

ENVIRONMENTAL  
PROTECTION

**SECOR**  
*International Incorporated*

August 14, 1998

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Mr. Barney Chan  
Hazardous Materials Specialist  
Alameda County Department  
of Environmental Health  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, California 94502

44008

**SUMMARY REPORT FOR ADDITIONAL SITE CHARACTERIZATION, 580 JULIE ANN WAY, OAKLAND, CALIFORNIA, ST ID #4008, FOR METZ BAKING COMPANY**

Dear Mr. Chan:

SECOR International Incorporated (*SECOR*) is pleased to submit this Summary Report presenting the procedures and results of additional Site characterization conducted at 580 Julie Ann Way in Oakland, California (the Site, see Figure 1, Site Location Map). *SECOR* is submitting this document on behalf of the Metz Baking Company (Metz) which operated the Site as a San Francisco French Bread Company (SFFBC) baking and distribution facility. The scope of work performed was in general accordance with *SECOR*'s Work Plan dated October 31, 1997, as conditionally approved by the Alameda County Department of Environmental Health (ACDEH) in a November 7, 1997 letter.

**SITE BACKGROUND**

The Site is located in a mixed commercial/industrial area and consists of a large warehouse/bakery and an open asphalt parking/work area (Figure 2). The Site is used by the SFFBC to prepare and distribute baked food products. The Site formerly operated one 8,000-gallon capacity gasoline underground storage tank (UST) and one 10,000-gallon capacity diesel UST. Previous subsurface investigations conducted by Groundwater Technology, Inc. (GTI) in June 1991 and *SECOR* in November 1993 indicated the presence of total petroleum hydrocarbons as gasoline (TPHg) and TPH as diesel (TPHd) in soil samples collected in the immediate vicinity of the USTs. At soil boring locations further away from the USTs, low to non-detectable concentrations of TPHg and TPHd were reported; however, elevated concentrations of high-boiling point hydrocarbons (total oil and grease/total recoverable petroleum hydrocarbons) were reported at all boring locations where analyzed.

*SECOR* supervised the excavation and removal of the two USTs in September 1995. Petroleum hydrocarbon-impacted soil and groundwater were observed during UST removal activities, laboratory analysis of collected soil and groundwater samples revealed the presence of TPHg, TPHd, and high-boiling hydrocarbons. Based on the apparent composition of these high-boiling point hydrocarbons and their pervasive presence in fill soil underlying the Site, it was determined that the source of these hydrocarbons is not related to the USTs. *SECOR* supervised the installation of four groundwater monitoring wells (MW-1 through MW-4) adjacent to the former USTs in February and August 1996, soil and groundwater samples collected and analyzed during these activities revealed the presence of TPHg, TPHd, TPH as motor oil (TPHmo), and benzene, toluene, ethylbenzene, and xylenes (BTEX).

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## **PRELIMINARY FIELD ACTIVITIES**

Prior to initiation of field activities, *SECOR* obtained a well construction permit from Alameda County Public Works Agency and encroachment permits from the City of Oakland for work in the public right-of-way. The proposed well locations were cleared with respect to underground utilities and other obstructions by California Utility Surveys (CUS) and Underground Service Alert (USA) was notified 48-hours in advance of field activities. *SECOR* also updated the existing Site-specific Health and Safety Plan (HASP) to address the proposed scope of work.

## **FIELD ACTIVITIES**

### **Drilling and Soil Sampling**

Three boreholes (MW-5, MW-6, and MW-7) were advanced on May 20, 1998 by Gregg Drilling & Testing, Inc. of Martinez, California under the direction of a *SECOR* geologist utilizing a truck-mounted drill rig equipped with 8-inch diameter hollow-stem augers (Figure 2). Three boreholes (MW-5, MW-6, and MW-7) were advanced to a total depth of 16 feet below ground surface (bgs). Relatively undisturbed soil samples were collected for lithologic description and possible chemical analysis at 5- to 5.5-foot intervals using a California-modified split-spoon sampler lined with three 6-inch long brass tubes. Soil cuttings generated during field activities were placed in 55-gallon drums and stored on-site pending appropriate disposal.

A *SECOR* geologist described the soil encountered according to the Unified Soil Classification System (USCS) and maintained boring logs of these descriptions that are included as an attachment. A representative soil sample from each sample interval was screened in the field for the presence of volatile organic compounds (VOCs) using an organic vapor meter 580B Photoionization Detector (PID). Screening results are documented on the boring logs. *SECOR* selected one to three soil samples for chemical analysis from the MW-5, MW-6, and MW-7 borehole locations.

The ends of the brass tubes containing the soil samples were covered with teflon sheeting, fitted with plastic end caps, labeled, and stored in an ice-filled cooler. The samples selected for chemical analysis were transported to Chromalab Environmental Services (Chromalab) in Pleasanton, California, a state-certified laboratory with a completed chain-of-custody record. The soil samples collected during the investigation were analyzed for TPHg, TPHd, and TPHmo by EPA Method 8015, modified and BTEX and methyl tertiary butyl ether (MTBE) by EPA Method 8020. Three soil samples collected from MW-7 were also analyzed for total organic carbon (TOC) by EPA Method 9060. Additionally, analysis of polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270A was performed for the soil samples collected from wells MW-5 through MW-7 as requested by the ACDEH to evaluate the presence of heavy oil constituent.

### **Monitoring Well Installation**

Three boreholes were converted to groundwater monitoring wells MW-5, MW-6, and MW-7 and completed at a total depth of 15 feet bgs after backfilling the borehole with filter sand from 16 feet bgs (Figure 2). Each well was completed with 11 feet of capped, flush-threaded, 2-inch diameter Schedule 40 PVC 0.020-inch machine slotted well screen from 15 feet bgs and completed with blank casing to ground

surface. Filter sand was placed in the annular space between the wall of the borehole and casing to a height of one foot above the screened interval. One foot of bentonite pellets was placed above the sand and hydrated. A cement-grout mixture (5% bentonite) was then placed into the remaining annular space to ground surface. A flush-mounted, protective water-tight monument cover was then grouted slightly above ground surface to complete the well installation. Each well was also fitted with a locking water-tight well cap. Well construction details are provided on Table 1 and are displayed graphically on the attached boring logs.

### **Well Development and Sampling**

Newly-installed groundwater monitoring wells were developed on June 4, 1998 by alternately surging with a surge block and bailing with a PVC bailer. Well development continued until the groundwater was reasonably free of sediment. During well development, measurements and observations of pH, electrical conductivity, temperature, color, and turbidity were recorded on the attached Water Sample Field Data Sheets. Ten casing volumes of groundwater were removed from wells MW-5 through MW-7 during development. Three casing volumes of groundwater were removed from wells MW-1 through MW-4, which had been previously developed and sampled. All water generated during well development and sampling was stored in 55-gallon drums at an on-site location pending appropriate disposal.

Following well development, *SECOR* collected groundwater samples from each well for chemical analysis on June 4, 1998. The groundwater samples were collected using a disposable PVC bailer and decanted directly into laboratory-supplied sample containers. Each of the sample containers was labeled, sealed in plastic bags, and placed in an ice-filled cooler. The samples were submitted to Chromalab along with a completed chain-of-custody record. The groundwater samples collected were analyzed for TPHg, TPHd, and TPHmo by EPA Method 8015, modified, for BTEX and MTBE by EPA Method 8020. Additionally, all groundwater collected from wells MW-1 through MW-7 were analyzed for total dissolved solids (TDS) by EPA Method 160.1.

### **WELL SURVEY AND WATER LEVEL MEASUREMENTS**

The newly-installed wells and existing Site wells were surveyed for the top of PVC casing elevation by Ron Archer, Civil Engineer, Inc. of Pleasanton, California, a California-licensed land surveyor. Table 1 summarizes well construction details and wellhead elevations. Wellhead elevations were surveyed with respect to mean sea level (msl) using the brass disc benchmark, set in a standard monument casing at the intersection of Coliseum Way and Kevin Court. The elevation of this benchmark was taken at 7.69 feet above msl. Depth-to-groundwater measurements for all Site wells were recorded on June 4, 1998 using an electronic water-level indicator which are included the attached Field Report. These measurements along with calculated groundwater elevations are presented on Table 1.

### **SUBSURFACE CONDITIONS**

Soil beneath the Site consists of fill material extending to approximately 7 to 9.5 feet bgs overlying Bay Mud that is present to the total depth explored of 16 feet bgs. Fill material consists of light olive brown to very dark gray sandy clay and gravelly sand and is identified as fill material based on the presence of

brick and concrete fragments and pieces of wood and tires. This interpretation of fill soil is consistent with observations made during UST removal and previous Site investigation activities. Consistency of this material ranged from stiff to hard and all fill soil was observed to be moist. Underlying the fill material is Bay Mud which consists of very dark gray organic clay, dark greenish gray clay, and lesser amounts of sandy clay. Bay Mud deposits were observed to be soft to very stiff and contained root material. This soil interval ranged in plasticity from low to high, density of this interval was low, with weak platy or subangular blocky soil structures. These deposits were typically moist, however, groundwater was observed where pore space was present. The subsurface conditions beneath the Site are displayed on generalized geologic cross section A-A' (Figure 3).

Results of field screening with the PID indicated the presence of organic vapors at the borehole MW-5 through MW-7 locations ranging from 1 to 85 parts per million (ppm). A chemical odor was also noted in the samples of fill material collected at approximately 4 feet bgs in these three wells. The field screening results and field observations are included on the attached boring logs.

Groundwater was first encountered at approximately 10 feet bgs during borehole advancement only at the MW-7 location. On June 4, 1998, stabilized groundwater measurement in wells MW-1, MW-2, MW-3, MW-4, and MW-7 ranged from 2.72 to 5.60 feet below the top of the PVC casing translating to groundwater elevations between 4.10 and 7.40 feet above msl. No groundwater was encountered during borehole advancement at the MW-5 and MW-6 locations. However, SECOR constructed a monitoring well at the MW-5 and MW-6 borehole locations based on the presence of groundwater at the other nearby wells and borehole locations. On June 4, 1998, stabilized groundwater in wells MW-5 and MW-6 were measured at depths of 5.44 and 7.92 feet below top of PVC casing, respectively. Groundwater elevations calculated from the June 4, 1998 depth-to-groundwater measurements were contoured and displayed as Figure 4. This map indicates a generalized groundwater flow direction towards the north under an average hydraulic gradient of 0.036 feet per foot (ft/ft). Depth-to-groundwater measurements and groundwater elevations are summarized on Table 1.

## SOIL AND GROUNDWATER ANALYTICAL RESULTS

Soil and groundwater analytical results are summarized on Tables 2 and 3 and laboratory analytical reports and chain-of-custody records are attached. Soil samples collected from the MW-5, MW-6, and MW-7 boreholes at depths ranging from 4 to 15 feet bgs were submitted for chemical analysis. Soil sample MW-5-4 was reported to contain benzene and xylenes at respective concentrations of 2.1 milligrams per kilogram (mg/kg) and 1.2 mg/kg. Soil sample MW-6-4 was reported to contain TPHd and TPHmo at respective concentrations of 12 mg/kg and 110 mg/kg. Soil sample MW-7-4 was reported to contain TPHd at a concentration of 3.3 mg/kg. Chromalab indicated that these TPHd results do not match the pattern of the fresh diesel standard. TPHg and PAHs were not detected above the laboratory reporting limit in any of the soil samples analyzed. Three soil samples collected from the MW-7 borehole location at depths of 4, 10, 15 feet bgs were reported to contain TOC concentrations at 0.622%, 0.731%, and 0.078%, respectively.

The groundwater sample collected from well MW-1 was reported to contain TPHg at a concentration of 1,800 micrograms per liter ( $\mu\text{g}/\text{l}$ ). The maximum BTEX concentrations were reported in the samples collected from wells MW-1 and MW-2 at 160  $\mu\text{g}/\text{l}$ , 2.6  $\mu\text{g}/\text{l}$ , 300  $\mu\text{g}/\text{l}$ , and 3.5  $\mu\text{g}/\text{l}$ , respectively. TPHd

was reported in each of the seven collected samples at concentrations ranging from 120  $\mu\text{g}/\ell$  to 4,100  $\mu\text{g}/\ell$ . TPHmo was reported in samples collected from wells MW-1, MW-4, and MW-7 at respective concentrations of 640  $\mu\text{g}/\ell$ , 710  $\mu\text{g}/\ell$ , and 540  $\mu\text{g}/\ell$ . However, Chromalab indicated that these TPHd and TPHmo results do not match the patterns of the laboratory standards. MTBE was not detected in any of these samples above the laboratory reporting limit of 5.0  $\mu\text{g}/\ell$ . TDS was reported in all seven of the collected groundwater samples at concentrations ranging from 580 milligrams per liter ( $\text{mg}/\ell$ ) to 43,000  $\text{mg}/\ell$ . Groundwater analytical results are displayed graphically on Figure 5.

## SUMMARY AND CONCLUSIONS

Based on the results of the additional Site characterization work described herein and previous investigation findings, the following conclusions can be made.

