Environmental
Science &
Engineering, Inc.
A CILCORP Company

June 1, 1993

Project No. 6-93-5021

Mr. Jim de Vos
Alameda County General Services Agency
4400 MacArthur Blvd.
Oakland, California 94619

SUBJECT: **Fairmont Hospital, 15401 Foothill Boulevard, San Leandro, California**

Dear Mr. de Vos:

Environmental Science & Engineering, Inc. (ESE) presents the following results of a subsurface investigation to assess soil quality adjacent to and beneath one underground storage tank (UST) located at the subject facility (Figure 1 - Vicinity Map). ESE was contracted by the Alameda County General Services Agency (GSA) to perform this site assessment in preparation of potential tank abandonment-in-place. The UST, designated as UST #1 (Figure 2 - Soil Boring Locations), is of 12,000-gallon capacity and is part of an existing tank cluster comprised of three USTs: two 12,000-gallon capacity No. 5 fuel oil tanks (for emergency boiler fuel) and one 1,000-gallon capacity diesel fuel tank (for emergency generator). The objective of this investigation was to determine if the soil in the vicinity of UST #1 has been impacted by petroleum hydrocarbons. The assessment consisted of a limited subsurface investigation adjacent to the 12,000-gallon UST #1.

Site Background

UST #1, reportedly used to store domestic #5 fuel oil as emergency fuel for hospital boilers is located adjacent to a loading dock area of a building at the Fairmont Hospital facility. Reportedly, UST #1 was installed during the initial facility construction and prior to construction of the truck dock. UST #1 is located within three feet of the edge of the truck dock. A four-inch underground storm drain line is also located between the truck dock and the tank. The southwest end of UST #1 is located within four and one half feet of a buried ten-inch diameter storm drain line and within eight feet of the existing concrete walkway and stairs to the truck dock. The depth of the tank invert is approximately twelve feet below ground surface (bgs). The date of the tank installation is unknown.

As reported in *Gregg & Associates, Inc. (Gregg), Site Characterization Report, Fairmont Hospital, San Leandro, August 1988*, Gregg (later purchased by Hunter Environmental and acquired by ESE) conducted a facility audit and subsurface investigation at the site in June 1988. The integrity of USTs #1 and #2 could not be tested due to the type of fuel stored. The GSA retained Gregg to install three backfill vadose zone monitoring wells, designated as FHB-1, FHB-2, and FHB-3 (Figure 2) to depths ranging from 15 to 17 feet below ground surface (bgs). At that time, Total Recoverable Petroleum Hydrocarbons (TRPH) (by EPA Method 418.1) was detected in soil samples collected at depths of 12 and 17 feet bgs from boring FHB-1 at concentrations of 53 and 166 parts per million (ppm), respectively (Figure 2).

Site Description
The site is located on the western slope of the San Leandro Hills at an approximate elevation of 110 feet above Mean Sea Level (MSL) approximately 100 yards west of the western fault trace of the Hayward Fault. The site vicinity is underlain by unconsolidated alluvial deposits generally less than 30 feet thick which overlies intrusive gabbro and serpentine bedrock (Gregg, 1988).

Subsurface Investigation
As part of the subsurface investigation, three soil borings were drilled and sampled at locations surrounding the UST #1 to assess potential soil and/or ground water contamination from any unauthorized release from this tank. Specifically, the investigation was intended to confirm or dispute the low concentrations of hydrocarbons (TRPH) measured during the construction of vadose well FHB-1. Borings SB-1, SB-2, and SB-3 were located within ten feet of UST #1 (Figure 2).

Procedures
ESE obtained a permit for the soil borings from the Alameda County Flood Control and Water Conservation District, Water Resources Management Zone 7 (Zone 7). ESE submitted a workplan describing proposed activities to the Alameda County Health Care Services Agency (ACHCSA). The ACHCSA approved the workplan prior to commencement of site activities. ESE prepared a site-specific health and safety plan which all field personnel reviewed prior to the initiation of field work.

