Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

October 20, 1987
87117-1

Mr. Moody Younger
Mobil Oil Corporation
P.O. Box 127
Richmond, California 94807

Subject: Letter report No. 87117-1 on tank inspection and laboratory analyses of soil samples collected beneath gasoline storage tanks Mobil service station No. 10LVW, 5425 Grove Street, Oakland, California

Mr. Younger:

A geologist from our office was present at the above-referenced site to visually inspect the underground storage tanks upon their removal and to collect soil samples from beneath the tanks. The location of the site is shown on the Site Vicinity Map, Plate P-1. It is our understanding, based on information provided by personnel of Mobil Oil Corporation, that the three tanks present in the gasoline storage tank pit at the site were used to store regular, unleaded, and super unleaded gasoline product. The tanks have 8,000-, 10,000-, and 6,000-gallon capacities, respectively. It is our understanding that the waste oil tank at the site was recently replaced and was not scheduled for removal. Locations of the four tanks and site structures are shown on the Generalized Site Plan, Plate P-2.

Visual inspection of the four tanks was performed after the tanks were placed on the ground surface near the tank pit. Mr. Ariel G. Bryant of the City of Oakland Fire Prevention Bureau was present at the site during tank inspections and soil sampling. After removing the tanks from the tank cavity by hoptoe, the hoptoe operator, contracted by Mobil Oil Corporation, rolled the tanks on their sides for inspection. The outer surfaces of the tanks were inspected by an Applied GeoSystems' field geologist for signs of product leakage, holes, pitting, or areas of weakness. The sides and ends of the tank were scraped and particular attention was paid to seams and points directly below both the fill port and submersible pump port of each of the tanks.

TANK INSPECTION OBSERVATRIONS

Regular Gasoline Tank (8,000-gallon):
This tank had no apparent through-going holes but had some moderate pitting on the underside. Seams were intact but often preferentially corroded relative to other tank surfaces. The tank surface near the fill port had slight corrosion.

Unleaded Gasoline Tank (10,000-gallon):
This tank had no apparent through-going holes but had some deep pitting. Minimal tank surface and seam corrosion was detected. The tank was slightly dented.

Super Unleaded Gasoline Tank (6,000-gallon):
This tank had no apparent through-going holes. Minimal corrosion was detected on tank surfaces and seams.

SOIL SAMPLE COLLECTION AND ANALYSIS

The backfill material in the gasoline storage tank pit was medium-grained sand. Subjective evidence of hydrocarbon contamination was found in the backfill material located adjacent to the fill ports of the tanks. This contamination was probably caused by one or more overfill events. The soil samples for analysis were collected from native soil at a depth of approximately 12 to 15 feet (approximately 2 to 3 feet below the tank bottom). Sample locations are shown on the enclosed Generalized Site Plan.

One sample was collected adjacent to each end of the three gasoline storage tanks at the direction of Mr. Bryant. The six soil samples were collected by driving laboratory-cleaned brass sleeves into the hoptoe buckets of soil. The sample sleeves were immediately sealed with aluminum foil, plastic caps, and airtight tape. They were then labeled and placed in iced storage for transport to the laboratory for testing. The Chain Of Custody Record for the samples' transferral is included with this letter report.

The results of the soils analyses from soil samples collected from the gasoline tank pit are presented on the Table 1 and on the laboratory Record Of Analysis included with this report.

TABLE 1

LABORATORY RESULTS ON SOIL SAMPLES
From Gasoline Tank Pit
Collected at Mobil Service Station No. 10LVW
Oakland, California

Identifier	Total Volatile Hydrocarbons	Detection Limit
S-15-T1a	ND	0.8
S-15-T1b	1.1	0.8
S-13-T2a	ND	0.8
S-13-T2b	1.1	0.8
S-15-T3a	ND	0.8
S-13-T3b	ND	0.8

Note: All results in parts per million (ppm)
TVH: Total Volatile Hydrocarbons
ND: Non-detectable or less than the detection limit of the laboratory method

Key: S-13-T3b
- = Tank 3, sample b
- = Collected at 13 feet
- = Soil

Laboratory analyses on the soil samples collected show very low (less than 10 ppm) to non-detectable levels of hydrocarbon contamination. The levels of contamination in the samples collected from the storage tank pit suggest that the native soil has not been significantly impacted by the storage of gasoline product in the pit.

