SITE CHARACTERIZATION REPORT

FAIRMONT HOSPITAL
SAN LEANDRO, CALIFORNIA

Prepared For

COUNTY OF ALAMEDA
General Services Agency
Building Maintenance Department
4400 MacArthur Boulevard
Oakland, California 94619
(415) 530-9660

Prepared By

GREGG & ASSOCIATES, INC.
597 Center Avenue, Suite 350
Martinez, CA 94553
(415) 372-3637

August 1988

GREGG
GREGG & ASSOCIATES, INC.
597 CENTER AVE., SUITE 350
MARTINEZ, CA 94553 □ (415) 372-3637

30 August 1988

Larry Seto
Alameda County Health Agency
Dept. of Environmental Health
80 Swan Way #200
Oakland, CA 94621
415-271-4320

Subject: Fairmont Hospital Site Characterization

Dear Mr. Seto:

Gregg & Associates, Inc., a Hunter Environmental Services Company, is pleased to present the site characterization report for Fairmont Hospital in San Leandro, California.

This work was undertaken in response to the precision tank test failure for the 1000-gallon diesel tank at the site, and the installation of vadose monitoring wells for the two #5 Diesel Fuel Tanks.

As per your request, included with this report is a copy of the letter sent to you addressing the changes made in the original proposal.

Please contact me if you have any questions.

Very truly yours,

Stanley L. Klemetson, Ph.D., P.E.
Chief Engineer

Enclosure

cc: Paul LeCheminant, Alameda County
Joseph M. Anaya, Site Supervisor

GREGG
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597 CENTER AVE., SUITE 350
MARTINEZ, CA 94553 □ (415) 372-3637

20 May 1988

Larry Seto
Alameda County Health Agency
Dept. of Environmental Health
80 Swan Way #200
Oakland, CA 94621
415-271-4320

Subject: Addition to proposed monitoring well drilling plan at Fairmont Hospital.

Dear Mr. Seto,

In pursuant to our conversation of May 20, 1988, I am informing you of Gregg and Associates intent to increase the number of purposed monitoring wells at Fairmont Hospital from two to three. The additional monitoring well will be installed up gradient of the two underground tanks as shown on the attached map. As requested I am also including the name and address of the certified lab that will analyze the samples:

Superior Analytical, Inc.
1385 Fairfax St., Ste D
San Francisco, CA 94124

A copy of the final report will be sent to the Regional Water Quality Control Board as you requested. If you have any other revisions or questions please contact me at any time. I greatly appreciate the time you have taken to review our plan.

Sincerely,

Michael Marsden
Staff Hydrogeologist

TABLE OF CONTENTS

APPENDICES

LIST OF FIGURES

1.0 INTRODUCTION

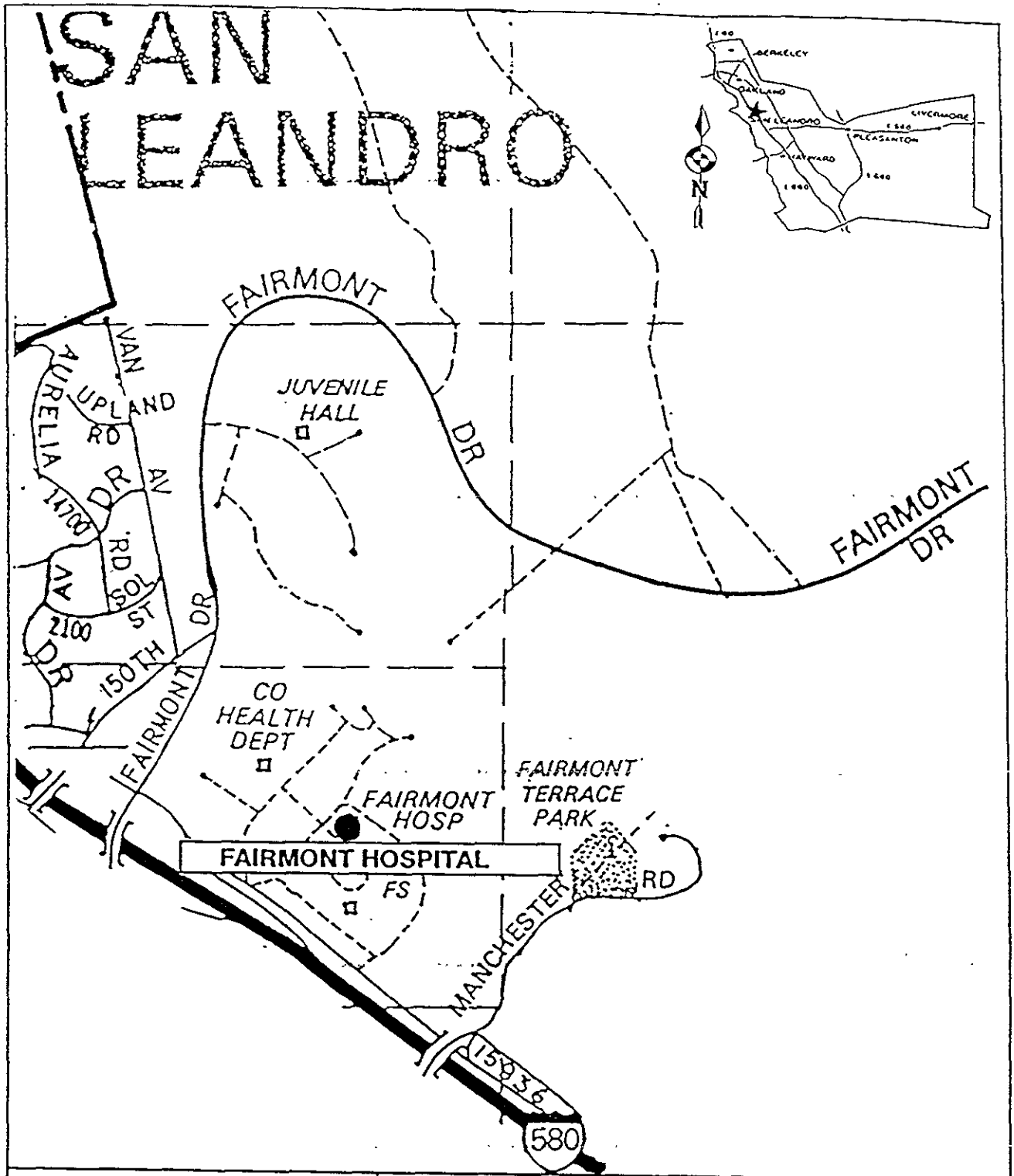
1.1 PROGRAM OVERVIEW

Gregg & Associates, Inc., a Martinez, California consulting firm specializing in environmental engineering and hydrogeology, was retained by the County of Alameda to conduct their underground storage tank management program for 60 tanks at 30 facilities, including Fairmont Hospital. Fairmont Hospital, located at 15400 Foothill Boulevard in San Leandro, California (Figure 1), has five underground storage tanks: two 12,000-gallon capacity tanks containing fuel oil #5 domestic (Tanks 1 and 2), two 1,000-gallon capacity tanks containing diesel fuel (Tanks 3 and 5), and one 500-gallon capacity tank containing regular gasoline (Tank 4). Tanks 1 and 2 are used for emergency fuel for boilers, Tanks 3 and 5 are used for emergency fuel for generators, and Tank 4 is used for the facility's off-road gardening equipment. The locations of these tanks are shown on Figure 2.

Following Gregg & Associates, Inc. initial site assessment of Fairmont Hospital, it was recommended that Tank 4 be removed and the remaining tanks be tank integrity tested. After consultation with tank integrity testing firms it was found that Tanks 1 and 2 could not be tested as a result of the fuel they contain. On 12 April 1988, Hunter Environmental Services, Inc. tested both Tanks 3 and 5. Tank 3 was found to be leaking and Tank 5 was found to be tight. Tank 4 was not tested as Fairmont Hospital has agreed to remove the tank. The tank integrity test results can be found in Appendix A. As a result of the initial site investigation and the tank integrity tests, a monitoring system was installed for Tanks 1 & 2 and a site characterization was performed in the area of Tank 3.

