



GeoStrategies Inc.

**WORK PLAN
FOR THE CLOSURE AND ABANDONMENT IN-PLACE
OF THE UNDERGROUND STORAGE TANKS**

at

Jackson and 12th Streets
ALCOPARK Facility
165 13th Street
Oakland, California

613801-01

Report prepared for

Alameda County General Services Agency
4400 MacArthur Boulevard
Oakland, California 94619

by

GeoStrategies Inc.

Lisa L. Kelly
Staff Engineer

Steven P. Viani
Senior Engineering Manager
R.C.E. C30965

June 6, 1994



CONTENTS

1.0	INTRODUCTION	1
2.0	SITE DESCRIPTION AND HISTORY	1
2.1	Site Description	1
2.2	Site History	2
3.0	PREVIOUS ENVIRONMENTAL WORK	2
4.0	PROPOSED WORK	3
4.1	Administrative Preparation for Abandonment in Place of the USTs	3
4.2	On-Site Preparation for Abandonment in Place of the USTs	3
4.3	Removal of Liquids, Residues and Vapors from the USTs	3
4.4	Filling of USTs with an Inert Material	4
4.5	Securing of Site	5
4.6	Preparing of Final Report	5
5.0	REFERENCES	5

TABLES

TABLE 1:	Analytical Data: Soil Samples
TABLE 2:	Analytical Data: Ground Water Samples

FIGURES

FIGURE 1:	Vicinity Map
FIGURE 2:	Site Plan
FIGURE 3:	Cross Section AA'
FIGURE 4:	Site Operations Plan

APPENDICES

APPENDIX A:	Tank Information Summary Sheets
APPENDIX B:	Letter from Mr. Andrew B. Garcia, Alameda General Services Agency to Mr. Thomas F. Peacock, Department of Environmental Health, Dated December 17, 1993
APPENDIX C:	Laboratory Analytical Reports as Reported by and for the Soil Borings Supervised by Environmental Science & Engineering, Inc.
APPENDIX D:	Site Specific Health and Safety Plan

1.0 INTRODUCTION

At the request of Alameda County General Services Agency (Alameda County), GeoStrategies Inc. (GSI) has prepared this Work Plan for the closure and abandonment in place of the two underground storage tanks (USTs) at the subject site. This document details the proposed work.

The work to be performed includes: (1) contacting the City of Oakland Fire Department, obtaining a tank closure permits from the Alameda County Department of Environmental Health and from the City of Oakland Fire Department; (2) familiarizing all involved personnel with the site specific health and safety plan, and scheduling equipment and personnel; (3) remove all liquids, residues and vapors from the USTs; (4) fill USTs, manholes, vent, fill and vapor lines with an inert solid; and (5) prepare a final report documenting closure activities.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

Alameda County Parking Garage (ALCOPARK) is an operating parking garage located at 165 13th Street, in Oakland, California, as shown on the Vicinity Map, Figure 1. In the southwest corner of ALCOPARK, near the intersection of Jackson and 12th Streets, there are two 10,000 gallon USTs. These USTs are currently inactive, but were installed to store gasoline for refueling county operated vehicles. The location of the USTs can be seen on the Site Plan, Figure 2.

Both USTs, numbered 1921-1 and 1921-2, are 10,000 gallon, single wall steel, equipped with submersible pumps. Both tanks are located below the water table surface and are secured by two, 2-inch diameter steel rods attached to a reinforced concrete pad that is 26 feet, 8 inches below ground surface (bgs). Both USTs are accessible through their own 36 inch precast manhole shaft with rungs. UST details can be found in Cross Section AA', Figure 3.

Tank Information Summary Sheets can be found in Appendix A. These summaries state the USTs are fiberglass and have a capacity of 8,000 gallons. It is unlikely the USTs are composed of fiberglass, as fiberglass USTs were not yet being manufactured in 1956, the time of their installation. Based on a review of information provided to GSI, this is the only reference to the USTs being 8,000 gallon tanks rather than 10,000 gallon tanks, therefore GSI assumes the tanks have a 10,000 gallon capacity.

2.2 Site History

In 1956 both USTs were installed at the ALCOPARK on the corner of Jackson and 12th Streets. The Tank Information Summary Sheets indicate UST 1921-1 was used to store regular gasoline, while UST 1921-2 was used to store unleaded gasoline. The USTs have not been in operation since the installation of two 10,000 gallon USTs at the corner of Jackson and 13th Streets. In October 1992 Environmental Science & Engineering, Inc. (ESE) supervised the attempted drilling of boring SB-1A and the drilling of soil borings SB-1, SB-2, SB-3 and SB-4. The location of all five borings can be found on the Site Plan.

On December 17, 1993, Mr. Andrew B. Garcia of Alameda County General Services Agency, wrote Mr. Thomas F. Peacock, Supervising Hazardous Materials Specialist, Division of Hazardous Materials, Department of Environmental Health, summarizing their November 22, 1993 discussion and their December 15, 1993 telephone conversation regarding the current status and future compliance requirements at ALCOPARK Facility. On December 23, 1993, Mr. Thomas F. Peacock signed the document, concurring with the letter's contents. A copy of this letter can be found in Appendix B. Regarding the UST removal at 12th and Jackson Street, the following conclusions were made:

- (1) analytical results from ESE's report supported the case that groundwater contamination is coming from a source upgradient of ALCOPARK;
- (2) the County would explore the option to close the two USTs in place;
- (3) Environmental Health would not require the County to do additional soil borings or install groundwater monitoring wells;
- (4) since closure of the two USTs is part of an on-going site closure, the County only needs to submit closure plans, no new permits would be required.

3.0 PREVIOUS ENVIRONMENTAL WORK

On October 13, 1992 ESE supervised the attempted drilling of boring SB-1A, which was not completed due to difficult drilling conditions. On October 27 and 28, 1992 ESE supervised the drilling of soil borings SB-1, SB-2, SB-3 and SB-4. ESE took soil and ground water samples from borings SB-1 through SB-4 and analyzed them for total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene and total xylenes (BTEX). The analytical results of these samples are summarized in Table 1, Analytical Data: Soil Samples, and Table 2, Analytical Data: Ground Water Samples, as compiled by ESE and found in ESE's "Report of Findings, Subsurface Investigation for Underground Storage Tanks at Jackson and 12th Streets, ALCOPARK Facility, 165 13th Street, Oakland, California," issued on April 19, 1993. Laboratory analytical results, as reported in the same document, for the soil and groundwater samples are included in Appendix C.

4.0 PROPOSED WORK

GSI proposes to abandon in place two USTs as follows:

4.1 Administrative Preparation for Abandonment in Place of the USTs

GSI will contact both the Alameda County Department of Environmental Health and the City of Oakland Fire Department, obtain a tank closure permit from the City of Oakland Fire Department and concurrence from the Department of Environmental Health, familiarize all involved personnel with the health and safety plan, and schedule equipment and personnel. A copy of the health and safety plan is included as Appendix D.

4.2 On-Site Preparation for Abandonment in Place of the USTs

Prior to starting work, the site will be secured as specified in the health and safety plan. This includes restricting access to the exclusion zone and the staging area (placements shown on Figure 4) through the use of barricades, flagging and vehicles.

Each time a manhole is to be entered, confined space entry procedures will be followed as outlined in the health and safety plan. This includes monitoring the manhole to ensure that hazardous atmospheres do not exist, inspecting retrieval and personal protective equipment, and determining personnel responsible for observing and for calling emergency assistance.

Precautions will be taken to minimize exposure of tools and personal protective equipment to contaminants. If tools or personal protective equipment become contaminated, they will be decontaminated. Tools will be steam cleaned, the rinse water will be collected and removed from the site by a licensed hazardous waste hauler. Personal protective equipment will either be washed thoroughly with detergent solution and water, or disposed of in the slurried tanks.

4.3 Removal of Liquids, Residues and Vapors from the USTs

As the two USTs were holding vessels for potentially flammable, combustible and hazardous materials, it is necessary to remove any remaining product, before the USTs can be filled and sealed. The removal of the material will be executed in two steps.

June 6, 1994

First, any liquids and water soluble residues will be removed from the USTs by means of a submersible pump and vacuum truck due to the USTs' depth. All removed material will be considered hazardous waste and handled appropriately. A licensed hazardous waste hauler will be contracted to transport and dispose of removed material. The vacuum pump exhaust gases shall be discharged through a hose of adequate size and length downwind of the truck and tank area. Once all liquids have been extracted from the USTs, water will be used to triple rinse all fill lines, as well as the interior of the tank. This rinsate will be extracted using a submersible pump and vacuum truck.

The final rinsate will be sampled by the hauler to provide evidence that the tanks have been cleaned of all hazardous material. Samplers and the laboratory will follow formal chain-of-custody documentation procedures. Laboratory results will be submitted to the Department of Environmental Health for approval. If the laboratory results indicate rinsing procedures were not effective, rinsing of the tanks will be repeated and the final rinsate will again be sampled and analyzed. Once the Department of Environmental Health indicates all water soluble residue has been removed to satisfactory levels, GSI will proceed by displacing any vapors present in the USTs.