On April 21, 1993, ESE representatives delineated the orientation and approximate dimensions of the 12,000-gallon UST. Based on measurements made through the fill port, the diameter of the tank was estimated to be eight feet with the bottom of the tank located at an approximate depth of 12 feet bgs.

On April 21, 1993, an ESE representative drilled three vertical soil borings, designated as SB-1, SB-2, and SB-3, as shown on Figure 2. The borings were drilled using a hollow-stem auger rig to depths ranging from 21.5 to 24.5 feet bgs. As presented in the workplan, the soil borings were logged by an ESE geologist in accordance with ESE's Standard Operating Procedure (SOP) No. 1 (Attachment A). Boring logs are presented in Attachment B. Soil samples were collected in 2-inch diameter brass sleeves at 5-foot intervals. Soil cuttings from the borings were placed in Department of Transportation (DOT) 55-gallon drums pending analytical results. Ground water was not found in any of the borings. After completion of drilling and sampling, the boreholes were backfilled with neat cement.

Soil samples collected at 5-foot intervals were submitted under chain of custody documentation to ESE's Peoria analytical laboratory located in Peoria, IL. The Peoria lab is certified by the state of California DOHS. The samples were analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D) using EPA Method 3550/8015 modified and for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) using EPA Method 3550/8020.

Findings

Clayey to gravelly sand was found in the borings below the six-inch concrete pavement to depths of five feet. Weathered bedrock material, consisting of medium to coarse grained sand and gravel, was found at depths of five feet to the bottom of the borings, as shown on the attached boring logs (Attachment B). Each boring was terminated due to auger refusal.

No discolored soil or noticeable odors were observed during drilling activities. Reported concentrations of TPH-D and BTEX were nondetectable (ND) at method reporting limit in the soil samples collected and submitted for analyses. Laboratory reports and chain of custody documents are attached (Attachment C).

Conclusions and Recommendations

Based on the laboratory results and field observations, no petroleum hydrocarbon constituents were detected in any of the soil samples collected from the borings. Soil boring SB-2 was located approximately 2-3 feet from the previously installed vadose well (FHB-1). Samples were collected at 5, 10, 15, 20, and 23 foot depths bgs. No fuel staining or odor was observed, and no petroleum hydrocarbons were detected. ESE believes that the previous site work which detected up to 166 ppm TRPH by method 418.1 (infrared spectroscopy) may be anamolous and is probably not representative of existing soil conditions. ESE believes that the soil in the vicinity of UST #1 has not been impacted by a release of fuel. ESE recommends that UST #1 be approved for abandonment-in-place. It is also recommended the existing vadose zone monitoring wells installed in 1988 by Gregg be properly abandoned.

• • • • •

Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other hydrogeologists and engineers practicing in this field. No other warranty, express or implied, is made as to the professional advice in this report.

Please contact Patrick Galvin at (510) 685-4053 with any questions or comments regarding this project.