1.2 PROGRAM OBJECTIVES

The Alameda County General Services Agency retained Gregg & Associates, Inc. to install the monitoring system for Tanks 1 & 2 and conduct a Site Characterization around Tank 3 at Fairmont Hospital. The objectives of this project were to monitor Tanks 1 & 2 for possible leakage and to assess the lateral and vertical extent of the suspected leakage



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Martinez, California 94553
(415) 372-3637

Figure 1
LOCATION OF FAIRMONT HOSPITAL
IN ALAMEDA COUNTY, CALIFORNIA

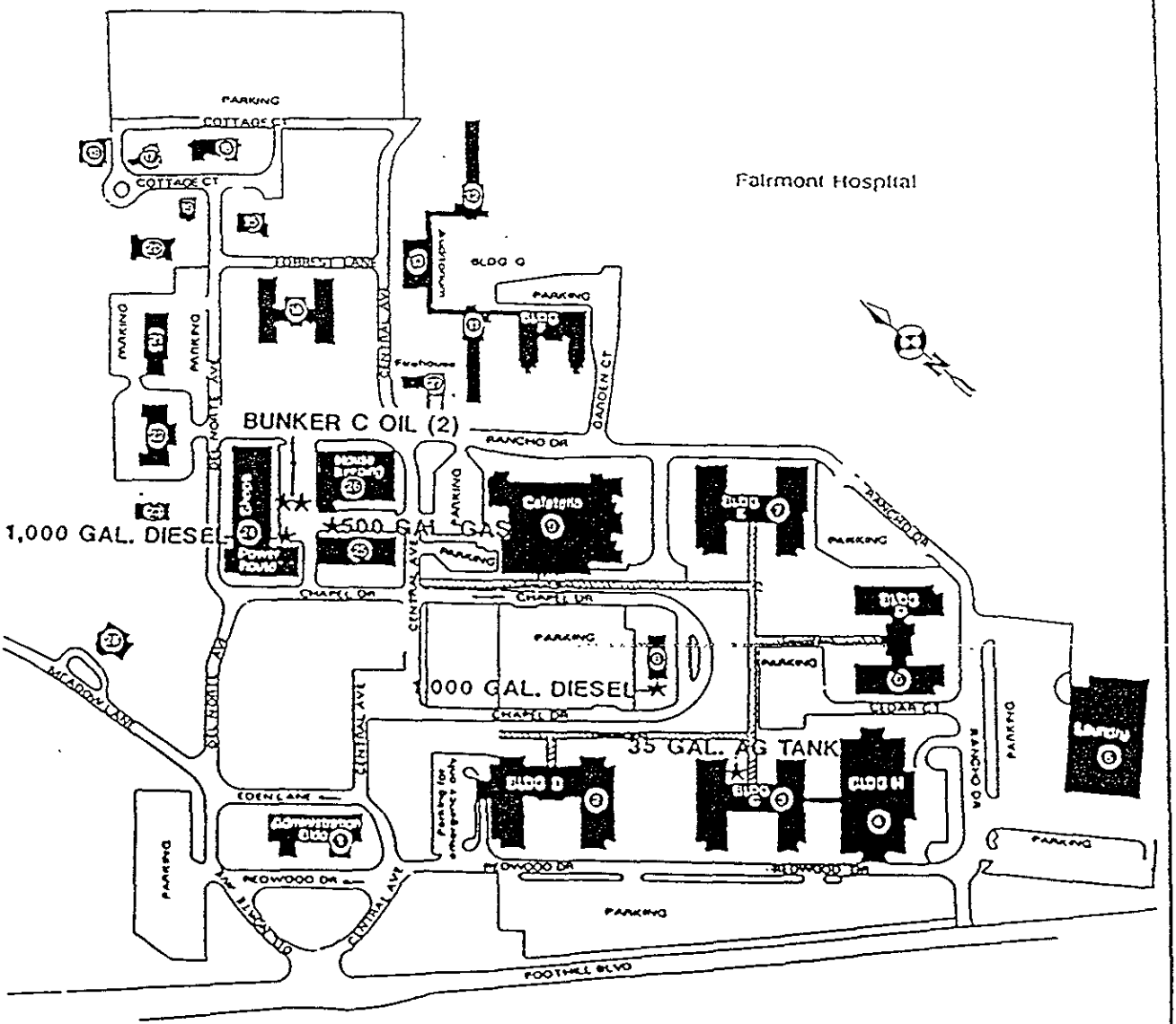

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Figure 2
LOCATION OF TANKS AT FAIRMONT HOSPITAL
IN ALAMEDA COUNTY, CALIFORNIA

from Tank 3. The project was conducted in accordance with the Alameda County Water District Groundwater Protection Program, "Groundwater Monitoring Guidelines for Hazardous Material Storage", (May 1987 revision).

This report discusses the monitoring system installed and presents the results of the Site Characterization conducted by Gregg & Associates, Inc. at Fairmont Hospital. The procedures and equipment used during the investigation are described. Results of the laboratory analyses performed on the soil samples collected during the investigation are presented and the physical and chemical findings are discussed. The report also presents conclusions and recommendations derived from data collected during the investigation.

1.3 DESCRIPTION OF SITE

The Alameda County, Fairmont Hospital facility is located on the western slope of the San Leandro Hills about one mile southwest of Lake Chabot. Fairmont Hospital was constructed on the western fault trace of the Hayward Fault. The area of the hospital containing the tanks is located approximately 100 yards west of the western fault trace and is composed of Mesozoic gabbro and serpentine intrusive into the Franciscan and Lower Knoxville Formations. The gabbro and serpentine are overlain by alluvium usually less than 30 feet thick.

The western fault trace of the Hayward Fault acts as a groundwater barrier creating a region of deep groundwater relative to the shallow groundwater to the east of the fault trace as shown in Figure 3, compiled by Woodward-Clyde Consultants, 1987. The depth to groundwater below the tanks is unknown. The elevation of the site is approximately 110 feet above Mean Sea Level (MSL).

EXPLANATION

- A — ALLUVIUM AND SHALLOW GROUNDWATER.
- B — ALLUVIUM FILLING NATURAL BEDROCK DEPRESSION; LOCALLY SHALLOW GROUNDWATER.
- C — MAN-MADE FILL.
- D — ALLUVIUM WITH BEDROCK AT SHALLOW DEPTH (<30 FEET.)
- E — BEDROCK COVERED WITH SOIL 1 TO 5 FEET THICK

LIMITS BASED ON HIGH LEVEL OF CONFIDENCE / LIMITS BASED ON LOW LEVEL OF CONFIDENCE — LIMITS WITHIN WHICH ACTIVE FAULT TRACES ARE LOCATED. WIDTHS ARE BASED ON EXPLORATORY TRENCHES, BORINGS, GEOLOGIC RECONNAISSANCE, AND LEVELS OF CONFIDENCE IN LOCATING THE FAULTS.

NOTE: THE GEOLOGIC UNITS (A-E) AND THEIR LIMITS ARE GENERALIZED FROM EXPLORATORY TRENCHING AND BORING DATA AND SHOULD NOT BE USED AS A SUBSTITUTE FOR SITE-SPECIFIC STUDIES.

TOPOGRAPHIC MAP BY HAMMON, JENSEN & WALLEN, MAPPING AND FORESTRY SERVICES, OAKLAND, CA. (JAN. 1969).