In this second step, solid carbon dioxide (dry ice) is inserted into the USTs to displace any possibly flammable vapors and oxygen. All accessible tank fixtures will be removed. All non-product lines will be capped or removed except for the vent line. A minimum of 300 pounds of dry ice per tank will be inserted (3 pounds for each 100 gallons of tank volume). Displaced vapors will be discharged through the vent lines. The USTs will be monitored until the tank atmospheres reach less than 20% of the lower flammable limit.

4.4 Filling of USTs with an Inert Material

The USTs will be filled by pumping with sand grout containing one 94 pound sack of cement per cubic yard. If access to the tanks is restricted (to be evaluated on-site), access will be increased by using non-sparking equipment to enlarge the tank opening. During the grouting operation, the grout will be vibrated to reduce the formation of voids. Air relief will occur by means of the fill and vent lines.

4.5 Securing of Site

Upon completion of the UST grouting operations, the manholes will be grouted flush with the surface using a one 94 pound sack of cement per cubic yard of sand mix to three feet bgs and then a six 94 pound sacks of cement per cubic yard of sand mix to the surface. Fill lines will be grouted to the surface and the vent lines will be cut and grouted to the surface to prevent their use.

4.6 Preparing of Final Report

Once the USTs have been closed and abandoned in-place, a final report documenting closure activities will be prepared by GSI. This report will be reviewed, signed and stamped by a registered civil engineer.

5.0 REFERENCES

American Petroleum Institute, Second Edition, 1987. Removal and Disposal of Used Underground Petroleum Storage Tanks, Section 3.

Environmental Science & Engineering, Inc., April 19, 1993. Report of Findings, Subsurface Investigation for Underground Storage Tanks at Jackson and 12th Streets, ALCOPARK Facility, 165 13th Street, Oakland, California. Project No. 6-92-5395.

TABLE 1

ANALYTICAL DATA: SOIL SAMPLES

ALAMEDA COUNTY ALCOPARK
12TH AND JACKSON STREETS
OAKLAND, CALIFORNIA

Soil Borings	Sample Depth (feet)	Date	TPH-G (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)
SB-1	15	10/27/92	<1	0.019	0.019	0.011	0.042
SB-1	21.5	10/27/92	6.3	0.41	0.68	0.10	0.70
SB-2	15	10/27/92	<1	<0.005	<0.005	<0.005	<0.005
SB-2	22	10/27/92	1.8	0.21	0.19	0.034	0.20
SB-3	15	10/28/92	<1	<0.005	<0.005	<0.005	<0.005
SB-3	22	10/28/92	<1	<0.005	<0.005	<0.005	<0.005
SB-4	15	10/28/92	<1	<0.005	<0.005	<0.005	<0.005
SB-4	22	10/28/92	<1	<0.005	<0.005	<0.005	<0.005

NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline (TPH-G)
 mg/Kg = milligrams per kilogram or parts per million (ppm)
 < = less than listed detection limit

TABLE 2

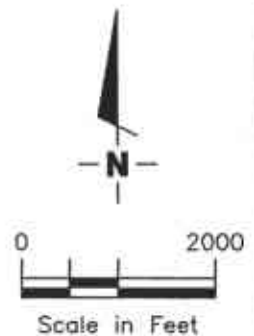
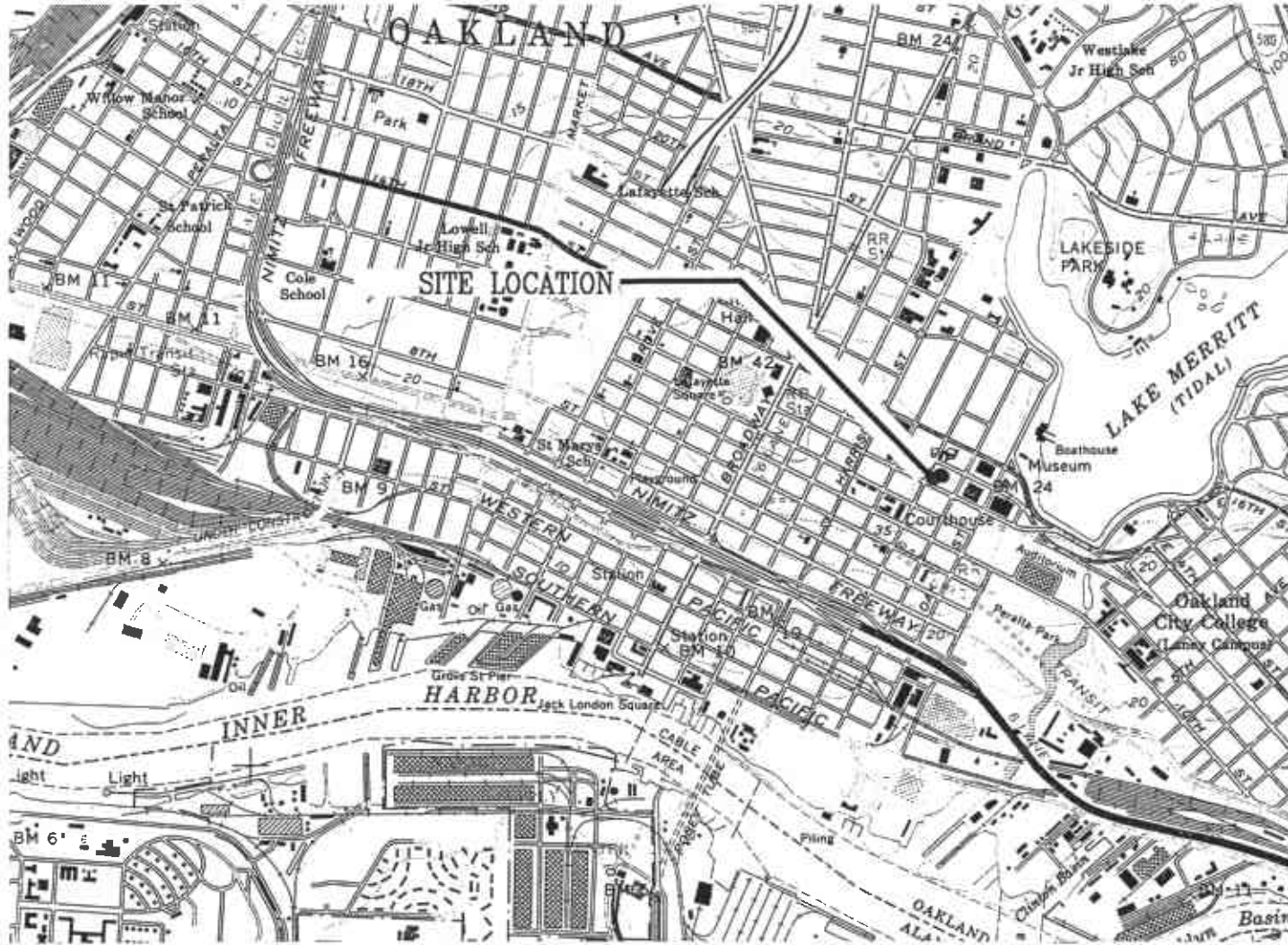
ANALYTICAL DATA: GROUND WATER SAMPLES

ALAMEDA COUNTY ALCOPARK
12TH AND JACKSON STREETS
OAKLAND, CALIFORNIA

Boring	Date	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl- benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)
SB-1	10/27/92	51,000	2,400	9,400	1,400	8,400
SB-2	10/27/92	8,200	560	930	360	620
SB-3	10/28/92	72	0.71	<0.5	0.5	2.4
SB-4	10/28/92	<50	<0.5	<0.5	<0.5	<0.5

NOTES:

TPH-G = Total Petroleum Hydrocarbons as Gasoline (TPH-G)
 $\mu\text{g/L}$ = micrograms per liter or parts per billion (ppb)
 < = less than listed detection limit



Base Map: USGS Topographic Map



GeoStrategies Inc.