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

for

Kerry Lefever
Senior Staff Geologist

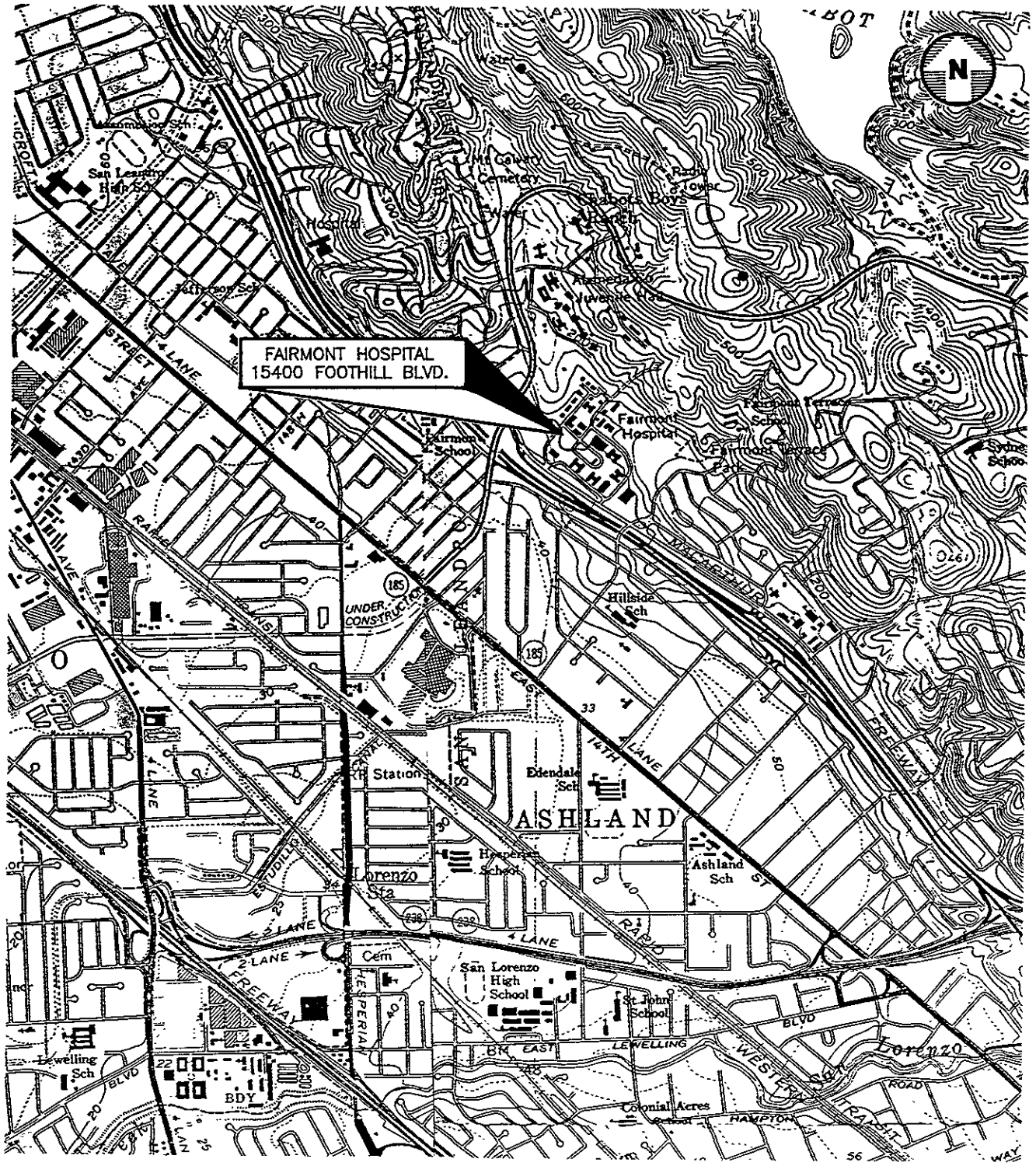
Susan S. Wickham

Susan S. Wickham, R.G.
Senior Geologist

Figures (2)
Attachments (3)