- Two primary soil intervals are present within the upper 16 feet bgs: fill material extends from the ground surface to approximate depths of 7 to 9.5 feet bgs and is underlain by Bay Mud deposits which extend to the total depth explored (16 feet bgs).
- First encountered groundwater occurs at approximately 3 to 8 feet bgs and flows in a general northerly direction. Based on lithologic differences, the fill soils underlying the Site are expected to be more permeable and transmissive than the underlying Bay Mud deposits, which are composed predominantly of clay-rich soils. Accordingly, the majority of groundwater storage and transport in the shallow subsurface is expected to occur within the fill material.
- Analytical results for groundwater samples collected from newly-installed monitoring wells MW-5 and MW-6 (located downgradient from the former USTs and dispensers) indicate that significant off-Site migration of gasoline-range hydrocarbons (TPHg) and BTEX originating at the former gasoline UST and dispensers has not occurred.
- Low concentrations of diesel-range hydrocarbons (TPHd) were present in soil samples from borings MW-6 and MW-7 and groundwater samples collected from each of the newly-installed wells (MW-5 through MW-7). Diesel-range hydrocarbons present in soil and groundwater samples from these wells do not match the laboratory diesel standard and were reported by the laboratory as in the late diesel range. It is believed that the source of these diesel-range hydrocarbons is likely related to the occurrence of higher-boiling point hydrocarbons observed to be present in fill soils throughout the area, and not related to the former USTs.
- Groundwater beneath the subject Site is not used for drinking purposes due to the high TDS concentrations (greater than 3,000  $\text{mg}/\ell$ ).

## RECOMMENDATIONS

Based on the results of this investigation and previous Site activities, the extent of petroleum hydrocarbons, related to the former USTs, in groundwater beneath the Site has been defined. Groundwater chemical results demonstrate that the concentrations of petroleum hydrocarbons are low and the impacted area of

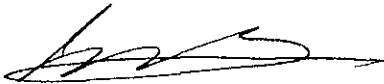
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the contaminants is limited. Therefore, *SECOR* proposes to perform the Tier II Risk-Based Corrective Action (RBCA) Risk Assessment for the Site closure. *SECOR* will also conduct quarterly groundwater monitoring for the Site for three more quarters to obtain additional hydrologic and chemical data in groundwater.

If you have any questions or comments, please do not hesitate to contact us at (415) 882-1548.

Sincerely,

**SECOR International Incorporated**



Liping Zhang  
Project Manager



Bruce E. Scarbrough, R.G.  
Principal Geologist

cc: Mr. Christopher Rants, Metz Baking Company

**Attachments:**

Table 1 - Well Construction Details and Groundwater Elevations

Table 2 - Soil Analytical Results

Table 3 - Groundwater Analytical Results

Figure 1 - Site Location Map

Figure 2 - Site Plan with Cross Section Location

Figure 3 - Generalized Geologic Cross Section A-A'

Figure 4 - Groundwater Elevation Contour Map, June 4, 1998

Figure 5 - Groundwater Chemical Results, June 4, 1998

Appendix A - Boring Logs

Appendix B - Field Report and Water Sample Field Data Sheets

Appendix C - Laboratory Analytical Results and Chain-of-Custody Records

**TABLE 1**  
**WELL CONSTRUCTION DETAILS AND GROUNDWATER ELEVATIONS**  
 580 Julie Ann Way  
 Oakland, California

WELL NUMBER	TOTAL DEPTH <sup>(a)</sup>	SCREENED INTERVAL <sup>(a)</sup>	CASING DIAMETER <sup>(b)</sup>	TOP OF CASING ELEVATION <sup>(c)</sup>	DATE	DEPTH TO GROUNDWATER <sup>(d)</sup>	GROUNDWATER ELEVATION <sup>(c)</sup>
MW-1	14.5	4.5-14.5	2	10.06	08/16/96	4.41	5.65
					08/22/96	4.45	5.61
					06/04/98	3.66	6.40
MW-2	15	5-15	2	10.17	08/16/96	4.52	5.65
					08/22/96	4.54	5.63
					06/04/98	3.83	6.34
MW-3	15	5-15	2	10.12	08/16/96	12.66	-2.54
					08/22/96	7.99	2.13
					06/04/98	2.72	7.40
MW-4	15	5-15	2	9.70	08/16/96	5.72	3.98
					08/22/96	5.72	3.98
					06/04/98	5.60	4.10
MW-5	15	4-15	2	9.42	06/04/98	5.44	3.98
MW-6	15	4-15	2	9.88	06/04/98	7.92	1.96
MW-7	15	4-15	2	9.91	06/04/98	3.58	6.33

**NOTES:**

- (a) Measured in feet below ground surface.
- (b) Measured in inches.
- (c) Measured in feet above mean sea level.
- (d) Measured in feet below top of PVC casing.

**TABLE 2**  
**SOIL ANALYTICAL RESULTS**  
 580 Julie Ann Way  
 Oakland, California

SAMPLE NUMBER	SAMPLE DEPTH <sup>(a)</sup>	TPHg <sup>(b)</sup> (mg/kg) <sup>(c)</sup>	TPHd <sup>(b)</sup> (mg/kg)	TPHmo <sup>(b)</sup> (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE <sup>(b)</sup> (mg/kg)	TOC <sup>(g)</sup> (mg/kg)	PAH <sup>(b)</sup> (mg/kg)
MW-5-4	4.0-4.5	ND <sup>(i)</sup> <10	ND<1	ND<50	2.1	ND<0.62	ND<0.62	1.2	ND<0.62	NA <sup>(j)</sup>	ND <sup>(k)</sup>
MW-6-4	4.0-4.5	ND<1.0	12 <sup>(h)</sup>	110	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA	ND <sup>(k)</sup>
MW-7-4	4.0-4.5	ND<1.0	3.3 <sup>(h)</sup>	ND<50	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	6,220	ND <sup>(k)</sup>
MW-7-10	10.0-10.5	NA	NA	NA	NA	NA	NA	NA	NA	7,310	NA
MW-7-15	15.0-15.5	NA	NA	NA	NA	NA	NA	NA	NA	778	NA

**NOTES:**

- (a) Measured in feet below ground surface.
- (b) Total petroleum hydrocarbons as gasoline.
- (c) Milligrams per kilogram.
- (d) Total petroleum hydrocarbons as diesel.
- (e) Total petroleum hydrocarbons as motor oil.
- (f) Methyl tertiary butyl ether.
- (g) Total organic carbon.
- (h) Polynuclear aromatic hydrocarbons.
- (i) ND: Not detected at specified laboratory reporting limit.
- (j) NA: Not analyzed.
- (k) Laboratory reporting limit for polynuclear aromatic hydrocarbons ranging from 0.05 mg/kg to 0.2 mg/kg.
- (l) Hydrocarbon reported is in the late diesel range and does not match the laboratory diesel standard, see attached certified laboratory analytical report.

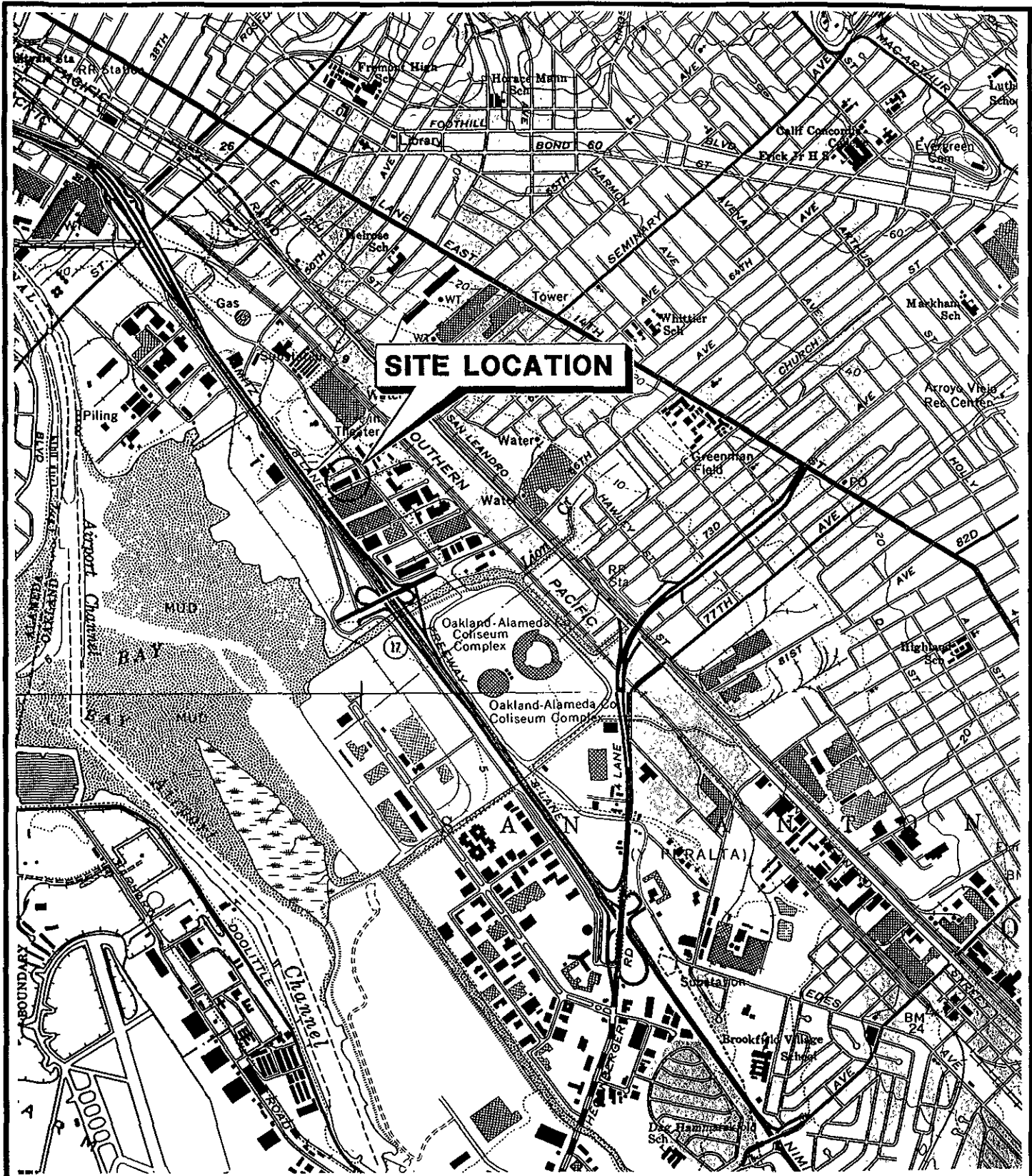


**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
 580 Julie Ann Way  
 Oakland, California

SAMPLE NUMBER	DATE	TPHg <sup>(a)</sup> (µg/l) <sup>(b)</sup>	TPHd <sup>(c)</sup> (µg/l)	TPHmo <sup>(d)</sup> (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE <sup>(e)</sup> (µg/l)	Lead (mg/l) <sup>(f)</sup>	TDS <sup>(g)</sup> (mg/l)
MW-1	02/28/96	5,900	ND <sup>(h)</sup> < 10	1,700	540	9.0	950	110	NA <sup>(i)</sup>	NA	NA
	08/16/96	5,600	5,400 <sup>(j)</sup>	4,000	540	7.3	950	110	NA	ND < 0.05	NA
	06/04/98	1,800	1,600 <sup>(k)</sup>	640 <sup>(l)</sup>	160	2.6	300	1.6	ND < 5.0	NA	580
MW-2	08/16/96	2,700	3,000 <sup>(j)</sup>	1,800	63	36	65	100	NA	ND < 0.05	NA
	06/04/98	ND < 50	4,100 <sup>(k)</sup>	ND < 500	10	0.72	2.3	3.5	ND < 5.0	NA	2,900
MW-3	08/16/96	ND < 50	730 <sup>(j)</sup>	640	3.1	ND < 0.5	ND < 0.5	ND < 0.5	NA	ND < 0.05	NA
	06/04/98	ND < 50	860 <sup>(k)</sup>	ND < 500	3.9	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	NA	5,100
MW-4	08/16/96	460	2,800 <sup>(j)</sup>	3,000	17	1.0	9.1	1.4	NA	ND < 0.05	NA
	06/04/98	ND < 50	1,400 <sup>(k)</sup>	710 <sup>(l)</sup>	18	1.6	2.5	1.9	ND < 5.0	NA	2,000
MW-5	06/04/98	ND < 50	970 <sup>(k)</sup>	ND < 500	7.2	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	NA	9,900
MW-6	06/04/98	ND < 50	120 <sup>(k)</sup>	ND < 500	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	NA	43,000
MW-7	06/04/98	ND < 50	900 <sup>(k)</sup>	540 <sup>(l)</sup>	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	NA	6,100

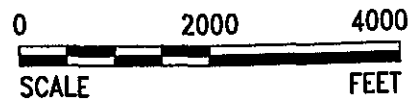
NOTES:

- (a) Total petroleum hydrocarbons as gasoline.
- (b) Micrograms per liter.
- (c) Total petroleum hydrocarbons as diesel.
- (d) Total petroleum hydrocarbons as motor oil.
- (e) Methyl tertiary butyl ether.
- (f) Milligrams per liter.
- (g) Total dissolved solids.
- (h) ND: Not detected at specified laboratory reporting limit.
- (i) NA: Not Analyzed.
- (j) Lighter and heavier hydrocarbons were found in the range of diesel, but do not resemble a diesel fingerprint. Possible gasoline and motor oil, see attached certified laboratory analytical report.
- (k) Hydrocarbon reported does not match the pattern of the laboratory diesel standard, see attached certified laboratory analytical report.
- (l) Hydrocarbon reported does not match the pattern of the laboratory motor oil standard, see attached certified laboratory analytical report.



