July 2, 1990

REMOVAL OF WASTE OIL TANK AND ADJACENT SOILS

BEACON STATION #604

1619 WEST FIRST STREET

LIVERMORE, CALIFORNIA

DELTA PROJECT NO. 40-89-095

Delta Environmental Consultants, Inc.

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Prepared by:

Delta Environmental Consultants, Inc.
3330 Data Drive, Suite 100
Rancho Cordova, California 95670
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July 2, 1990

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1.0 INTRODUCTION

Delta Environmental Consultants, Inc. (Delta), has been authorized to investigate soil conditions immediately below a former waste oil tank following its excavation and removal from an operating Beacon service station (#604) located at 1619 West First Street, Livermore, California (Figure 1). This report presents observations of soil conditions and results of soil sample analysis.

1.1 Purpose

The purpose of the investigation was to evaluate the soil beneath the former waste oil tank for the presence or absence of petroleum hydrocarbon constituents and to insure proper storage and disposal of excavated soils.

1.2 Scope of Work

Work performed at the site intended to achieve the objectives mentioned above included the following activities:

- Soil excavated from the 550-gallon-capacity waste oil tank area was stockpiled on site.
- Soil samples were collected from beneath the waste oil tank.
- Soil samples were collected from the aboveground stockpile.
- Soil samples were submitted for laboratory analysis.
- Laboratory reports were forwarded to the parties responsible for the disposal of stockpiled soils.

2.0 SITE DESCRIPTION

2.1 Site Setting

The site is located within the city limits of Livermore, California. It is situated at the south edge of a commercial district bounded to the north, east, and west by restaurants, retail shops, and grocery stores. First Street is located immediately north of the site. A residential area is located south of the site. The closest residence is located less than 10 feet south of the southern property boundary.

2.2 Site History

The site is currently being operated as a retail gasoline dispensing facility. The building located on site, previously an automobile repair garage, is currently occupied by a car stereo retail and installation business. Available data indicate that neither gasoline nor waste oil product has ever been released at the site.

3.0 SITE WORK

3.1 Tank Removal

The excavation of the waste oil tank was performed by Dan Brenton Construction Co., of San Jose, California, on March 12, 1990, using a backhoe. Removal of the tank was delayed until March 15, 1990, following completion of the permitting process. Dry ice (CO_2) was placed in the tank and a Delta representative used an explosimeter to monitor the oxygen content and concentration of explosive vapors within the empty tank. The readings indicated that the tank did not present a hazard and Mr. Randy Griffith (Fire Inspector, City of Livermore, California) gave final permission for the tank to be removed. Aboveground inspection of the tank did not reveal any obvious signs of structural damage. No discoloration of the tank or the soil beneath the tank was noted by the Delta representative present.

3.2 Site Soils

Soils encountered at the site consisted of gravelly sand. The soils were observed to a maximum depth of 6 feet below grade.

3.3 Soil Analytical Results

On March 15, 1990, two soil samples, TBS-1A and 1B, were collected from the native soil beneath the center of the former waste oil tank location. Soil samples were collected and preserved using procedures described in Appendix A. One soil sample from beneath the tank basin (TBS-1A) and from the stockpile

(SP-1) was submitted to Mobile Chem Lab, Inc., to be analyzed for total petroleum hydrocarbon identified as diesel and as gasoline (TPHd and TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and total oil and grease. In addition to the petroleum hydrocarbon constituents, analyses of the volatile organic compounds listed in Table 1 were performed as requested by Contra Costa County. Sample TBS-1B was placed on hold with Mobile Chem Labs, Inc., pending preliminary analytical results and the possible need for additional analyses. The soil sample locations are shown in Figure 2.

TABLE 1

Volatile Organic Compounds

Bromomethane	1,2-Dichloropropane
Bromodichloromethane	1,3-Dichloropropene
Bromoform	Carbon tetrachloride
1,4-Dichlorobenzene	Methylene chloride
Chlorobenzene	1,1,2,2-Tetrachloroethane
Chloroethane	Tetrachloroethane
2-Chloroethylvinyl ether	1,1,1-Trichloroethane
Chloroform	1,1,2-Trichloroethane
Chloromethane	Trichloroethene
Dibromochloromethane	1,1-Dichloroethane
trans-1,2-Dichloroethane	Vinyl chloride
1,2-Dichloroethane	1,2-Dichlorobenzene
1,1-Dichloroethene	1,3-Dichlorobenzene

Soil sample TBS-1A did not contain detectable levels of petroleum hydrocarbon constituents or the volatile organic compounds listed in Table 1. A summary of the laboratory analytical results is presented in Table 2. Copies of the laboratory analytical reports are included in Appendix B. Based on the analytical results of TBS-1A, no additional analyses were performed on soil sample TBS-1B.