VICINITY MAP
 Alameda County GSA
 165 13th Street
 Oakland, California

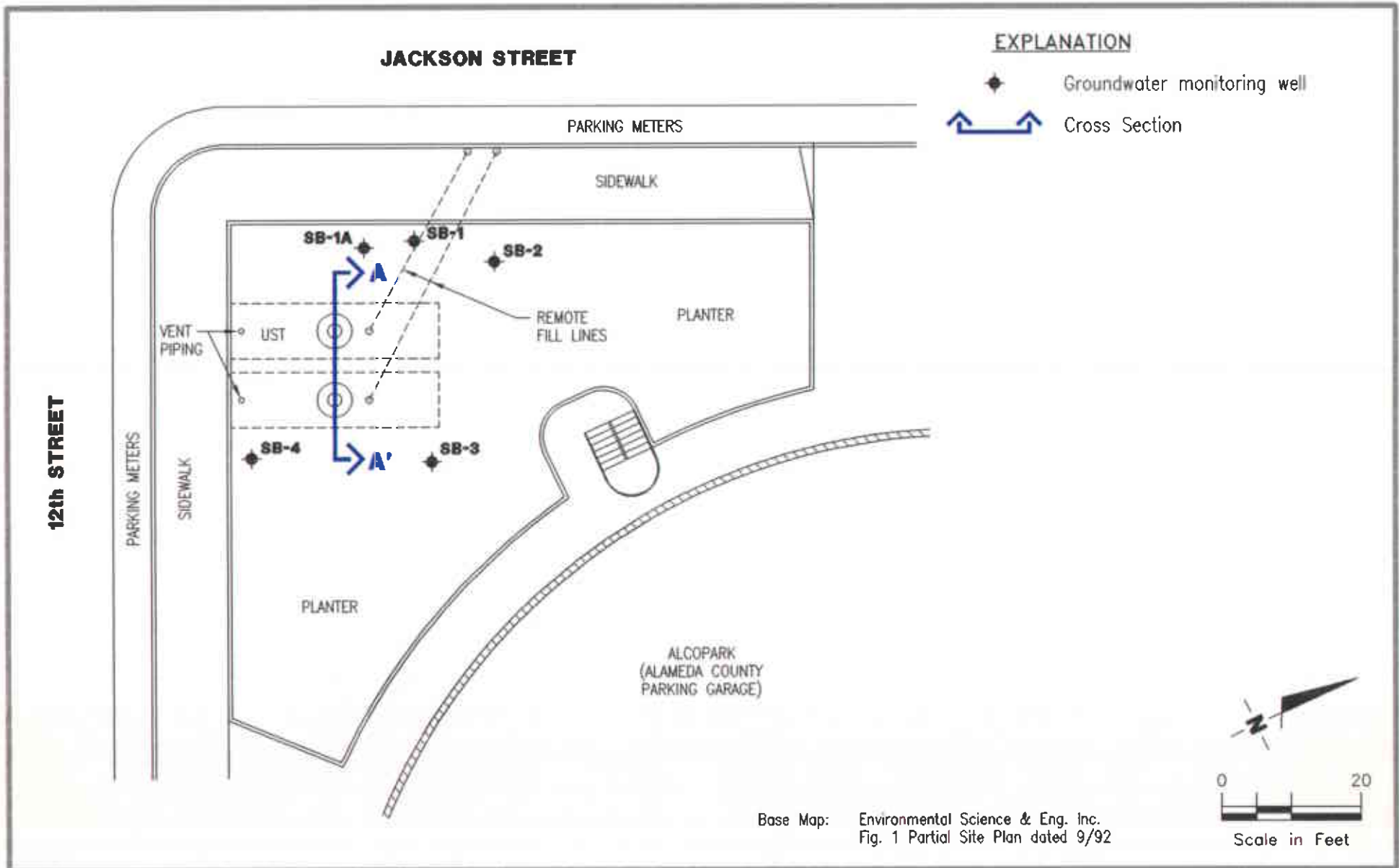
FIGURE
1

JOB NUMBER
 6138

REVIEWED BY

DATE
 5/94

REVISED DATE



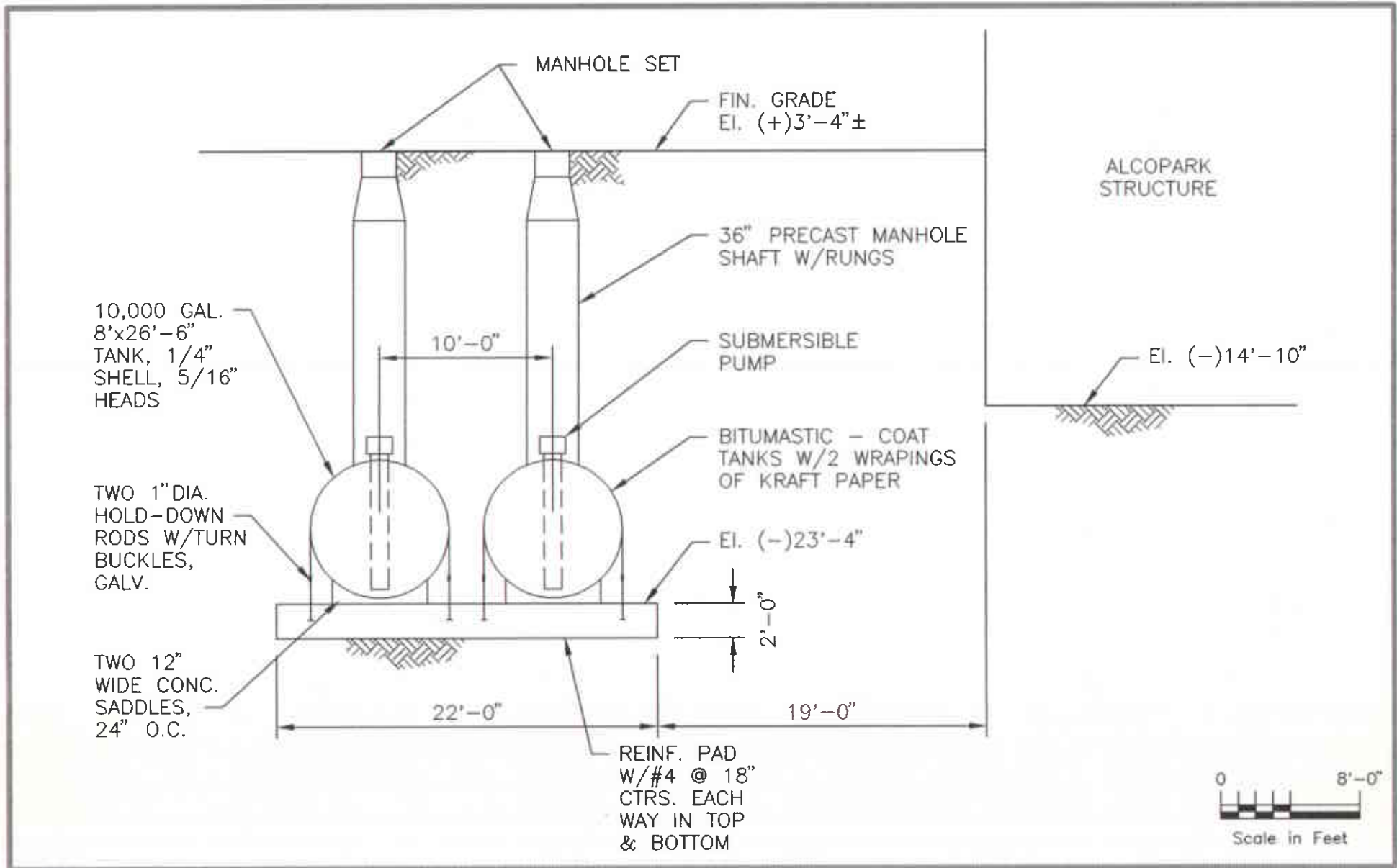
GeoStrategies Inc.

SITE PLAN

Alameda County GSA
165 13th Street
Oakland, California

FIGURE

2



GeoStrategies Inc.