0 100 200 300 400 FEET

CONTOUR INTERVAL: 2 FEET

Figure 3
GENERALIZED GEOLOGIC CONDITIONS AT
FAIRMONT HOSPITAL IN ALAMEDA COUNTY

A HUNTER ENVIRONMENTAL SERVICES, INC. COMPANY

GREGG & ASSOCIATES, INC.
597 Center Avenue, Suite 350
Martinez, California 94553
(415) 372-3637

GENERALIZED GEOLOGIC CONDITIONS
FAIRMONT HOSPITAL SITE
Fairmont Hospital-Juvenile Hall
San Leandro, California

Project No. 14162
Woodward-Clyde Consultants

Figure 8

2.0 MONITORING AND SITE CHARACTERIZATION PROGRAM

2.1 DRILLING AND SOIL SAMPLING

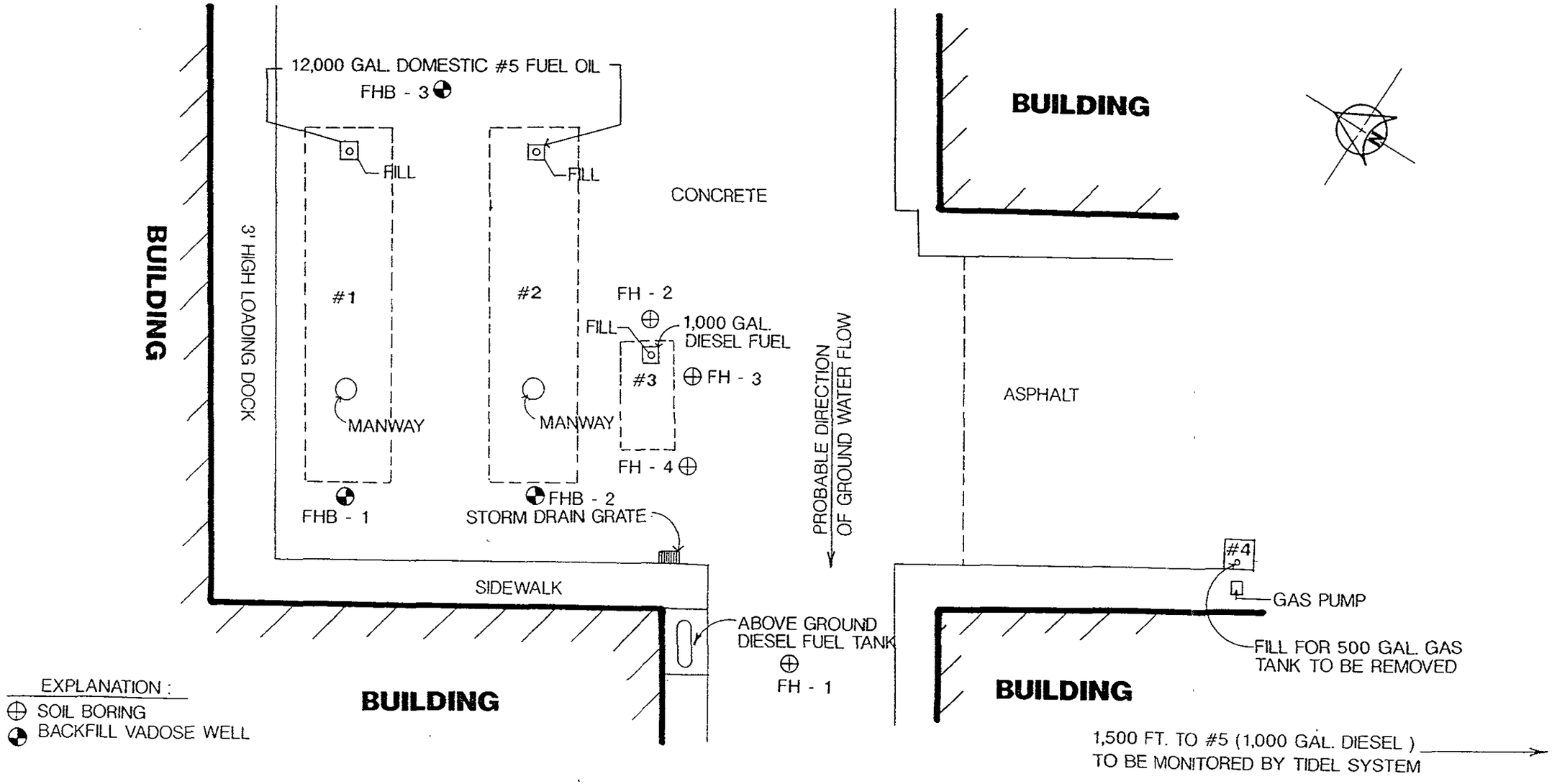
On 2 June 1988 Enexco, a drilling contractor based in Capitola, California, began drilling the first backfill vadose monitoring well (well FHB-1) using a Mobil B-53 truck-mounted hollow-stem auger drilling rig. Auger refusal occurred at 17 feet below the ground surface forcing drilling to discontinue in order to re-evaluate the site conditions. On 30 June 1988 Gregg Drilling, a drilling contractor based in Sante Fe Springs, California, continued the drilling of the backfill vadose well and the site characterization borings using a B-53. The remaining backfill vadose well borings (FHB-2 and FHB-3) were drilled to a depth of 15 feet and 2-inch PVC monitoring wells were installed. The monitoring wells were placed around Tanks 1 and 2 as shown in Figure 4. Construction details of well installation are included in Appendix B. A copy of the Groundwater Protection Ordinance Permit Application is included in Appendix C.

On 1 July 1988 Gregg Drilling drilled one boring (FH-1) to determine depth to bedrock and three borings (FH-2, FH-3, and FH-4) around Tank 3 (Figure 4). The borings were drilled to depths of 34, 15, 20, and 32 feet respectively. Auger refusal occurred in each boring at the depth indicated.

Soil samples were collected in all borings except boring FH-1 at five foot intervals beginning at a depth of five feet and continuing to the bottom of the borings. A Modified California Sampler was used to sample the soil. Appendix C contains a comprehensive description of the drilling and soil sampling procedures. All drilling and soil sampling was performed under the supervision of a hydrogeologist from Gregg & Associates, Inc.

2.2 LABORATORY ANALYSES

Chemical analyses of the soil samples were performed by Superior Analytical, an independent, State Certified, commercial testing laboratory located in San Francisco,



A HUNTER ENVIRONMENTAL SERVICES, INC. COMPANY

GREGG & ASSOCIATES, INC.
597 Center Avenue, Suite 350
Martinez, California 94553
(415) 372-3637

Figure 4
BORING LOCATIONS AT FAIRMONT HOSPITAL
IN ALAMEDA COUNTY, CALIFORNIA

California. Depth-specific soil samples from the backfill vadose borings around Tanks 1 & 2 were analyzed for the presence of oil and grease using Environmental Protection Agency (EPA) Method 418.1/503E. Depth-specific soil samples from the borings around Tank 3 were analyzed for Total Petroleum Hydrocarbons using EPA Method 8015.

3.0 CHARACTERIZATION FINDINGS

3.1 PHYSICAL RESULTS

The material found during the drilling operations consisted of sand, gravel, some silt, and weathered bedrock material. The bedrock material in this area is an intrusive gabbro and serpentine, medium- to course-grained. The silt and sand are both clayey, dry, moderately cohesive, and brown in color. The silt and sand are predominant to a depth of about five feet with some thin layers of sand interbedding with the gravel at depths greater than five feet. The gravel was typically silty and sandy, ranged in size from fine- to course-grained, moderately graded, angular, loose, and brown and black in color. The gravel ranged from 5 feet to within 5 to 10 feet from the bottom of each boring. The last 5 to 10 feet of each boring was a zone of highly weathered zone of gabbro and serpentine. During the drilling groundwater was never identified and no evidence of petroleum hydrocarbons were detected. A detailed lithologic description is presented on the boring logs included in Appendix E.