The soil sample collected from the stockpile (SP-1) contained 400 ppm oil and grease but no other petroleum or organic compounds were detected. The excavated soils were stockpiled at the site on a sheet of visquine. A sheet of visquine was also placed over the pile.

TABLE 2

Soil Sample Analytical Results
Concentrations in parts per million (ppm)

Organic Compound	EPA Method	TBS-1A	SP-1
Petroleum Hydrocarbon Constituents			
Total Petroleum Hydrocarbons as gasoline (TPHg)	5030	<1.0	<1.0
Benzene	8020	<0.1	<0.1
Toluene	8020	<0.1	<0.1
Xylenes	8020	<0.1	<0.1
Ethylbenzene	8020	<0.1	<0.1
Total Petroleum Hydrocarbons as diesel (TPHd)	3550	<5.0	<5.0
Oil & Grease	503E	<50.0	[illegible]
Volatile Organic Compounds			
Bromomethane	8010	<100	<100
Bromodichloromethane	8010	<50	<50
Bromoform	8010	<50	<50
Carbon tetrachloride	8010	<50	<50
Chlorobenzene	8010	<50	<50
Chloroethane	8010	<50	<50
2-Chloroethylvinyl ether	8010	<50	<50
Chloroform	8010	<50	<50
Chloromethane	8010	<100	<100
Dibromochloromethane	8010	<50	<50
1,1-Dichloroethane	8010	<50	<50
1,2-Dichloroethane	8010	<50	<50
1,1-Dichloroethene	8010	<50	<50
trans-1,2-Dichloroethane	8010	<50	<50
1,2-Dichloropropane	8010	<50	<50
1,3-Dichloropropene	8010	<50	<50
Methylene chloride	8010	<50	<50
1,1,2,2-Tetrachloroethane	8010	<50	<50
Tetrachloroethane	8010	<50	<50
1,1,1-Trichloroethane	8010	<50	<50
1,1,2-Trichloroethane	8010	<50	<50
Trichloroethene	8010	<50	<50
Vinyl chloride	8010	<100	<100
1,2-Dichlorobenzene	8010	<100	<100
1,3-Dichlorobenzene	8010	<100	<100
1,4-Dichlorobenzene	8010	<100	<100

4.0 SUMMARY AND CONCLUSION

On March 15, 1990, a 550-gallon buried waste oil tank was removed from the Beacon service station #604 located at 1619 West First Street, Livermore, California. No signs of structural damage to the tank were observed and no signs of petroleum hydrocarbon influence were apparent in the soil beneath the tank.

A sample was collected from the native soil beneath the center of the former tank location. Laboratory analyses revealed that the soil sample did not contain detectable levels of petroleum hydrocarbon constituents or volatile organic compounds (Table 2). Stockpile soil sample SP-1 contained 400 ppm oil and grease but none of the remaining petroleum hydrocarbon or volatile organic compounds were detected.

Based on available data, additional investigative work related to the former waste oil tank does not appear to be warranted. It is recommended that a copy of this report be forwarded to the following agencies:

Mr. Randy S. Griffith
Fire Department
City of Livermore
4550 East Avenue
Livermore, California 94550

Mr. Gil Wistar
Department of Hazardous Materials
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, California 94621

5.0 REMARKS/SIGNATURES

The recommendations contained in this report represent our professional opinions, and are based in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

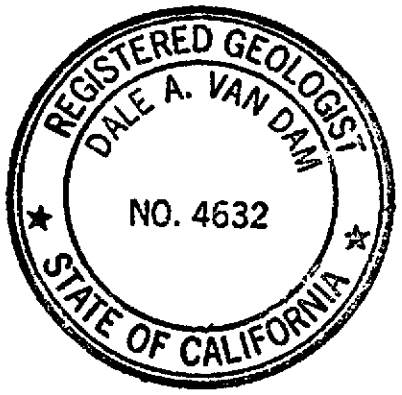
DELTA ENVIRONMENTAL CONSULTANTS, INC.