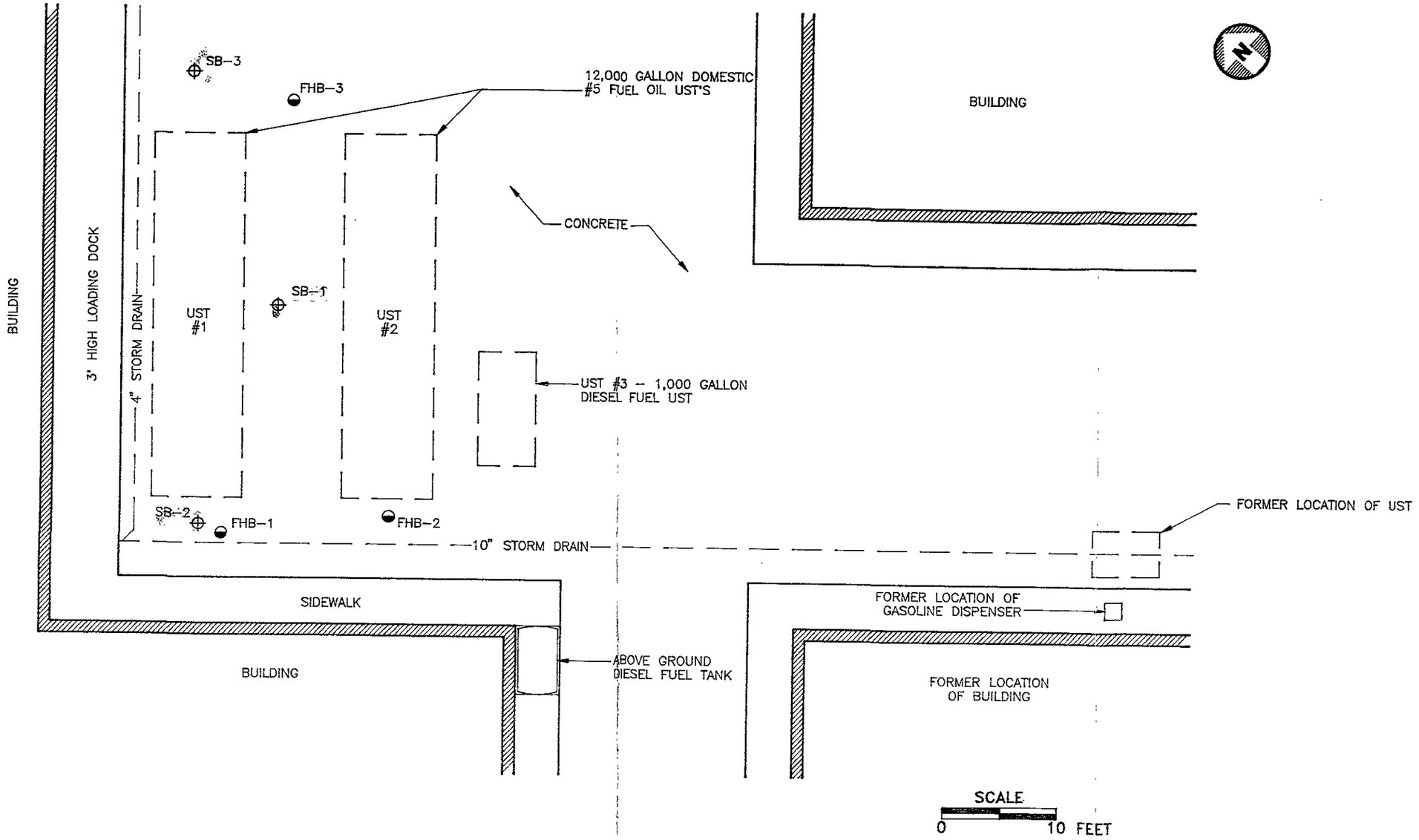
F:\...\5021\SUBINV.RPT

FIGURES



ADAPTED FROM USGS HAYWARD AND SAN LEANDRO 7 1/2 MINUTE TOPOGRAPHIC QUADRANGLES

ESE A CILCORP Company Environmental Science & Engineering, Inc.	DATE 1/93	PROJ. NO. 6-93-5021	ALAMEDA CTY. GSA -- FAIRMONT HOSPITAL 15401 FOOTHILL BOULEVARD SAN LEANDRO, CALIFORNIA
	DRAWN BY CVS	CAD FILE 50211001	
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	APPROVED BY	REVISED	FIGURE 1 VICINITY MAP



