **ATTACHMENT 3**

Groundwater Monitoring and Sample Collection Protocol and Field Data Sheets

# GROUNDWATER TECHNOLOGY GROUNDWATER MONITORING AND SAMPLE COLLECTION PROTOCOL

#### **Groundwater Monitoring**

Groundwater monitoring is accomplished using a INTERFACE PROBE<sup>™</sup> Well Monitoring System. The INTERFACE PROBE<sup>™</sup> 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<sup>™</sup> 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:

(Product thickness) x (0.8) + (Water elevation) = 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 tripled rinsing with delonized 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 baller 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<sup>®</sup> 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. Technician: U. Barcia Project: Sears/Oakland #2 Store #: 1058 Schedule: Project Manager: Mike Wray 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 DTB 24-25 DTW 16.21 SAT. THICK - #GAL BAILED 3 2" NEED COCK MW-1: DTW | NO. DI SAT. THICK - #GAL BAILED\_\_\_ (1) MW-2: DTB\_24-10 MW-3: DTB\_27.80 DTW 1756 SAT. THICK - #GAL. BAILED 16 20 19 MW-4: DTB\_23.60 DTW 1421 SAT. THICK - #GAL. BAILED 4" MW-5: DTB\_25.55 DTW 14-13 Q SAT. THICK \_\_ #GAL. BAILED \_\_\_\_ 24 MW-6: DTB\_ 26,85 DTW 4.99 SAT. THICK #GAL BAILED 2" MW-7: DTB\_ 26-60 DTW 16-56 SAT. THICK #GAL. BAILED 5 21 5 Locks had to be cut occ. NOTES: (2) 3210 locks in Stock. Owd HOURS ESTIMATED: HOURS USED: FINAL CHECKS Are Wells Locked? YES NO Why Not? WILL WILLS HE HANDE NO WILLSWELL COLL Are Manholes Bolted Down? (ES NO Why Not?

1,317,645,2

## **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

ATTN: MIKE WRAY

CLIENT PROJ. ID: 020200150030543

REPORT DATE: 06/27/96

DATE(S) SAMPLED: 06/12/96

DATE RECEIVED: 06/13/96

AEN WORK ORDER: 9606184

#### PROJECT SUMMARY:

On June 13, 1996, this laboratory received 8 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: 9606184-01 AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96

	<u>.</u>			
ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT UNITS	DATE ANALYZED
BTEX & Gasoline HCs EP	A 8020 71-43-2	ND	0.5 ug/L	06/18/96
Toluene Ethylbenzene Xylenes, Total Purgeable HCs as Gasoline	108-88-3 100-41-4 1330-20-7 5030/GCFID	1.4 * ND ND ND	0.5 ug/L 0.5 ug/L 2 ug/L 0.05 mg/L	06/18/96 06/18/96 06/18/96 06/18/96
•	PA 8020	ND	50 ug/L	06/18/96
EPA 8010 - Water matrix Bromodichloromethane Bromoform Bromomethane Carbon Tetrachloride Chlorobenzene Chloroethane 2-Chloroethyl Vinyl Ether Chloroform Chloromethane Dibromochloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene Methylene Chloride 1,1,2,2-Tetrachloroethane Tetrachloroethene 1,1,1-Trichloroethane Trichloroethene Trichlorofluoromethane	PA 8010 75-27-4 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 110-75-8 67-66-3 74-87-3 124-48-1 95-50-1 541-73-1 106-46-7 75-71-8 75-34-3 107-06-2 75-35-4 156-59-2 156-60-5 78-87-5 10061-02-6 75-09-2 79-34-5 127-18-4 71-55-6 79-00-5 79-01-6 75-69-4 76-13-1 75-01-4	NO DO DO DO DO DO NO	0.5 ug/L	06/17/96 06/17/96

## FLUOR DANIEL GTI

SAMPLE ID: MW-1

AEN LAB NO: 9606184-01

AEN WORK ORDER: 9606184 CLIENT PROJ. ID: 020200150030543

**DATE SAMPLED:** 06/12/96 DATE RECEIVED: 06/13/96

**REPORT DATE: 06/27/96** 

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

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: 9606184-02 AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96 REPORT DATE: 06/27/96