3.2 CHEMICAL RESULTS

The results of the chemical analyses showed no detectable concentrations of Total Petroleum Hydrocarbons (TPH) in the soil samples collect at any depth in any of the borings. Concentrations of Oil and Grease were detected at depths of 12 and 17 feet in boring FHB-1 of 53 and 166 parts per million (ppm), respectively. All other soil samples analyzed for Oil and Grease were NON DETECT. Complete laboratory analyses and chain of custody are listed in Appendix E.

4.0 CONCLUSIONS

The objectives of this project performed at Fairmont Hospital, for the County of Alameda, were to install three backfill vadose monitoring wells around the heating oil tanks (tanks 1 and 2), and assess the lateral and vertical extent of elevated levels of petroleum hydrocarbons in the soil as a result of suspected leakage from Tank 3 containing diesel fuel. The conclusions discussed in this section are based on field and laboratory data, and our current understanding of regulatory agency regulations, guidelines, and policy. The results of the investigation suggest the following:

- The lithology underlying Fairmont Hospital consists of a thin veneer of alluvium, 10 to 30 feet thick, overlying an intrusive gabbro and serpentine bedrock. The alluvium consists of gravel, sand, and some silt. The lithology is primarily silt and sand to a depth of about 5 feet and fine-to course-grained silty gravel interbedded with some sand to depths of 10 to 30 feet. A 5 to 15 foot thick zone of highly weathered bedrock underlies the alluvium.

- During the drilling groundwater was not identified at depths less than the alluvium/bedrock interface. This does not exclude the existence of groundwater in fracture zones beneath the bedrock interface. The Hayward Fault, 100 yards east of the drilling site, appears to act as an up gradient groundwater barrier to the site as is evident from the work done by Woodward-Clyde Consultants on the Hayward Fault trace under Fairmont Hospital (Figure 4).

- Concentrations of Total Petroleum Hydrocarbons (TPH) were below detection limits (10 mg/kg) in all soil samples analyzed for TPH.

- Concentrations of Oil and Grease in soil samples collected from boring FHB-1 at depths of 12 and 17 feet ranged from 53 to 166 mg/kg, respectively. Concentrations of Oil and Grease were below detection limits (35 mg/kg) in all remaining samples analyzed for Oil and Grease.

5.0 RECOMMENDATIONS

The following recommendations are based on field and laboratory data and our current understanding of regulatory agency regulations, guidelines, and policy. Our recommendations are as follows:

- Remove Tanks 3 and 4. Sample the soil to assess the presence of any elevated levels of petroleum hydrocarbons directly beneath the tanks.

- Replace Tank 3 with an underground 1,000-gallon double-wall tank.

- Install appropriate tank monitoring devices for Tanks 3 and 5 to comply with state and county regulations.

- Monitor the backfill vadose wells monthly by lowering a bailer into the well or by using a stick coated with petro-sensitive paste to assess whether any petroleum hydrocarbons are collecting in the well. A semi-annual report of the results of the field testing should be submitted to both the City of San Leandro and Alameda County Water District. In the event that fluid from tank leakage is found, both agencies should be notified within 24 hours.

APPENDIX A
PRECISION TANK TEST RESULTS

TANK 5511-3 TANK 5511-4

HUNTER ENVIRONMENTAL SERVICES, INC.
18350 MT. LANGLEY STREET, SUITE 101
FOUNTAIN VALLEY, CA 92708
800-247-9014 800-247-2186

FINAL TEST RESULTS
TEST DATE: 4/12/88

CUSTOMER: FAIRMONT HOSPITAL
ADDRESS: 15400 FOOTHILL BLVD.
SAN LEANDRO, CA

LOCATION/IDENTIFICATION NO.:

TEST RESULTS SUMMARY

SYSTEM NO.	PRODUCT	TANK SIZE GALLONS	TANK SIZE DIA/MATL	WATER INCHES	LEAK LOKATOR RESULTS LEVEL INCHES	LEAK LOKATOR RESULTS ALR GPH	LEAK LOKATOR RESULTS CONCLUSION	RECOMMENDATIONS
1	DIESEL	1000	48/ST	0	34	-.554	LEAK	
					52	-.292	LEAK	
2	DIESEL	1000	48/ST	0	102	+.034	TIGHT	

OTHER INFORMATION: COULD NOT TEST ABOVE GRADE ON SYSTEM 1 DUE TO PITCHED FILL PIPE. DIESEL 1 HAS STEEL DROP TUBE.

PRODUCT LINES - HYDROSTATIC PRESSURE TEST RESULTS

SYSTEM NO.	PRODUCT	TYPE OF PUMP REMOTE	TYPE OF PUMP SUCTION	POUNDS APPLIED	POUNDS HELD	MINUTES HELD	PRODUCT LOSS CC's	PRODUCT LOSS GPH	CONCLUSION /RESULT
1	DIESEL		-----						
2	DIESEL		-----						

NOTE: On suction systems, NEVER put more than 15 psi on any pump system.

DETAIL OF TEST RESULTS

SYSTEM NO.	PRODUCT	TEST NO.	TEST LEVEL (IN.)	TIME CLOCK STATE	TIME DUPATION (HR-MIN)	LEAK RATE CC/DIV	LEAK RATE CC/MIN	TEMPERATURE COMPENSATION DELTA oF	TEMPERATURE COMPENSATION CC/MIN	ABSOLUTE LEAK RATE CC/MIN	ABSOLUTE LEAK RATE GPH	CHECK TEST Y/N
1	DIESEL	1	34	11:00	:34	1.153	-26.335	+.234	+6.642	-34.977	-.554	
		2	52	1:15	:30	1.115	-19.651	+.279	-7.806	-13.457	-.292	
2	DIESEL	1	102	5:45	:30	1.496	+1.726	-.015	-.425	+2.151	+.034	

*LEVEL - Inches from Tank Bottom to Test Level
ALR - Absolute Leal Rate (Measured Leak Rate - Temperature Compensation) in Gallons Per Hour
CONCLUSION - NFPA 329 criterion of +/- 0.05 GPA is used to certify tightness

CERTIFICATION CERTIFIED

This is to certify that the above tank systems were tested, using the HUNTER ENVIRONMENTAL SERVICES, INC. LEAK LOKATOR according to all standard operating procedures. Those indicated as tight at full system meet the criterion established by the National Fire Protection Association Pamphlet 329 for Precision Testing.

Tests Conducted and Certified By: Test Van No. 19
Team Manager: P. PENKO
Tank Testing Specialist:

TANK 5511-3 TANK 5511-4

HUNTER ENVIRONMENTAL SERVICES, INC.
115 DEWALT AVENUE, N.W.
SUITE 400
CANTON, OH 44702
216-453-1800 800-523-4370

TEST RESULTS

leak lokator LD 2000

DATE OF TEST: 4-12-88
CONTRACT NUMBER:

CUSTOMER: FAIRMONT HOSPITAL
LOCATION — IDENTIFICATION NUMBER:
NAME:
ADDRESS: 15400 FOOTHILL BLVD
CITY: SAN LEANDRO
STATE: CA

TEST RESULTS SUMMARY

	SYSTEM PRODUCT	TANK SIZE GALLONS	TANK SIZE DIA/MATL	WATER INCHES	LEAK LOKATOR RESULTS* LEVEL INCHES	ALR GPH	CONCLUSION	RECOMMENDATIONS	LEAK LOKATOR USE ONLY — CONCL. CODE TEST	TANK	SYS
1	DIESEL	1,000	48 (S)	0	94"	-.554	LEAK				
					52"	-.292	LEAK				
2	DIESEL	1,000	48 (S)	0	102	+.034	TIGHT				

OTHER INFORMATION: COULD NOT TEST ABOVE GRADE ON SYSTEM 1, DUE TO MECHANICAL FILL PIPE. DIESEL (1) HAS SEALED DROP TUBE.