LEGEND

- ⊕ SOIL BORING LOCATION (4/21/93 BY ESE)
- UST UNDERGROUND STORAGE TANK
- ◒ BACKFILL VADOSE WELL (INSTALLED JUNE 1988 BY GREGG & ASSOCIATES)

ESE A CILCORP Company — Environmental Science & Engineering, Inc. 4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	DATE 1/93	PROJ. NO. 6-93-5021	ALAMEDA CTY. GSA – FAIRMONT HOSPITAL 15401 FOOTHILL BOULEVARD SAN LEANDRO, CALIFORNIA
	DRAWN BY CVS	CAD FILE 50211002	FIGURE 2 SOIL BORING LOCATIONS
	APPROVED BY	REVISED DWR 5/93	

ATTACHMENT A

STANDARD OPERATING PROCEDURES

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
CONCORD, CALIFORNIA OFFICE

STANDARD OPERATING PROCEDURE NO. 1
FOR SOIL BORINGS AND SOIL SAMPLING WITH HOLLOW-STEM AUGERS IN UNCONSOLIDATED FORMATIONS

Environmental Science & Engineering, Inc. (ESE) typically drills soil borings using a truck-mounted, continuous-flight, hollow-stem auger drill rig. The drill rig is owned and operated by a drilling company possessing a valid State of California C-57 license. The soil borings are conducted under the direct supervision and guidance of an experienced ESE geologist. The ESE geologist logs each borehole during drilling in accordance with the Unified Soil Classification System (USCS). Additionally, the ESE geologist observes and notes the soil color, relative density or stiffness, moisture content, odor (if obvious) and organic content (if present). The ESE geologist will record all observations on geologic boring logs.

Soil samples are collected during drilling at a minimum of five-foot intervals by driving an 18-inch long Modified California Split-spoon sampler (sampler), lined with new, thin-wall brass sleeves, through the center of and ahead of the hollow stem augers, thus collecting a relatively undisturbed soil sample core. The brass sleeves are typically 2-inches in diameter and 6-inches in length. The sampler is driven by dropping a 140-pound hammer 30-inches onto rods attached to the top of the sampler. Soil sample depth intervals and the number of hammer blows required to advance the sampler each six-inch interval are recorded by the ESE geologist on geologic boring logs. The ends of one brass sleeve are covered with Teflon sheeting, then covered with plastic end caps. The end caps are sealed to the brass sleeve using duct tape. Each sample is then labeled and placed on ice in a cooler for transport under chain of custody documentation to the designated analytical laboratory. A portion of the remaining soil in the sampler is placed in either a new Ziploc® bag or a clean Mason Jar® and set in direct sunlight to enhance the volatilization of any Volatile Organic Compounds (VOCs) present in the soil. After approximately 15-minutes that sample is screened for VOCs using a photoionization detector (PID). The PID measurements will be noted on the geologic boring logs. The PID provides qualitative data for use in selecting samples for laboratory analysis. Soil samples from the saturated zone (beneath the ground-water table) are collected as described above, are not screened with the PID, and are not submitted to the analytical laboratory. The samples from the saturated zone are used for descriptive purposes. Soil samples from the saturated zone may be retained as described above for physical analyses (grain size, permeability and porosity testing).

If the soil boring is not going to be completed as a well, then the boring is typically terminated upon penetrating the saturated soil horizon or until a predetermined interval of soil containing no evidence of contamination is penetrated. This predetermined interval is typically based upon site specific regulatory or client guidelines. The boring is then backfilled using either neat cement, neat cement and bentonite powder mixture (not exceeding 5% bentonite), bentonite pellets, or a sand and cement mixture (not exceeding a 2:1 ratio of sand to cement). However, if the boring is to be completed as a monitoring well, then the boring is continued until either a competent, low estimated-permeability, lower confining soil layer is found or 10 to 15-feet of the saturated soil horizon is penetrated, whichever occurs first. If a low estimated-permeability soil layer is found, the soil boring will be advanced approximately five-feet into that layer to evaluate its competence as a lower confining layer, prior to the termination of that boring.