REPORTING DATE METHOD/ CAS# RESULT LIMIT UNITS ANALYZED ANALYTE BTEX & Gasoline HCs EPA 8020 0.5 ug/L 06/18/96 71-43-2 ND Benzene 0.5 ug/L 06/18/96 Toluene 108-88-3 ND ND 0.5 ug/L 06/18/96 Ethylbenzene 100-41-4 1330-20-7 ND 2 ug/L 06/18/96 Xylenes, Total 06/18/96 5030/GCFID 0.05 mg/LPurgeable HCs as Gasoline ND ND 50 ug/L 06/18/96 Methyl t-Butyl Ether EPA 8020 **EPA 8010** EPA 8010 - Water matrix 06/18/96 ND  $0.5 \, \text{ug/L}$ Bromodichloromethane 75-27-4 06/18/96 Bromoform 75-25-2 ND 0.5 ug/L 74-83-9 ND 2 ug/L 06/18/96 Bromomethane 0.5 ug/L 06/18/96 56-23-5 ND Carbon Tetrachloride 06/18/96 108-90-7 ND 0.5 ug/L Chlorobenzene 2 ug/L 0.5 ug/L 06/18/96 75-00-3 ND Chloroethane 06/18/96 2-Chloroethyl Vinyl Ether 110-75-8 ND 0.5 ug/L 06/18/96 67-66-3 ND Chloroform. 06/18/96 74-87-3 ND 2 ug/L Chloromethane 0.5 ug/L 06/18/96 124-48-1 Dibromochloromethane ND 06/18/96 95-50-1 ND 0.5 ug/L 1.2-Dichlorobenzene 06/18/96 ND 0.5 ug/L 1.3-Dichlorobenzene 541-73-1 0.5 ug/L 2 ug/L 1.4-Dichlorobenzene 106-46-7 ND 06/18/96 06/18/96 75-71-8 ND Dichlorodifluoromethane 0.5 ug/L 75-34-3 06/18/96 ND 1.1-Dichloroethane 0.5 ug/L 06/18/96 107-06-2 ND 1.2-Dichloroethane 75-35-4 0.5 ug/L 06/18/96 1.1-Dichloroethene ND 06/18/96 156-59-2 ND 0.5 ug/L cis-1.2-Dichloroethene 156-60**-**5 0.5 ug/L 06/18/96 ND trans-1,2-Dichloroethene 0.5 ug/L 0.5 ug/L 06/18/96 1,2-Dichloropropane 78-87-5 ND 06/18/96 cis-1.3-Dichloropropene 10061-01-5 ND 0.5 ug/L 06/18/96 trans-1,3-Dichloropropene 10061-02-6 ND ND 2 uq/L 06/18/96 Methylene Chloride 75-09-2 79-34-5 0.5 ug/L 06/18/96 1.1.2.2-Tetrachloroethane ND 0.5 ug/L 06/18/96 3.1 \* 127-18-4 Tetrachloroethene 06/18/96 0.5 ug/L 1.1.1-Trichloroethane 71-55-6 ND 0.5 ug/L 06/18/96 1.1.2-Trichloroethane 79-00-5 ND 0.5 ug/L 06/18/96 79-01-6 ND Trichloroethene 2 ug/L 0.5 ug/L 06/18/96 75-69-4 ND Trichlorofluoromethane 1,1,2Trichlorotrifluoroethane 76-13-1 06/18/96 ND 2 ug/L 06/18/96 75-01-4 ND Vinyl Chloride