With Mobil Oil Corporation's authorization, the soil analysis results were telephoned to Mr. Ariel Bryant of the City of Oakland Fire Prevention Bureau. With the consent of the City of Oakland Fire Prevention Bureau, new tank placement can begin and the tank cavity can be backfilled.

Due to the low levels of hydrocarbon contamination found in soil samples collected from the gasoline storage tank pit, we do not recommend ground-water monitoring well installation at this time.

Soil excavated from the pit was piled in the on the station platform and remains the responsibility of Mobil Oil Corporation. This soil should be sampled and analyzed for hydrocarbon contamination prior to its removal from the site. If hydrocarbon

contaminatiion levels from the piled soil are greater than 100 ppm, we recommend that the site be permitted for soil aeration with the Bay Area Air Quality Management District. With Mobil Oil Corporation's authorization, Applied GeoSystems can make arrangements to sample and analyze the soil pile and monitor and permit (if necessary) the soil aeration operation at the site.

This study has been conducted in accordance with generally accepted standards of environmental geological practice in California at the time this report was prepared. This investigation was conducted solely for the purpose of evaluating environmental conditions of the soil with respect to hydrocarbon product contamination in the vicinity of the gasoline storage tank pit at the subject property. No soil engineering or geotechnical recommendations are implied or inferred. Evaluation of geologic conditions at the site for the purpose of this investigation is made from a limited number of observation points. Subsurface conditions may vary away from the data points available. Additional work, including further subsurface investigation, can reduce the inherent uncertainties associated with this type of investigation.

Copies of this letter, and accompanying laboratory documents, should be forwarded to Mr. T. M. Gerow, Alameda County Division of Environmental Health, 470 27th Street, Room 324, Oakland, California 94612, Mr. Ariel G. Bryant, of the City of Oakland Fire Prevention Bureau, One City Hall Plaza, Oakland, California 94612, and Mr. Greg Zentner of the California Regional Water Quality Control Board, 1111 Jackson Street, Room 6040, Oakland, California 94607. Please do not hesitate to call if you have any questions concerning the information presented in this report.

Sincerely,
Applied GeoSystems

Glenn R. Dembroff
Project Geologist

Michael N. Clark
C.E.G. 1264

Attachments: Site Vicinity Map
Generalized Site Plan
Chain Of Custody
Record of Analysis

Source: U.S. Geological Survey
Oakland West
7.5-Minute Qaudrangle

N

Approximate Scale
2000 1000 0 2000 4000
feet

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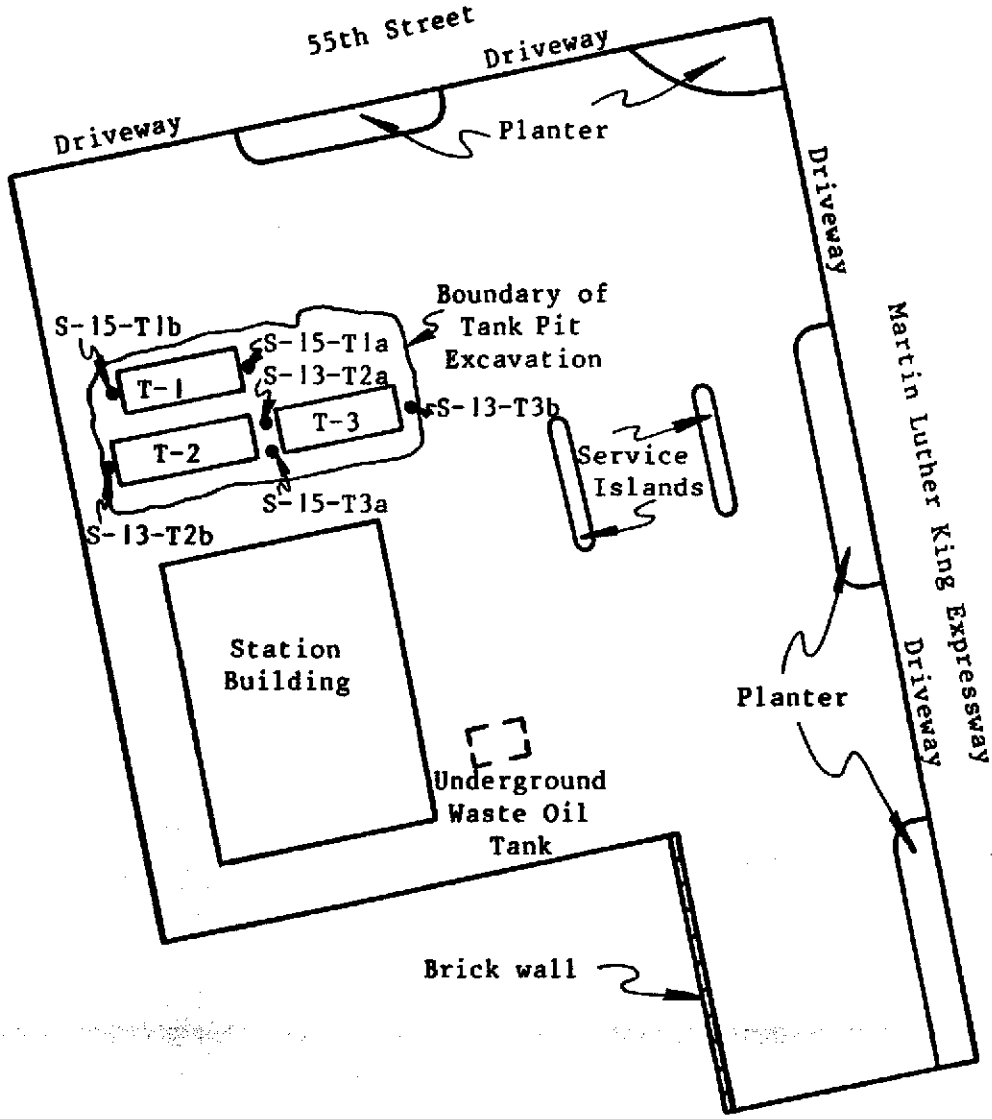
SITE VICINITY MAP
Mobil Station No. 10-LVW
5425 Grove Street
Oakland, California