JOB NUMBER
613801-1

REVIEWED BY

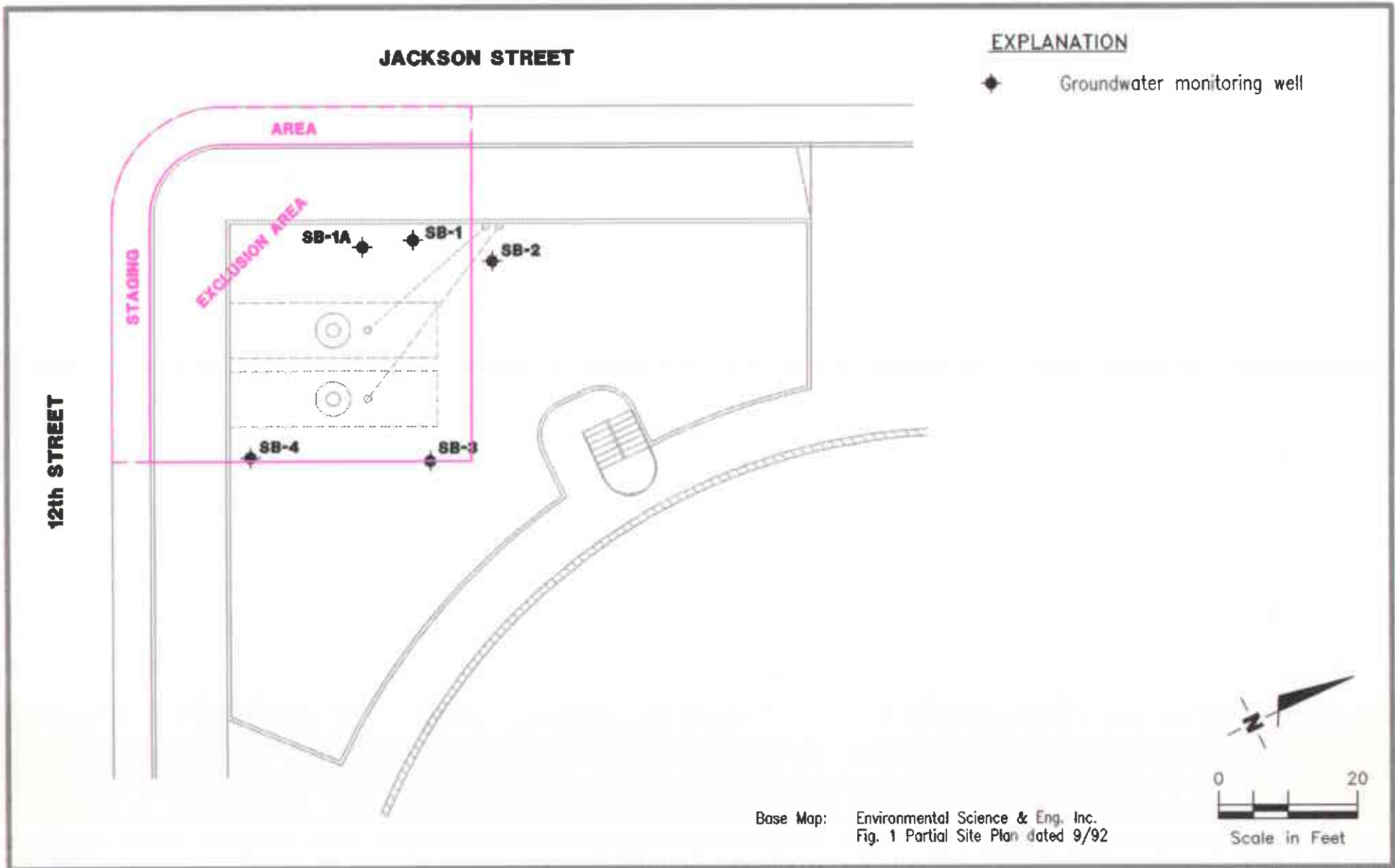
CROSS SECTION AA'
Alameda County GSA
165 13th Street
Oakland, California

DATE
5/94

REVISED DATE

FIGURE

3



GeoStrategies Inc.

SITE OPERATIONS PLAN

Alameda County GSA
165 13th Street
Oakland, California

FIGURE

4

APPENDIX A

Tank Information Summary Sheets

TANK INFORMATION

TANK NO:	1921-1
TYPE OF TANK:	Underground
CAPACITY:	8,000
CONTENTS:	Reg Gas
DIAMETER:	Unknown
MATERIAL:	Fiberglass
YEAR:	1956
THRUPUT(G/M):	N/A
IN USE:	No
TEST DATE:	N/A
TEST RESULTS(GPH):	N/A
REGISTRATION:	Yes
OPERATING PERMIT:	No
SURFACE MAT:	Planter/Concrete
REPLACEMENT MAT:	Planter/Concrete
MONITORING:	N/A
PIPELINE:	N/A
COMPLIANCE RECOMMENDATIONS:	Remove Tank or Close-In-Place
ESTIMATED COMPLIANCE COSTS:	
LONG TERM RECOMMENDATIONS:	
ESTIMATED COST FOR LONG TERM:	
NOTES:	

1 ft water in tank. Tank bottom 26'8" below grade. Tank in ground water. Possibility of closing in place because of cost to remove at such deep depth.

TANK INFORMATION

TANK NO:	1921-2
TYPE OF TANK:	Underground
CAPACITY:	8,000
CONTENTS:	U/L Gas
DIAMETER:	Unknown
MATERIAL:	Fiberglass
YEAR:	1956
THRUPUT(G/M):	N/A
IN USE:	No
TEST DATE:	N/A
TEST RESULTS(GPH):	N/A
REGISTRATION:	Yes
OPERATING PERMIT:	No
SURFACE MAT:	Planter/Concrete
REPLACEMENT MAT:	Planter/Concrete
MONITORING:	N/A
PIPELINE:	N/A
COMPLIANCE RECOMMENDATIONS:	Remove Tank or Close-In-Place
ESTIMATED COMPLIANCE COSTS:	
LONG TERM RECOMMENDATIONS:	
ESTIMATED COST FOR LONG TERM:	
NOTES:	

56" of water in tank. Tank bottom 26'8" below grade. Tank in ground water. Possibility of closing in place because of cost to remove at such deep depth.

APPENDIX B

**Letter from Mr. Andrew B. Garcia,
Alameda General Services Agency to
Mr. Thomas F. Peacock,
Department of Environmental Health,
Dated December 17, 1993**



General Services Agency

Darlene Smith, Director

BUILDING MAINTENANCE DEPARTMENT

4400 MacArthur Boulevard

Oakland, California 94619

Telephone (510) 535-6200

FAX (510) 535-6245

Hilton T. Hunt, Deputy Director
GSA-Building Maintenance Department

December 17, 1993

Mr. Thomas F. Peacock
Supervising Hazardous Materials Specialist
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 350
Oakland, CA 94621

Subject: **CURRENT STATUS AND FUTURE COMPLIANCE REQUIREMENTS,
ALCOPARK FACILITY, 165 13TH STREET, OAKLAND, CALIFORNIA**

Dear Tom:

First of all, thank you for meeting with me on November 22, 1993. I appreciate your continued cooperation and suggestions. I feel that our demonstrated team approach will help both organizations to reach our common objectives in the most efficient manner. Below is a summary of our November 22, 1993 discussion and our December 15, 1993 telephone conversation:

- I. **Waste Oil Underground Storage Tank (UST) Closure Request** - It is the policy of San Francisco Regional Water Quality Control Board that **only sites are closed** not individual UST's or wells. Therefore, the regulators are considering Alcopark facility as one site. Our October 15, 1993 request for closure of waste oil monitoring well MW-6 can not be granted. Since the County has demonstrated four consecutive quarters that the groundwater samples taken from MW-6 have not exceeded Primary Maximum Contaminated Levels for drinking water, Environmental Health is in agreement that the County can suspend monitoring of well MW-6 and can lock up this well. The County will suspend monitoring and plans no further action.

II. ~~Benzene Contamination at Corner of 13th & Jackson~~ - After reviewing the attached plots of the eight quarters of observed benzene groundwater levels for wells MW-1, MW-5 and MW-4, the corresponding observed direction of the groundwater gradient, and the site soils characterization study that was done, the following conclusions were reached:

A. Since there is no correlation between the observed groundwater TPH-Gasoline and Benzene levels, the observed contamination is due to "old" gasoline. Since the operational tanks are being continuously monitored for leaks and none have been reported, the contamination is not coming from these tanks or from current operation at the active Alcopark gasoline filling station. Since the observed Benzene Concentration levels in groundwater shows a pattern that strongly suggests, when tied into the site characterization study done for the corner of 12th and Jackson, that observed Benzene groundwater contamination is coming upgradient of the Alcopark facility. Therefore, Environmental Health, at this time, will not require the County to install additional monitoring wells or soil borings.

The County requested that the groundwater monitoring of MW-1, MW-4 and MW-5 be suspended. For the time being, Environmental Health will not require quarterly monitoring of the three wells MW-1, MW-4 and MW-5.

B. From a comprehensive search of the records by Environmental Health, the most likely groundwater contamination source is the State of California Office Building located across the street and upgradient of Alcopark. There are currently three UST's located on the site that have been abandoned since 1989. Since they are abandoned, there is no environmental monitoring to confirm or identify that groundwater contamination is coming from this site. Environmental Health is actively pursuing the State of California to come into compliance with these tanks or remove them.

If the contamination source can be discovered, the County can sue the guilty party and recover our clean-up cost associated with identifying this problem. These recoverable costs are as follows:

Groundwater Monitoring @ 13th & Jackson	\$20,250
Removal of Waste Oil Tank & Monitoring	\$30,561
Site Assessment - 12th & Jackson	\$ 9,010
Site Characterization - 13th & Jackson	\$20,645
Future Groundwater Monitoring Expense	<u>\$14,000</u>
TOTAL RECOVERABLE COSTS	\$94,466

Thus, the County appreciates Environmental Health taking the lead to discover the source of the Benzene groundwater contamination.

Mr. Thomas Peacock
December 17, 1993
Page 3

III. UST Removal 12th and Jackson - After reviewing the April 19, 1993 Site Characterization Report for the two UST's located at the corner of 12th and Jackson, the following conclusions were reached:

A. This report again shows that the concentration of TPH-Gasoline in the soil samples is below action level but that the upgradient groundwater samples show concentrations of Benzene exceeding MCL's whereas the downgradient samples are below MCL levels. These results are consistent with the groundwater results at the opposite corner, 13th and Jackson as discussed above and again support the case that this groundwater contamination is coming from a source upgradient of Alcopark.

