



3210 Old Tunnel Road, Suite B, Lafayette, CA 94548-4157

Phone: (925) 283-6000 Fax: (925) 283-6121

September 25, 2000

Mr. Leroy Griffin  
City of Oakland, Office of Emergency Services  
505 14<sup>th</sup> Street, 5<sup>th</sup> Floor  
Oakland, CA 94612

**Subject: Phase II Subsurface Investigation**  
5630 San Pablo Avenue  
Oakland, California  
AEI Project No. 3799

Dear Mr. Griffin:

Enclosed is a copy of our Phase II Subsurface Investigation report prepared for the above referenced property. This project was performed as part of a real-estate transaction. The results of investigation indicated that gasoline tanks existed at the site and sample analysis revealed significant concentrations of TPH as gasoline and related hydrocarbons.

Our client has requested that we direct the results of this report to the appropriate agency for guidance. Mr. Barney Chan of Alameda County Health Care Services Agency indicated that the report should be sent to your office for initial review, at which time the case may be sent to Alameda County for their oversight.

I will be in contact with you to follow up with this report. Please inform me if this case will be handled by your office or if you are forwarding it to Alameda County. Please call me at (925) 283-6000 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter McIntyre', written over a horizontal line.

Peter McIntyre  
Project Geologist

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Phoenix  
(602) 240-5990

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August 8, 2000

**PHASE II  
SUBSURFACE INVESTIGATION**

5630 San Pablo Avenue  
Oakland, California

Project No. 3799

Prepared For

Mr. Donald Rosenberg  
P.O. Box 2194  
Walnut Creek, CA 94595

Prepared By

**AEI Consultants**  
3210 Old Tunnel Road, Suite B  
Lafayette, CA 94549  
(925) 283-6000

**AEI**



3210 Old Tunnel Road, Suite B, Lafayette, CA 94549-4157

Phone: (925) 283-8000 Fax: (925) 283-8121

August 8, 2000

Mr. Donald Rosenberg  
P.O. Box 2194  
Walnut Creek, CA 94595

**Subject: Phase II Subsurface Investigation**  
5630 San Pablo Avenue  
Oakland, California  
Project No. 3799

Dear Mr. Rosenberg:

The following letter report describes the activities and results of the subsurface investigation performed by AEI Consultants at the above referenced property (Figure 1: Site Location Map). The investigation included the collection and analysis of soil and groundwater samples from four shallow soil borings at the property. The investigation was designed to assess whether the soil and / or groundwater beneath the site had been impacted by the former underground storage of petroleum hydrocarbons at the site.

## I Background

The site is located in a mixed residential and commercial area of Oakland. A Phase I Environmental Site Assessment was performed on the property by AEI in June 2000. The assessment revealed that the site had been occupied by an auto service business. A Sanborn Fire Insurance map from 1952 indicated gasoline storage tanks on the northwest portion of the property. A letter reviewed at the Oakland Building Department indicated that a tank removal permit for the site was finalized in 1967. The site inspection revealed a possible former dispenser island and two suspected locations for the former underground storage tanks. Please refer to the Phase I report issued by AEI for detailed results of the assessment.

## II Investigative Efforts

AEI performed a subsurface investigation at the property on July 6, 2000. A total of four soil borings (AEI-1 through AEI-4) were advanced. The borings were located in the suspected locations of the former product dispensers and tank holds. The locations of the soil borings are shown on Figure 2.

The near surface native soil encountered during the boring advancement consisted generally of clay and sandy clay. Sand and gravel was encountered below approximately 13 feet below ground surface (bgs). Refer to Attachment A for detailed logs of the borings. The site is located

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approximately 40 feet above mean sea level. Based on local topography, groundwater beneath the site is expected to flow to the west.

### *Soil Sample Collection*

The borings were advanced with a direct push Geoprobe drilling rig to a depth of between 10 and 20 feet bgs. Soil samples were collected at approximately 5 foot intervals.

A strong hydrocarbon odor was observed during sample collection in each of the borings. The soil samples were screened in the field using a Photo-ionizing Detector (PID). The soil screening data and field observations are presented on the borings logs (Attachment A). Soil samples were collected in four foot long acrylic liners, from which a six inch sample was chosen. The soil samples were sealed with teflon tape and plastic caps and placed in a cooler with wet ice to await transportation to the laboratory.