## FLUOR DANIEL GTI

SAMPLE ID: MW-3 AEN LAB NO: 9606184-02

AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96

**REPORT DATE: 06/27/96** 

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

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: 9606184-03

AEN WORK ORDER: 9606184 CLIENT PROJ. ID: 020200150030543

**DATE SAMPLED:** 06/12/96 DATE RECEIVED: 06/13/96 **REPORT DATE: 06/27/96** 

ANALYTE `	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs E	PA 8020				
Benzene	71-43-2	0.6 *		ug/L	06/18/96
Toluene	108-88-3	ND		ug/L	06/18/96
Ethylbenzene	100-41-4 1330-20 <b>-</b> 7	ND ND		ug/L ug/L	06/18/96 06/18/96
Xylenes, Total Purgeable HCs as Gasoline	5030/GCFID	ND	0.05		06/18/96
Methyl t-Butyl Ether E	PA 8020	ND	50	ug/L	06/18/96
EPA 8010 - Water matrix E	PA 8010				,
Bromodichloromethane	75-27-4	ND	0.5	ug/L	06/18/96
Bromoform	75-25 <b>-</b> 2	ND		ug/L	06/18/96
Bromomethane	74-83-9	ND	2	ug/L	06/18/96
Carbon Tetrachloride	56-23 <b>-</b> 5	ND	0.5	ug/L	06/18/96
Chlorobenzene	108-90-7	ND		ug/L	06/18/96
Chloroethane	75-00 <b>-</b> 3	ND		ug/L	06/18/96
2-Chloroethyl Vinyl Ether	110-75-8 67-66-3	ND ND	0.5 0.5	ug/L ug/L	06/18/96 06/18/96
Chloroform Chloromethane	74-87-3	ND ND		ug/L	06/18/96
Dibromochloromethane	124-48-1	ND	0.5	ug/L	06/18/96
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	06/18/96
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	06/18/96
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	06/18/96
Dichlorodifluoromethane	75-71 <b>-</b> 8	ND		ug/L	06/18/96
1,1-Dichloroethane	75-34-3	ND		ug/L	06/18/96
1,2-Dichloroethane	107-06-2	2.9 *		ug/L	06/18/96
1,1-Dichloroethene	75-35-4	ND ND		ug/L	06/18/96 06/18/96
cis-1,2-Dichloroethene trans-1,2-Dichloroethene	156-59-2 156-60-5	ND ND		ug/L ug/L	06/18/96
1,2-Dichloropropane	78-87-5	ND ND		ug/L	06/18/96
cis-1,3-Dichloropropene	10061-01-5	ND		ug/L	06/18/96
trans-1.3-Dichloropropene	10061-02-6	ND	0.5	ug/L	06/18/96
Methylene Chloride	75-09-2	ND		ug/L	06/18/96
1,1,2,2-Tetrachloroethane	79-34 <b>-</b> 5	ND		ug/L	06/18/96
Tetrachloroethene	127-18-4	6.1 *		ug/L	06/18/96
1,1,1-Trichloroethane	71-55-6	ND		ug/L	06/18/96
1,1,2-Trichloroethane	79-00-5	ND		ug/L	06/18/96
Trichloroethene	79-01 <b>-</b> 6	3.4 *		ug/L	06/18/96 06/18/96
Trichlorofluoromethane 1,1,2Trichlorotrifluoroethane	75-69-4 76-13-1	ND ND		ug/L ug/L	06/18/96
Vinyl Chloride	75-01-4	ND ND		ug/L ug/L	06/18/96
raight dictorrac	, O OI T	+10	-	~J, ⊏	55, 25, 50

## FLUOR DANIEL GTI

SAMPLE ID: MW-7

AEN LAB NO: 9606184-03

AEN WORK ORDER: 9606184 CLIENT PROJ. ID: 020200150030543 DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96

REPORT DATE: 06/27/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

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: 9606184-04

AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96 REPORT DATE: 06/27/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs Benzene Toluene Ethylbenzene Xylenes, Total Purgeable HCs as Gasoline	EPA 8020 71-43-2 108-88-3 100-41-4 1330-20-7 5030/GCFID	ND ND ND ND ND	0.5 0.5	ug/L ug/L ug/L ug/L mg/L	06/18/96 06/18/96 06/18/96 06/18/96 06/18/96
Methyl t-Butyl Ether	EPA 8020	ND	50	ug/L	06/18/96
#Water Extrn for HCs		-		Extrn Date	06/18/96
Hydrocarbons (IR)	SM 5520F	ND	0.5	mg/L	06/19/96
EPA 8010 - Water matrix Bromodichloromethane Bromoform Bromomethane Carbon Tetrachloride Chlorobenzene Chloroethane 2-Chloroethyl Vinyl Ether Chloroform Chloromethane Dibromochloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene Methylene Chloride 1,1,2,2-Tetrachloroethane Tetrachloroethene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	EPA 8010 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 110-75-8 67-66-3 74-87-3 124-48-1 95-50-1 541-73-1 106-46-7 75-71-8 75-34-3 107-06-2 75-35-4 156-59-2 156-60-5 78-87-5 10061-01-5 10061-02-6 75-09-2 79-34-5 127-18-4 71-55-6 79-00-5	ND N	0.5255255255555555555555555555555555555	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	06/18/96 06/18/96

## FLUOR DANIEL GTI

SAMPLE ID: MW-6

AEN LAB NO: 9606184-04

AEN WORK ORDER: 9606184 CLIENT PROJ. ID: 020200150030543

**DATE SAMPLED:** 06/12/96

DATE RECEIVED: 06/13/96

**REPORT DATE: 06/27/96** 

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichlorofluoromethane 1,1,2Trichlorotrifluoroethane Vinyl Chloride	75-69-4 76-13-1 75-01-4	ND ND ND	0.5 เ	ıg/L ıg/L ıg/L	06/18/96 06/18/96 06/18/96