B. The County will explore the option to close these two UST's in place.

C. Environmental Health will not require the County to do additional soil borings or install groundwater monitoring wells.

D. Since closure of these two UST's is part of an on going site closure, the County only needs to submit closure plans. No new permits are required; thus saving the County \$900.

I would appreciate a written confirmation for our records that the above represents our understanding of County's future actions to be taken at Alcopark. Therefore, I would appreciate your prompt acknowledgement by signing both original copies of this letter. Please keep one for your records and return one to me. Again, thank you for your continued cooperation and assistance.

Sincerely,

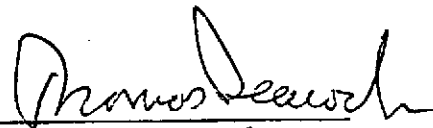


Andrew B. Garcia
Environmental Project Manager

cc: Mr. Jim de Vos - attachment

Agree and Concur with the above.

12-23-93
Date


Thomas Peacock

Enlosure

APPENDIX C

**Laboratory Analytical Reports as Reported by
and for the Soil Borings Supervised by
Environmental Science & Engineering, Inc.**



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Science & Engineering, Inc.	Client Project ID: Alcopark/ #6-92-5393	Sampled: Oct 27, 1992
4090 Nelson Ave., Suite J	Sample Matrix: Soil	Relogged: Oct 30, 1992
Concord, CA 94520	Analysis Method: EPA 5030/8015/8020	Reported: Nov 10, 1992
Attention: Mike Edmonson	First Sample #: 210-1030	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

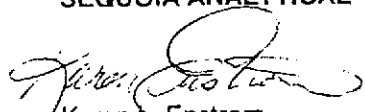
Analyte	Reporting Limit mg/kg	Sample I.D. 210-1030 SB-1@15'	Sample I.D. 210-1031 SB-2 @15'	Sample I.D. 210-1032 SB-3 @15'	Sample I.D. 210-1033 SB-4 @15'
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.
Benzene	0.005	0.019	N.D.	N.D.	N.D.
Toluene	0.005	0.019	N.D.	N.D.	N.D.
Ethyl Benzene	0.005	0.011	N.D.	N.D.	N.D.
Total Xylenes	0.005	0.042	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Analyzed:	11/6/92	10/30/92	10/30/92	10/30/92
Instrument Identification:	HP-2	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	99	104	105	103

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL


Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Science & Engineering 4090 Nelson Ave., Suite J Concord, CA 94520 Attention: Michael Edmonson	Client Project ID: Alcopark / #6-92-5393 Sample Matrix: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 210-0977	Sampled: 10/27&10/28/92 Received: Oct 29, 1992 Reported: Nov 9, 1992
--	--	--

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 210-0977 SB-1@21.5'	Sample I.D. 210-0978 SB-2@22'	Sample I.D. 210-0981 SB-3@22'	Sample I.D. 210-0982 SB-4@22'
Purgeable Hydrocarbons	1.0	6.3	1.8	N.D.	N.D.
Benzene	0.005	0.41	0.21	N.D.	N.D.
Toluene	0.005	0.68	0.19	N.D.	N.D.
Ethyl Benzene	0.005	0.10	0.034	N.D.	N.D.
Total Xylenes	0.005	0.70	0.20	N.D.	N.D.
Chromatogram Pattern:		Gasoline	Gasoline	--	--

Quality Control Data

Report Limit Multiplication Factor:	2.5	1.0	1.0	1.0
Date Analyzed:	10/30/92	10/30/92	10/29/92	10/29/92
Instrument Identification:	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	100	103	100	99

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL


Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Science & Engineering
4090 Nelson Ave., Suite J
Concord, CA 94520
Attention: Michael Edmonson

Client Project ID: Alcopark / #6-92-5393

QC Sample Group: 2100977-984

Reported: Nov 9, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	J.F.	J.F.	J.F.	J.F.
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Oct 29, 1992	Oct 29, 1992	Oct 29, 1992	Oct 29, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.40	0.40	0.40	1.3
Matrix Spike % Recovery:	100	100	100	108
Conc. Matrix Spike Dup.:	0.40	0.40	0.40	1.3
Matrix Spike Duplicate % Recovery:	100	100	100	108
Relative % Difference:	0.0	0.0	0.0	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Science & Engineering, Inc. Client Project ID: Alcopark/ #6-92-5393
4090 Nelson Ave., Suite J
Concord, CA 94520
Attention: Mike Edmonson QC Sample Group: 2101030-33

Reported: Nov 10, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	J.F.	J.F.	J.F.	J.F.
Reporting Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Date Analyzed:	Nov 6, 1992	Nov 6, 1992	Nov 6, 1992	Nov 6, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.36	0.39	0.40	1.2
Matrix Spike % Recovery:	90	98	100	98
Conc. Matrix Spike Dup.:	0.38	0.40	0.41	1.2
Matrix Spike Duplicate % Recovery:	95	100	103	102
Relative % Difference:	5.4	2.5	2.5	4.2

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

CHAIN OF CUSTODY RECORD



Environmental Science & Engineering, Inc.

4091 Nelson Avenue Suite)
Concord, CA 94520

(415) 685-4053
Fax (415) 685-5323

DATE 10/27/92 PAGE 1 OF

PROJECT NAME ALCOPARK
ADDRESS 165 13th St (12th & Jackson) OAKLAND

PROJECT NO. 0-92-5393
SAMPLED BY KERRY LEFEVER

LAB NAME _____

ANALYSES TO BE PERFORMED								MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
TPH-G (BOIS)	BTEX (BOIS)							MATRIX		
X	X							SOIL	1	BRASS RING 2101030
X	X								1	
H	H								1	
X	X								1	
X	X								1	
X	X								1	
X	X							WATER	4	VOL
X	X							WATER	4	VOL

RELINQUISHED BY (signature) <u>Kerry Lelever</u>	RECEIVED BY: (signature) <u>Mike Edmonson</u>	date <u>10/29/92</u>	time <u>3:45 PM</u>	.14
<u>Mike Edmonson</u>	<u>J. O'Dell</u>	<u>10/29/92</u>	<u>3:45 PM</u>	

TOTAL NUMBER OF CONTAINERS	
REPORT RESULTS TO: <u>MIKE EDMONSON</u>	SPECIAL SHIPMENT REQUIREMENTS
SAMPLE RECEIPT	
CHAIN OF CUSTODY SEALS	
REC'D GOOD COND'TN/COLD	
CONFORMS TO RECORD	

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
No Analyze 4 = VOL Standard Turnaround time

CHAIN OF CUSTODY RECORD



Environmental Science & Engineering, Inc.

4090 Nelson Avenue
Suite J
Concord, CA 94520

(415) 685-4053

Fax (415) 685-9323

TE 10/28/92 PAGE 1 OF 1

OBJECT NAME ALCO PARK
ADDRESS 165 13th STREET
OKLAND
OBJECT NO. 6-92-5373
SAMPLED BY KERRY LEFEVER
LAB NAME

				ANALYSES TO BE PERFORMED								MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)	
AMPLE #	DATE	TIME	LOCATION	TPH-G (8015)	BREV (8000)										MATRIX
B-3@5'	10/28/92	1000	ALCO/PARK	H	H								SOIL	1	BRASS RING
B-3@10'		1030	12th & JACKSON	H	H									1	2101032 ↓ 1033
B-3@15'		1110		X	X									1	
B-3@22'		1200		X	X									1	
B-4@5'		1525		H	H									1	
B-4@10'		1555		H	H									1	
B-4@15'		1620		X	X									1	
B-4@22'		1645		X	X									1	
B-3		1245		X	X								WATER	4	VOAS
B-4		1715		X	X								WATER	4	VOAS

RELINQUISHED BY: (signature) Kerry Lefever
 RECEIVED BY: (signature) Mike Edmonson
 date time 10-29-92 3:45 PM

TOTAL NUMBER OF CONTAINERS 16
 REPORT RESULTS TO: MIKE EDMONSON
 SPECIAL SHIPMENT REQUIREMENTS

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
X = Analyze H = Hold Standard Turnaround time.