**SITE LOCATION**

SOURCE: BASE MAP FROM U.S.G.S. OAKLAND EAST AND SAN LEANDRO CA QUADRANGLES. 7.5 MINUTE SERIES TOPOGRAPHIC MAP, PHOTOREVISED 1980.

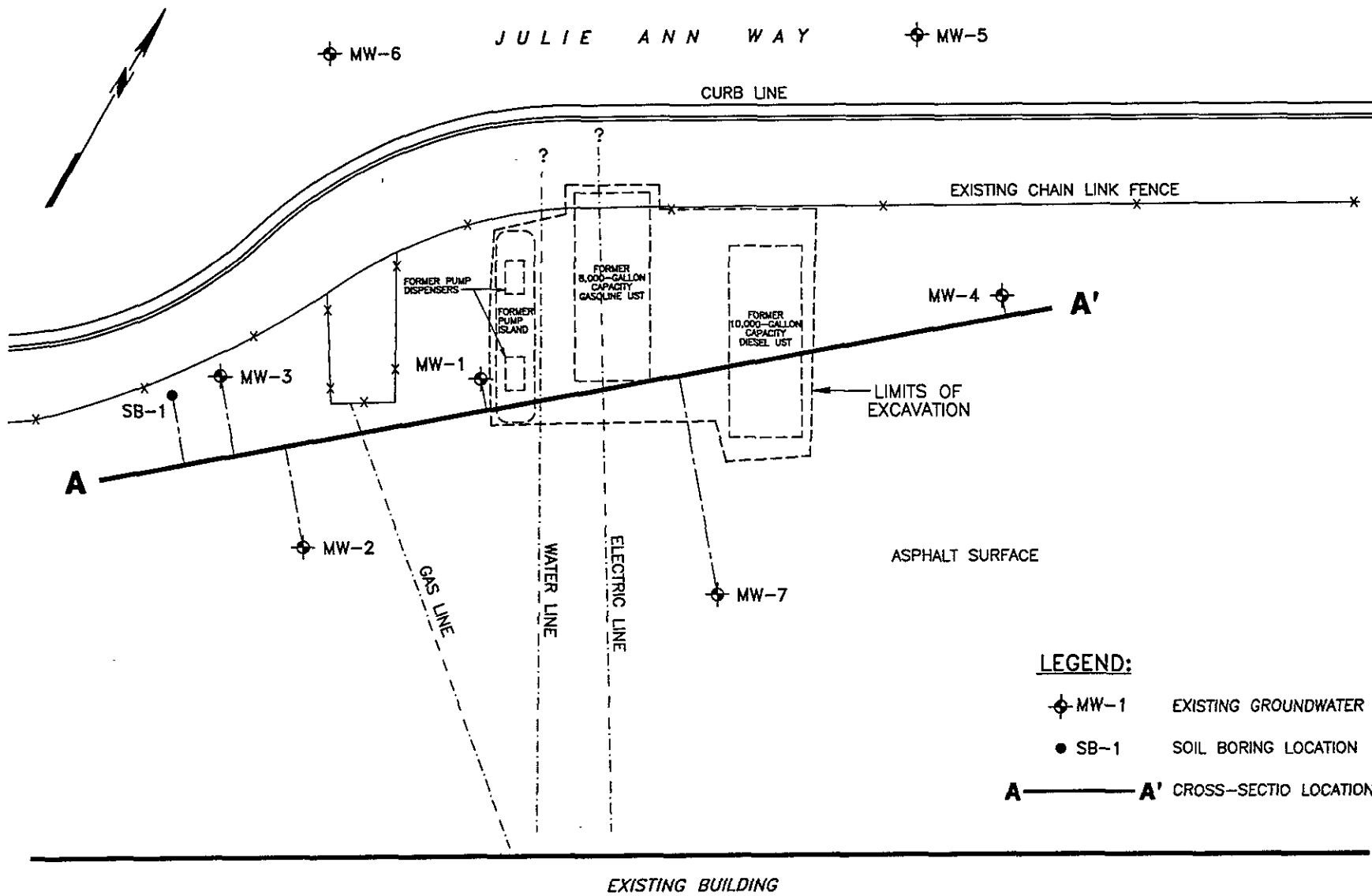


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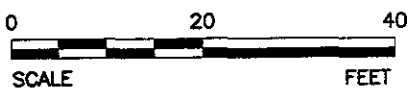
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**FIGURE 1**  
SAN FRANCISCO FRENCH BREAD  
580 JULIE ANN WAY  
OAKLAND, CALIFORNIA  
**SITE LOCATION MAP**



**LEGEND:**

- ⊕ MW-1    EXISTING GROUNDWATER MONITORING WELL
- SB-1    SOIL BORING LOCATION
- A ——— A'    CROSS-SECTION LOCATION



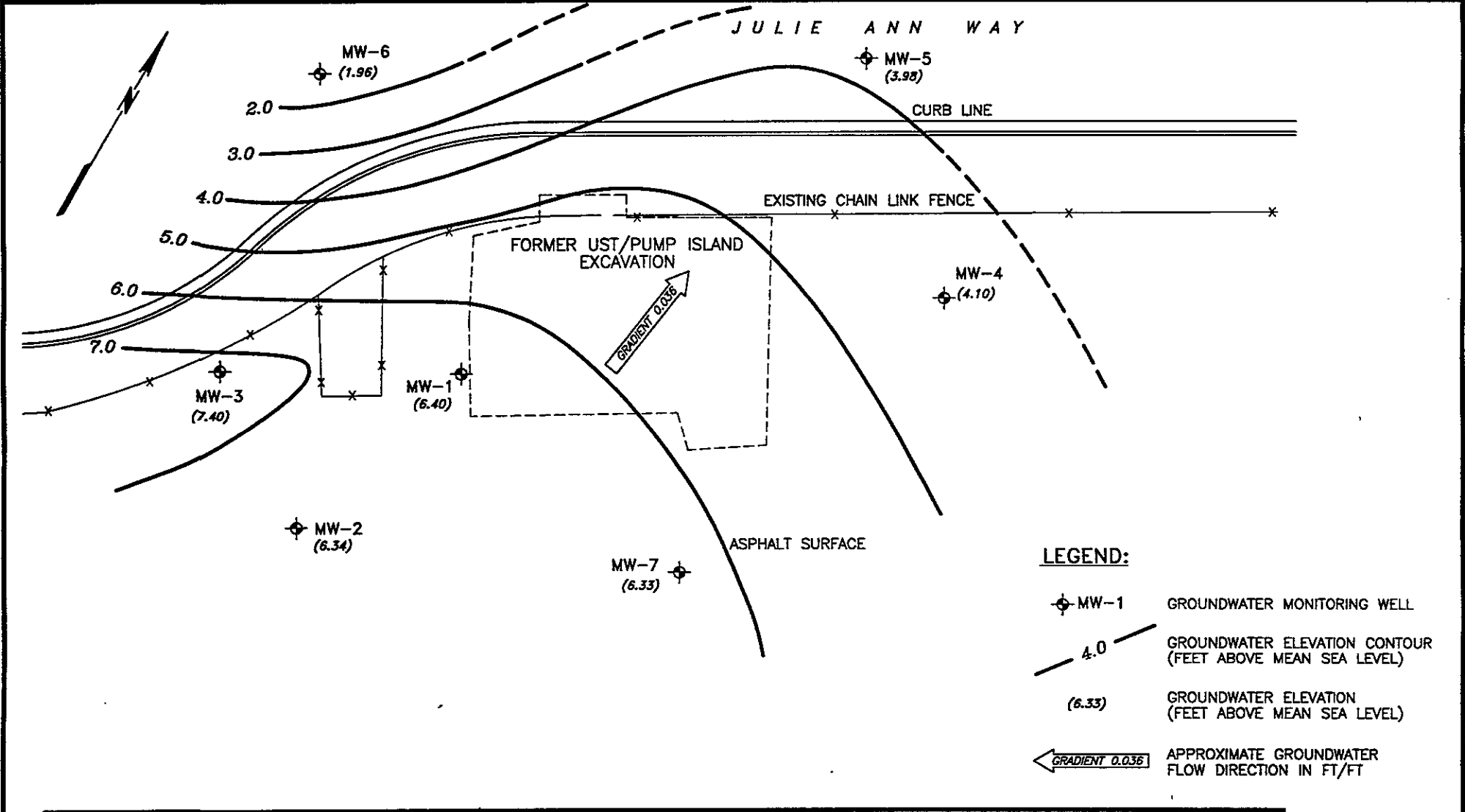
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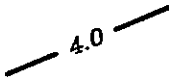


**FIGURE 2**  
SAN FRANCISCO FRENCH BREAD  
580 JULIE ANN WAY  
OAKLAND, CALIFORNIA  
**SITE PLAN WITH  
CROSS-SECTION LOCATION**

REFERENCE: RON ARCHER CIVIL ENGINEER INC., DATED AUGUST 15, 1996.





**LEGEND:**

-  MW-1 GROUNDWATER MONITORING WELL
-  4.0 GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
-  (6.33) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
-  **GRADIENT 0.036** APPROXIMATE GROUNDWATER FLOW DIRECTION IN FT/FT

EXISTING BUILDING

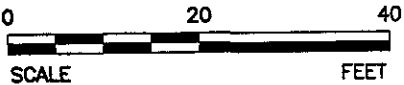
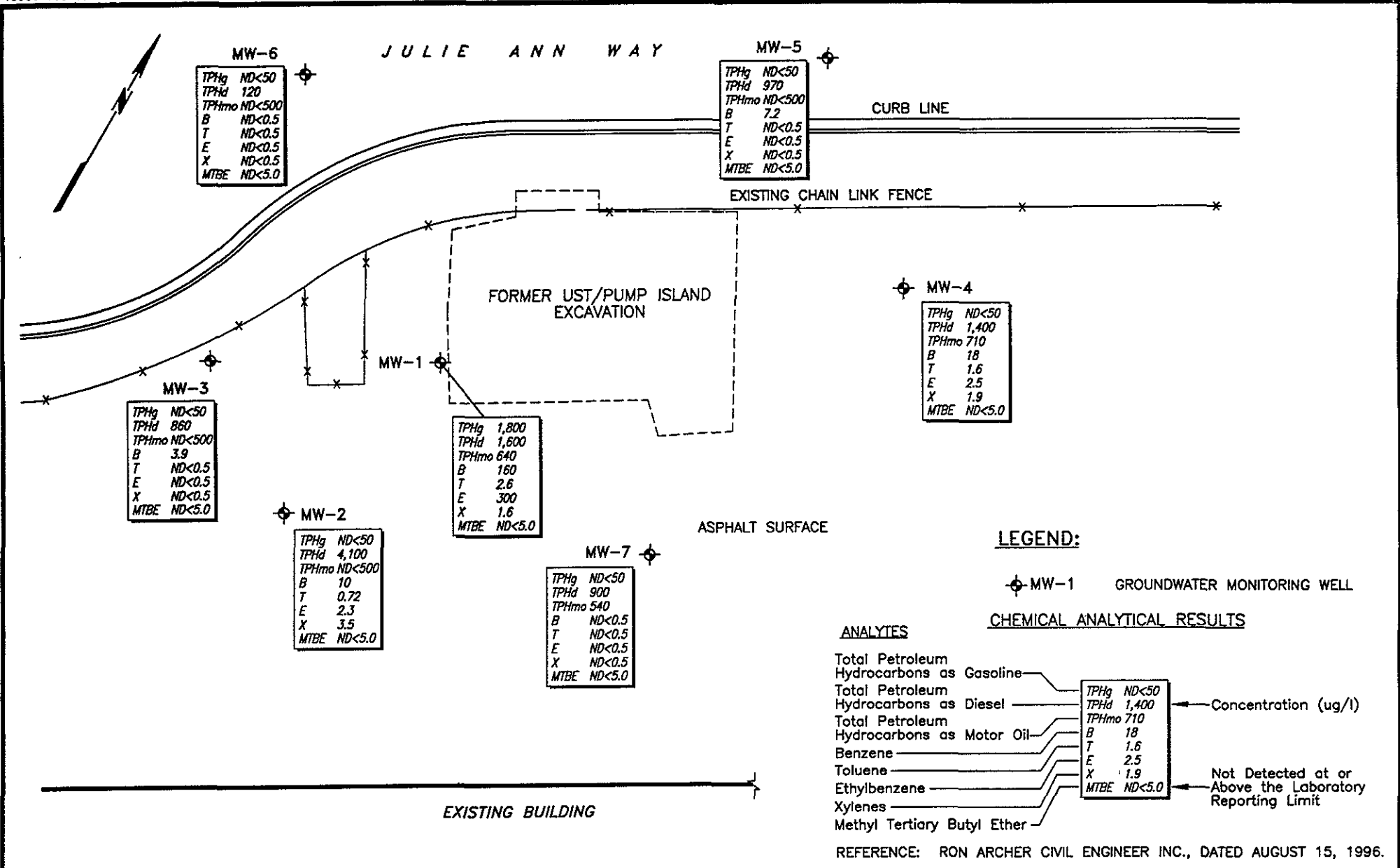
REFERENCE: RON ARCHER CIVIL ENGINEER INC., DATED AUGUST 15, 1996.



