BASELINE

ENVIRONMENTAL CONSULTING

1 October 1986
S-593B

KAISER ENGINEERS
c/o AC Transit
1100 Seminary Avenue
Oakland, CA 945

Attn: Mr. Steve Whitehead

Subject: Results of Soil Sampling Activities Near Underground Fuel Storage Tanks, Emeryville

Dear Steve:

At your request, BASELINE ENVIRONMENTAL CONSULTING collected soil samples adjacent to underground fuel storage tanks at the AC Transit, Emeryville facility. The purpose of the soil sampling activities was to identify potential subsurface releases of hydrocarbons from the tanks.

Site Location

The site is located in Emeryville at 45th and San Pablo Avenue at an AC Transit bus terminal facility. Five underground fuel tanks are located underground, supposedly in a vault. No drawings are available to identify the exact location of the tanks or the construction details of the vault. There is no verification that a vault exists, althoufg a raised perimeter outline of a "vault" is apparent at the ground surface. Three of the tanks contain diesel, and two tanks contain gasoline. The attached figure shows the regional location of the site.

Field Work

During the field work on 17 and 18 September 1986, soil samples were collected from two locations outside the "vault" containing the tanks, and one location within the "vault", as shown on the attached figure.

Dr Attachment 1

The samples outside the "vault" were collected on the downgradient and upgradient sides of the "vault". The samples were collected from a hollow-stem auger rig equipped with a California Modified Sampler containing brass tubes. The samples were collected with the sampler and contained in the brass tubes (Sampling Information Forms are attached). After sample retrieval, the brass tubes were sealed with aluminium foil, plastic caps, taped, placed in zip-lock bags, and stored on ice prior to transport to the laboratory. The augers used for drilling had been steam-cleaned prior to being brought on-site, and all sampling equipment was decontaminated using TSP and deionized water.

A total of seven samples were analyzed for total hydrocarbons. The depth of samples and the analytical results are shown in Table 1, below; the laboratory report is attached. The sampling locations are shown in the attached figure.

TABLE 1

ANALYTICAL RESULTS
SOIL SAMPLES, EMERYVILLE
SEPTEMBER 1986

Sample I.D.	Depth (feet)	Material	Total Hydrocarbon (mg/kg or ppm)
B-3	1.5	sand	ND<130
B-3	3.5	sand	ND< 58
B-3	7.5	sand	ND< 34
B-4	1.5	sandy gravel	ND<130
B-4	3.5	sand	82,000
B-4	7.5	sand	81,000
B-3A*	5.5	fill	71,000

* Sample from within the "vault"

O2 Attachment #1

The sample collected within the "vault" was obtained by hand excavating through concrete and using a post-hole digger in between the tanks to reach the maximum depth without the hole caving in. The sample was then collected with a stainless steel soil corer containing a 6-inch brass sleeve. The brass sleeve was handled similarly to the samples collected with the drill rig.

Conclusions

On the basis of the data collected, it appears that the underground tanks, supposedly located in a concrete vault, have leaked in the past, and that the vault may not have been impermeable to provide for containment of leaked material.

The level of hydrocarbons identified in the soil adjacent to the underground storage tanks at the seven-foot level in the downgradient direction is above the action limits of the California Department of Health Services for hydrocarbons in soils. At concentrations above 1,000 ppm, such soil is considered hazardous.

Groundwater appears to be at a depth of seven to eigth feet below the ground surface, likely with a gradient from east to west.

Recommendations

1. Notify the Alameda County Department of Environmental Health, The California Department of Health Services, and the Regional Water Quality Control Board, San Francisco Bay Region of an unauthorized fuel leak.

2. Investigate the lateral and vertical extent of soil contamination adjacent to the underground fuel tanks.

3. Abandon the underground fuel storage tanks in accordance with the requirements of Alameda County and the Regional Water Quality Control Board.

Via Attachment #1

4. Install a groundwater monitoring well downgradient of the underground fuel storage tank area. Sample the groundwater, inspect for floating product, and analyze the water for total hydrocarbons and BTX.