SAMPLE RECEIPT
 CHAIN OF CUSTODY SEALS
 REC'D GOOD COND'TN/COLD
 CONFORMS TO RECORD



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Science & Engineering 4090 Nelson Ave., Suite J Concord, CA 94520 Attention: Michael Edmonson	Client Project ID: Alcopark / #6-92-5393 Sample Matrix: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 210-0977	Sampled: 10/27&10/28/92 Received: Oct 29, 1992 Reported: Nov 9, 1992
--	---	--

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 210-0977 SB-1	Sample I.D. 210-0978 SB-2	Sample I.D. 210-0983 SB-3	Sample I.D. 210-0984 SB-4
Purgeable Hydrocarbons	50	51,000	8,200	72	N.D.
Benzene	0.5	2,400	560	0.71	N.D.
Toluene	0.5	9,400	930	N.D.	N.D.
Ethyl Benzene	0.5	1,400	360	0.50	N.D.
Total Xylenes	0.5	8,400	620	2.4	N.D.
Chromatogram Pattern:		Gasoline	Gasoline	Gasoline	--

Quality Control Data

Report Limit Multiplication Factor:	100	10	1.0	1.0
Date Analyzed:	10/29/92	10/29/92	10/29/92	10/29/92
Instrument Identification:	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	104	106	99	100

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL


Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Science & Engineering
4090 Nelson Ave., Suite J
Concord, CA 94520
Attention: Michael Edmonson

Client Project ID: Alcopark / #6-92-5393

QC Sample Group: 2100977-984

Reported: Nov 9, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
	Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	J.F.	J.F.	J.F.	J.F.
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Oct 29, 1992	Oct 29, 1992	Oct 29, 1992	Oct 29, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60
Conc. Matrix Spike:	20	20	20	66
Matrix Spike % Recovery:	100	100	100	110
Conc. Matrix Spike Dup.:	20	20	20	65
Matrix Spike Duplicate % Recovery:	100	100	100	108
Relative % Difference:	0.0	0.0	0.0	1.5

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

CHAIN OF CUSTODY RECORD



Environmental Science & Engineering, Inc.

(415) 685-4053

4091 Nelson Avenue Suite J Concord, CA 94520

Fax (415) 685-5323

DATE 10/27/92 PAGE 1 OF

PROJECT NAME ALCOPARK
 ADDRESS 165 13th St (12th & Jackson) OAKLAND
 PROJECT NO. 6-92-5393
 SAMPLED BY KERRY LEFEVRE
 LAB NAME

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED		MATRIX	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
				TPH-G (2015)	BTEX (2016)				
SB-1@15'	10/27/92	1005	Alcopark	X	X	Soil	Soil	1	BRASS RING 2101030
B-1@21.5'		1100	Corner @	X	X			1	
B-2@5'		1500	(12th & Jackson)	H	H			1	
B-2@10'		1530		H	H			1	
B-2@15'		1600		X	X	Analyze		1	
B-2@22'		1640		X	X			1	
SB-1		1345		X	X	2100979AD	WATER	4	VOAS
SB-2		1710		X	X	2100980AD	WATER	4	VOAS

RELINQUISHED BY: (signature) <u>Kerry Lefevre</u>	RECEIVED BY: (signature) <u>Mike Edmonson</u>	date <u>10-29-92</u>	time <u>8:00</u>	.14	TOTAL NUMBER OF CONTAINERS
<u>Mike Edmonson</u>	<u>J. O'Donoghue</u>	<u>11/29/92</u>	<u>3:30 PM</u>		
REPORT RESULTS TO: <u>MIKE EDMONSON</u>				SPECIAL SHIPMENT REQUIREMENTS	
SAMPLE RECEIPT				CHAIN OF CUSTODY SEALS	
INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):				REC'D GOOD COND'TN/COLD	
<u>As Analyzed B = VOAS Standard Turnaround time</u>				CONFORMS TO RECORD	

DATE 10/28/92 PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

PROJECT NAME ALCO PARK
 ADDRESS 165 13th STREET
OAKLAND
 PROJECT NO. 6-92-5373
 SAMPLED BY KERRY LEFEVER
 LAB NAME _____



Environmental Science & Engineering, Inc.

4090 Nelson Avenue
 Suite J
 Concord, CA 94520

(415) 685-4053
 Fax (415) 685-5323

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED								MATRIX	CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)	
				TPH-G (B015)	BTEX (B020)										
B-3@5'	10/28/92	1000	ALCO PARK	H	H								SOIL	1	BRASS RING
B-3@10'		1030	12th & Jackson St	H	H									1	
B-3@15'		1110		X	X									1	2101032
B-3@20'		1200		X	X					2100981				1	
B-4@5'		1525		H	H									1	
B-4@10'		1555		H	H									1	
B-4@15'		1620		X	X					ANALYZE				1	1033
B-4@20'		1645		X	X					2100982				1	
B-3		1245		X	X					2100983 AD			WATER	4	VOAS
B-4		1715		X	X					2100984 AD			WATER	4	VOAS

RELINQUISHED BY: (signature) Kerry LeFever
 RECEIVED BY: (signature) Mike Edmonson
 date time 10-29-92 8:00
10/29/92 3:45 PM

TOTAL NUMBER OF CONTAINERS 16
 REPORT RESULTS TO: MIKE EDMONSON
 SPECIAL SHIPMENT REQUIREMENTS _____

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
X = Analyze H = Hold Standard Turnaround Time

SAMPLE RECEIPT
 CHAIN OF CUSTODY SEALS _____
 REC'D GOOD CONDTN/COLD _____
 CONFORMS TO RECORD _____

APPENDIX D

Site Specific Health and Safety Plan

SITE SAFETY PLAN JOB NO. 6138

1.0 GENERAL INFORMATION

SITE: Company: County of Alameda General Services Agency,
 Building Maintenance Department
 Facility: Alameda County Parking Garage
 Location: 165 13th Street
 (On the corner of 13th and Jackson Streets)
 City: Oakland
 State: California

PLAN PREPARED BY: GeoStrategies Inc.
DATE: June 6, 1994

OBJECTIVE: To provide a plan for the safe completion of the closure in-
 place of two underground gasoline storage tanks

PROPOSED DATE OF TANK CLOSURES:
 Upon receipt of permits

DOCUMENTATION/SUMMARY:
 Hazardous material may be present. Caution is advised.

2.0 SITE/WASTE CHARACTERISTICS

FACILITY DESCRIPTION:
 Alameda county parking garage, tanks previously utilized for
 county vehicle re-fueling

STATUS: Parking garage is active, re-fueling location is in-active

WASTE TYPES: Liquid, Sludge, and Vapor

WASTE CHARACTERISTICS:
 Volatile, Flammable and Toxic

3.0 HAZARD EVALUATION

PARAMETER: 10% LEL maximum, 150 ppm maximum for entry to manways

SPECIAL PRECAUTIONS AND COMMENTS:

Applicable safety procedures must be followed per GeoStrategies Inc. Health and Safety Plan. Applicable procedures are attached:

Section 9.1 - Underground Storage Tank Removal and Installation (for inerting, traffic work, electric tools, etc. only)

Section 9.4 - Line Testing

Section 9.6 - Street Work

Section 9.9 - Steam Cleaner and Pressure Washer Use

Section 9.10 - Product Transfer

Section 9.11 - Confined Spaces

All personnel working on this project must have been trained pursuant to the provisions of CFR 1910-120. (Records available at GeoStrategies offices.) Provisions must be made to insure vapors are not allowed to accumulate in garage area during degassing.

4.0 SITE SAFETY WORK PLAN

4.1 PERIMETER ESTABLISHMENT:

Use barricades, flagging and vehicles to restrict access to work areas

4.2 PERSONAL PROTECTION:

Level of Protection: EPA Level D, EPA Level C
respiratory protection to be available

Modifications: Hard hats and red vests required

Surveillance Equipment and Material:
Gastech

4.3 SITE ENTRY PROCEDURES:

No unauthorized personnel

GeoStrategies Inc.

4.4 CONFINED SPACE ENTRY PROCEDURES:

4.4.1 Prior to entering a confined space:

- a. Check for flammable vapors and oxygen with Gastehtor (10% LEL maximum, 20% oxygen minimum). Initial readings and readings on entry shall be recorded on the daily work report, and confined space permit form (attached). Recheck the space periodically while working and prior to each entry.
- b. Secure the area around openings, remove all covers and allow space to vent a minimum of 5 minutes. Ventilation fans will be used if necessary.
- c. Complete a confined space entry permit form (attached).

4.4.2 No person shall enter a confined space where he or she suspects the accumulation of flammable or toxic vapors or where there is an insufficient oxygen atmosphere.

4.4.3 Two (2) persons are required for entry into a confined space; one to enter the space and the other to remain at the opening for communication with the person in the confined space. The observer may not leave his post while the other person remains in the confined space.

4.4.4 A minimum of three (3) persons are required for any entry into a confined space where supplied air is required:

- a. 1 person to enter
- b. 1 person to observe
- c. 1 person to call for emergency assistance.

The distance between observer and emergency response person will not exceed 100 feet.

4.4.5 For any confined space entry, at least one member of the above-ground team must be C.P.R. certified.

4.4.6 Persons entering a confined space shall wear a harness, which must be attached to a hoist by means of a retrieval line at all times.

4.5 DECONTAMINATION PROCEDURES:

Refer to Work Plan, Section 4.2

4.6 FIRST AID: As applicable

4.7 WORK LIMITATIONS (TIME OF DAY, WEATHER, HEAT/COLD STRESS):

As applicable

4.8 CLOSURE-DERIVED MATERIAL DISPOSAL:

All closure-derived material will be disposed of properly by a licensed hazardous waste hauler after applicable analytical tests have been conducted and the results have been reviewed.