This report was prepared by: Martin S Burck Date 7/5/90

Martin S. Burck
Hydrogeologist/Project Manager

The work performed in this report was done under the supervision of a California Registered Geologist: Dale A. van Dam Date 7/5/90

Dale A. van Dam, R.G.
California Registered
Geologist #4632



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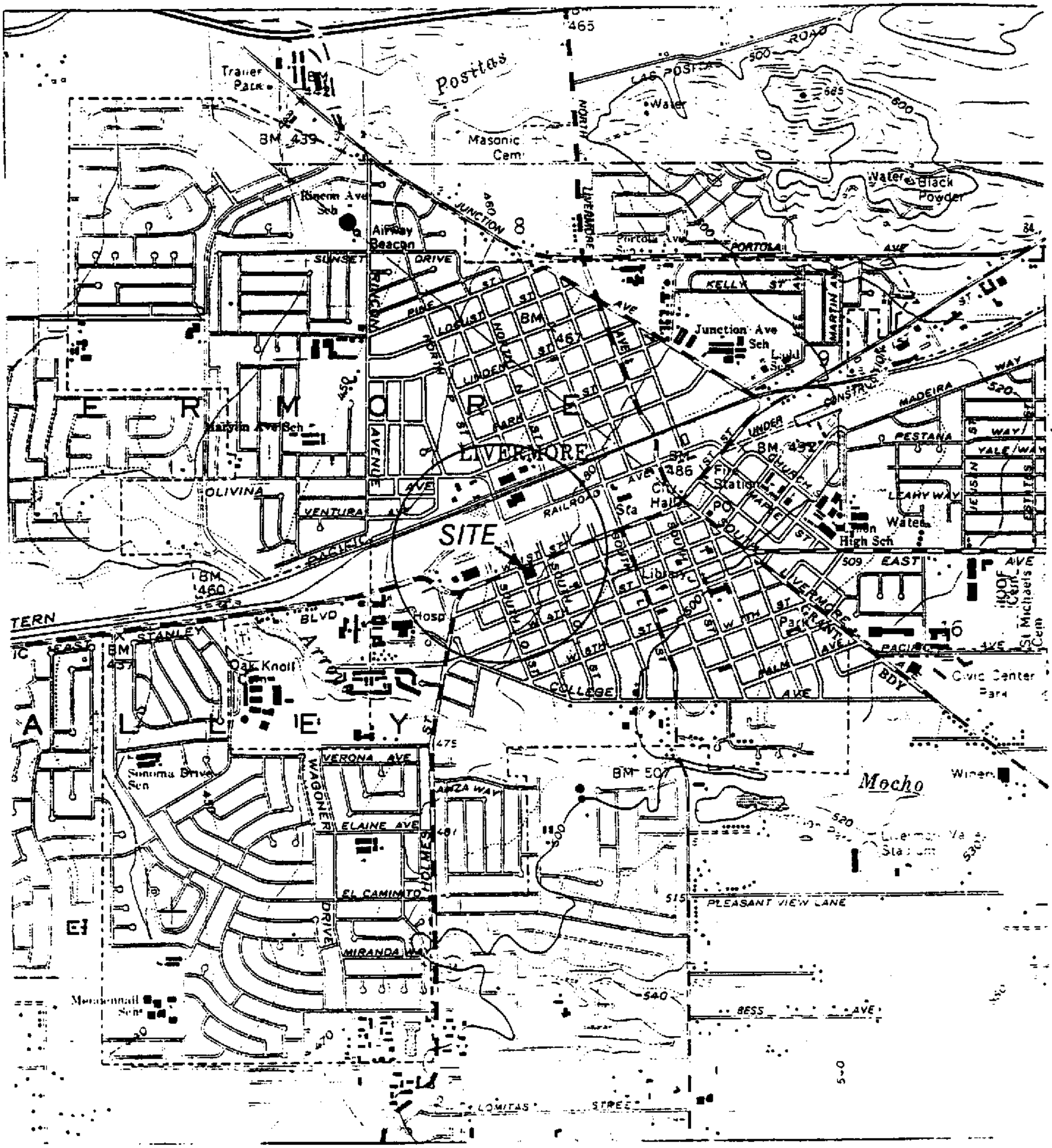

R.2.E.