PRODUCT LINES — HYDROSTATIC PRESSURE TEST RESULTS

NO.	SYSTEM PRODUCT	TYPE OF PUMP REMOTE	SUCTION	# APPLIED	MINUTES APPLIED	PRODUCT LOSS CC'S	PRODUCT LOSS GPH	CONCLUSION/ RESULT
1	DIESEL		✓					
2	DIESEL		✓					

NOTE: On suction systems, NEVER put more than 15 psi on any pump system.

OTHER CONTRACTORS, OFFICIALS, CUSTOMER REPRESENTATIVES PRESENT:

DETAIL OF TEST RESULTS

NO.	SYSTEM PRODUCT	TEST NO.	TEST LEVEL (INCHES)	TIME CLOCK START	DURATION HRS-MIN	LEAK RATE CC/DIV	LEAK RATE CC/MIN	TEMPERATURE COMPENSATION Δ °F	CC/MIN	ABSOLUTE LEAK RATE CC/MIN	GPH	CHECK TEST Y or N
1	DIESEL (3)	1	94	1100	0-30	1.153	-28.335	+.234	+6.612	-34.947	-.554	
		2	52	1:16	0-30	1.115	-10.651	+.275	+7.806	-18.457	-.292	
2	DIESEL (2)	1	102"	545	0-30	1.1[illegible]	+1.726	-.0[illegible]	[illegible]	+2.151	+.0[illegible]	

* LEVEL — INCHES FROM TANK BOTTOM TO TEST LEVEL
ALR — ABSOLUTE LEAK RATE (MEASURED LEAK RATE — TEMPERATURE COMPENSATION) IN GALLONS PER HOUR
CONCLUSION — NFPA 329 CRITERION OF ± 0.05 GPH IS USED TO CERTIFY TIGHTNESS

CERTIFICATION: This is to certify that the above described tank systems were tested, using the HUNTER ENVIRONMENTAL SERVICES, INC. LEAK LOKATOR according to all standard operating procedures. Those indicated as tight at full system meet the criterion established by the National Fire Protection Association Pamphlet 329 for Precision Testing.

TESTS CONDUCTED BY
TEST VAN NO.: LL 71
TANK TESTING SPECIALIST: [illegible]
TANK TESTING SPECIALIST:

CERTIFIED BY
SIGNATURE: [illegible]
DATE: 4/12
NAME: [illegible]
TITLE: [illegible]

TANK AND LOCATION DATA

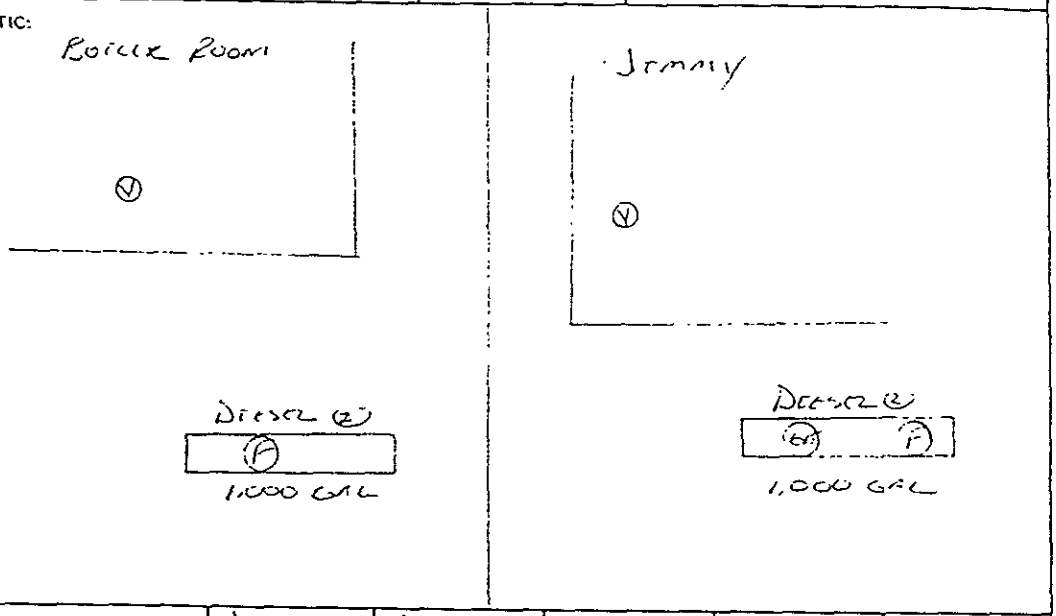
DATE: 4-12 97'

CUSTOMER: FAIRMONT HOSPITAL CITY: SAN LEANDRO

I.D. # STATE: CA

WEATHER	TIME	TEMPERATURE	COMMENTS
BEFORE TEST –			
AFTER TEST –			

SCHEMATIC:



	PRODUCT/TANK NO.	Diesel		Diesel							
BEFORE DELIVERY	LEVEL	Fill 47	Gauge	Fill 43	Gauge	Fill	Gauge	Fill	Gauge	Fill	Gauge
	GALLONS										
	WATER	0		0							
	TOP OF RISER	99		15							
	GRADE	105		76							
	DROP TUBE	STEEL									
	CAPACITY, GALLONS	1,000		1,000							
	DIAMETER, INCHES	48		48							
	MATERIAL	STEEL		STEEL							
	PUMP TYPE	SUCTION		SUCTION							
	TYPE OF COVER	CONCRETE		CONCRETE							
	AGE OF TANK	29+YRS		29+yrs							
	SIPHON	NO		NO							
	TANK OPENINGS	1-3"		1-3"							
	EXTRACTORS			1-3"							
VAPOR RECOVERY	TYPE	N.A		N.A							
	VENT CONFIGURATION	OPEN		OPEN							
	P-V VENT VALVE TYPE	N A		N.A							

REPLACEMENT PARTS: PART # DESCRIPTION QUANTITY PRICE

12 LINES ON SITE 3 LINES PRIMED

ADDITIONAL CHARGES: (dumpovers, overtime, etc.) PUMP OVER 100 GAL DIESEL TO DISPOSAL

*Data obtained from ☑ Station ☐ L.L Charts ☐ Other

APPENDIX B
WELL INSTALLATION

WELL INSTALLATION

The backfill vadose wells will be constructed of 2-inch ID, Schedule 40, PVC blank and perforated pipe. Each monitoring well will extend to a depth of 15 feet below the ground surface (3 feet below the bottom of the tank). Screened or perforated casing will be installed from 15 to 5 feet. The perforated pipe is factory-machine-slotted with openings of approximately 0.020 inch. The perforated pipe will be fitted with a slip-on cap before being placed in the bottom of the borehole. Blank pipe will be connected to the perforated pipe and will extend to the ground surface.

The annulus between the borehole (approximately 7.5 inches ID) and the 2-inch ID perforated pipe will be filled with a clean sand pack of Lone Star #3 sand. The sand pack will extend from the total depth of the well to 1-foot above the uppermost slots on the perforated pipe. The remainder of the annulus will be filled with concrete to the ground surface.

At the ground surface the blank pipe will be capped with a slip-on cap and the entire ground-water monitoring assembly will be protected and enclosed by a locking cast-iron box and with covered with a water-tight seal. The cast-iron box will be set approximately 1/2 inch above the paved surface and concreted in place.

All lengths of pipe used in the backfilled vadose well construction, both blank and perforated, will be connected by threaded joints. No glues or adhesives will be used. The PVC blank and perforated pipe and caps placed in the borings are cleaned at the factory and sealed for delivery. These techniques will preclude introducing outside contamination.