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: 9606184-05

AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs Benzene Toluene Ethylbenzene Xylenes, Total Purgeable HCs as Gasoline	EPA 8020 71-43-2 108-88-3 100-41-4 1330-20-7 5030/GCFID	11 * ND ND ND ND 0.32 *	0.5 0.5 2	ug/L ug/L ug/L ug/L mg/L	06/19/96 06/19/96 06/19/96 06/19/96 06/19/96
Methyl t-Butyl Ether	EPA 8020	ND	50	ug/L	06/19/96
#Water Extrn for HCs		-		Extrn Date	06/18/96
Hydrocarbons (IR)	SM 5520F	ND	0.5	mg/L	06/19/96
EPA 8010 - Water matrix Bromodichloromethane Bromoform Bromomethane Carbon Tetrachloride Chlorobenzene Chloroethane 2-Chloroethyl Vinyl Ether Chloroform Chloromethane Dibromochloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Tichloroethane 1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene	EPA 8010 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 110-75-8 67-66-3 74-87-3 124-48-1 95-50-1 541-73-1 106-46-7 75-71-8 75-34-3 107-06-2 75-35-4 156-59-2 156-60-5 78-87-5 10061-01-5 10061-02-6 75-09-2 79-34-5 127-18-4 71-55-6 79-00-5 79-01-6		0.5255255255555555555555555555555555555	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	06/18/96 06/18/96

## American Environmental Network

PAGE 11

## FLUOR DANIEL GTI

SAMPLE ID: MW-4

AEN LAB NO: 9606184-05 AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Trichlorofluoromethane 1,1,2Trichlorotrifluoroethane Vinyl Chloride	75-69-4 76-13-1 75-01-4	ND ND ND	2 u 0.5 u 2 u	g/L	06/18/96 06/18/96 06/18/96

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: 9606184-06 AEN WORK ORDER: 9606184 CLIENT PROJ. ID: 020200150030543

**DATE SAMPLED:** 06/12/96 DATE RECEIVED: 06/13/96

ANALYTE	METHOD/ CAS#	RESULT R	REPORTING LIMIT UNITS	DATE ANALYZED
BTEX & Gasoline HCs Benzene Toluene Ethylbenzene Xylenes, Total Purgeable HCs as Gasoline	PA 8020 71-43-2 108-88-3 100-41-4 1330-20-7 5030/GCFID	54 * 1.1 * ND ND ND 0.26 *	0.5 ug/L 0.5 ug/L 0.5 ug/L 2 ug/L 0.05 mg/L	06/18/96 06/18/96 06/18/96 06/18/96 06/18/96
Methyl t-Butyl Ether E	PA 8020	ND	50 ug/L	06/18/96
EPA 8010 - Water matrix Bromodichloromethane Bromoform Bromomethane Carbon Tetrachloride Chlorobenzene Chloroethane 2-Chloroethyl Vinyl Ether Chloroform Chloromethane Dibromochloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene trans-1,3-Dichloropropene Trichloroethene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Trichlorofluoromethane Trichlorofluoromethane	PA 8010 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 110-75-8 67-66-3 74-87-3 124-48-1 95-50-1 541-73-1 106-46-7 75-34-3 107-06-2 75-35-4 156-59-2 156-60-5 78-87-5 10061-01-5 10061-02-6 75-09-2 79-34-5 127-18-4 71-55-6 79-00-5 79-01-6 75-69-4		0.5 ug/L	06/18/96 06/18/96

## FLUOR DANIEL GTI

SAMPLE ID: MW-5

AEN LAB NO: 9606184-06 AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

**DATE SAMPLED:** 06/12/96 DATE RECEIVED: 06/13/96

**REPORT DATE: 06/27/96** 

<del>*************************************</del>					
ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE Analyzed

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

## FLUOR DANIEL GTI

SAMPLE ID: MW-2

AEN LAB NO: 9606184-07 AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96 DATE RECEIVED: 06/13/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Benzene Toluene Ethylbenzene Xylenes, Total	PA 8020 71-43-2 108-88-3 100-41-4 1330-20-7	890 * 7 * 56 * 10 *	3 3 10	ug/L ug/L ug/L ug/L	06/18/96 06/18/96 06/18/96 06/18/96
Purgeable HCs as Gasoline  Methyl t-Butyl Ether E	5030/GCFID PA 8020	3.6 * ND		mg/L ug/L	06/18/96 06/18/96
, ,	PA 8010 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 110-75-8 67-66-3 74-87-3 124-48-1 95-50-1 541-73-1 106-46-7 75-71-8 75-34-3 107-06-2 75-35-4 156-59-2 156-60-5 78-87-5 10061-01-5 10061-02-6 75-09-2 79-34-5 127-18-4 71-55-6 79-00-5 79-01-6 75-69-4	ND N	3 10 3 10 3 3 10 3 3 3 3 3 3 3 3 3 3 3 3	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	06/20/96 06/20/96

