American Can Company
P.O. Box 2092
3801 East 8th Street
Oakland, Cal. 94604

July 28, 1986

Mr. Lester Feldman
REGIONAL WATER QUALITY
CONTROL BOARD
San Francisco Bay Region
1111 Jackson Street, Room 6040
Oakland, California 94607

RE: UNDERGROUND TANK CLOSURE

Dear Mr. Feldman:

Further to my letter of March 26, 1986 and the attachments from Aqua Terra, we have now completed closure of the oil tank and the resin tank. The resin tank was removed and the oil tank was closed in place by filling it with a concrete slurry. As there was evidence of leakage related to the oil tank, we had a monitoring well placed adjacent to the tank site.

A water sample has been taken from the monitoring well, and the sample has been analyzed. We are attaching a copy of the report on the well placement and sampling for your information and review. Please advise what, if any, further action your office might require of us.

Very truly yours,

D. P. BERGESON, Manager
Industrial Engineering

DPB:sc

Attachments

cc: Mr. Ted Gerow
COUNTY OF ALAMEDA
Div. of Environmental Health
470 - 27th St., Rm.324
Oakland, CA 94612

Mr. R. W. Schneiter
AQUA TERRA TECHNOLOGIES
3490 Buskirk Ave., Suite A
Pleasant Hill, CA 94523

Multi-Tech
Laboratories, Inc.
320 TESCONI CIRCLE, SUITE R • SANTA ROSA, CA 95401 • (707) 544-5570

7-10-86

Aqua Terra Technologies
3490 Buskirk Avenue, Suite A
Pleasant Hill, CA 94523

Attn: Wane Schneiter

SAMPLE NUMBER: 6-6343

Date collected: 6-23-86
Date in lab: 6-24-86
Collected by: Client
Sample type: Water

Client's ID: Job #537

Total Heavy Hydrocarbons, Group A, 1,200 mg/L

Note: The above value is based on calibration with diesel fuel as a standard. The detector used is a flame ionization detector.

Analytical Director

dgf

GEOTECHNICAL ENGINEERING SERVICES
GROUNDWATER MONITORING WELL
INSTALLATION
AMERICAN CAN COMPANY
3801 EAST 8TH AVENUE
OAKLAND, CALIFORNIA
SCI 157.027

Prepared for:

Dr. R. Wane Schneiter
Aqua Terra Technologies
3490 Buskirk Avenue, Suite A
Pleasant Hill, California 94523

By:

R. William Rudolph
Civil Engineer 32136 (expires 12/31/88)

James P. Bowers
Civil Engineer 28962 (expires 3/31/87)

Subsurface Consultants, Inc.
171 12th Street, Suite 201
Oakland, California 94607
(415) 268-0461

July 16, 1986

I INTRODUCTION

This report presents the results of our geotechnical engineering services provided in conjunction with Aqua Terra Technologies' assessment of a former underground diesel tank site at the American Can facility in Oakland, California. The facility is located at 3801 East 8th Avenue. The approximate prior location of the tank, in relation to adjacent buildings and streets, is shown on the Site Plan, Plate 1.

Previously, Subsurface Consultants, Inc. (SCI) provided geotechnical engineering services regarding the tank site during an initial facility site assessment. Our previous services consisted of drilling one test boring just outside the tank backfill. The results of our previous services are presented in a report dated February 28, 1986.

II FIELD INVESTIGATION

Our current services consisted of installing a groundwater monitoring well in an area believed to be downgradient of the former tank location. The well is located about 10 feet southwest of our previous test boring, as shown on Plate 1. The well boring was drilled to a depth of 21-1/2 feet using a trailer mounted drill rig equipped with 8-inch-diameter hollow stem augers.

A. Soil Sampling

Our geologist observed drilling operations and prepared a detailed log of the boring. Samples of the materials encountered below a depth of 15 feet were obtained to confirm that the soil conditions were consistent with those encountered in our previous test boring. A log of the boring is presented on Plate 2. Soil samples were obtained by driving two different samplers with an 140-pound hammer falling 30 inches. The blow counts required to drive the samplers the final 12 inches of an 18-inch drive were recorded and are presented on the boring log. Dimensions of the samplers are presented below:

Sampler Type	Outside Diameter (Inches)	Inside Diameter (Inches)
Modified California	3.0	2.5
California	2.5	2.0

The samples were re-examined in our laboratory to confirm field classifications.

The soil samplers, soil sample tubes, drill rods, and augers used for drilling were steam-cleaned prior to their initial use. The samplers were steam-cleaned again between each subsequent use to reduce the likelihood of cross-contamination between samples.

B. Monitoring Well Construction

Prior to installation, a Groundwater Protection Ordinance Permit, Permit No. 86150, was obtained and filed with the Alameda County Flood Control and Water Conservation district. The specific design details for the well were determined in consultation with Aqua Terra Technologies. Well details are schemat-

ically shown on the boring log.