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INCORPORATED

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JOB NO.	50090-009-04

**FIGURE 4**  
SAN FRANCISCO FRENCH BREAD  
580 JULIE ANN WAY  
OAKLAND, CALIFORNIA  
**GROUNDWATER ELEVATION  
CONTOUR MAP - JUNE 4, 1998**



<b>SECOR</b> INTERNATIONAL INCORPORATED	DRAWN	CCR
	APPR	LZ
	DATE	08JUL98
	JOB NO.	50090-009-04

**FIGURE 5**  
 SAN FRANCISCO FRENCH BREAD  
 580 JULIE ANN WAY  
 OAKLAND, CALIFORNIA  
**GROUNDWATER CHEMICAL RESULTS - JUNE 4, 1998**

REFERENCE: RON ARCHER CIVIL ENGINEER INC., DATED AUGUST 15, 1996.

## **Appendix A**

### **Boring Logs**

Project: 580 JULIE ANN WAY, OAKLAND, CA			Log of Boring/Monitoring Well:		
Boring Location: NORTH OF FORMER USTs ON JULIE ANN WY		Project No.: 50090-009-04			<b>MW-5</b>
Subcontractor and Equipment: GREGG/HSA		Logged By: CM	Drawn By: CCR		
Sampling Method: CAL MODIFIED SPLIT-SPOON		Monitoring Device: OVM 580B			Comments:
Start Date/Time: 5/20/98//0800		Finish Date/Time: 5/20/98//0930			
First Water (bgs): NOT ENCOUNTERED		Stabilized Water Level (bgs): 5.44 FT.			

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
HAND AUGER			0		SP		ASPHALT		
			1				LIGHT OLIVE BROWN (2.5Y 5/3) GRAVELLY SAND (SP) with silt, fine-grained sand, dense, moist (30,55,15,0) (FILL)		
			2			BLACK (2.5Y N2/0) SANDY CLAY (CL) with silt and trace gravel, fine-grained sand, gravel is fine pieces of concrete and brick, stiff, moist, pieces of tire, wood, moderate chemical odor (5,25,15,55) (FILL)			
			3						
MW-5-4	50/6	85	4						
			5						
			6						
			7						
MW-5-10	5	1	8			VERY DARK GRAY (2.5Y N3/0) ORGANIC CLAY (OH) soft, moist, high plasticity, low density, fibrous organic material in zones, weak platy structure (0,0,0,100) (BAY MUD)			
			9						
			10						
			11						
			12						
			13						
MW-5-15	34	2	14			DARK GREENISH GRAY (5GY 4/1) CLAY (CL) very stiff, moist, moderate to high plasticity, roots and rootholes, subangular blocky soil structure (0,0,0,100) (BAY MUD)			
			15						
			16						
			17						
			18						
			19						
			20						
			21						
			22						
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30						

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Project: 580 JULIE ANN WAY, OAKLAND, CA		Log of Boring/Monitoring Well:	
Boring Location: NW OF FORMER USTs ON JULIE ANN WY		Project No.: 50090-009-04	
Subcontractor and Equipment: GREGG/HSA		Logged By: CM	Drawn By: CCR
Sampling Method: CAL MODIFIED SPLIT-SPOON		Monitoring Device: OVM 580B	
Start Date/Time: 5/20/98//0930		Finish Date/Time: 5/20/98//1030	
First Water (bgs): NOT ENCOUNTERED		Stabilized Water Level (bgs): 7.92 FT.	

**MW-6**

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)	
HAND AUGER			0		ASPHALT			
			1		LIGHT OLIVE BROWN (2.5Y 5/3) GRAVELLY SAND (SP) with silt, fine-grained sand, dense, moist (30,55,15,0) (FILL)			
			2		VERY DARK GRAY (5Y 3/1) SANDY CLAY (CL) with silt and trace gravel, fine-grained sand, stiff, fine to medium gravel, angular pieces of brick and concrete, moist, moderate plasticity, faint chemical odor (5,25,15,55) (FILL)			
			3					
MW-6-4	32	2	4					
			5					
			6					
			7					
			8					
MW-6-10	6	1	9		OLIVE GRAY (5Y 5/2) ORGANIC CLAY (OH) stiff, moist, high plasticity, low density, buttery texture, roots, faint H2O odor, weak platy structure (0,0,0,100) (BAY MUD)			
			10					
			11					
			12					
			13					
			14		DARK GREENISH GRAY (5GY 4/1) CLAY (CL) stiff, moist, moderate to high plasticity, subangular blocky soil structure (0,0,0,100) (BAY MUD)			
			15					
MW-6-15	22	2	16		DARK GREENISH GRAY (5GY 4/1) SANDY CLAY (CL) fine-grained sand, very stiff, moist, low plasticity (0,40,0,60) (BAY MUD)			
			17					
			18					
			19					
			20					
			21					
			22					
			23					
			24					
			25					
			26					
			27					
			28					
			29					
			30					

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Project: 580 JULIE ANN WAY, OAKLAND, CA		Log of Boring/Monitoring Well:	
Boring Location: SE OF FORMER USTs		Project No.: 50090-009-04	
Subcontractor and Equipment: GREGG/HSA		Logged By: CM	Drawn By: CCR
Sampling Method: CAL MODIFIED SPLIT-SPOON		Monitoring Device: OVM 580B	
Start Date/Time: 5/20/98//1300		Finish Date/Time: 5/20/98//1400	
First Water (bgs): 10.0 FEET		Stabilized Water Level (bgs): 3.58 FT.	
Comments:			

# MW-7

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
HAND AUGER MW-7-4	50	5	0				ASPHALT		
			1				GREENISH GRAY (5G 5/1) GRAVELLY SAND (SP) with silt, fine-grained sand, dense, moist (30,55,15,0) (FILL)		
			2				VERY DARK GRAY (5Y 3/1) SANDY CLAY (CL) with silt and trace gravel, fine-grained sand, fine to coarse gravel, angular pieces of concrete and brick, hard, moist, moderate plasticity, pieces of wire, faint chemical odor (5,25,15,55) (FILL)		
			3				VERY DARK GRAY (5Y 3/1) SANDY CLAY (CL) with silt and trace gravel, fine-grained sand, fine to coarse gravel, angular pieces of concrete and brick, hard, moist, moderate plasticity, pieces of wire, faint chemical odor (5,25,15,55) (FILL)		
MW-7-10	7	0	4				VERY DARK GRAY (5Y 3/1) SANDY CLAY (CL) with silt and trace gravel, fine-grained sand, fine to coarse gravel, angular pieces of concrete and brick, hard, moist, moderate plasticity, pieces of wire, faint chemical odor (5,25,15,55) (FILL)		
			5				VERY DARK GRAY (5Y 3/1) ORGANIC CLAY (OH) stiff, moist, high plasticity, low density, buttery texture, subangular blocky soil structure, roots, faint H2S odor (0,0,0,100) (BAY MUD)		
MW-7-15	25	0	10				VERY DARK GRAY (5Y 3/1) ORGANIC CLAY (OH) stiff, moist, high plasticity, low density, buttery texture, subangular blocky soil structure, roots, faint H2S odor (0,0,0,100) (BAY MUD)		
			11				DARK GREENISH GRAY (5GY 4/1) CLAY (CL) very stiff, moist, moderate to high plasticity (0,0,0,100) (BAY MUD)		
			12						
			13						
			14						
			15						
			16						
			17						
			18						
			19						
			20						
			21						
			22						
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30						

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## **Appendix B**

### **Field Report and Water Sample Field Data Sheets**

# FIELD REPORT

## DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT NO.: 50090-009-04 LOCATION: 580 Julie Ann Way, Oak. DATE: 6-4-98  
 CLIENT/STATION #: SFFB - Oak. FIELD TECHNICIAN: C. Melanson DAY OF WEEK: Thurs.

DTW ORDER	WELL ID	SURFACE SEAL	LID SECURE	GASKET	LOCK	EXPANDING CAP	TOTAL DEPTH (Feet)	FIRST DEPTH TO WATER (Feet)	SECOND DEPTH TO WATER (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	COMMENTS
	MW-1						14.40	3.66	3.66			
	MW-2						14.55	3.83	3.83			
	MW-3						14.80	2.72	2.72			
	MW-4						14.80	5.60	5.60			
	MW-5						14.85	5.44	5.45			
	MW-6						14.75	7.92	7.90			Probably not at equilibrium
	MW-7						14.70	3.58	3.58			

**SECOR International Inc.**  
WATER SAMPLE FIELD DATA SHEET

PROJECT #: 50090-009-04 PURGED BY: CM WELL I.D.: MW-1  
 CLIENT NAME: SFFB SAMPLED BY: CM SAMPLE I.D.: MW-1  
 LOCATION: 580 Julie Ann Way, Ogden QA SAMPLES: —

DATE PURGED 6-4-98 START (2400hr) 12:45 END (2400hr) 13:00  
 DATE SAMPLED 6-4-98 SAMPLE TIME (2400hr) 13:30

SAMPLE TYPE: Groundwater  Surface Water  Treatment Effluent  Other

CASING DIAMETER: 2"  3"  4"  5"  6"  8"  Other   
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.4 CASING VOLUME (gal) = 1.83  
 DEPTH TO WATER (feet) = 3.66 CALCULATED PURGE (gal) = 5.48  
 WATER COLUMN HEIGHT (feet) = 10.74 ACTUAL PURGE (gal) = 6.0

**FIELD MEASUREMENTS**

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>6-4</u>	<u>12:50</u>	<u>2.0</u>	<u>72.6</u>	<u>1130</u>	<u>7.46</u>	<u>cloudy</u>	<u>low</u>
<u>"</u>	<u>12:55</u>	<u>4.0</u>	<u>73.1</u>	<u>977</u>	<u>7.39</u>	<u>9.04</u>	<u>mod</u>
<u>"</u>	<u>13:00</u>	<u>6.0</u>	<u>73.1</u>	<u>979</u>	<u>7.25</u>	<u>"</u>	<u>"</u>

**SAMPLE INFORMATION**

SAMPLE DEPTH TO WATER:   SAMPLE TURBIDITY:  

80% RECHARGE:   YES   NO ANALYSES:  

ODOR:   SAMPLE VESSEL / PRESERVATIVE:  

**PURGING EQUIPMENT**

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated  

Other: Disp. Bailer  
 Pump Depth:  

**SAMPLING EQUIPMENT**

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (   PVC or  disposable)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated  

Other:  

WELL INTEGRITY: good LOCK#:  

REMARKS:  

SIGNATURE: [Signature]

**SECOR International Inc.**  
**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 50090-009-04 PURGED BY: CM WELL I.D.: MW-2

CLIENT NAME: SFFB SAMPLED BY: ZM SAMPLE I.D.: MW-2

LOCATION: 580 Julie Ann Way, Oafford QA SAMPLES: -

DATE PURGED 6-4-98 START (2400hr) 11:40 END (2400hr) 11:55

DATE SAMPLED 6-4-98 SAMPLE TIME (2400hr) 12:00

SAMPLE TYPE: Groundwater  Surface Water  Treatment Effluent  Other

CASING DIAMETER: 2"  3"  4"  5"  6"  8"  Other   
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.55 CASING VOLUME (gal) = 1.82

DEPTH TO WATER (feet) = 3.83 CALCULATED PURGE (gal) = 5.47

WATER COLUMN HEIGHT (feet) = 10.72 ACTUAL PURGE (gal) = 6.0

**FIELD MEASUREMENTS**

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>6-4</u>	<u>11:45</u>	<u>2.0</u>	<u>73.5</u>	<u>4600</u>	<u>7.43</u>	<u>4. grey</u>	<u>Med.</u>
<u>"</u>	<u>11:50</u>	<u>4.0</u>	<u>72.0</u>	<u>4820</u>	<u>7.30</u>	<u>grey</u>	<u>"</u>
<u>"</u>	<u>11:55</u>	<u>6.0</u>	<u>71.8</u>	<u>4280</u>	<u>7.27</u>	<u>grey</u>	<u>"</u>

SAMPLE DEPTH TO WATER:   SAMPLE INFORMATION SAMPLE TURBIDITY:  

80% RECHARGE:   YES   NO ANALYSES:  

ODOR:   SAMPLE VESSEL / PRESERVATIVE:  

**PURGING EQUIPMENT**

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump     Bailer (PVC)  
 Submersible Pump     Bailer (Stainless Steel)  
 Peristaltic Pump      Dedicated    
 Other: Disp. Bailer  
 Pump Depth:  

**SAMPLING EQUIPMENT**

Bladder Pump       Bailer (Teflon)  
 Centrifugal Pump     Bailer (   PVC or X disposable)  
 Submersible Pump     Bailer (Stainless Steel)  
 Peristaltic Pump      Dedicated    
 Other:  

WELL INTEGRITY: good LOCK#:  

REMARKS:  

SIGNATURE: [Signature]

**SECOR International Inc.**  
**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 50090-009-04 PURGED BY: CM WELL I.D.: MW-3  
 CLIENT NAME: SFFB SAMPLED BY: CM SAMPLE I.D.: MW-3  
 LOCATION: 580 Julie Ann Way, Oakland QA SAMPLES:     