GENERAL NOTES:
BASE MAP FROM U.S.G.S.
LIVERMORE, CA.
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980
CONTOUR INTERVAL = 20 FEET

North

QUADRANGLE LOCATION

0 2000 FT

SCALE 1 : 24,000

FIGURE 1
SITE LOCATION MAP
BEACON STATION NO. 604
1619 WEST FIRST AVENUE
LIVERMORE, CA.

PROJECT NO. 40-89-095	DRAWN BY SSG 4/27/90
FILE NO.	PREPARED BY MSB 4/27/90
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

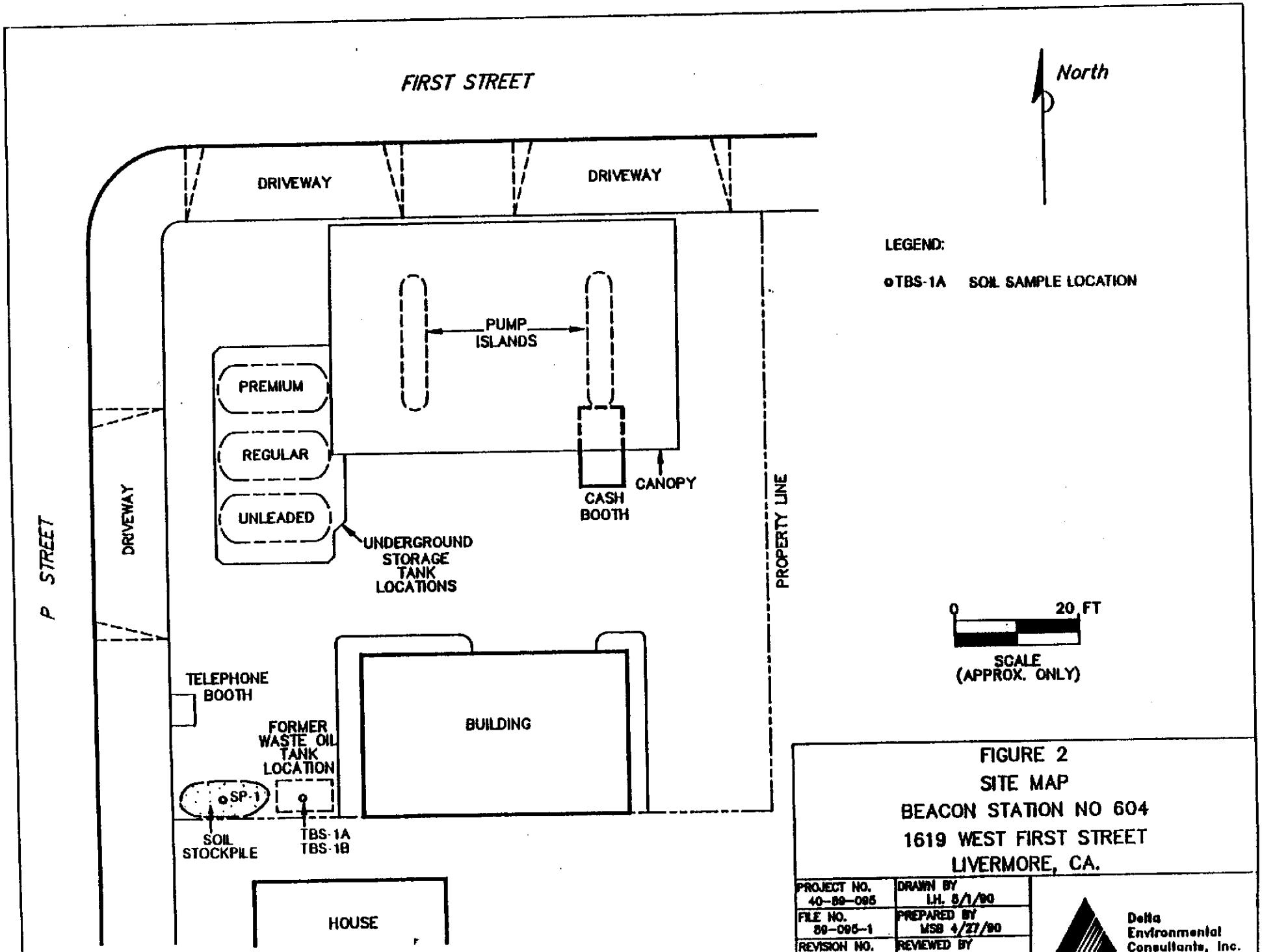

FIGURE 2
SITE MAP
BEACON STATION NO 604
1619 WEST FIRST STREET
LIVERMORE, CA.