All soil sampling equipment is cleaned between each sample collection event using an Alconox® detergent and tap water solution followed by a tap water rinse. Additionally, all drilling equipment and soil sampling equipment is cleaned between borings, using a high pressure steam cleaner, to prevent cross-contamination. All wash and rinse water is collected and contained onsite in Department of Transportation approved containers (typically 55-gallon drums) pending laboratory analysis and proper disposal/recycling.

ATTACHMENT B

BORING LOGS

Environmental Science & Engineering, Inc.

BORING LOG AND WELL COMPLETION SUMMARY

SB-1

Page 1 of 1

WELL COMPLETION

Completion Depth: N/A

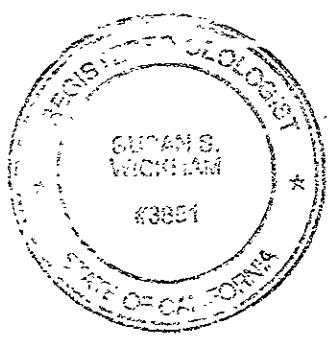
	Size/Type	From	To
Casing:			
Screen:			
Filter:			
Seal:			

Well Cap or Box:

Project Name: Alameda County General Services Agency Fairmont Hospital
Project No: 6-93-5021
Location: 15401 Foothill Boulevard San leandro, California
Driller: Soils Exploration Services, Inc.
Method: Hollow Stem Auger-CME 75
Hole Diameter: 7 7/8" O.D. Total Depth: 21.5 Feet
Ref. Elevations: NA
Logged By: Kerry Lefever

Dates: Start: 4-21-93 Finish: 4-21-93

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type	Time
								Time:
0	Concrete @ Surface 6"						Hand auger to 4.5 Feet	1150
	CLAYEY SAND with gravel; dark brown, slightly moist, angular pepples to 2 inches in diameter.	GC						Drill @ 1240
	CLAY; black to green, moderate plasticity, soft, slightly moist.	CL						
	GRAVELLY SAND; brown to gray, medium to course grained, poorly graded, angular pebbles to 2 inches, dry.	SM						
5	Weathered gabbro, silty-sandy gravel, brown to dark gray, pieces to 1inch.	GM	15 18 23			4	Sample @ 5.0 Feet	1255
							Hard Drilling	
10	As above, weathered gabbro with medium to course-grained sand matrix, slightly moist.		22 47 37			4	Sample @ 10.0 Feet	1305
15	As above.		35 50			4	Sample @ 15 Feet	1310
							Hnu downhole =0	
							Harder drilling @ 19.5 Feet	
20	As above, weathered, fractured gabbro, serpentine, mica grains, course grained matrix.		8 10 20			4	Sample @ 20 Feet	
							Hnu downhole =0	
							Total Depth: 21.5 Feet (sampler)	
							Auger refusal 20 Feet	
							Pushed sampler from 20 to 21.5 Feet	



Environmental Science & Engineering, Inc.

A CILCORP Company

BORING LOG AND WELL COMPLETION SUMMARY

SB-2

Page 1 of 1

WELL COMPLETION

Completion Depth: N/A

Size/Type	From	To
Casing:		
Screen:		
Filter:		
Seal:		

Well Cap or Box:

Project Name: Alameda County General Services Agency Fairmont Hospital Project No: 6-93-5021

Location: 15401 Foothill Boulevard San leandro, California

Driller: Soils Exploration Services, Inc.