5. On the basis of the results obtained from the additional soil investigation and groundwater sampling, develop a remedial action plan to conform with applicable regulations.

We recommend that the actions described above be implemented at as early a time as possible, and that the regulatory agencies be notified immediately.

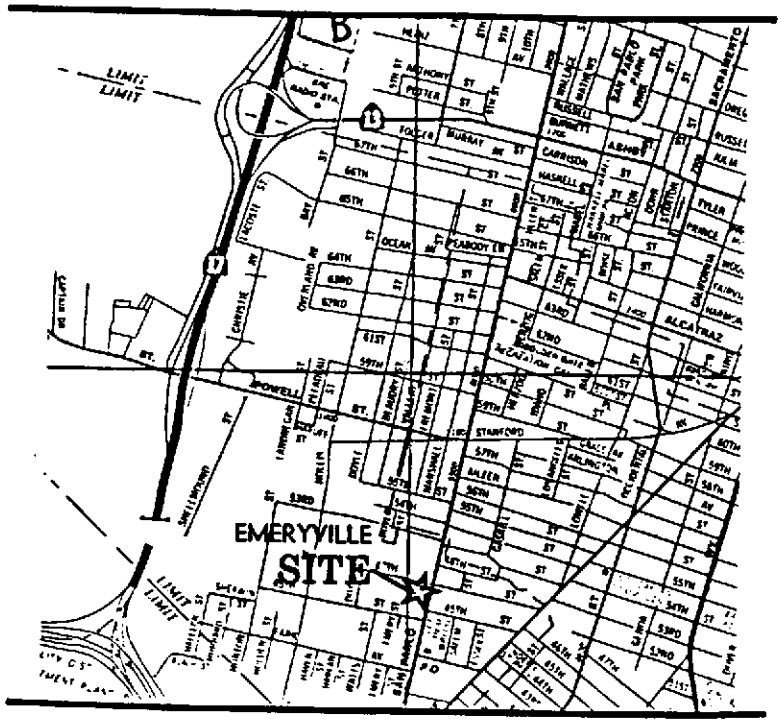
Should you have any questions regarding this letter please do not hesitate to contact us. It has been a pleasure to be of service to Kaiser Engineers.