PROJECT NO. 40-89-095	DRAWN BY I.H. 5/1/90
FILE NO. 89-095-1	PREPARED BY MSB 4/27/90
REVISION NO. 2	REVIEWED BY

Delta Environmental Consultants, Inc.

APPENDIX A

Sampling Procedures and Analytical Methods

SAMPLING PROCEDURES

Soil samples were collected for chemical analysis as soon as possible after exposure of sample locations. An impact sampler was used to obtain the sample by driving a 2-inch by 6-inch brass sample tube into the soil. After sample collection, the sample tubes were sealed with plastic end caps and duck tape. The soil samples were stored in an ice chest on ice until they were relinquished to the laboratory.

ANALYTICAL METHODS

All soil samples were submitted to a California-certified laboratory, and analyses were performed using methods approved by the U.S. Environmental Protection Agency.

The chemical compounds that the soils were analyzed for included: benzene, toluene, ethylbenzene, xylenes, and total petroleum hydrocarbons as gasoline using Method 8020 and 8015, respectively. Total petroleum hydrocarbons detected as diesel was determined by Method 3550, oil and grease by Method 305E, and a suite of volatile organic compounds listed in Table 2, by Method 8010.

APPENDIX B

Laboratory Soil Analytical Reports and Chain-of-Custody

MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Delta Environmental Consultants, Inc.
3330 Data Dr.
Rancho Cordova, Ca. 95670
Attn: Dale Van Dam

Date Sampled: 03-15-90
Date Received:03-15-90
Date Reported:03-16-90

Sample Number	Sample Description
B030207	Project # 40-89-095 Ultramar-Livermore TBS-1A SOIL

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.1	<0.1
Toluene	0.1	<0.1
Xylenes	0.1	<0.1
Ethylbenzene	0.1	<0.1

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Delta Environmental Consultants, Inc.
3330 Data Dr.
Rancho Cordova, Ca. 95670
Attn: Dale Van Dam

Date Sampled: 03-15-90
Date Received:03-15-90
Date Reported:03-16-90

Sample Number	Sample Description
B030208	Project # 40-89-095 Ultramar-Livermore SP-1 SOIL

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.1	<0.1
Toluene	0.1	<0.1
Xylenes	0.1	<0.1
Ethylbenzene	0.1	<0.1

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction

MOBILE CHEM LABS

Joyce A. Dickneaux

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Delta Environmental Consultants, Inc.
3330 Data Dr.
Rancho Cordova, CA. 95670
Attn: Dale Van Dam

Date Sampled:03-15-90
Date Received:03-15-90
Date Reported:03-16-90

Sample Number	Sample Description	Detection Limit	SOIL Total Petroleum Hydrocarbons as Diesel
		ppm	ppm
Project:	Ultramar - Livermore Project # 40-89-095		
B030207	TBS-1A	5	<5
B030208	SP-1	5	<5

Note: Analysis was performed using EPA methods 3550 and TPH LUFT

MOBILE CHEM LABS

Joyce A. Dickneau

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Delta Environmental Consultants, Inc.
3330 Data Drive
Rancho Cordova, CA 95670
Attn: Dale Van Dam

Date Sampled: 03-15-90
Date Received: 03-15-90
Date Reported: 03-16-90

Sample Number	Sample Description	Detection Limit	Gravimetric Waste Oil as Petroleum Oil
		ppm	ppm
	Ultramar - Livermore Project # 40-89-095		
B030207	TBS-1A	50	<50
B030208	SP-1	50	400

Note: Analysis was performed using EPA extraction method 3550 with Trichlorotrifluoroethane as solvent, and gravimetric determination by standard methods 503E