4.9 TEAM COMPOSITION:

GeoStrategies Inc.: Field Engineer (1); Gettler-Ryan Inc.: Site Foreman (1) (Site Foreman is Site Safety Officer), Laborers (2); Subcontractors: Licensed Hazardous Waste Hauler, Slurry Provider, Slurry Pumper

5.0 EMERGENCY INFORMATION

5.1 LOCAL RESOURCES:

Ambulance/Hospital	Dial 911
Police/Sheriff/Highway Patrol	Dial 911

5.2 SITE RESOURCES:

Water Supply	First Aid Kit
Telephone	Sorbant Pads
Visqueen	Harnesses (2)
Fire Extinguisher	Retrieval System

5.3 EMERGENCY CONTACT:

GeoStrategies Inc.	1-510-551-8777
--------------------	----------------

5.4 EMERGENCY ROUTES:

Nearest emergency hospital is: Summit Medical Center
(See Attached Information)

HOSPITAL LOCATION IS MARKED ON MAP.

GeoStrategies Inc.

9.0 SPECIFIC PROCEDURES

9.1 UNDERGROUND STORAGE TANK REMOVAL AND INSTALLATION

- 9.1.1 Underground storage tanks are to be removed or installed by employees specifically authorized by the Field Operations Manager.
- 9.1.2 Call Underground Service Alert at 1-800-642-2444 to mark all utilities in the sidewalks surrounding service station. Check to see who is covered by service. Some municipalities do not subscribe. Requests must be made 72 hours in advance.
 - 9.1.2.1 Call any known non-subscribers to USA to mark their lines. ie. local sewer and storm drain agencies.
 - 9.1.2.2 If available, use site drawings of underground lines to mark line locations before any excavating is done.
 - 9.1.2.3 If needed, no parking signs should be posted at this time.
- 9.1.3 Project Manager will conduct a site safety briefing with project foreman prior to the start of work.
 - 9.1.3.1 Project foreman will conduct a preconstruction site safety briefing with his crew and sub-contractors.
 - 9.1.3.2 The foreman is responsible for insuring visitors are aware of site safety requirements.
- 9.1.4 Use sufficient lighted barricades and flagging to secure excavated areas (1 barricade for each ten feet of distance to cover plus 2).
 - 9.1.4.1 Sites and/or excavations will normally be fenced.
- 9.1.5 Shut off all power to station exterior (pumps, lights, etc.) when starting tank excavation. VERIFY power is off (See Section 9.13).
- 9.1.6 Post "No Smoking" signs and enforce them.
- 9.1.7 Observe overhead line clearances. A minimum 10 ft. clearance must be maintained.

- 9.1.8 Hard hats are to be worn by all personnel while any heavy equipment is in operation. (i.e., hop-to, crane etc)
- 9.1.8.1 Hard hats will be worn by employees working in the tank excavation or trenches when there is a danger of falling objects.
- 9.1.9 Fire extinguishers are required on site during tank removal operations. (2-20 lb. ABC minimum)
- 9.1.10 Use accepted procedures for freeing tanks of vapors:
- Tank may not contain more than 1 gal. of product per 1000 gal. capacity.
 - Remove all product from tank after all lines have been purged.
 - Add a minimum of 10 gal. of water to tank and allow to settle 5 minutes then pump out into approved drums.
 - Recheck tank for liquid product.
 - Begin vapor free/tank ventilation with compressed air venturi device. Device must be bonded metal to metal (grounded) to prevent build up of static electricity.
 - When LEL is less than 10%.
 - Insert 30 lbs of dry ice per 1000 gal. of tank capacity using as many tank openings as possible. Local regulations may require more.
 - Add 5 gallons of water to dry ice in tank.
 - Use Gastechtor to check vapor levels in tank hole or other excavations to insure vapors have not collected.
 - Tank LEL must be less than 10% or as instructed by local fire marshal before it may be moved.
 - Drums of extracted water/product are to remain on site for later disposal. Drums must be labeled as to contents. (Tank bottom water is considered a hazardous waste.)
 - Tanks must be removed from site as soon as possible and properly disposed of. (manifested)

- 9.1.11 Use of electrically powered tools in tank excavation while old UGST are in ground is prohibited.
 - 9.1.11.1 A manual four wheel cutter is recommended for cutting lines when necessary.
 - 9.1.11.2 Pneumatic tools may be used providing LEL in tank area is confirmed below 20% Gastechtor reading.

- 9.1.12 All persons not required to be working at the excavation should remain outside work area.
 - 9.1.12.1 Watch for fellow workers walking around excavation, hopto, loader and other heavy equipment.

- 9.1.13 No personnel may enter a tank excavation deeper than five feet below grade for any reason unless the excavation is properly shored, sloped or benched. (See section 9.12)
 - 9.1.13.1 Personnel may enter the excavation to walk on the tank top during purging, LEL checks or to attach chains for removal, as per above.
 - 9.1.13.2 Use extreme caution when walking on any tank top as they can be very slippery.

- 9.1.14 When working in the street, all personnel must wear red vests and hard hats. Stop/slow paddles must be used by traffic control personnel. Traffic control personnel must be used any time normal street traffic is affected. i.e. Loading or unloading tanks.

- 9.1.15 If a vehicle or piece of equipment is protruding into the street, it must be coned and/or barricaded. Two way traffic must be maintained.

- 9.1.16 When tanks are being loaded or unloaded, no personnel are allowed to be under the tanks.

- 9.1.17 No personnel are allowed to work on a tank top while tank is above ground or on a trailer.
 - 9.1.17.1 Ladders must be used or tank may be rolled such that necessary work i.e., air testing may be performed from ground level.

- 9.1.18 A temporary vent must be installed in each newly installed tank.
 - 9.1.18.1 Tanks taken out of service but not immediately removed must be vented above grade.
- 9.1.19 Tanks will be ballasted with water to avoid tank floating. Gasoline may be used at the direction of the customer only.
- 9.1.20 All driveways and excavated areas must be barricaded and flagged at all times except to allow worker and equipment access.
- 9.1.21 Insure all public right of ways (street and sidewalks) are clean and free of job caused hazards.
- 9.1.22 Fence excavation as required.
- 9.1.23 Nail 2"x4" lumber between barricades around excavated areas and driveways where fencing is not used.
- 9.1.24 Cover trenches with 1 1/8" plywood where needed for walking. Barricade all others, regardless of fencing.
- 9.1.25 Keep area lighted at night when possible.
- 9.1.26 A 24 hour guard will be maintained on site when required. e.g. an excavation over 5 feet deep containing water, excessive vapors are present or there is exposed piping which has been tested.

9.4.1 Petrotite Testing (Hydrostatic)

- 9.4.1.1 Turn off power to submersible pumps before opening any line.
- 9.4.1.2 Lockout/Tagout breaker switch and post warning sign. Inform station personnel of affected products. (See Section 9.3)
- 9.4.1.3 Secure all nozzles on affected products.
- 9.4.1.4 Follow all manufacturers procedures for equipment set up.
- 9.4.1.5 Use cones and barricades as necessary to close off working area. Wearing of red warning vests while working on service islands is recommended.
- 9.4.1.6 When removing dispenser door panels:
 - Do not stand panels up against anything (they may fall and hit cars or people).
 - Lay panels flat, out of the way, if possible.
- 9.4.1.7 Avoid product spillage. Use absorbent materials and pans if required.
- 9.4.1.8 If Petrotite line test fails:
 - Do not put system back into service until repairs are made, the line retested, the test holds, and the system is without defects.
 - If line is to be left out of service, screw down product check valve, trip all product impacts and tape off product breaker switch.

9.4.2 Air, nitrogen or helium testing of lines

- 9.4.2.1 Two men recommended for all pressure testing.
- 9.4.2.2 Lines will be isolated from tanks when testing above 5 psi. (maximum pressure is 100 psi. unless otherwise specified).
- 9.4.2.3 Turn off power to submersible pump and secure product nozzles of affected products when testing product lines.
- 9.4.2.4 Keep air compressor as far away as possible from tank complex and pump islands.
- 9.4.2.5 Always remove fill caps and, if possible, drop tubes from ALL tanks when testing lines.
- 9.4.2.6 Confirm line configuration. Check for crossed lines.
- 9.4.2.7 Use two good/serviceable gauges.
- 9.4.2.8 All primary piping is to be tested at 90 to 100 PSI. Use 0-120 PSI gauge.
- 9.4.2.9 Test will be left on for 1 hour minimum.
- 9.4.2.10 If product line test fails:
 - Do not put system back into service until repairs are made, the line is retested, the test holds, and the system is without defects.
 - If line is to be left out of service screw down product check valve, trip all impacts and lock out product breaker switch.

