KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P. O. BOX 913
BENICIA, CA 94510
(415) 676 - 9100 (707) 746 - 6915

KEI-J87-122
December 17, 1987

Paradiso Construction Company
P.O. Box 6397
Oakland, CA 94608

Attention: Mr. P. Paradiso

B3
C52
2/18/88

Re: Soil Sampling Investigation
San Lorenzo Village Homes Assoc.
427 Paseo Grande
San Lorenzo, California
Alameda

Dear Mr. Paradiso:

This report summarizes the soil sampling performed by Kaprealian Engineering, Inc. (KEI) at the referenced site. All work was performed in compliance with the regulations and guidelines established by the Regional Water Quality Control Board (RWQCB), and the Alameda County Department of Environmental Health.

The scope of the work performed in our investigation consisted of the following:

Coordination with the regulatory agencies

Collection of samples of native soil beneath the storage tanks

Delivery of soil samples with proper chain of custody to a certified analytical laboratory

Technical review and preparation of this report

FIELD INVESTIGATION

KEI's field investigation was conducted on December 8, 1987. One (1) 550 gallon, regular gasoline underground storage tank was removed from the site. Tank removal and the soil sampling were performed in the presence of Mr. James Ferdinand of the San Lorenzo Fire Department. The tank was made of steel and had numerous pea-sized holes on the sides.

Two (2) soil samples, labeled A1 and A2, were collected from the native soil beneath the tank. The undisturbed samples were collected from bulk material excavated by backhoe. The samples were placed in clean, two-inch diameter brass tubes, sealed with aluminum foil and plastic caps, and were stored in a cooled ice chest for delivery to the contracted laboratory.

SUBSURFACE CONDITIONS

The subsurface soils exposed in the excavations consisted primarily of sandy clay. Strong product odors were present in both samples. The excavated soil was stockpiled on the site for further sampling.

ANALYTICAL RESULTS

All samples were analyzed by HAZCAT Mobile Organics Laboratory of San Carlos, California and were accompanied by proper chain of custody forms. The samples were analyzed for total hydrocarbon (TPH) as gasoline, benzene, toluene and xylene (BTX) concentrations. The analytical results are summarized in Table 1. Copies of the laboratory analyses and the chain of custody forms are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Analytical results of the soil samples from the fuel tank pit indicate moderate levels of TPH (99 and 510 parts per million for A-1 and A-2, respectively) for both samples. According to the guidelines established by the Regional Water Quality Control Board (RWQCB), additional investigation is necessary at the site. To comply with the requirements of the RWQCB, KEI recommends installation of groundwater monitoring wells, within 10 feet of the fuel tank pit, to determine if the shallow groundwater beneath the site has been impacted. KEI's proposal for this work will be forwarded upon your request.

A copy of this report should be sent to the San Lorenzo Fire Department, and to the Regional Water Quality Control Board.

LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in groundwater levels and flow paths, thereby changing the extent

and concentration of any contaminants. Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this study are based on the data obtained from the field and laboratory investigations. We have analyzed this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

Should you have any questions regarding this report, please feel free to call me at (415) 676-9100 or (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Mardo Kaprealian

License #C29326
Exp. date 3/31/91

Attachments: Location plan
Laboratory analyses
Chain of custody forms
Table 1

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(all analyses are in parts per million)

Sample #	Depth	Total Hydrocarbon	Benzene	Toluene	Xylene
A1	8.0′	99	6.5	20	39
A2	8.0′	510	20	25	180