### *Groundwater Sample Collection*

Groundwater was encountered and collected from 16 feet bgs from soil borings AEI-2 and AEI-3. Groundwater was not able to be collected from borings AEI-1 and AEI-4. A groundwater sample was collected from the two borings using a drop tube inserted through the direct push rods. The groundwater samples were collected into 1-liter amber bottles and 40-mL VOA vials. The groundwater samples were capped so that there was no head space or visible air bubbles within the vials, then placed in a cooler with wet ice to await transportation to the laboratory.

Following sample collection, each boring was backfilled with neat cement grout.

### *Laboratory Analysis*

On July 6, 2000, the soil samples were transported to McCampbell Analytical Inc. (DOHS Certification Number 1644) under chain of custody protocol for analysis. Analytical results and chain of custody documents are included as Attachment B.

A total of five soil samples and two groundwater samples were chosen for analysis. The soil and groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, benzene, toluene, ethyl-benzene, and xylenes (BTEX) and MTBE. Any remaining soil samples were placed on hold at the laboratory.

### **III Findings**

TPH as gasoline and TPH as diesel were both detected in all of the soil samples analyzed, up to 1,300 mg/kg and 200 mg/kg, respectively. Benzene was detected up to 1.5 mg/kg in the soil. No

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**concentrations of MTBE were detected in the soil.** Detailed results of the soil analytical testing are summarized in Table 1.

TPH as gasoline and TPH as diesel were detected in the groundwater up to 620 µg/L and 380 µg/L, respectively. Benzene was detected in the groundwater at 12 µg/L. Please refer to Table 2 for details of the groundwater sample analysis.

#### **IV Conclusions and Recommendations**

This investigation has revealed that the soil beneath the site has been significantly impacted with hydrocarbons. Groundwater has also been impacted. Further site investigation would be necessary to characterize the extent and magnitude of impacted soil and groundwater. The results of this investigation should be forwarded to the Local Oversight Agency (Alameda County Health Care Services Agency) for guidance of further investigative efforts.

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## V Report Limitation

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the required information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact me at (925) 283-6000.