#### FLUOR DANIEL GTI

SAMPLE ID: MW-2

AEN LAB NO: 9606184-07

AEN WORK ORDER: 9606184 CLIENT PROJ. ID: 020200150030543

**DATE SAMPLED:** 06/12/96

DATE RECEIVED: 06/13/96 **REPORT DATE: 06/27/96** 

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

Reporting limits elevated for EPA 8010 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: TBLB AEN LAB NO: 9606184-08

AEN WORK ORDER: 9606184

CLIENT PROJ. ID: 020200150030543

DATE SAMPLED: 06/12/96

DATE RECEIVED: 06/13/96 REPORT DATE: 06/27/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT					
BTEX & Gasoline HCs Benzene Toluene Ethylbenzene Xylenes, Total Purgeable HCs as Gasoline	EPA 8020 71-43-2 108-88-3 100-41-4 1330-20-7 5030/GCFID	ND ND ND ND ND	0.5 0.5 0.5 2 0.05	ug/L ug/L ug/L	06/18/96 06/18/96 06/18/96 06/18/96 06/18/96			
Methyl t-Butyl Ether	EPA 8020	ND	50	ug/L	06/18/96			

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

#### AEN (CALIFORNIA) QUALITY CONTROL REPORT

AEN JOB NUMBER: 9606184

CLIENT PROJECT ID: 020200150030543

#### Quality Control and Project Summary

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

#### <u>Definitions</u>

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 5520

AEN JOB NO: 9606184

DATE EXTRACTED: 06/18/96 DATE ANALYZED: 06/19/96 SAMPLE SPIKED: LCS INSTRUMENT: IR

MATRIX: WATER

## Laboratory Control Sample

Analyte	Spike Added (mg/L)	Percent Recovery	QC Limits Percent Recovery
Oil	6.91	112	73-112

## QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9606184

INSTRUMENT: I MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed			Percer	t Recovery
	Client Id.	Lab Id.	Bromochloro- methane	1-Bromo-3-chloro- propane
06/17/96 06/18/96 06/18/96 06/18/96 06/18/96 06/18/96 06/20/96	MW-1 MW-3 MW-7 MW-6 MW-4 MW-5 MW-2	01 02 03 04 05 06 07	88 83 87 90 98 87 91	92 91 91 92 98 96 94
QC Limits:			70-130	70-130

DATE ANALYZED: 06/18/96 SAMPLE SPIKED: 9606072-02

INSTRUMENT: I

## Matrix Spike Recovery Summary

				QC Limit	ts
Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	Percent Recovery	RPD
1,1-Dichloroethene Trichloroethene Chlorobenzene	50 50 50	91 100 91	9 11 7	37-156 54-122 54-141	20 20 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: 9606184

INSTRUMENT: H MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
06/19/96 06/19/96 06/19/96 06/18/96 06/19/96 06/18/96 06/18/96	MW-1 MW-3 MW-7 MW-6 MW-4 MW-5 MW-2 TBLB	01 02 03 04 05 06 07 08	97 96 98 98 91 103 116 98
QC Limits:			70-130

DATE ANALYZED: 06/18/96

SAMPLE SPIKED: 9606156-07 INSTRUMENT: H

Matrix Spike Recovery Summary

	***************************************			QC Limi	 t.s
Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	Percent Recovery	RPD
Benzene Toluene	22.2 73.9	100 91	<1 <1	85-109 87-111	17 16
Hydrocarbons as Gasoline	500	106	5	66-117	19

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

Reporting Information:  1. Client: FIDW DANIE GT   Address: GALNOUD PI MOYTING CGAA  Contact: MIKE WILAY  Alt. Contact: DIAGET DAXTE	553	merican . 3440 Vince	nt Road, Phone (5		II, CA	94523	rk	Lab C	AP  Job Nu  Destina  Samp	mber:			:Qบเ	EST	FOR	Page	N OF CUS	TODY	,
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Sample Team Member (s) <u>U. GQVC 19.</u>							/		$\langle \lambda \rangle$		/ /	/ /	/ /	/ /	/ /	/ /			
Lab Cilent Sample Number Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.						/			$\angle$	Comments	/ Hazards		
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Method of Shipment						Lab Cor		ts											
*	Sample type (S	Specify): 1) 37n	nm 0.8 µn	n MCEF 2)	25mm	0.8 µm N	/CEF	3) 25	mm 0.	4 μm p	olycar	b. filte	er	-	•				

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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