DATE PURGED 6-4-98 START (2400hr) 11:25 END (2400hr) 11:40  
 DATE SAMPLED 6-4-98 SAMPLE TIME (2400hr) 13:40

SAMPLE TYPE: Groundwater  Surface Water  Treatment Effluent  Other

CASING DIAMETER: 2"  3"  4"  5"  6"  8"  Other   
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.8 CASING VOLUME (gal) = 2.05  
 DEPTH TO WATER (feet) = 2.72 CALCULATED PURGE (gal) = 6.16  
 WATER COLUMN HEIGHT (feet) = 12.08 ACTUAL PURGE (gal) = 5.0\*

**FIELD MEASUREMENTS**

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
	<u>11:30</u>	<u>2.0</u>	<u>70.7</u>	<u>3450</u>	<u>7.34</u>	<u>cloudy</u>	<u>low</u>
	<u>11:35</u>	<u>4.0</u>	<u>70.8</u>	<u>8320</u>	<u>7.14</u>	<u>"</u>	<u>"</u>
	<u>11:40</u>	<u>5.0*</u>	<u>70.7</u>	<u>10230</u>	<u>7.05</u>	<u>grey</u>	<u>med</u>

**SAMPLE INFORMATION**

SAMPLE DEPTH TO WATER:      SAMPLE TURBIDITY:     

80% RECHARGE: YES  NO  ANALYSES:       
 ODOR:      SAMPLE VESSEL / PRESERVATIVE:     

**PURGING EQUIPMENT**

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (PVC)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated       
 Other: Disp. Bailer  
 Pump Depth:     

**SAMPLING EQUIPMENT**

Bladder Pump  Bailer (Teflon)  
 Centrifugal Pump  Bailer (      PVC or  disposable)  
 Submersible Pump  Bailer (Stainless Steel)  
 Peristaltic Pump  Dedicated       
 Other:     

WELL INTEGRITY: good LOCK#:     

REMARKS: \* Dry

SIGNATURE: *[Signature]* Page      of

**SECOR International Inc.**  
**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 50090-009-04 PURGED BY: CM WELL I.D.: MW-4  
 CLIENT NAME: SFFB SAMPLED BY: CM SAMPLE I.D.: MW-4  
 LOCATION: 580 Julie Ann Way, Oakland QA SAMPLES: —

DATE PURGED 6-4-98 START (2400hr) 12:25 END (2400hr) 12:40  
 DATE SAMPLED 6-4-98 SAMPLE TIME (2400hr) 13:20

SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER: 2"  3" \_\_\_\_\_ 4" \_\_\_\_\_ 5" \_\_\_\_\_ 6" \_\_\_\_\_ 8" \_\_\_\_\_ Other \_\_\_\_\_  
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.8 CASING VOLUME (gal) = 1.56  
 DEPTH TO WATER (feet) = 5.60 CALCULATED PURGE (gal) = 4.69  
 WATER COLUMN HEIGHT (feet) = 9.20 ACTUAL PURGE (gal) = 6.0

**FIELD MEASUREMENTS**

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>6-4</u>	<u>12:30</u>	<u>72.20</u>	<u>73.7</u>	<u>3180</u>	<u>7.22</u>	<u>cloudy</u>	<u>low</u>
"	<u>12:35</u>	<u>4.0</u>	<u>73.6</u>	<u>3340</u>	<u>6.96</u>	"	"
"	<u>12:40</u>	<u>6.0</u>	<u>72.6</u>	<u>5030</u>	<u>6.94</u>	<u>grey</u>	<u>mod</u>

SAMPLE DEPTH TO WATER: \_\_\_\_\_ SAMPLE INFORMATION \_\_\_\_\_ SAMPLE TURBIDITY: \_\_\_\_\_

80% RECHARGE: YES  NO  ANALYSES: \_\_\_\_\_  
 ODOR: \_\_\_\_\_ SAMPLE VESSEL / PRESERVATIVE: \_\_\_\_\_

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)	<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)
<input type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer ( <input type="checkbox"/> PVC or <input checked="" type="checkbox"/> disposable)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated _____	<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated _____
Other: <u>Disp. Bailer</u>		Other: _____	
Pump Depth: _____			

WELL INTEGRITY: good LOCK#: \_\_\_\_\_

REMARKS: \_\_\_\_\_

SIGNATURE: [Signature]



**SECOR International Inc.**  
**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 50090-009-04 PURGED BY: CR WELL I.D.: MW-5  
 CLIENT NAME: SFFB SAMPLED BY: CR SAMPLE I.D.: MW-5  
 LOCATION: 580 Julie Ann Way, Oakton QA SAMPLES: -

DATE PURGED 6-4-98 START (2400hr) 10:05 END (2400hr) 10:25  
 DATE SAMPLED 6-4-98 SAMPLE TIME (2400hr) 14:00

SAMPLE TYPE: Groundwater  Surface Water  Treatment Effluent  Other

CASING DIAMETER: 2"  3"  4"  5"  6"  8"  Other   
 Casing Volume (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.85 CASING VOLUME (gal) = 1.60  
 DEPTH TO WATER (feet) = 5.44 CALCULATED PURGE (gal) = 16.00  
 WATER COLUMN HEIGHT (feet) = 9.41 ACTUAL PURGE (gal) =           

**FIELD MEASUREMENTS**

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>6-4</u>	<u>10:10</u>	<u>1.0</u>	<u>69.9</u>	<u>11,400</u>	<u>7.24</u>	<u>Grey</u>	<u>mod.</u>
	<u>10:15</u>	<u>3.0</u>	<u>69.2</u>	<u>10,430</u>	<u>7.22</u>	<u>"</u>	<u>"</u>
	<u>10:20</u>	<u>6.0</u>	<u>69.6</u>	<u>13,100</u>	<u>7.12</u>	<u>"</u>	<u>"</u>
	<u>10:25</u>	<u>9.5*</u>	<u>69.3</u>	<u>17,450</u>	<u>7.08</u>	<u>"</u>	<u>"</u>

**SAMPLE INFORMATION**

SAMPLE DEPTH TO WATER:            SAMPLE TURBIDITY:           

80% RECHARGE: YES NO ANALYSES:           

ODOR:            SAMPLE VESSEL / PRESERVATIVE:           

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)	<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)
<input type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer ( <u>PVC</u> or <input checked="" type="checkbox"/> disposable)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated
Other: <u>Disp. Bailer</u>		Other: <u>          </u>	
Pump Depth: <u>          </u>			

WELL INTEGRITY: good LOCK#:           

REMARKS: \* Dry

SIGNATURE: [Signature] Page    of

**SECOR International Inc.**  
**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 50090-009-04 PURGED BY: CM WELL I.D.: MW-6  
 CLIENT NAME: SFFB SAMPLED BY: CM SAMPLE I.D.: MW-6  
 LOCATION: 580 Julie Ann Way, Oakland QA SAMPLES:     

DATE PURGED 6-4-98 START (2400hr) 9:25 END (2400hr)       
 DATE SAMPLED 6-4-98 SAMPLE TIME (2400hr) 14:30

SAMPLE TYPE: Groundwater  Surface Water  Treatment Effluent  Other

CASING DIAMETER: 2"  3"  4"  5"  6"  8"  Other   
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.75 CASING VOLUME (gal) = 1.16  
 DEPTH TO WATER (feet) = 7.90 CALCULATED PURGE (gal) = 11.65  
 WATER COLUMN HEIGHT (feet) = 6.85 ACTUAL PURGE (gal) =     

**FIELD MEASUREMENTS**

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
<u>6-4</u>	<u>9:30</u>	<u>1.0</u>	<u>69.5</u>	<u>&gt;20000</u>	<u>6.79</u>	<u>dk grey</u>	<u>High</u>
"	<u>9:35</u>	<u>2.0</u>	<u>71.5</u>	<u>&gt;20000</u>	<u>6.89</u>	"	"
"	<u>9:40</u>	<u>4.0</u>	<u>71.7</u>	<u>&gt;20000</u>	<u>6.85</u>	"	"
"	<u>9:50</u>	<u>8.0</u>	<u>71.8</u>	<u>&gt;20000</u>	<u>6.88</u>	"	"
"	<u>9:55</u>	<u>11.0</u>	<u>70.1</u>	<u>&gt;20000</u>	<u>6.94</u>	"	"
"	<u>10:00</u>	<u>12.0*</u>	<u>70.4</u>	<u>&gt;20000</u>	<u>6.97</u>	"	"

**SAMPLE INFORMATION**

SAMPLE DEPTH TO WATER:      SAMPLE TURBIDITY:     

80% RECHARGE: YES  NO

ANALYSES:     

ODOR:      SAMPLE VESSEL / PRESERVATIVE:     

**PURGING EQUIPMENT**

Bladder Pump  Bailer (Teflon)   
 Centrifugal Pump  Bailer (PVC)   
 Submersible Pump  Bailer (Stainless Steel)   
 Peristaltic Pump  Dedicated

Other: Disp. Bailer  
 Pump Depth:     

**SAMPLING EQUIPMENT**

Bladder Pump  Bailer (Teflon)   
 Centrifugal Pump  Bailer (  PVC or  disposable )  
 Submersible Pump  Bailer (Stainless Steel)   
 Peristaltic Pump  Dedicated

Other:     

WELL INTEGRITY: good

LOCK#:     

REMARKS: \* Dry

SIGNATURE: [Signature]

**SECOR International Inc.**  
**WATER SAMPLE FIELD DATA SHEET**

PROJECT #: 50090-009-04 PURGED BY: CM WELL I.D.: MW-7  
 CLIENT NAME: SFFB SAMPLED BY: CM SAMPLE I.D.: MW-7  
 LOCATION: 580 Julie Ann Way, Oakland QA SAMPLES: —

DATE PURGED 6-4-98 START (2400hr) 10:40 END (2400hr) 11:20  
 DATE SAMPLED 6-4-98 SAMPLE TIME (2400hr) 13:00

SAMPLE TYPE: Groundwater  Surface Water  Treatment Effluent  Other

CASING DIAMETER: 2"  3"  4"  5"  6"  8"  Other   
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.7 CASING VOLUME (gal) = 1.89  
 DEPTH TO WATER (feet) = 3.58 CALCULATED PURGE (gal) = 18.90  
 WATER COLUMN HEIGHT (feet) = 11.12 ACTUAL PURGE (gal) = 20.0

**FIELD MEASUREMENTS**

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
6-4	10:45	1.0	71.0	9210	7.52	DK. Gray	High
"	10:50	3.0	71.8	9030	7.42	"	"
"	10:55	8.0	71.3	8750	7.35	"	"
"	11:00	11.0	71.7	9730	7.38	"	"
"	11:10	16.0	72.3	8570	7.21	"	"
"	11:15	18.0	72.2	8570	7.17	"	"
"	11:20	20.0	72.3	8620	7.19	"	"

SAMPLE DEPTH TO WATER:   SAMPLE INFORMATION:   SAMPLE TURBIDITY:  

80% RECHARGE:   YES   NO ANALYSES:    
 ODOR:   SAMPLE VESSEL / PRESERVATIVE:  

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)	<input type="checkbox"/> Bladder Pump	<input type="checkbox"/> Bailer (Teflon)
<input type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer ( <u> </u> PVC or <input checked="" type="checkbox"/> disposable)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Peristaltic Pump	<input type="checkbox"/> Dedicated
Other: <u>Disp. Bailer</u>		Other: <u> </u>	
Pump Depth: <u> </u>			

WELL INTEGRITY: good LOCK#:  

REMARKS:  

SIGNATURE: [Signature]

## **Appendix C**

### **Laboratory Analytical Results and Chain-of-Custody Records**

# CHROMALAB, INC.

Environmental Services (SDB)

June 4, 1998

Submission #: 9805342

SECOR SAN FRANCISCO  
90 New Montgomery St. , Suite 620  
San Francisco, CA 94105-4503

Attn: Liping Zhang

RE: Analysis for project SFFB-OAKLAND, number 50090-009-04.