MOBILE CHEM LABS

Joyce A. Dishman

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

1678 Rellez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Delta Environmental Consultants, Inc.
3330 Data Dr.
Rancho Cordova, Ca. 95670
Attn: Dale Van Dam

Date Sampled : 03-15-90
Date Received: 03-15-90
Date Reported: 03-16-90

Sample Number	Sample Description
B030207	Project # 40-89-095 Ultramar - Livermore TBS-1A SOIL

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

results in ppb

Benzene	--	trans-1,2-Dichloroethane	<50
Bromomethane	<100	1,2-Dichloropropane	<50
Bromodichloromethane	<50	1,3-Dichloropropene	<50
Bromoform	<50	Ethylbenzene	--
Carbon tetrachloride	<50	Methylene chloride	<50
Chlorobenzene	<50	1,1,2,2-Tetrachloroethane	<50
Chloroethane	<50	Tetrachloroethane	<50
2-Chloroethylvinyl ether	<50	1,1,1-Trichloroethane	<50
Chloroform	<50	1,1,2-Trichloroethane	<50
Chloromethane	<100	Trichloroethene	<50
Dibromochloromethane	<50	Toluene	--
1,1-Dichloroethane	<50	Vinyl chloride	<100
1,2-Dichloroethane	<50	1,2-Dichlorobenzene	<100
1,1-Dichloroethene	<50	1,3-Dichlorobenzene	<100
		1,4-Dichlorobenzene	<100
		Total Xylenes	--

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

NOTE: Analysis was performed using method 8010

MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

Delta Environmental Consultants, Inc.
3330 Data Dr.
Rancho Cordova, Ca. 95670
Attn: Dale Van Dam

Date Sampled : 03-15-90
Date Received: 03-15-90
Date Reported: 03-16-90

Sample Number	Sample Description
B030208	Project # 40-89-095 Ultramar - Livermore SP-1 SOIL

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

results in ppb

Benzene	--	trans-1,2-Dichloroethane	<50
Bromomethane	<100	1,2-Dichloropropane	<50
Bromodichloromethane	<50	1,3-Dichloropropene	<50
Bromoform	<50	Ethylbenzene	--
Carbon tetrachloride	<50	Methylene chloride	<50
Chlorobenzene	<50	1,1,2,2-Tetrachloroethane	<50
Chloroethane	<50	Tetrachloroethane	<50
2-Chloroethylvinyl ether	<50	1,1,1-Trichloroethane	<50
Chloroform	<50	1,1,2-Trichloroethane	<50
Chloromethane	<100	Trichloroethene	<50
Dibromochloromethane	<50	Toluene	--
1,1-Dichloroethane	<50	Vinyl chloride	<100
1,2-Dichloroethane	<50	1,2-Dichlorobenzene	<100
1,1-Dichloroethene	<50	1,3-Dichlorobenzene	<100
		1,4-Dichlorobenzene	<100
		Total Xylenes	--

MOBILE CHEM LABS
Joyce A Dishneau
Ronald G. Evans
Lab Director

NOTE: Analysis was performed using method 8010

Delta Environmental Consultants, Inc.

Sample Identification/Field Chain of Custody Record

Project: 1619 First ST Livermore Beacon W.O.# 40-89-095

Shipped by:

Shipped to:

Results to the attention of: Dale Van Dam

Sampling Point	Location	Field ID #	Date	Sample Type	No. of Containers	Analysis Required
Waste Oil Tank	bottom of basin	TBS-1A	3/15/90	Soil	1	TPH(g) TPH(d) oil & Grease, Chlorinated hydrocarbons
"	Stockpile	SP-1	↓	↓	↓	↓ ↓
Waste Oil Tank	bottom of basin	TBS-1B	↓	↓	↓	↓ ↓
☆	SEE COMMENTS BELOW				☆	

Sampler(s) (signature) Martin & Burch

Field ID	Relinquished by: (signature)	Received by: (signature)	Date/Time		Comments
40-89-095	Martin & Burch	~~X~~	3-15-90	1:20pm	Left with (Brenton) Contractor

Sealed for shipment by: (signature) Date/Time Shipment method: Picked up by Mobile courier

Comments: NOTE !!! TBS-1A 24 hr Turn Around

SP-1 regular Turn Around

TBS-1B Hold for possible additional testing

Receiving Laboratory: Please return original form after signing for receipt of samples.