APPENDIX C
GROUND WATER PROTECTION ORDINANCE PERMIT APPLICATION

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT Fairmont Hospital
15400 Foothill Blvd
San Leandro, CA 94578

(2) CLIENT
Name Alameda County - Paul LeChevallier
Address 4400 MacArthur Blvd Phone 530-9660
City Oakland CA Zip 94619

(3) APPLICANT
Name Gregg & Assoc. *
Address 597 Center Ave Phone 372-3637
City Martinez Zip 94553

(4) DESCRIPTION OF PROJECT
Water Well Construction ✓ Geotechnical ___
Cathodic Protection ___ Well Destruction ___

(5) PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring 2 Other 3 soil borings

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger ✓
Cable ___ Other ___

WELL PROJECTS
Drill Hole Diameter 8 in. Depth(s) 45 ft.
Casing Diameter 2 in. Number of Wells 2 monitoring 3 borings
Surface Seal Depth 5 ft.
Driller's License No. ___

GEOTECHNICAL PROJECTS
Number ___
Diameter ___ in. Maximum Depth ___ ft.

(7) ESTIMATED STARTING DATE 5-24-88
ESTIMATED COMPLETION DATE 5-27-88

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Michael Marsden Date 5-18-88

FOR OFFICE USE

PERMIT NUMBER 88201
LOCATION NUMBER ___

Approved Wyman Hong Date 20 May 88
Wyman Hong

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Notify this office (484-2600) at least one day prior to starting work on permitted work and before placing well seals.
3. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or bore hole logs and location sketch for geotechnical projects. Permitted work is completed when the last surface seal is placed or the last boring is completed.
4. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie, or equivalent.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie, or equivalent.

E. WELL DESTRUCTION. See attached.

* Gregg & Associates representative: Michael Marsden. One more monitoring well added by phone.

9198?

APPENDIX D
DRILLING AND SAMPLING PROCEDURES

DRILLING AND SAMPLING PROCEDURES

DRILLING PROCEDURES

The soil borings were drilled using a truck-mounted Mobile Drilling Co., Model B-53 hollow-stem auger drilling rig. The individual auger flights are 5 feet in length with an inside diameter (ID) of 3.25 inches and an outside diameter (OD), including the bit, of about 8 inches. During drilling a retractable plug prevented soil from entering the central shaft of the auger flights. the retractable plug, which is lowered or retrieved by a wireline, is at the end of a drive hammer.

SOIL SAMPLING PROCEDURES

Relatively undisturbed soil samples were collected at 3, 7, and 10 feet below the ground surface in each boring. When the target depth was reached a Modified California Sampler, consisting of an outer sampler barrel lined with two 6-inch long rings (2.50 inches OD and 2.375 inches ID) placed end to end, was used to collect the soil samples. The sampler is attached to the drive hammer, lowered through the hollow-stem auger, and driven 12 inches. After the sampler is driven to the desired depth, it is retrieved and the rings removed.

The soil in the lower 6-inch ring of the Modified California sampler was used for laboratory analyses. Immediately after the sample rings were retrieved the lower ring was sealed with aluminum foil, covered with plastic end caps, and secured with duct tape. The sample was then labeled and placed in an ice chest for cold transport to a chemical laboratory for analysis. The soil in the upper 6-inch ring was used for lithologic description and olfactory examination.

To avoid cross-contamination, the Modified California Sampler and rings were cleaned prior to each assembly. The equipment was washed with a tri-sodium phosphate solution, rinsed with tap water, dipped in methanol, rinsed with distilled water, and allowed to air dry. The auger flights were steam cleaned prior to their arrival at the site.

APPENDIX E
LITHOLOGIC BORING LOGS

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Project No.: 02-276-005 Date: 7-1-88
Client: ALAMEDA CO.
Location: Fairmont Hospital
Logged by: M. Marsden Driller: GREGG

Boring # FH-1
Sheet 1
of 1

Field Location of Boring:

Drilling Method: B53 hollow stem auger Hole Diam.: 8"
Installation Data: None

*A	*B	*C	*D	*E	*F	Water Level / Time / Date	DESCRIPTION
0							@ 0' 6" thick concrete.
2					ML		@ 2' gravelly sandy clayey silt, brown, dry, moderately cohesive, no odor.
4					SM		@ 4' gravelly silt, sand, brown, dry, no odor.
					GM		@ 4.5' coarse gravel 3 to 3cm in diameter, matrix, silty sand, fine-grained; gabbro gravel.
6							@ 6' sandy silty gravel (1-2 cm), dry, no odor.
8					SC		@ 8' clayey silty very fine sand, brown, dry, moderately cohesive, no odor, some gravel.
10					GM		@ 10' silty gravel, no odor.
12							
14					SC		@ 13' gravelly, silty, fine sand, light brown, no odor. @ 14' silty fine sand, yellow brown, dry, no odor, some clay.
16							
18					GP		@ 17' silty sandy gravel, dry, no odor.
20					GP		@ 20' silty sandy gravel, dry, no odor.
22							
24					GP		@ 25' silty sandy gravel, brown, slightly moist, no odor.
26							@ 26' same, coarse gravel 2-3 cm.
28					GP		@ 28' same, finer gravel, 5-1 cm.
30							

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Project No.: 02-276-005 Date: 6-30-88
Client: ALAMEDA CO.
Location: Fairmont Hospital
Logged by: M. Marsden Driller: GREGG

Boring # FH1
Sheet 2
of 2

Field Location of Boring:

Drilling Method: B53- hollow stem auger Hole Diam.: 8"
Installation Data:

*A	*B	*C	*D	*E	*F	Water Level / Time / Date	DESCRIPTION
30							
32							@ 32' gravel coarsens then fines @ 33' clayey gravel, brown, slightly moist, no odor.
34		125		ring at 34'			@ 34' auger refusal.
36							
38							
40							
42							
44							
46							
48							
50							
52							
54							
56							
58							
60							

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Project No.: 02-276-005 DAte: 7-1-88 Boring # FH-2
Client: ALAMEDA CO. Sheet 1
Location: Fairmont Hospital of 1
Logged by: M. Marsden Driller: Gregg

Field Location of Boring:

Drilling Method: B-53 Hole Diam.: 8"
Installation Data: None

*A	*B	*C	*D	*E	*F	Water Level / Time / Date	DESCRIPTION
0							@ 0' 6" concrete
					GM		@ 1' sandy silty gravel (coarse), reddish brown, moist. no odor, (angular gravel).
2					GC		@ 2' silty, clayey gravel, brown, moist, slightly cohesive, slight odor
4					SW		@ 4' silty gravelly (1cm) sand, light brown, dry, slight odor
6		75		ring at 5'	GC		@ 5' clayey sandy gravel (weathered gabbro) drove sampler through weathered rock, no odor.
8					GM		@ 8' silty sandy fine gravel, brown, slightly moist, no odor.
							@ 9' same, coarsening of gravel.
10		165		ring at 10'	*WBR		@ 10' weathered gabbro and serpentine
12							@ 12' couarse gravel, some silt, 1-4 cm.
14		>200		ring at 15'			
					*WBR		@ 15' crushed gabbro and serpentine, auger refusal.
16							
18							
20							
22							
24							
26							
28							
30							

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Project No.: 02-276-005 Date: 7-1-88
Client: ALAMEDA CO.
Location: Fairmont Hospital
Logged by: M. Marsden Driller: GREGG

Boring # FH-3
Sheet 1
of 1

Field Location of Boring:

Drilling Method: B53 Hole Diam.: 8"
Installation Data: None

*A	*B	*C	*D	*E	*F	DESCRIPTION
				Water Level		
				Time		
				Date		
0						@ 0' concrete 6" thick.
					GC	@ 1' silty clayey coarse gravel, red, moist, no odor.
2						@ 2' silty clayey gravel (fine), brown, moist, moderately cohesive,
					GC	no odor.
		49		ring at 5'	SC	
4						@ 4' silty clayey very fine sand, brown, moderately cohesive, no odo
					GM	@ 5' silty sandy gravel, brown, no odor, weathered gabbro and ser-
6						pentine 1-5 cm.
8						@ 8'silty sandy medium gravel, brown, moist, no odor.
					GM	
		75		ring at 10'		
10						@ 10' same, highly weathered gabbro.
					GM	
12						@ 12' same, more silt.
		170		ring at 15'		
14						
					*WBR	@ 15' highly weathered gabbro.
16						
18						@ 18' silty sandy gravel, brown, no odor.
		200		ring at 20'	*WBR	
20						@ 20' highly weathered gabbro, no odor, auger refusal.
22						
24						
26						
28						
30						