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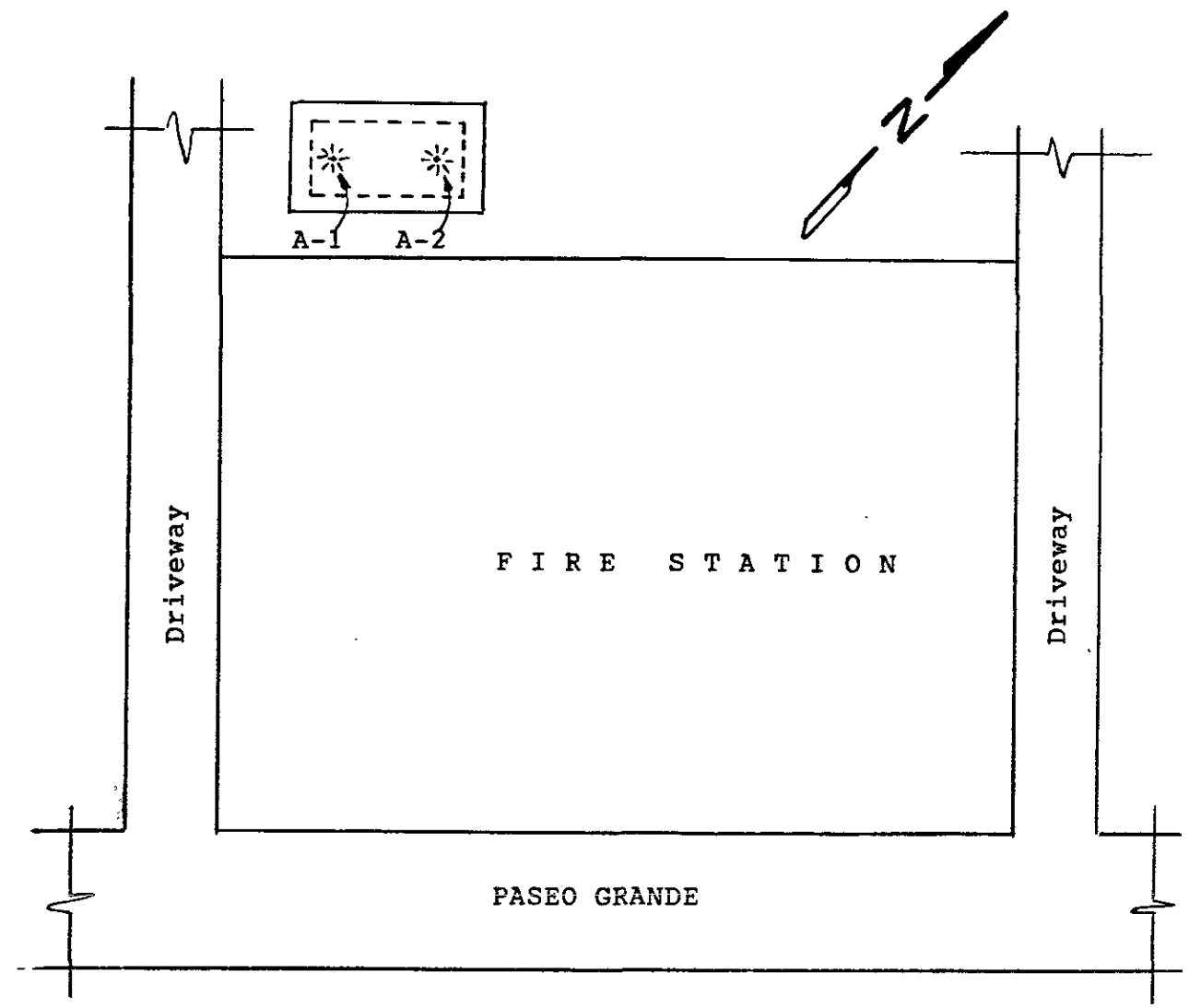

✳ Sample location

LOCATION PLAN
(nts)

427 Paseo Grande
San Lorenzo, California

HAZCAT Mobile Organics Lab

733 Dartmouth Avenue
San Carlos, CA 94070 • (415) 591-5820

Kaprealian Engineering, Inc.
P.O. BOX 913
Benicia ,CA 94510
Attn: Mardo Kaprealian, P.E.
President

Date Sampled:12-08-87
Date Received:12-08-87
Date Reported:12-09-87

Sample Number	Sample Description
127006	Paradiso San Lorenzo 427 Paseo Grande A-1

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1	99
Benzene	0.1	6.5
Toluene	0.1	20
Xylenes	0.1	39
Ethylbenzene	0.1	6.0

Note: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

HAZCAT

Ronald G. Evans
Lab Director

HAZCAT Mobile Organics Lab

733 Dartmouth Avenue
San Carlos, CA 94070 • (415) 591-5820

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President

Date Sampled:12-08-87
Date Received:12-08-87
Date Reported:12-09-87

Sample Number	Sample Description
127007	Paradiso San Lorenzo 427 Paseo Grande A-2

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1	510
Benzene	0.1	20
Toluene	0.1	25
Xylenes	0.1	180
Ethylbenzene	0.1	31

Note: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

HAZCAT

Ronald G. Evans
Lab Director

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER: [signature] KES (signature)

DATE/TIME OF COLLECTION: 12-8-87 1:30

TURNAROUND TIME: 10 DAYS

SAMPLE DESCRIPTION AND PROJECT NUMBER: PALADSO - San Lorenzo - 407 Paseo Grande.

SAMPLE #	ANALYSIS	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
A-1	TPH. G & BTX;E	Grab	1	S
A-2	" "	Grab	1	S

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. [signature] KES	3:05 12.8.87	[signature]	12-8-87 3:00 PM
2.			
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: 10 DAYS.