## REPORTING INFORMATION

Samples were received cold and in good condition on May 22, 1998. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date collected</u>	<u>Sample #</u>
MW-5,10'	SOIL	May 20, 1998	187213
MW-5,15'	SOIL	May 20, 1998	187214
MW-5,4'	SOIL	May 20, 1998	187208
MW-6,10'	SOIL	May 20, 1998	187216
MW-6,15'	SOIL	May 20, 1998	187215
MW-6,4'	SOIL	May 20, 1998	187209
MW-7,10'	SOIL	May 20, 1998	187211
MW-7,15'	SOIL	May 20, 1998	187212
MW-7,4'	SOIL	May 20, 1998	187210

  
Afsaneh Salimpour  
Project Manager

# CHROMALAB, INC.

Environmental Services (SDB)

June 1, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.  
Method: SW846 Method 8270A Nov 1990

Client Sample ID: MW-5,4'

Spl#: 187208

Matrix: SOIL

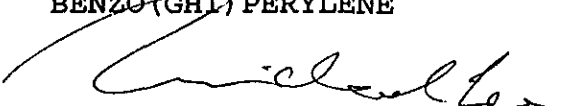
Extracted: May 28, 1998

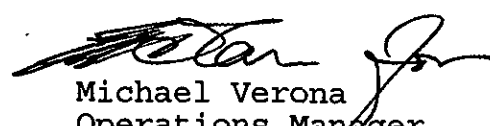
Sampled: May 20, 1998

Run#: 12949

Analyzed: May 29, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	0.10	N.D.	--	1
ACENAPHTHYLENE	N.D.	0.10	N.D.	--	1
ACENAPHTHENE	N.D.	0.10	N.D.	91.3	1
FLUORENE	N.D.	0.10	N.D.	--	1
PHENANTHRENE	N.D.	0.10	N.D.	--	1
ANTHRACENE	N.D.	0.10	N.D.	--	1
FLUORANTHENE	N.D.	0.10	N.D.	--	1
PYRENE	N.D.	0.10	N.D.	77.3	1
BENZO (A) ANTHRACENE	N.D.	0.10	N.D.	--	1
CHRYSENE	N.D.	0.10	N.D.	--	1
BENZO (B) FLUORANTHENE	N.D.	0.10	N.D.	--	1
BENZO (K) FLUORANTHENE	N.D.	0.20	N.D.	--	1
BENZO (A) PYRENE	N.D.	0.050	N.D.	--	1
INDENO (1, 2, 3-CD) PYRENE	N.D.	0.20	N.D.	--	1
DIBENZO (A, H) ANTHRACENE	N.D.	0.20	N.D.	--	1
BENZO (GHI) PERYLENE	N.D.	0.20	N.D.	--	1

  
Michael Lee  
Analyst

  
Michael Verona  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

June 1, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.  
Method: SW846 Method 8270A Nov 1990

Client Sample ID: MW-6,4'


Spl#: 187209  
Sampled: May 20, 1998

Matrix: SOIL  
Run#: 12949

Extracted: May 28, 1998  
Analyzed: May 29, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	0.10	N.D.	--	1
ACENAPHTHYLENE	N.D.	0.10	N.D.	--	1
ACENAPHTHENE	N.D.	0.10	N.D.	91.3	1
FLUORENE	N.D.	0.10	N.D.	--	1
PHENANTHRENE	N.D.	0.10	N.D.	--	1
ANTHRACENE	N.D.	0.10	N.D.	--	1
FLUORANTHENE	N.D.	0.10	N.D.	--	1
PYRENE	N.D.	0.10	N.D.	77.3	1
BENZO (A) ANTHRACENE	N.D.	0.10	N.D.	--	1
CHRYSENE	N.D.	0.10	N.D.	--	1
BENZO (B) FLUORANTHENE	N.D.	0.10	N.D.	--	1
BENZO (K) FLUORANTHENE	N.D.	0.20	N.D.	--	1
BENZO (A) PYRENE	N.D.	0.050	N.D.	--	1
INDENO (1, 2, 3-CD) PYRENE	N.D.	0.20	N.D.	--	1
DIBENZO (A, H) ANTHRACENE	N.D.	0.20	N.D.	--	1
BENZO (GHI) PERYLENE	N.D.	0.20	N.D.	--	1

  
Michael Lee  
Analyst

  
Michael Verona  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

June 1, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.  
Method: SW846 Method 8270A Nov 1990

Client Sample ID: MW-7,4'

Spl#: 187210

Matrix: SOIL

Extracted: May 28, 1998

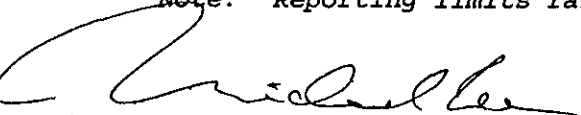
Sampled: May 20, 1998

Run#: 12949

Analyzed: June 1, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	0.50	N.D.	--	5
ACENAPHTHYLENE	N.D.	0.50	N.D.	--	5
ACENAPHTHENE	N.D.	0.50	N.D.	91.3	5
FLUORENE	N.D.	0.50	N.D.	--	5
PHENANTHRENE	N.D.	0.50	N.D.	--	5
ANTHRACENE	N.D.	0.50	N.D.	--	5
FLUORANTHENE	N.D.	0.50	N.D.	--	5
PYRENE	N.D.	0.50	N.D.	77.3	5
BENZO (A) ANTHRACENE	N.D.	0.50	N.D.	--	5
CHRYSENE	N.D.	0.50	N.D.	--	5
BENZO (B) FLUORANTHENE	N.D.	0.50	N.D.	--	5
BENZO (K) FLUORANTHENE	N.D.	1.0	N.D.	--	5
BENZO (A) PYRENE	N.D.	0.25	N.D.	--	5
INDENO (1, 2, 3-CD) PYRENE	N.D.	1.0	N.D.	--	5
DIBENZO (A, H) ANTHRACENE	N.D.	1.0	N.D.	--	5
BENZO (GHI) PERYLENE	N.D.	1.0	N.D.	--	5

Note: Reporting limits raised due to matrix interference.

  
Michael Lee  
Analyst

  
Michael Verona  
Operations Manager



# CHROMALAB, INC.

Environmental Services (SDB)

June 1, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Blank spike and duplicate** report for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.

Method: SW846 Method 8270A Nov 1990

Matrix: SOIL  
Lab Run#: 12949

Analyzed: May 28, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control %		%
	BSP	Dup	BSP	Dup	BSP	Dup	Limits	RPD	RPD
	(mg/Kg)		(mg/Kg)		(%)				Lim
ACENAPHTHENE	1.00	1.00	0.913	0.860	91.3	86.0	49-102	5.98	30
PYRENE	1.00	1.00	0.773	0.741	77.3	74.1	25-117	4.23	35

# CHROMALAB, INC.

Environmental Services (SDB)

June 1, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Matrix spike** report for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.

Method: SW846 Method 8270A Nov 1990

Matrix: SOIL

Lab Run#: 12949

Instrument:

Analyzed: May 28, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control	Limits	RPD	
	Sample Amount	Spike Amt	MS	MSD	MS	MSD				
	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(%)	(%)				
ACENAPHTHENE	N.D.	0.989	0.992	1.12	1.13	113	114	49-102	0.88	30
PYRENE	N.D.	0.989	0.992	0.992	0.996	100	100	25-117	0	35

Sample Spiked: 187210

Submission #: 9805342

Client Sample ID: MW-7,4'

# CHROMALAB, INC.

Environmental Services (SDB)

June 1, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Surrogate** report for 3 samples for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.

Method: SW846 Method 8270A Nov 1990  
Lab Run#: 12949  
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
187208-1	MW-5, 4'	NITROBENZENE-D5	87.3	23-120
187208-1	MW-5, 4'	2-FLUOROBIPHENYL	86.1	30-115
187208-1	MW-5, 4'	TERPHENYL-D14	72.6	18-137
187209-1	MW-6, 4'	NITROBENZENE-D5	82.3	23-120
187209-1	MW-6, 4'	2-FLUOROBIPHENYL	85.3	30-115
187209-1	MW-6, 4'	TERPHENYL-D14	66.8	18-137
187210-1	MW-7, 4'	NITROBENZENE-D5	66.4	23-120
187210-1	MW-7, 4'	2-FLUOROBIPHENYL	98.6	30-115
187210-1	MW-7, 4'	TERPHENYL-D14	95.0	18-137

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
187825-1	Reagent blank (MDB)	NITROBENZENE-D5	86.6	23-120
187825-1	Reagent blank (MDB)	2-FLUOROBIPHENYL	88.2	30-115
187825-1	Reagent blank (MDB)	TERPHENYL-D14	72.6	18-137
187826-1	Spiked blank (BSP)	NITROBENZENE-D5	87.4	23-120
187826-1	Spiked blank (BSP)	2-FLUOROBIPHENYL	87.0	30-115
187826-1	Spiked blank (BSP)	TERPHENYL-D14	71.4	18-137
187827-1	Spiked blank duplicate (BSD)	NITROBENZENE-D5	86.7	23-120
187827-1	Spiked blank duplicate (BSD)	2-FLUOROBIPHENYL	87.0	30-115
187827-1	Spiked blank duplicate (BSD)	TERPHENYL-D14	71.7	18-137
187828-1	Matrix spike (MS)	NITROBENZENE-D5	80.2	23-120
187828-1	Matrix spike (MS)	2-FLUOROBIPHENYL	106	30-115
187828-1	Matrix spike (MS)	TERPHENYL-D14	89.0	18-137
187829-1	Matrix spike duplicate (MSD)	NITROBENZENE-D5	81.6	23-120
187829-1	Matrix spike duplicate (MSD)	2-FLUOROBIPHENYL	112	30-115
187829-1	Matrix spike duplicate (MSD)	TERPHENYL-D14	89.4	18-137

S105  
QCSURR1229 LINDA 01-Jun-98 16:0

# CHROMALAB, INC.

Environmental Services (SDB)

June 1, 1998

Submission #: 9805342  
page 2

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Surrogate** report for 3 samples for Polynuclear Aromatic  
Hydrocarbons (PAHs) analysis.

Method: SW846 Method 8270A Nov 1990  
Lab Run#: 12949

S105  
QCSURR1229 LINDA 01-Jun-98 16:0

# CHROMALAB, INC.

Environmental Services (SDB)

May 29, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

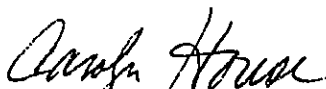
re: 1 sample for TEPH analysis.  
Method: EPA 8015M


Sampled: May 20, 1998

Matrix: SOIL  
Run#: 12952

Extracted: May 28, 1998  
Analyzed: May 28, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
187208	MW-5, 4'	N.D.	N.D.
Reporting Limits		1.0	50
Blank Result		N.D.	N.D.
Blank Spike Result (%)		86.4	--

  
Carolyn House  
Analyst

  
Bruce Havlik  
Analyst

# CHROMALAB, INC.

Environmental Services (SDB)

May 29, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: 1 sample for TEPH analysis.  
Method: EPA 8015M

Sampled: May 20, 1998

Matrix: SOIL  
Run#: 12952


Extracted: May 28, 1998  
Analyzed: May 29, 1998

<u>Spl#</u>	<u>CLIENT SPL ID</u>	<u>Diesel</u> <u>(mg/Kg)</u>	<u>Motor Oil</u> <u>(mg/Kg)</u>
187209	MW-6,4'	12	110

Note: Hydrocarbon reported is in the late Diesel range and does not match our Diesel standard.

Reporting Limits  
Blank Result  
Blank Spike Result (%)

5.0	100
N.D.	N.D.
86.4	--

  
Carolyn House  
Analyst

  
Bruce Havlik  
Analyst

# CHROMALAB, INC.

Environmental Services (SDB)

May 29, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: 1 sample for TEPH analysis.  
Method: EPA 8015M

Sampled: May 20, 1998

Matrix: SOIL  
Run#: 12952

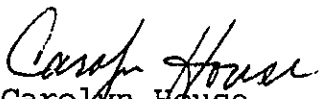
Extracted: May 28, 1998  
Analyzed: May 28, 1998


Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
187210	MW-7,4'	3.3	N.D.

Note: Hydrocarbon reported is in the late Diesel range and does not match our Diesel standard.

Reporting Limits  
Blank Result  
Blank Spike Result (%)

1.0	50
N.D.	N.D.
86.4	--

  
Carolyn House  
Analyst

  
Bruce Havlik  
Analyst

# CHROMALAB, INC.

Environmental Services (SDB)

May 29, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Blank spike and duplicate** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL  
Lab Run#: 12952

Analyzed: May 28, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
DIESEL	83.3	83.3	72.0	84.0	86.4	101	60-130	15.6	25



# CHROMALAB, INC.

Environmental Services (SDB)

May 29, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Matrix spike** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL

Lab Run#: 12952

Instrument:

Analyzed: May 29, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% RPD Lim	
	Sample Amount (mg/Kg)	Spike MS (mg/Kg)	Amt MS (mg/Kg)	MSD (mg/Kg)	MS (%)	MSD (%)				
DIESEL	1.5	81.7	81.6	78.2	76.4	95.7	93.6	60-130	2.22	25

Sample Spiked: 187148

Submission #: 9805338

Client Sample ID: 49B11-02

# CHROMALAB, INC.

Environmental Services (SDB)

May 29, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Surrogate** report for 3 samples for TEPH analysis.

Method: EPA 8015M  
Lab Run#: 12952  
Matrix: SOIL

<u>Sample#</u>	<u>Client Sample ID</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
187208-1	MW-5,4'	O-TERPHENYL	96.6	60-130
187209-1	MW-6,4'	O-TERPHENYL	116	60-130
187210-1	MW-7,4'	O-TERPHENYL	112	60-130

<u>Sample#</u>	<u>QC Sample Type</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
187836-1	Reagent blank (MDB)	O-TERPHENYL	107	60-130
187837-1	Spiked blank (BSP)	O-TERPHENYL	97.4	60-130
187838-1	Spiked blank duplicate (BSD)	O-TERPHENYL	105	60-130
187839-1	Matrix spike (MS)	O-TERPHENYL	86.6	60-130
187840-1	Matrix spike duplicate (MSD)	O-TERPHENYL	86.5	60-130

S010  
QCSURR1229 MIKELEE 29-May-98 10

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-5,4'

Spl#: 187208

Matrix: SOIL


Sampled: May 20, 1998


Run#:12999

Analyzed: June 1, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	10	N.D.	91	1
MTBE	N.D.	0.62	N.D.	96	1
BENZENE	2.1	0.62	N.D.	100	1
TOLUENE	N.D.	0.62	N.D.	102	1
ETHYL BENZENE	N.D.	0.62	N.D.	111	1
XYLENES	1.2	0.62	N.D.	115	1

Note: Hydrocarbon found in Gasoline Range is uncharacteristic of Gasoline Profile. If quantified using Gasoline's response factor, concentration would equal 150mg/Kg. Surrogate Recoveries biased high due to Hydrocarbon co-elution.