Method: Hollow Stem Auger-CME 75

Hole Diameter: 7 7/8" O.D. Total Depth: 24.5 Feet

Ref. Elevations: NA

Logged By: Kerry Lefever

Dates: Start: 4-21-93 Finish: 4-21-93

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type	Time
								Time:
0	Concrete @ Surface 6"						Hand auger to 5 Feet	1320
	CLAYEY SAND with gravel; dark brown, slightly moist.	GC					Drill easy	
	GRAVELLY SANDY CLAY; medium brown. slightly moist, medium to course grained sand.	CL						
5			10			5	Sample @ 5.0 Feet	1350
	Weathered gabbro, brown grey, silty gravelly sand, slightly moist.		16 14				Hnu downhole = 0	
10	As above, weathered gabbro, grey to greenish grey, silty gravelly sand.		16 27 30			4	Sample @ 10.0 Feet Hnu downhole = 0	1400
							Hard drilling @ 13 Feet	
15	As above, weathered gabbro, courser grained.	SM	19 24 21			4	Sample @ 15 Feet Hnu downhole = 0	1412
							Loosened @ 18 Feet	
20	As above, weathered gabbro, greenish grey to black, silty sandy gravel.		9			4	Sample @ 20 Feet	1422
	As above, decomposed bedrock, gravel, less matrix	GM	8 10					
			11 13 13				Sample @ 23 Feet Auger refusal 23 Feet Pushed sampler from 23 to 24.5 Feet Total Depth: 24.5 Feet (sampler)	1435
25								

REGISTERED GEOLOGIST
SUSAN S. WICKHAM
#3851
STATE OF CALIFORNIA

Environmental Science & Engineering, Inc.

A CILCORP Company

BORING LOG AND WELL COMPLETION SUMMARY

SB-3

Page 1 of 1

WELL COMPLETION

Completion Depth: N/A

Size/Type	From	To
Casing:		
Screen:		
Filter:		
Seal:		

Well Cap or Box:

Project Name: Alameda County General Services Agency Fairmont Hospital
Project No: 6-93-5021
Location: 15401 Foothill Boulevard San leandro, California
Driller: Soils Exploration Services, Inc.
Method: Hollow Stem Auger-CME 75
Hole Diameter: 7 7/8" O.D. Total Depth: 21.5 Feet
Ref. Elevations: NA
Logged By: Kerry Lefever

Dates: Start: 4-21-93 Finish: 4-21-93

Depth (ft)	Lithologic Description	USC	Graphic Log: Sample/Blows	Graphic Log: Lithology	Graphic Log: Well Installation	Vapor	Remarks: Water, drilling/completion, summary, sample type	Time
0	Concrete @ Surface 6"						Hand auger to 5 Feet	920
	CLAYEY SAND with gravel; dark brown, slightly moist.	GC					Drill easy	
	GRAVELLY SILTY SAND; medium brown. slightly moist, medium to course grained sand.	SM						
5	CLAYEY SILTY SAND; medium brown to red brown with gravel, angular pieces to 1", fine to medium grained sand, slightly moist.		1, 3, 7			6	Sample @ 5.0 Feet	1035
							Hnu downhole = 0	
	Weathered gabbro, silty sandy gravel, brown to dark grey, angular pieces to 1" in diameter, slightly moist.							
10		GM	11, 18, 15			4	Sample @ 10.0 Feet	1047
							Hnu downhole = 0	
							Hard drilling @ 13 Feet	
15	As above, weathered gabbro, silty sandy gravel.		20, 50 FOR 5"			4	Sample @ 15 Feet	1105
							Hnu downhole = 0	
							Loosened @ 18 Feet	
20	As above, weathered gabbro, grey to dark grey, silty sandy gravel.		17, 29, 50 FOR 6"			4	Sample @ 20 Feet	1125
							Auger refusal 20 Feet	
							Pushed sampler from 20 to 21.5 Feet	
25							Total Depth: 21.5 Feet (sampler)	

REGISTERED GEOLOGIST
SUSAN S. WICKHAM
#3851
STATE OF CALIFORNIA

ATTACHMENT C

LABORATORY ANALYTICAL REPORT AND CHAIN OF CUSTODY DOCUMENTATION

Environmental Science & Engineering, Inc.
8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232
An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
4090 NELSON AVE., SUITE J
CONCORD, CA 94520
ATTN: MR. KERRY LEFERER