9.4.2.11 When testing is complete:

- Bleed pressure off slowly.
- Watch for vapor accumulation in surrounding area.
- Remove all plugs.
- Reconnect all lines.
- Reset all impact valves.
- Check for and repair any product leaks.
- Insure all systems are operational prior to leaving site.
- Systems that fail testing are not to be put back into service until repairs are made.

9.6 STREET WORK

- 9.6.1 All planned street work will be submitted to the Safety Manager a minimum of 72 hours prior to commencement of work.
- 9.6.2 The Safety Manager is responsible for formulating a traffic safety plan for the site.

- 9.6.3 The Safety Manager or Superintendent will physically check each site for street layout.
- 9.6.3.1 All digging/drilling locations should be marked with white paint at this time.
- 9.6.3.2 USA will be notified immediately after marking.
- 9.6.3.3 If needed, no parking signs should be posted a minimum of 72 hours prior to commencement of work.
- 9.6.4 The traffic safety plan will include as a minimum:
- map of location with excavation points marked.
 - lanes to be affected.
 - traffic control devices needed.
- 9.6.5 A traffic safety plan will be made for each site requiring regular monitoring and/or sampling of street wells. This plan will become a part of the work order.
- 9.6.6 Two persons are required for all street work requiring a traffic lane closure. Two persons recommended for all other street work.
- 9.6.7 A red safety vest with reflective stripes will be worn by all personnel working in the street or by those crossing a street on regular basis to work. Hard hats are recommended while working in the street to provide additional protection and visibility to motorists.
- 9.6.8 The State of California Department of Transportation (CALTRANS) guidelines will be used as the traffic control guide unless specifically supplemented by local requirements.
- 9.6.9 No work in the street will commence until the affected lanes have been closed off and all traffic control devices are in place.

9.6.10 Vehicles should be parked so as to provide maximum protection for personnel. At least 1 vehicle must be equipped with a warning light other than hazard flashers.

9.6.11 All excavations in the street including parking areas will be covered by trench plates when practical.

9.6.12 Any cones or delineators left overnight in or near the street must have reflective sleeves.

9.6.12.1 Unattended 28" cones are not to be used to block a lane of traffic at night.

9.6.13 Barricades left overnight must be lighted. Use of unattended barricades in the street is not recommended.

9.9 STEAM CLEANER/PRESSURE WASHER USE

- 9.9.1 All personnel using the steam cleaner/pressure washers (SC/PW) must read the operators manual on the equipment.
- 9.9.2 Eye and hand protection are required while operating this equipment. Face shields, goggles and insulated rubber gloves are strongly recommended.
- 9.9.3 Use only diesel in the burner unit. Use only regular gas in engine, DO NOT CONFUSE TANKS.
- 9.9.4 Turn unit off completely while refueling.
- 9.9.5 Do not spray water on electrical components.
- 9.9.6 Grip steam cleaning wand securely before starting washer. Serious injury can be inflicted if an unsecured wand starts whipping.
- 9.9.7 Units with shut off guns should not be operated in the shut off position for extended periods. Insure burner shuts off when gun is shut off.
- 9.9.8 Protect discharge hose(s) from vehicular traffic.
 - 9.9.8.1 Replace any discharge hose which has signs of damage or wear.
- 9.9.9 Protect the public and all property from flying debris and wand discharge.
- 9.9.10 Drum and label all cleaning water as required by local regulations.
- 9.9.11 Use proper containment for equipment being cleaned.

9.10 PRODUCT TRANSFER

- 9.10.1 During the course of our operations we may be required to transfer flammable products (gasoline/diesel primarily) from tank to tank, dispenser to drum, tank to drum, etc. for on site storage or tank and line testing.
- 9.10.2 During any product transfer extreme care must be taken to prevent the build up of static electricity through bonding and grounding.
- 9.10.3 Spills must always be avoided. Have absorbent materials readily accessible.

9.10.4 The primary means of transfer are the use of:

- approved flammable liquid transfer pump.
- approved hand operated transfer pump.
- gasoline dispenser to calibration bucket, safety can or drum.

9.10.4.1 When using the pneumatic gasoline transfer pump, care must be taken to insure:

- tank truck hoses are being used.
- pump is grounded.
- 20 lb ABC fire extinguisher is readily accessible.
- discharge nozzle is below product level when possible.
- discharge hose is bonded to container by use of grounding wire and/or that nozzle is below product level.
- intake should be below product level to minimize air intake.

9.10.4.2 When using hand transfer pump, care must be taken to insure:

- discharge hose is bonded to tank or drum. (use ground wire or tip of standard steel braid gasoline hose)
- discharge nozzle is below surface of product.

9.10.4.3 When using gasoline dispenser to transfer product care must be taken to insure:

- nozzle tip rests against the metal container.
- a bonding (grounding) wire is used whenever lines are being purged of air. (Metal to metal contact is required).
- DO NOT use a plastic bucket!

9.10.5 Do not use trash or other water pumps for fuel transfer.

9.10.6 When necessary, approved safety cans will be used to store gasoline and diesel on Gettler-Ryan Inc. vehicles. Five (5) gallons of each product is the maximum allowable storage.

9.10.7 When pouring gasoline/diesel into tank or any container use approved funnels.

9.10.8 Flammable liquids will be stored on site only in DOT approved drums. (closed top with 1-2" bung and 1-3/4" bung) Drums must be properly labeled.

9.11 CONFINED SPACES

9.11.1 A confined space is any area where an employees' entry and exit are limited and where NORMAL air maybe in short supply and/or a hazardous atmosphere may exist. A confined space can be open topped if it is 4 feet deep or more.

Re: 8CCR5156-5159

9.11.2 Gettler-Ryan Inc. does not normally conduct services in permit required spaces as defined by OSHA. However, Gettler-Ryan Inc. employees will be trained in permit procedures, confined space operations and will use a Gettler-Ryan Inc. permit form for each confined space they enter.

9.11.2.1 The confined spaces which our employees may encounter are:

- Submersible pump boxes
- UGST manways.
- Recovery system vaults.
- Tank hole excavations.
- Trenches
- Sewer/stormdrain manholes

9.11.2.2 Prior to entering a confined space:

- a. Check for flammable vapors and oxygen with Gastechtor. (10% LEL maximum, 20% oxygen minimum). Initial readings and readings on entry shall be recorded on the daily work report, and confined space permit form (see attachment 3). Recheck the space periodically while working and prior to each entry.
- b. Secure the area around openings, remove all covers and allow space to vent a minimum of 5 minutes.
 1. Use ventilation fans, if necessary.
- c. Complete a confined space entry permit form (see Attachment 3).

9.11.2.3 No person shall enter a confined space where he or she suspects the accumulation of flammable or toxic vapors or where there is an insufficient oxygen atmosphere.

9.11.2.4 Two (2) persons are required for entry into a confined space; one to enter the space and the other to remain at the opening for communication with the person in the confined space. The observer may not leave his post while the other person remains in the confined space.

9.11.2.4.1 A least one member of the above-ground team must be C.P.R. certified.

9.11.3 Gettler-Ryan Inc. does not normally work in confined spaces where supplied air would be required.

9.11.3.1 A minimum of three (3) persons are required for any entry into a confined space where supplied air is required:

- a. 1 person to enter
- b. 1 person to observe
- c. 1 person to call for emergency assistance.



SUMMIT
MEDICAL CENTER
(SEE INFORMATION
NEXT PAGE)

WORK SITE -
ALAMEDA COUNTY PARKING GARAGE
165 13th STREET



SUMMIT MEDICAL CENTER

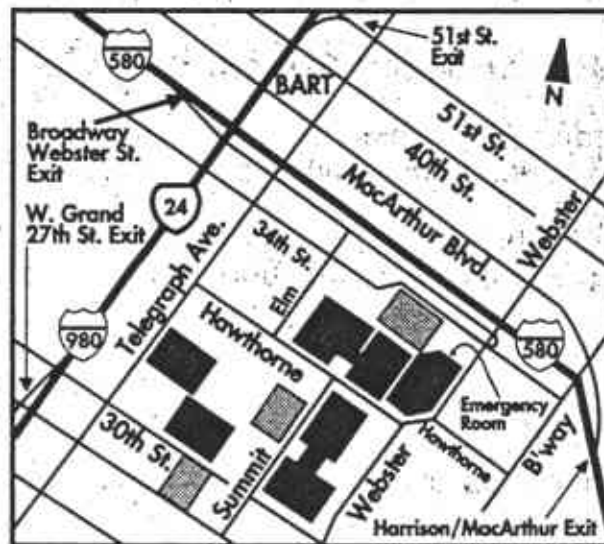
Formerly Merritt Peralta
Medical Center and
Providence Hospital

655-4000

24-Hour Emergency Room 420-6080

Health Match Physician Referral 420-6777

Located within minutes
of all East Bay communities
adjacent to Interstate 580
and Highway 24



350 Hawthorne Avenue, Oakland