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-6,4'

Spl#: 187209


Sampled: May 20, 1998

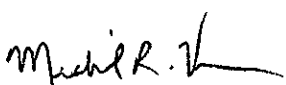
Matrix: SOIL

Run#:13007

Analyzed: June 2, 1998

<u>ANALYTE</u>	<u>RESULT</u> <u>(mg/Kg)</u>	<u>REPORTING</u> <u>LIMIT</u> <u>(mg/Kg)</u>	<u>BLANK</u> <u>RESULT</u> <u>(mg/Kg)</u>	<u>BLANK</u> <u>SPIKE</u> <u>(%)</u>	<u>DILUTION</u> <u>FACTOR</u>
GASOLINE	N.D.	1.0	N.D.	92	1
MTBE	N.D.	0.0050	N.D.	103	1
BENZENE	N.D.	0.0050	N.D.	98	1
TOLUENE	N.D.	0.0050	N.D.	104	1
ETHYL BENZENE	N.D.	0.0050	N.D.	100	1
XYLENES	N.D.	0.0050	N.D.	105	1

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*AS

LEV2

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-7,4'

Spl#: 187210

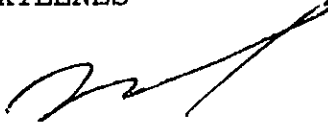
Matrix: SOIL

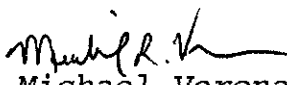
Sampled: May 20, 1998

Run#:13029

Analyzed: June 2, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	88	1
MTBE	N.D.	0.0050	N.D.	90	1
BENZENE	N.D.	0.0050	N.D.	90	1
TOLUENE	N.D.	0.0050	N.D.	91	1
ETHYL BENZENE	N.D.	0.0050	N.D.	89	1
XYLENES	N.D.	0.0050	N.D.	93	1

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*\*AS

LEV2

1220 Quarry Lane • Pleasanton, California 94566-4756  
(925) 484-1919 • Facsimile (925) 484-1096

Federal ID #68-0140157

AS V132 O: BTEXQC0220

VINCE 10:28

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Blank spike and duplicate** report for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL  
Lab Run#: 12999

Analyzed: May 31, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
GASOLINE	12.5	12.5	11.4	14.2	91.2	114	65-135	22.2	35
MTBE	2.50	2.50	2.41	2.45	96.4	98.0	75-125	1.65	35
BENZENE	2.50	2.50	2.49	2.45	99.6	98.0	77-123	1.62	35
TOLUENE	2.50	2.50	2.55	2.50	102	100	78-122	1.98	35
ETHYL BENZENE	2.50	2.50	2.78	2.73	111	109	70-130	1.82	35
XYLENES	7.50	7.50	8.60	8.35	115	111	75-125	3.54	35

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Surrogate** report for 1 sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod  
Lab Run#: 12999  
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
187208-1	MW-5,4'	TRIFLUOROTOLUENE	65.8	65-135
187208-1	MW-5,4'	4-BROMOFLUOROBENZENE	206	65-135

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
188189-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	105	65-135
188189-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	142	65-135
188190-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	105	65-135
188190-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	147	65-135
188191-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	96.0	65-135
188191-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	147	65-135

V135  
QCSURR1229 VINCE 02-Jun-98 16:2

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Blank spike and duplicate** report for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL  
Lab Run#: 13007

Analyzed: June 1, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
GASOLINE	0.500	0.500	0.461	0.446	92.2	89.2	75-125	3.31	35
MTBE	0.100	0.100	0.103	0.0821	103	82.1	75-125	22.6	35
BENZENE	0.100	0.100	0.0975	0.0882	97.5	88.2	77-123	10.0	35
TOLUENE	0.100	0.100	0.104	0.0890	104	89.0	78-122	15.5	35
ETHYL BENZENE	0.100	0.100	0.100	0.0870	100	87.0	70-130	13.9	35
XYLENES	0.300	0.300	0.315	0.272	105	90.7	75-125	14.6	35



# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Matrix spike** report for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL

Lab Run#: 13007 Instrument: 3400-2

Analyzed: June 2, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% RPD Lim
	Sample Amount (mg/Kg)	Spike Amt MS MSD (mg/Kg)	MS MSD (mg/Kg)	MS MSD (%) (%)					
GASOLINE	N.D.	0.472 0.488	0.285 0.300	60.4 61.5	65-135	1.80	35		
MTBE	N.D.	0.0943 0.0976	0.0712 0.0747	75.5 76.5	65-135	1.32	35		
BENZENE	N.D.	0.0943 0.0976	0.0728 0.0766	77.2 78.5	65-135	1.67	35		
TOLUENE	N.D.	0.0943 0.0976	0.0727 0.0767	77.1 78.6	65-135	1.93	35		
ETHYL BENZENE	N.D.	0.0943 0.0976	0.0693 0.0726	73.5 74.4	65-135	1.22	35		
XYLENES	N.D.	0.283 0.293	0.216 0.227	76.3 77.5	65-135	1.56	35		

Sample Spiked: 187149

Submission #: 9805338

Client Sample ID: 49B11-07

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Surrogate** report for 2 samples for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod  
Lab Run#: 13007  
Matrix: SOIL

<u>Sample#</u>	<u>Client Sample ID</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
187209-1	MW-6,4'	TRIFLUOROTOLUENE	79.8	53-125
187209-1	MW-6,4'	4-BROMOFLUOROBENZENE	61.8	58-124
187210-1	MW-7,4'	TRIFLUOROTOLUENE	54.8	53-125
187210-1	MW-7,4'	4-BROMOFLUOROBENZENE	33.4	58-124

<u>Sample#</u>	<u>QC Sample Type</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
188245-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	104	53-125
188245-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	90.8	58-124
188246-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	97.9	53-125
188246-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	97.4	58-124
188247-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	83.2	53-125
188247-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	84.9	58-124
188435-1	Matrix spike (MS)	TRIFLUOROTOLUENE	75.7	53-125
188435-1	Matrix spike (MS)	4-BROMOFLUOROBENZENE	61.4	58-124
188436-1	Matrix spike duplicate (MSD)	TRIFLUOROTOLUENE	70.3	53-125
188436-1	Matrix spike duplicate (MSD)	4-BROMOFLUOROBENZENE	55.3	58-124

V132  
QCSURR1229 VINCE 02-Jun-98 16:2

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

re: **Surrogate** report for 1 sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod  
Lab Run#: 13029  
Matrix: SOIL

<u>Sample#</u>	<u>Client Sample ID</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
187210-2	MW-7,4'	TRIFLUOROTOLUENE	69.7	53-125
187210-2	MW-7,4'	4-BROMOFLUOROBENZENE	44.3	58-124

<u>Sample#</u>	<u>QC Sample Type</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
188482-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	90.1	53-125
188482-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	94.8	58-124
188483-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	81.4	53-125
188483-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	95.5	58-124
188484-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	70.9	53-125
188484-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	78.4	58-124

V132  
QCSURR1229 VINCE 02-Jun-98 16:2

# CHROMALAB, INC.

Environmental Services (SDB)

June 2, 1998

Submission #: 9805342

SECOR SAN FRANCISCO

Atten: Liping Zhang

Project: SFFB-OAKLAND  
Received: May 22, 1998

Project#: 50090-009-04

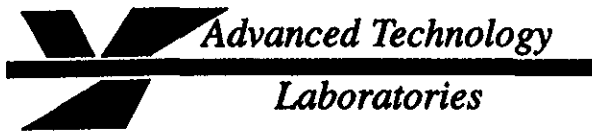
re: **Blank spike and duplicate** report for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL  
Lab Run#: 13029

Analyzed: June 2, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
GASOLINE	0.500	0.500	0.438	0.410	87.6	82.0	75-125	6.60	35
MTBE	0.100	0.100	0.0901	0.0856	90.1	85.6	75-125	5.12	35
BENZENE	0.100	0.100	0.0900	0.0789	90.0	78.9	77-123	13.1	35
TOLUENE	0.100	0.100	0.0912	0.0807	91.2	80.7	78-122	12.2	35
ETHYL BENZENE	0.100	0.100	0.0886	0.0786	88.6	78.6	70-130	12.0	35
XYLENES	0.300	0.300	0.278	0.248	92.7	82.7	75-125	11.4	35



June 1, 1998

ELAP No.: 1838

Chromalab, Inc.  
1220 Quarry Lane  
Pleasanton, CA 94566-4756

ATTN: Mr. Chris Rowley

Client's Project: 9805342  
Lab No.: 26298-001/003

Gentlemen:

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

A handwritten signature in black ink, appearing to read 'E. Caballero', is written above the typed name.

Edgar P. Caballero  
Laboratory Director  
EPC/lb

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.











# CHROMALAB, INC.

Environmental Service (SDB)

## Sample Receipt Checklist

Client Name: SECOR SAN FRANCISCO

Date/Time Received: <sup>5/21/98</sup> 05/22/98 | 16:20

Reference/Submis: 39986 | 9805342

Received by: A.S.

Checklist completed by: C. Comedy 5-27-98

Reviewed by: AS 5/27/98

Matrix: soil

Carrier name: Client - C/L

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Temp: 3.5 °C Yes  No
- Water - VOA vials have zero headspace? No VOA vials submitted  Yes  No
- Water - ~~PH~~ acceptable upon receipt?  Adjusted?  Checked by \_\_\_\_\_ chemist for VOAs

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted: \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# CHROMALAB, INC.

Environmental Services (SDB)

June 25, 1998

Submission #: 9806139

SECOR CONCORD  
1390 Willow Pass Road, Suite 360  
Concord, CA 94520-5250

Attn: Liping Zhang

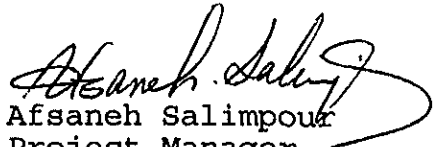
RE: Analysis for project SFFB, number 50090-009-04.

## REPORTING INFORMATION

Samples were received cold and in good condition on June 5, 1998. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date collected</u>	<u>Sample #</u>
MW-1	WTR	June 4, 1998	189623
MW-2	WTR	June 4, 1998	189624
MW-3	WTR	June 4, 1998	189625
MW-4	WTR	June 4, 1998	189626
MW-5	WTR	June 4, 1998	189627
MW-6	WTR	June 4, 1998	189628
MW-7	WTR	June 4, 1998	189629

  
Afsaneh Salimpour  
Project Manager

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

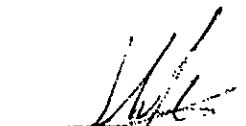
re: 7 samples for Total Dissolved Solids analysis.  
Method: EPA 160.1


Sampled: June 4, 1998

Matrix: WATER  
Run#: 13176

Extracted: June 9, 1998  
Analyzed: June 9, 1998

Spl#	CLIENT SPL ID	TOTAL DISSOLVED SOLI (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
189623	MW-1	580	10	N.D.	99.1	1
189624	MW-2	2900	10	N.D.	99.1	1
189625	MW-3	5100	10	N.D.	99.1	1
189626	MW-4	2000	10	N.D.	99.1	1
189627	MW-5	9900	10	N.D.	99.1	1
189628	MW-6	43000	10	N.D.	99.1	1
189629	MW-7	6100	10	N.D.	99.1	1

  
Aman Ullah  
Analyst

  
Michael Verona  
Operations Manager

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: **Blank spike and duplicate** report for Total Dissolved Solids analysis.

Method: EPA 160.1

Matrix: WATER  
Lab Run#: 13176

Analyzed: June 9, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% RPD Lim
	BSP (mg/L)	Dup	BSP (mg/L)	Dup	BSP (%)	Dup (%)			
TOTAL DISSOLVED SOLIDS	1000	1000	991	1040	99.1	104	80-120	4.82	20

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: 7 samples for TEPH analysis.  
Method: EPA 8015M

Sampled: June 4, 1998      Matrix: WATER      Extracted: June 11, 1998  
Run#: 13225      Analyzed: June 11, 1998

Spl#	CLIENT SPL ID	Diesel (ug/L)	Motor Oil (ug/L)
189624	MW-2	4100	N.D.
	Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.		
189625	MW-3	860	N.D.
	Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.		
189626	MW-4	1400	710
	Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.		
	Hydrocarbon reported does not match the pattern of our Motor oil Standard.		
189627	MW-5	970	N.D.
	Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.		


Sampled: June 4, 1998      Matrix: WATER      Extracted: June 11, 1998  
Run#: 13225      Analyzed: June 12, 1998

Spl#	CLIENT SPL ID	Diesel (ug/L)	Motor Oil (ug/L)
189623	MW-1	1600	640
	Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.		
	Hydrocarbon reported does not match the pattern of our Motor oil Standard.		
189628	MW-6	120	N.D.
	Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.		
189629	MW-7	900	540
	Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.		
	Hydrocarbon reported does not match the pattern of our Motor oil Standard.		

Reporting Limits  
Blank Result  
Blank Spike Result (%)

50      500  
N.D.      N.D.  
106      --

  
Carolyn House  
Analyst

  
Bruce Havlik For  
Analyst

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project#: 50090-009-04

Project: SFFB  
Received: June 5, 1998

re: **Blank spike and duplicate** report for TEPH analysis.