In general, the well consisted of 2-inch-diameter schedule 40 PVC pipe extending about 20 feet below the groundsurface. The lower 10 feet of the well consists of well screen having 0.02 inch wide slots. The upper portion of the well consists of solid pipe. Pipe sections were joined by threaded, flush joints; no PVC glue was used. The annular space around the screened section was backfilled with No. 3 washed sand. A bentonite seal, about 1 foot thick, was placed above the sand. The annulus above the seal was backfilled with a thick, Portland cement/bentonite grout. The well head is secured in a steel cover with a locking cap which extends about 20 inches above the groundsurface.

The well was developed using a bailer which was steam-cleaned prior to its use in the well. Approximately 5 gallons of water were removed during well development. The well was bailed dry and recharged very slowly.

C. Contaminated Materials Control

Soil cuttings were placed in an open area near the boring and covered with plastic. The water generated by well development was retained in a 5 gallon bucket and left on-site.

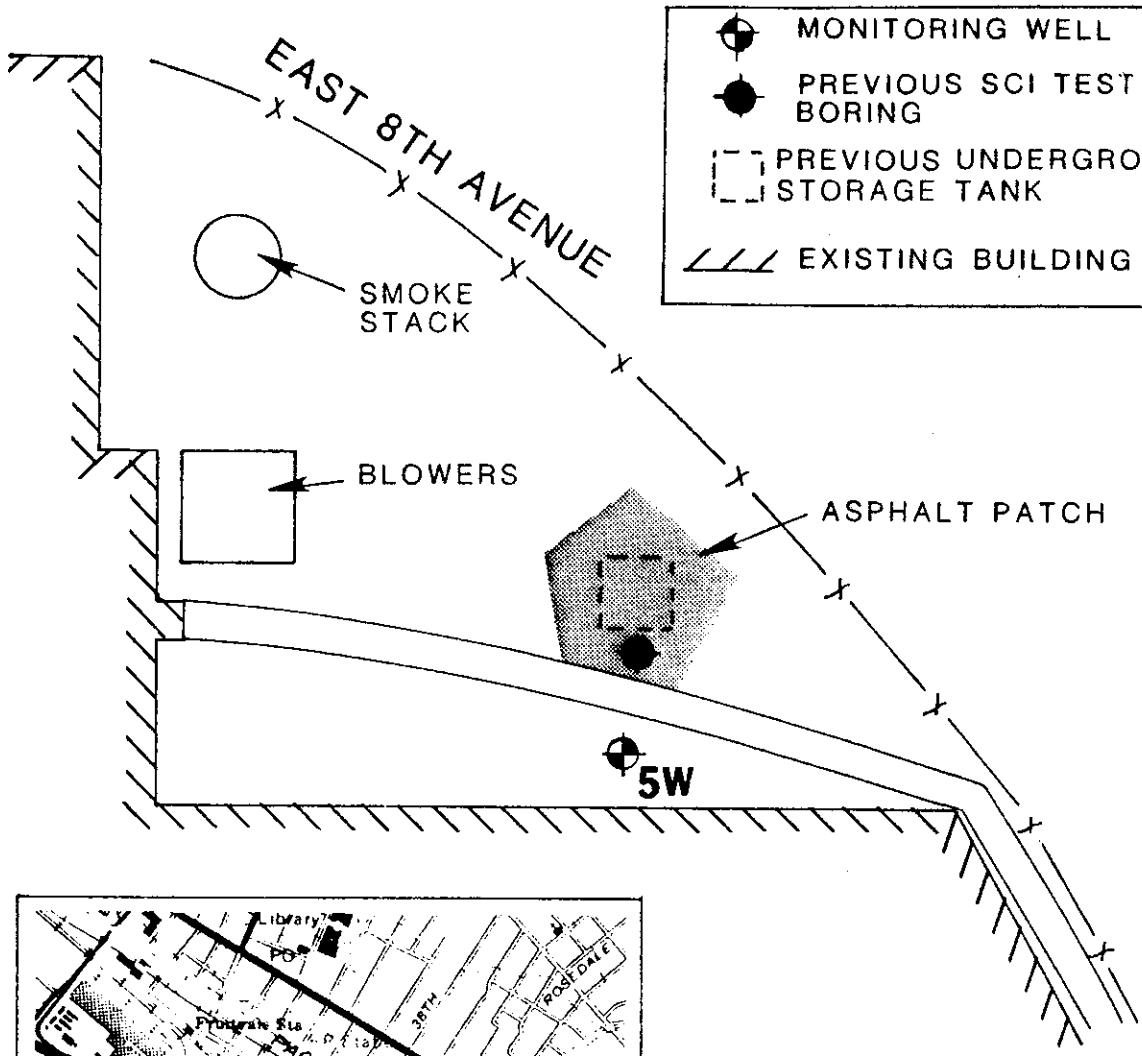
III SUBSURFACE CONDITIONS

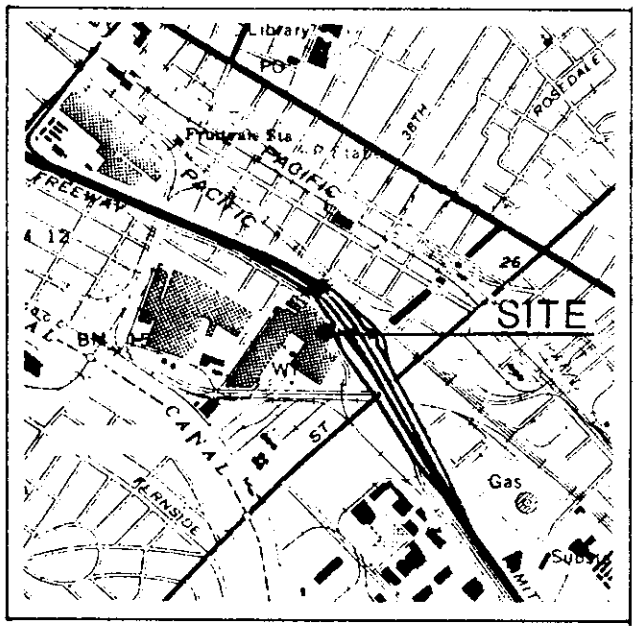
The soil conditions encountered in the well boring are consistent with those encountered in our previous test boring. The tank area appears to be underlain at the surface by about 5

feet of black silty clay. Below the surface layer are somewhat permeable materials consisting of clayey sand and clayey gravel. At the tank site, the clayey sand and gravel layer is about 15 feet thick; it is underlain by stiff silty clays.