PLATE
P-1



Source: Measured by Tape and Compass

● = Soil Sample Location

N

Approximate Scale

30 15 0 30 60

feet

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GENERALIZED SITE PLAN
Mobil Station No. 10-LVW
5425 Grove Street
Oakland, California

PLATE

P-2

CHAIN OF CUSTODY RECORD

Applied GeoSystems
43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

SAMPLER (signature):

Phone:

LABORATORY: TAL

TURNAROUND TIME: 24 hours

Project Leader: Glenn Dembroff

Phone No. 651-1906

SHIPPING INFORMATION:

Shipper

Address

Date Shipped

Service Used

Airbill No. Cooler No.

Relinquished by: (signatures)	Received by: (signatures)	Date	Time
		10/14	8:00 AM
TRACE ANALYSIS LABORATORY 3423 INVESTMENT BLVD., UNIT HAYWARD, CA 94545 (415) 783-0580	Received for laboratory by: TAL for Shackelford	10/14/87	3:10 pm

LABORATORY SHOULD SIGN UPON RECEIPT AND RETURN A COPY OF THIS FORM WITH THE LABORATORY RESULTS

Sample No.	Site Identification	Date Sampled	Analyses Requested	Sample Condition Upon Receipt
S-15-T1a	87117-1	10-13-87	TPH as gasoline (1H	ICED
S-15-T1b				
S-13-T2a				
S-13-T2b				
S-15-T3a				
S-13-T3b				

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545 *(415) 783-6960*

DATE: 10/16/87
LOG NO.: 5297
DATE SAMPLED: 10/13/87
DATE RECEIVED: 10/14/87

CUSTOMER: Applied GeoSystems
REQUESTER: Glenn Dembroff
PROJECT: No. 87117-1

Method and Constituent	Units	Sample Type: Soil S-13-T2a Concentration	S-13-T2a Detection Limit	S-13-T2b Concentration	S-13-T2b Detection Limit
Modified EPA Method 8015: Volatile Hydrocarbons	mg/kg	< 0.8	0.8	1.1	0.8

Method and Constituent	Units	S-13-T3b Concentration	S-13-T3b Detection Limit	S-15-T1a Concentration	S-15-T1a Detection Limit
Modified EPA Method 8015: Volatile Hydrocarbons	mg/kg	< 0.8	0.8	< 0.8	0.8

Method and Constituent	Units	S-15-T1b Concentration	S-15-T1b Detection Limit	S-15-T3a Concentration	S-15-T3a Detection Limit
Modified EPA Method 8015: Volatile Hydrocarbons	mg/kg	1.1	0.8	< 0.8	0.8

Hugh R. McLean
Supervisory Chemist

HRM:mln