Method: EPA 8015M

Matrix: WATER  
Lab Run#: 13225

Analyzed: June 11, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control % Limits RPD	% RPD Lim	
	BSP (ug/L)	Dup	BSP (ug/L)	Dup	BSP (%)	Dup (%)			
DIESEL	2500	2500	2650	2480	106	99.2	60-130	6.63	25

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: **Surrogate** report for 7 samples for TEPH analysis.

Method: EPA 8015M  
Lab Run#: 13225  
Matrix: WATER

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
189623-1	MW-1	O-TERPHENYL	112	60-130
189624-1	MW-2	O-TERPHENYL	118	60-130
189625-1	MW-3	O-TERPHENYL	106	60-130
189626-1	MW-4	O-TERPHENYL	106	60-130
189627-1	MW-5	O-TERPHENYL	111	60-130
189628-1	MW-6	O-TERPHENYL	104	60-130
189629-1	MW-7	O-TERPHENYL	114	60-130

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
190433-1	Reagent blank (MDB)	O-TERPHENYL	93.4	60-130
190434-1	Spiked blank (BSP)	O-TERPHENYL	128	60-130
190435-1	Spiked blank duplicate (BSD)	O-TERPHENYL	104	60-130

S010  
QCSURR1229 AFSANEH 18-Jun-98 1



# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

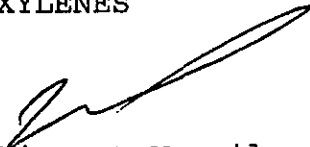
re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

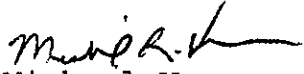
Client Sample ID: MW-1  
Spl#: 189623  
Sampled: June 4, 1998

Matrix: WATER  
Run#:13238

Analyzed: June 11, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	1800	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	87	1
BENZENE	160	0.50	N.D.	92	1
TOLUENE	2.6	0.50	N.D.	92	1
ETHYL BENZENE	300	0.50	N.D.	95	1
XYLENES	1.6	0.50	N.D.	95	1

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*AS

LEV2

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-2

Spl#: 189624

Sampled: June 4, 1998

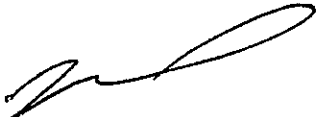
Matrix: WATER

Run#:13238

Analyzed: June 11, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	87	1
BENZENE	10	0.50	N.D.	92	1
TOLUENE	0.72	0.50	N.D.	92	1
ETHYL BENZENE	2.3	0.50	N.D.	95	1
XYLENES	3.5	0.50	N.D.	95	1

Note: Hydrocarbon found in Gasoline Range is uncharacteristic of Gasoline Profile. If quantified using Gasoline's response factor, concentration would equal 1700ug/L.

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*AS

LEV2

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

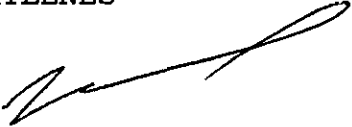
re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

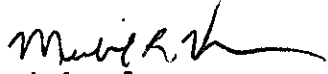
Client Sample ID: MW-3  
Spl#: 189625  
Sampled: June 4, 1998

Matrix: WATER  
Run#:13238

Analyzed: June 11, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	87	1
BENZENE	3.9	0.50	N.D.	92	1
TOLUENE	N.D.	0.50	N.D.	92	1
ETHYL BENZENE	N.D.	0.50	N.D.	95	1
XYLENES	N.D.	0.50	N.D.	95	1

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

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LEV2

AS V132 0:BTEXQC0220

AFSANEH 15:14

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-4

Spl#: 189626

Sampled: June 4, 1998


Matrix: WATER

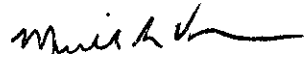
Run#:13238

Analyzed: June 11, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	87	1
BENZENE	18	0.50	N.D.	92	1
TOLUENE	1.6	0.50	N.D.	92	1
ETHYL BENZENE	2.5	0.50	N.D.	95	1
XYLENES	1.9	0.50	N.D.	95	1

Note: Hydrocarbon found in Gasoline Range is uncharacteristic of Gasoline Profile. If quantified using Gasoline's response factor, concentration would equal 650ug/L.

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*AS

LEV2

AS V132 O: BTEXQC0220

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-5

Spl#: 189627

Sampled: June 4, 1998

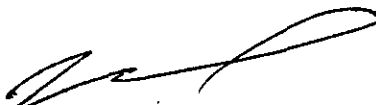
Matrix: WATER

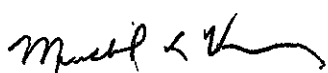
Run#:13238

Analyzed: June 11, 1998

ANALYTE	RESULT	REPORTING	BLANK	BLANK	DILUTION
	(ug/L)	LIMIT	RESULT	SPIKE	FACTOR
	(ug/L)	(ug/L)	(ug/L)	(%)	
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	87	1
BENZENE	7.2	0.50	N.D.	92	1
TOLUENE	N.D.	0.50	N.D.	92	1
ETHYL BENZENE	N.D.	0.50	N.D.	95	1
XYLENES	N.D.	0.50	N.D.	95	1

Note: Hydrocarbon found in Gasoline Range is uncharacteristic of Gasoline Profile. If quantified using Gasoline's response factor, concentration would equal 120ug/L.

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*AS

LEV2

AS V192 0: BTEXQC0220

AFSANH 15.14

1220 Quarry Lane • Pleasanton, California 94566-4756

(925) 484-1919 • Facsimile (925) 484-1096

Federal ID #68-0140157

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04


re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

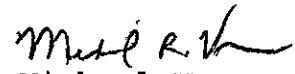
Client Sample ID: MW-6  
Spl#: 189628  
Sampled: June 4, 1998

Matrix: WATER  
Run#:13238

Analyzed: June 11, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	87	1
BENZENE	N.D.	0.50	N.D.	92	1
TOLUENE	N.D.	0.50	N.D.	92	1
ETHYL BENZENE	N.D.	0.50	N.D.	95	1
XYLENES	N.D.	0.50	N.D.	95	1

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*AG

LEV2

AS V132 O: BTEXQC0220

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04


re: One sample for Gasoline BTEX MTBE analysis.  
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-7  
Spl#: 189629  
Sampled: June 4, 1998

Matrix: WATER  
Run#:13238

Analyzed: June 11, 1998

<u>ANALYTE</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u> <u>(ug/L)</u>	<u>BLANK</u> <u>RESULT</u> <u>(ug/L)</u>	<u>BLANK</u> <u>SPIKE</u> <u>(%)</u>	<u>DILUTION</u> <u>FACTOR</u>
GASOLINE	N.D.	50	N.D.	98	1
MTBE	N.D.	5.0	N.D.	87	1
BENZENE	N.D.	0.50	N.D.	92	1
TOLUENE	N.D.	0.50	N.D.	92	1
ETHYL BENZENE	N.D.	0.50	N.D.	95	1
XYLENES	N.D.	0.50	N.D.	95	1

  
Vincent Vancil  
Analyst

  
Michael Verona  
Operations Manager

\*\*AS

LEV2

AS V132 0:BTEX00220

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: **Surrogate** report for 7 samples for Purgeable Volatile Aromatic Organic Compounds analysis.

Method: SW846 8020A Nov 1990 / 8015Mod  
Lab Run#: 13238  
Matrix: WATER

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
189623-1	MW-1	TRIFLUOROTOLUENE	102	58-124
189623-1	MW-1	4-BROMOFLUOROBENZENE	130	50-150
189624-1	MW-2	TRIFLUOROTOLUENE	85.7	58-124
189624-1	MW-2	4-BROMOFLUOROBENZENE	116	50-150
189625-1	MW-3	TRIFLUOROTOLUENE	80.0	58-124
189625-1	MW-3	4-BROMOFLUOROBENZENE	117	50-150
189626-1	MW-4	TRIFLUOROTOLUENE	95.0	58-124
189626-1	MW-4	4-BROMOFLUOROBENZENE	123	50-150
189627-1	MW-5	TRIFLUOROTOLUENE	85.2	58-124
189627-1	MW-5	4-BROMOFLUOROBENZENE	124	50-150
189628-1	MW-6	TRIFLUOROTOLUENE	86.9	58-124
189628-1	MW-6	4-BROMOFLUOROBENZENE	139	50-150
189629-1	MW-7	TRIFLUOROTOLUENE	86.3	58-124
189629-1	MW-7	4-BROMOFLUOROBENZENE	127	50-150

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
190519-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	89.7	58-124
190519-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	135	50-150
190520-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	83.8	58-124
190520-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	127	50-150
190521-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	88.8	58-124
190521-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	139	50-150
190522-1	Matrix spike (MS)	TRIFLUOROTOLUENE	96.0	58-124
190523-1	Matrix spike duplicate (MSD)	TRIFLUOROTOLUENE	86.1	58-124

V132  
QCSURR1229 AFSANEH 18-Jun-98 1



# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Liping Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: **Blank spike and duplicate** report for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: WATER  
Lab Run#: 13238

Analyzed: June 10, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% Lim
	BSP (ug/L)	Dup	BSP (ug/L)	Dup	BSP (%)	Dup (%)			
GASOLINE	500	500	489	460	97.8	92.0	75-125	6.11	20
MTBE	100	100	86.8	93.6	86.8	93.6	75-125	7.54	20
BENZENE	100	100	92.3	96.6	92.3	96.6	77-123	4.55	20
TOLUENE	100	100	91.9	98.2	91.9	98.2	78-122	6.63	20
ETHYL BENZENE	100	100	94.8	100	94.8	100	70-130	5.34	20
XYLENES	300	300	285	307	95.0	102	75-125	7.11	20

# CHROMALAB, INC.

Environmental Services (SDB)

June 18, 1998

Submission #: 9806139

SECOR CONCORD

Atten: Lipias Zhang

Project: SFFB  
Received: June 5, 1998

Project#: 50090-009-04

re: **Matrix spike** report for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: WATER

Lab Run#: 13238

Instrument: 3400-3

Analyzed: June 11, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% RPD Lim	
	Sample Amount (ug/L)	Spike MS MSD (ug/L)	MS (ug/L)	MSD (ug/L)	MS (%)	MSD (%)				
MTBE	N.D.	100	100	118	104	79.0	65.0	65-135	19.4	20
BENZENE	160	100	100	236	218	76.0	58.0	65-135	26.9	20
TOLUENE	2.6	100	100	96.0	86.7	93.4	84.1	65-135	10.5	20
XYLENES	1.6	300	300	299	277	99.1	91.8	65-135	7.65	20

Sample Spiked: 189623

Submission #: 9806139

Client Sample ID: MW-1

06137/189623-189629

Chain-of Custody Number:

40237

SECOR Chain-of Custody Record

Field Office: San Francisco  
 Address: 90 New Montgomery St, Suite 620  
San Francisco, CA 94105

Additional documents are attached, and are a part of this Record.  
 Job Name: SFFB  
 Location: 580 Julie Ann Way  
Oakland, CA

Project # 50090-009-04 Task # \_\_\_\_\_  
 Project Manager Liping Zheng  
 Laboratory Chromalab  
 Turnaround Time Standard

Sampler's Name Charles Melancon  
 Sampler's Signature [Signature]

Analysis Request

SUBM #: 9806139 REF: ASLFVP  
 CLIENT: SECOR-CD  
 DUE: 06/12/98  
 REF #: 40237

Sample ID	Date	Time	Matrix	Heptane Oil	TPH-motor	TPH/BTEX/WTPH-G 8015 (modified)/8020	TPH/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Total Dissolved Solids	Comments/ Instructions	Number of
MW-1	6-4-98	13:30	Water	X	X	X											X		6
MW-2		12:00																	6
MW-3		13:40																	6
MW-4		13:20																	6
MW-5		14:00																	6
MW-6		14:30																	6
MW-7		13:00																	6

Special Instructions/Comments:

Relinquished by: [Signature]  
 Sign [Signature]  
 Print Charles Melancon  
 Company SECOR  
 Time 9:00 Date 6-5-98

Received by: [Signature]  
 Sign [Signature]  
 Print [Signature]  
 Company Chromalab  
 Time 15:50 Date 6/5/98

Sample Receipt  
 Total no. of containers: \_\_\_\_\_  
 Chain of custody seals: \_\_\_\_\_  
 Rec'd. in good condition/cold: \_\_\_\_\_  
 Conforms to record: \_\_\_\_\_

Relinquished by: [Signature]  
 Sign [Signature]  
 Print ERIC ZAM  
 Company [Signature]  
 Time 18:15 Date 6/1/98

Received by: [Signature]  
 Sign [Signature]  
 Print [Signature]  
 Company Chromalab  
 Time 19:50 Date 6-5-98

Client: \_\_\_\_\_  
 Client Contact: \_\_\_\_\_  
 Client Phone: \_\_\_\_\_

# CHROMALAB, INC.

Environmental Service (SDB)

## Sample Receipt Checklist

Client Name: SECOR CONCORD

Date/Time Received: 06/05/98 | 1808

Reference/Submis: 40237 | 9806139

Received by: ET

Checklist completed by: P. Parnack Signature Date: 6-8-98 Reviewed by: CL Initials Date: 6/8/98

Matrix: H<sub>2</sub>O Carrier name: Client - (C/L)

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Temp: 5.9 °C Yes  No
- Water - VOA vials have zero headspace? No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? YES Adjusted?  Checked by: CL chemist for VOAs

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted: \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_