Groundwater was encountered at a depth of about 13 feet during drilling. Nine days after development, groundwater existed about 11.9 feet below the groundsurface. We judge that his depth more correctly reflects stabilized conditions at the time.

A petroleum product was encountered on top of the groundwater surface when the second water level measurement was taken. The thickness of the product layer was determined by coating one side of a metal measuring tape with a "water finding paste" and the other side with a "petroleum product gauging paste". When the tape was submerged in the well, the petroleum product and the water made contact with their respective gauging pastes, changing the pastes color. The distance between the two levels revealed that about 3 inches of petroleum product was floating on the water surface.





VICINITY MAP

APPROXIMATE SCALE: (feet)

0 20 40

SITE PLAN

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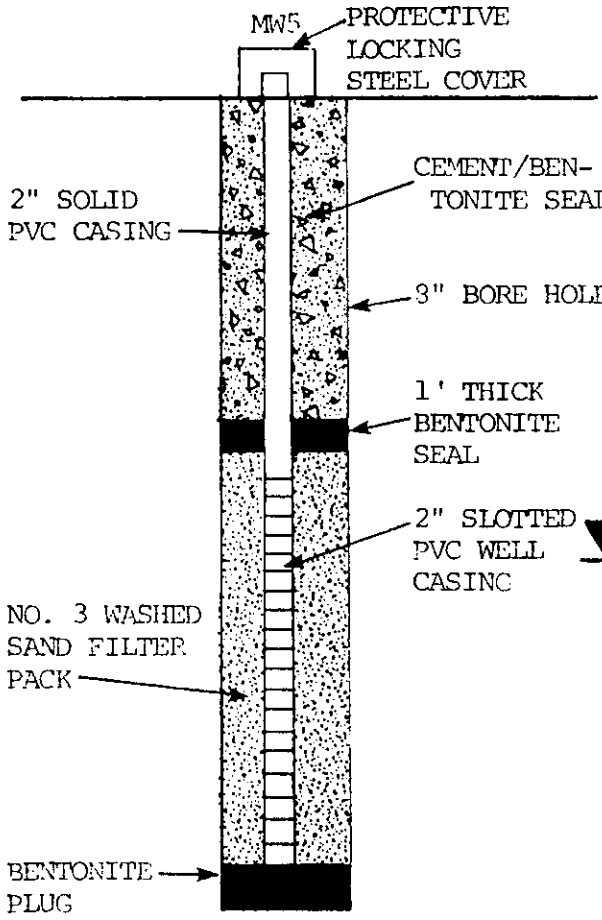
JOB NUMBER	DATE	APPROVED
157.027	7/9/86	

PLATE 1

LOG OF TEST BORING 5W



EQUIPMENT 8" Hollow Stem
DATE DRILLED 6-20-86
ELEVATION

DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
0			BLACK SILTY CLAY (CH) medium stiff, moist, slight petroleum product odor
5			BROWN CLAYEY SAND (SC) medium dense, moist, slight petroleum product odor
10			GRAY/BROWN SILTY CLAYEY GRAVEL (GC) dense, saturated, contains thin layers of silty clay
			GROUNDWATER LEVEL 7/2/86
15		15	% Passing No. 200 Sieve = 53
		22	% Passing No. 200 Sieve = 34
20		25+	BROWN SILTY CLAY (CL) stiff, saturated
25			
30			
35			
40			

MODIFIED CALIFORNIA DRIVE SAMPLER
OR
+CALIFORNIA DRIVE SAMPLER
SEE TEXT FOR SAMPLER DESCRIPTIONS

HAMMER WEIGHT: 140 pounds
HAMMER DROP: 30 inches

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JOB NUMBER 157.027 | DATE 7/2/86 | APPROVED

PLATE 2