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Project No.: 02-276-005 Date: 7-1-88
Client: ALAMEDA CO.
Location: Fairmont Hospital
Logged by: M. Marsden Driller: GREGG

Boring # FH-4
Sheet 1
of 1

Field Location of Boring:

Drilling Method: B53 hollow stem auger Hole Diam. 8"
Installation Data: None

*A	*B	*C	*D	*E	*F	DESCRIPTION
						Water Level
						Time
						Date
0					GC	@ 0' concrete 6" thick.
						@ 1' silty clayey gravel, red, moist, no odor, slightly cohesive.
2						@ 2' silty sand, medium gravel, moist, no cohesion, no odor.
					GM	
4		80'		ring at 5'		@ 5' highly weathered gabbro, no odor.
6						
8						@ 8' silty, sandy medium gravel, dark brown, no odor.
10		48'		ring at 10'	*WBR	@ 10' same, highly weathered gabbro.
12						
14						@ 14' clayey sandy fine gravel, light brown, no odor, dry.
					GM	@ 15' silty sandy gravel, dry, no odor.
16		40'		ring at 15'		
18						@ 18' clayey sandy fine gravel, light brown, no odor.
20		19'		ring at 20'	SM	@ 20' clayey silty coarse sand, some gravel, yellow, slightly moist, no odor.
22						@ 23' silty sandy fine gravel, greenish brown, dry, no odor.
24						
26		77'		ring at 25'	*WBR	@ 25' highly weathered gabbro.
28						@ 28' silty sandy fine gravel, greenish brown, dry, no odor.
30		150'		ring at 30'	*WBR	@ 30' highly weathered gabbro, wet.
						@ 32' auger refusal, probe just slightly wet.

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Field Location of Boring:

Project No.: 02-276-005 Date: 6-2-88
Client: ALAMEDA CO.
Location: Fairmont Hospital
Logged by: M. Marsden Driller: ENEXCO

Boring # FHB-1
Sheet 1
of 1

Drilling Method: B53 hollow stem auger Hole Diam.: 8"
Installation Data: 15'-5' 2" slotted PVC (.02 slots), 5-0' blank PVC; 15-3' Lonestar #3 sand, 3-2' Bentonite, 2-0' concrete.

*A	*B	*C	*D	*E	*F	Water Level / Time / Date	DESCRIPTION
0							@ 0' concrete to 6".
					SM		@ 6" silty gravely sand, brown, dry, no odor.
2							
4							
					SM		@ 5' silty, gravely sand, yellow brown, slightly moist, no odor.
6					SM		@ 7' silty sand, some pebbles, yellow brown, slightly moist, no odor
8					SM		@ 9' silty sand, some pebbles, yellow brown, slightly moist, no odor
10							
12				ring at 12'	SP		@ 12' gravelly coarse sand, some silty, yellow brown, dry, slight odor.
14							@ 13.5 driller notes difficult drilling.
16				ring at 17'			
18					SM		@ 17' cobbly, silty sand, brown, dry, no odor; gabbro cobbles. Auger refusal.
20							
22							
24							
26							
28							
30							

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Project No.: 02-276-005 Date: 6-30-88
Client: ALAMEDA CO.
Location: Fairmont Hospital
Logged by: M. Marsden Driller: GREGG

Boring # FHB-2
Sheet 1
of 1

Field Location of Boring:

Drilling Method: B53 hollow stem auger Hole Diam.: 8"
Installation Data: 15'-5' 2 slotted PVC (.02" slots), 5-0' blank PVC; 15-3' Lonestar #3 sand, 3-2' Bentonite, 2-0' concrete.

*A	*B	*C	*D	*E	*F	Water Level / Time / Date — DESCRIPTION
0						@ 0' 6" of concrete.
2						
4					GM	@ 4' silty sandy gravel, brown slightly moist, no odor, angular gravel, 1-2 cm.
6		52'		ring at 5'		@ 5' coarse silty gravel, 2-3 cm.
8					SP	@ 8' silty gravelly coarse sand, brown, dry, no odor.
10		40'		ring at 10'	SP	@ 10' same, sightly moist.
12					SM	@ 12' silty gravelly sand, yellowish brown, some clay, slightly moist, no odor.
14						@ 15' silty gravelly sand, yellowish brown, some clay, slightly
16		68'		ring at 15'	SM	moist, no odor.
18						
20						
22						
24						
26						
28						
30						

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

GREGG & ASSOCIATES, INC.

LOG OF EXPLORATORY BORING

Project No.: 02-276-005 Date: 6-30-88
Client: ALAMEDA CO.
Location: Fairmont Hospital
Logged by: M. Marsden Driller: GREGG

Boring # FHB-3
Sheet 1
of 1

Field Location of Boring:

Drilling Method: B53-hollow stem auger Hole Diam.:8"
Installation Data: 15'-5' 2 slotted PVC (.02" slots), 5-0' blank PVC; 15-3' Lonestar #3 sand, 3-2' Bentonite, 2-0' concrete.

*A	*B	*C	*D	*E	*F	Water Level / Time / Date	DESCRIPTION
0							@ 0' 6" of concrete.
2					SM		@ 3' gravelly silty sand, brown, dry, no odor.
4					GP		@ 5' silty sandy coarse gravel (1 cm), dry, no odor, gabbro gravel.
6		63'		ring at 5'			
8					GM		@ 8' same, 50/50 gravel to silty sand.
10		35'		ring at 10'	SM		@ 10' clayey silty sand, some gravel, mications, brown, dry, no odor
					GM		@ 11' very coarse gravel, 1-5 cm.
12							
14					GM		@ 14' silty sandy gravel, brown, no odor, dry. @ 15' clayey gravely silt, brown, highly weathered rock, no odor,
16		38'		ring at 15'	ML		micas, weathering to clays, moderately cohesive.
18							
20							
22							
24							
26							
28							
30							

*A - Depth; *B - Graphic Log; *C - BLOW/ft; *D - Vapor Concentration; *E - Sample Type and Depth;
*F - Soil Group Symbol (U.S.C.S.); *WBR - Weathered Bedrock

APPENDIX F
LABORATORY REPORTS AND CHAIN-OF-CUSTODY MANIFESTS

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE D • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 50194
CLIENT: Gregg & Associates
CLIENT ID: Fairmont Hospital

DATE RECEIVED: 6/13/88
DATE REPORTED: 6/21/88
JOB NO.: N/A

ANALYSIS FOR OIL & GREASE
by Method 418.1

Sample Identification	Concentration (mg/kg)
FHB-1 @ 12' 6/3/88 9:00 Fairmont Hospital	53
FHB-1 @ 17' 6/3/88 11:00 Fairmont Hospital	166

QA/QC Summary: Sample #2 Duplicate RPD: 26%

mg/kg = part per million (ppm)

Richard F. Srna, Ph.D.
Laboratory Manager

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE D • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 50194
CLIENT: Gregg & Associates
CLIENT ID: Fairmont Hospital

DATE RECEIVED: 6/13/88
DATE REPORTED: 6/21/88
JOB NO.: N/A

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 8015

Sample Identification	Concentration (mg/kg)
FHB-1 @ 12' 6/3/88 9:00 Alameda County Fairmont Hospital	ND < 10
FHB-1 @ 17' 6/3/88 11:00 Alameda County Fairmont Hospital	ND < 10

mg/kg = part per million (ppm)

RECEIVED JUN 22 1988

Richard F. Srna, Ph.D.
Laboratory Manager

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE D • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 50221
CLIENT: Gregg & Associates
CLIENT ID: Fairmont Hsptl

DATE RECEIVED: 7/6/88
DATE REPORTED: 7/13/88
JOB NO.: 02-276-005

ANALYSIS FOR OIL & GREASE
by Standard Methods Method 503E

Sample Identification	Concentration (mg/kg)
FHB-2 @ 5' 6/30/88	ND < 35
FHB-2 @ 10' 6/30/88	ND < 35
FHB-2 @ 15' 6/30/88	ND < 35
FHB-3 @ 5' 6/30/88	ND < 35
FHB-3 @ 10' 6/30/88	ND < 35
FHB-3 @ 15' 6/30/88	ND < 35

mg/kg = part per million (ppm)

Richard F. Srna, Ph.D.