Sincerely,

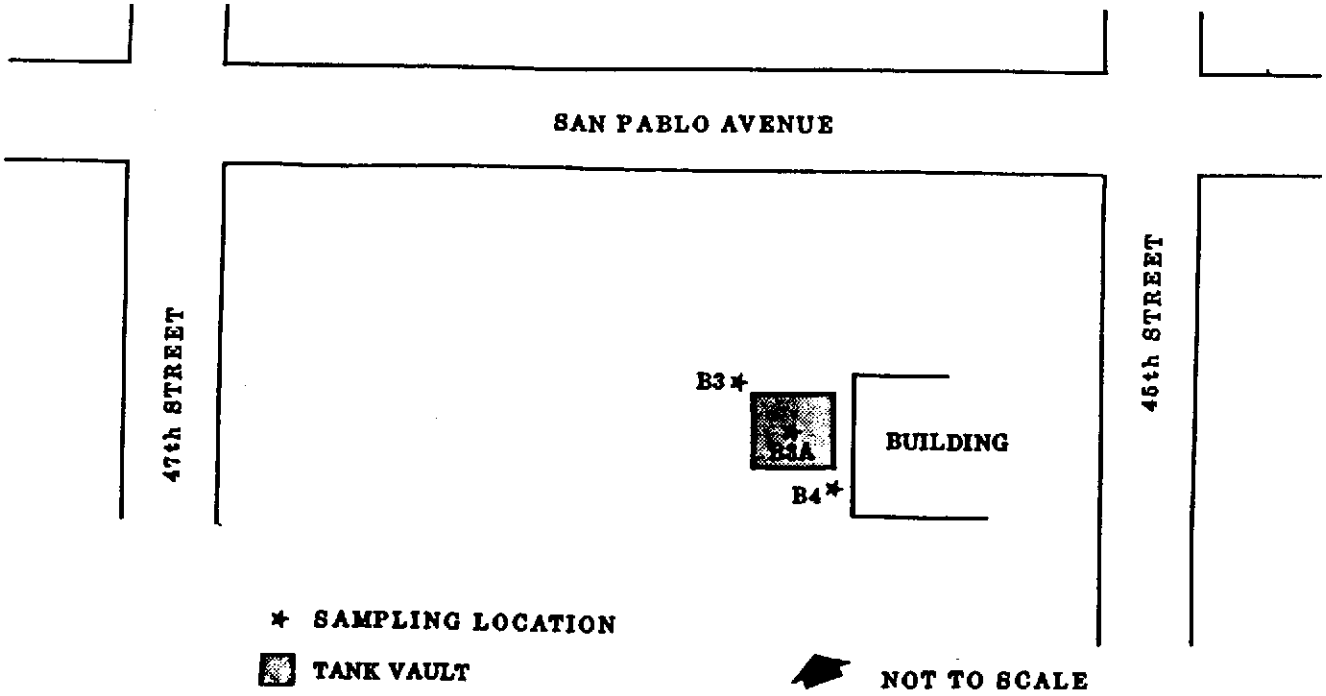
Yane Nordhav
Principal

YN/ae
Attachments

Re Attachment #1



REGIONAL LOCATION



SAMPLING LOCATIONS
1177 47th STREET
EMERYVILLE, CALIFORNIA

Oz Attachment #1

TMA
Thermo Analytical Inc.

TMA/ERG
1400 West 53rd Street
Suite 460
Emeryville, CA 94608-2946
(415) 652-2300

September 30, 1986

Baseline
315 Washington St.
Oakland, CA 94607

Attention: Yane Nordhav

Report #9327

Baseline Project: S-593 - Kaiser Engineers.

Samples Submitted: Received on September 17, 1986 and September 18, 1986: sixteen (16) soils for Total Hydrocarbon Response.

Methodology: Samples were extracted with Carbon Disulfide and analyzed by direct injection gas chromatograpy. Quantitation is performed as total hydrocarbon response against solutions made from a known concentration of heptane-isooctane (50/50).

Results: Please see Table I.

Should you have any questions, please call me at (415) 652-2300

Submitted by:

Lisa Tolen for

Hugh McLean
Project Chemist

HM:sm

Re Attachment #1

TABLE I

Results are in mg/kg (ppm)

TMA/ERG ID	CLIENT ID	TOTAL HYDROCARBON
9327-1	B1-1.5'	ND(81)
9327-2	B1-3.5'	140
9327-3	B1-5.5'	HOLD
9327-4	B1-7.5'	HOLD
9327-5	B1-10.5'	3100
9327-6	B2-1.5'	ND(65)
9327-7	B2-3.5'	ND(100)
9327-8	B2-10.5'	3700
9327-9	B3-1.5'	ND(130)
9327-10	B3-3.5'	ND(58)
9327-11	B3-7.5'	ND(34)
9327-12	B4-1.5'	ND(130)
9327-13	B4-3.5'	82,000
9327-14	B4-7.5'	81,000
9327-15	B1A	13,000
9327-16	B3A	71,000

ND = None detected. Detection limits are in ( ).

D. Arrement d,

Soil Sampling
Underground Tanks

Date: 9/17/86-9/18/86 Location: Emeryville

Sampled by: WKS

Sample I.D.	Depth	Material	Odor	Moisture	Comments
B3-1.5	1.5'	green sand	none	dry	
B3-3.5	3.5'	green sand	none	moist	
B3-7.5	7.5'	tan sand	none	wet-moist	
B4-1.5	1.5'	tan sandy gravel	none	dry	
B4-3.5	3.5'	blue-gray sand	strong petroleum odor	moist-damp	
B4-7.5	7.5'	blue-gray sand	strong petroleum odor	wet	
B3A-5.5	5.5'	blue-gray sand	strong petroleum odor	wet	

Groundwater Depth: >7 ft. to 7 ft. Floating Product: none

Sampling Method: Stainless steel corer with 6-inch brass tube.

Analyze For: Total hydrocarbons

Dr Arrangement 4