Sincerely,

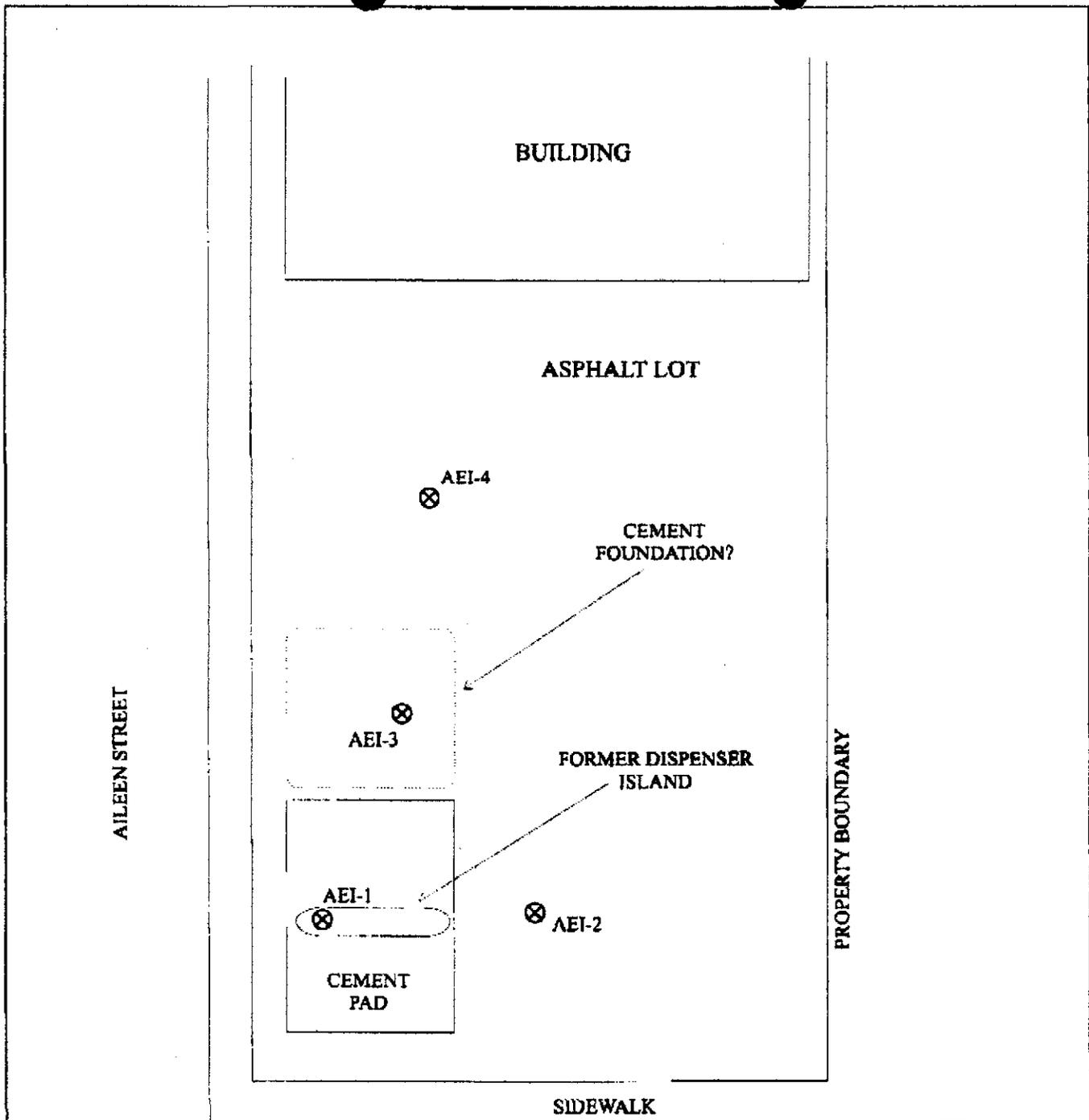
Peter McIntyre  
Project Geologist



Joseph P. Derhake, PE  
Principal

Figures  
Tables  
Attachments





⊗ SOIL BORINGS LOCATIONS  
PERFORMED BY AEI  
JULY 6, 2000

SCALE: 1 in = 15 ft

**AEI CONSULTANTS**  
3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

**SITE PLAN**

5630 SAN PABLO AVENUE  
OAKLAND, CALIFORNIA

**FIGURE 2**  
PROJECT NO 3799

**Table 1:  
Soil Sample Analytical Results  
July 6, 2000**

Sample ID	TPH as gasoline mg/kg	TPH as diesel mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg
AEI-1 8'	1,300	200	<3	1.5	0.5	4.6	<0.005
AEI-2 9'	7.8	59	<0.05	<0.005	<0.005	<0.005	<0.005
AEI-3 10'	140	76	<0.1	0.23	<0.005	0.3	<0.005
AEI-4 5'	550	69	<1	0.49	<0.1	0.74	0.43
AEI-4 10'	520	200	<0.4	0.730	<0.02	2.8	0.33
MDL	1.0	1.0	0.05	0.005	0.005	0.005	0.005

MDL = Method Detection Limit

ND = Not detected above the Method Detection Limit (unless otherwise noted)

ug/kg = micrograms per kilogram (ppb)

mg/kg = milligrams per kilogram (ppm)

**Table 2:  
Groundwater Sample Analytical Results  
July 6, 2000**

Sample ID	TPH as gasoline $\mu\text{g/L}$	TPH as diesel $\mu\text{g/L}$	MTBE $\mu\text{g/L}$	Benzene $\mu\text{g/L}$	Toluene $\mu\text{g/L}$	Ethylbenzene $\mu\text{g/L}$	Xylenes $\mu\text{g/L}$
AEI-2 W	<50	380	<5.0	<0.5	<0.5	<0.5	<0.5
AEI-3 W	620	140	<5.0	12	1.2	12	2.9
MDL	50	50	5.0	0.5	0.5	0.5	0.5

MDL = Method Detection Limit

ND = Not detected above the Method Detection Limit (unless otherwise noted)

$\mu\text{g/L}$  = micrograms per liter (ppb)

$\text{mg/L}$  = milligrams per liter (ppm)