Michelle D. Kish for RFS
Laboratory Manager

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE D • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO. 50221
CLIENT: Gregg & Associates
CLIENT ID: Fairmont Hsptl

DATE RECEIVED: 7/6/88
DATE REPORTED: 7/13/88
JOB NO.: 02-276-005

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 8015

Sample Identification	Concentration (mg/kg)
FH-1 @ 34' 6/30/88	ND < 10
FH-2 @ 5' 7/1/88	ND < 10
FH-2 @ 10' 7/1/88	ND < 10
FH-2 @ 15' 7/1/88	ND < 10
FH-3 @ 5' 7/1/88	ND < 10
FH-3 @ 10' 7/1/88	ND < 10
FH-3 @ 15' 7/1/88	ND < 10
FH-3 @ 20' 7/1/88	ND < 10
FH-4 @ 5' 7/1/88	ND < 10
FH-4 @ 10' 7/1/88	ND < 10
FH-4 @ 15' 7/1/88	ND < 10
FH-4 @ 20' 7/1/88	ND < 10
FH-4 @ 25' 7/1/88	ND < 10
FH-4 @ 30' 7/1/88	ND < 10

mg/kg = part per million (ppm)

Richard F. Srna, Ph.D.

Laboratory Manager

OUTSTANDING QUALITY AND SERVICE

GREGG

GREGG & ASSOCIATES, INC.
A Hunter Company
597 Center Avenue, Suite 350, Martinez, CA 94553 / (415) 372-3637

CHAIN OF CUSTODY RECORD

DATE 6-13-88 PAGE 1 OF 1

NAME Fairmont Hospital
ADDRESS 15400 Foothill Blvd
San Leandro CA.
PROJECT Alameda Co.
SAMPLER'S NAME (print) M. Marsden
(signature) Michael Marsden

sample #	date	time	location	1	2	3	4	5 (8015)	6	7	8	9	10	0 (8020)	0 (418.1)	0	0	0	0	TOTALS	OBSERVATION/COMMENTS
FMB-1 12	6/3/88	9:00 am	Sample at 12'					X						X	X						
FMB-1 17	6/3/88	11:00 am	Sample at 17'					X						X	X						

PARAMETER KEY:
1-CAM METALS (18)
2-PR. POLLUTANT METALS (13
3-GENERAL MINERALS
4-OIL & GREASE
5-PETROLEUM HYDROCARBONS
6-BASE/NEU/ACIDS (ORGANICS
7-PESTICIDES
8-VOLATILE ORGANICS (601/602)
9-VOLATILE ORGANICS (624)
10-TOC
0-
0-
0-
0-
0-
0-

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. Michael Marsden	1. [illegible signature]	6/13	1410
2.	2.		
3.	3.		
4.	4.		

TOTAL NUMBER OF CONTAINERS THIS SHEET:

METHOD OF SHIPMENT:

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS:

DISPATCHED BY:(signature)	date	time	RECEIVED FOR LAB BY:(sig)	date	time

GREGG

GREGG & ASSOCIATES, INC.
A Hunter Company
597 Center Avenue, Suite 350, Martinez, CA 94553 / (415) 372-3637

CHAIN OF CUSTODY RECORD

DATE 7-5-88 PAGE 2 OF 2

NAME Alameda Co
ADDRESS Fairmont Hospital
15400 Foothill Blvd
San Leandro CA
PROJECT 02-276-005

SAMPLER'S NAME (print) M. Marsden
(signature) Michael Marsden

PARAMETER KEY:
1-CAM METALS (18)
2-PR. POLLUTANT METALS (13
3-GENERAL MINERALS
4-OIL & GREASE
5-PETROLEUM HYDROCARBONS
6-BASE/NEU/ACIDS (ORGANICS
7-PESTICIDES
8-VOLATILE ORGANICS (601/602)
9-VOLATILE ORGANICS (624)
10-TOC

sample #	date	time	location	1	2	3	4	5 8015 (Diesel)	6	7	8	9	10	0	0	0	0	0	0	TOTALS	OBSERVATION/COMMENTS
FH-3	7/1																				
at 5'	7/1							X													
at 10'	7/1							X													
at 15'	7/1							X													
at 20'	7/1							X													
FH-4	7/1																				
at 5'	7/1							X													
at 10'	7/1							X													
at 15'	7/1							X													
at 20'	7/1							X													
at 25'	7/1							X													
at 30'	7/1							X													

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time	
1. Michael Marsden	1. Billy V. Quinalanta	7/6/88	7:4 AM	TOTAL NUMBER OF CONTAINERS THIS SHEET: 10
2. Billy V. Quinalanta	2. E. Liddle	7/6/88	8:23 AM	METHOD OF SHIPMENT:
3. E. Liddle	3. Mulda I. Kit	7/6	1000	SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS:
4.	4.			

DISPATCHED BY: (signature)	date	time	RECEIVED FOR LAB BY: (sig)	date	time

GREGG

GREGG & ASSOCIATES, INC.
A Hunter Company
597 Center Avenue, Suite 350, Martinez, CA 94553 / (415) 372-3637

CHAIN OF CUSTODY RECORD

DATE 7-5-88 PAGE 1 OF 2

NAME Alameda Co.
ADDRESS Fairmont Hospital
15400 Foothill Blvd
San Leandro CA.
PROJECT 02-276-005

SAMPLER'S NAME (print) M. Marsden
(signature) Michael Marsden

sample #	date	time	location	PARAMETERS 1	2	3	4 (418.1)	5 (8015 (diesel))	6	7	8	9	10	OTHER 0	0	0	0	0	0	TOTAL	OBSERVATION/COMMENTS
FMB-2	~~6/30~~																				
at 5'	6/30						X														
at 10'	6/30						X														
at 15'	6/30						X														
FMB-3	~~6/30~~																				
at 5'	6/30						X														
at 10'	6/30						X														
at 15'	6/30						X														
FH-1	6/30		at 34'					X													
FH-2	~~7/1~~																				
at 5'	7/1							X													
at 10'	7/1							X													
at 15'	7/1							X													

PARAMETER KEY:

		10-TOC
T	1-CAM METALS (18)	0-
O	2-PR. POLLUTANT METALS (13	0-
T	3-GENERAL MINERALS	0-
A	4-OIL & GREASE	0-
L	5-PETROLEUM HYDROCARBONS	0-
S	6-BASE/NEU/ACIDS (ORGANICS	0-
	7-PESTICIDES	
	8-VOLATILE ORGANICS (601/602)	
	9-VOLATILE ORGANICS (624)	

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. ~~Michael Marsden~~	1. Billy V. Dimaranan	7/6/88	7:45 AM
2. Billy V. Dimaranan	2. E Liddell	7/6/88	8:25
3. E Liddell	3. Mellie D Koh	7/6	1000
4.	4.		

TOTAL NUMBER OF CONTAINERS THIS SHEET: 10

METHOD OF SHIPMENT: GG

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS:

DISPATCHED BY: (signature)	date	time	RECEIVED FOR LAB BY: (sig)	date	time
~~RFK~~					