PAGE NUMBER: 1
REPORT DATE: 04-30-93
DATE RECEIVED: 04-23-93
PROJECT NUMBER: 591-5287

CLIENT PROJECT NAME: FAIRMONT HOSPITAL
CLIENT PROJECT NUMBER: 693-5021

ESE SAMPLE		12123*1	12123*2	12123*3	12123*4			
SAMPLE DATE		04/21/93	04/21/93	04/21/93	04/21/93			
DESCRIPTION	UNITS	SB-1@5' SOIL	SB-1@10' SOIL	SB-1@15' SOIL	SB-1@20' SOIL	METHOD NO.	DATE ANALYZED	ANALYST
BENZENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-29-93	RMM
TOLUENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-29-93	RMM
ETHYLBENZENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-29-93	RMM
XYLENES, TOTAL	UG/KG	< 5	< 5	< 5	< 5	8020	04-29-93	RMM
TOTAL PETROLEUM HYDROCARBON DIESEL	MG/KG	< 1	< 1	< 1	< 1	8015MOD.	04-29-93	RAU

Report Approved by: Vickie M. Wynkoop
Vickie M. Wynkoop
Project Manager

Environmental Science & Engineering, Inc.
8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232
An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
4090 NELSON AVE., SUITE J
CONCORD, CA 94520
ATTN: MR. KERRY LEFERER

PAGE NUMBER: 2
REPORT DATE: 04-30-93
DATE RECEIVED: 04-23-93
PROJECT NUMBER: 591-5287

CLIENT PROJECT NAME: FAIRMONT HOSPITAL
CLIENT PROJECT NUMBER: 693-5021

ESE SAMPLE		12123*5	12123*6	12123*7	12123*8			
SAMPLE DATE		04/21/93	04/21/93	04/21/93	04/21/93			
DESCRIPTION	UNITS	SB-2@5' SOIL	SB-2@10' SOIL	SB-2@15' SOIL	SB-2@20' SOIL	METHOD NO.	DATE ANALYZED	ANALYST
BENZENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
TOLUENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
ETHYLBENZENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
XYLENES, TOTAL	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
TOTAL PETROLEUM HYDROCARBON DIESEL	MG/KG	< 1	< 1	< 1	< 1	8015MOD.	04-29-93	RAU

Report Approved by: Vickie M. Wynkoop
Vickie M. Wynkoop
Project Manager

Environmental Science & Engineering, Inc.
8901 North Industrial Road Peoria, IL 61615-1589
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TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
4090 NELSON AVE., SUITE J
CONCORD, CA 94520
ATTN: MR. KERRY LEFERER

PAGE NUMBER: 3
REPORT DATE: 04-30-93
DATE RECEIVED: 04-23-93
PROJECT NUMBER: 591-5287

CLIENT PROJECT NAME: FAIRMONT HOSPITAL
CLIENT PROJECT NUMBER: 693-5021

ESE SAMPLE		12123*9	12123*10	12123*11	12123*12			
SAMPLE DATE		04/21/93	04/21/93	04/21/93	04/21/93			
DESCRIPTION	UNITS	SB-2@23' SOIL	SB-3@5' SOIL	SB-3@10' SOIL	SB-3@15' SOIL	METHOD NO.	DATE ANALYZED	ANALYST
BENZENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
TOLUENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
ETHYLBENZENE	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
XYLENES, TOTAL	UG/KG	< 5	< 5	< 5	< 5	8020	04-28-93	RMM
TOTAL PETROLEUM HYDROCARBON DIESEL	MG/KG	< 1	< 1	< 1	< 1	8015MOD.	04-30-93	RAU

Report Approved by: Vickie M. Wynkoop
Vickie M. Wynkoop
Project Manager

Environmental Science & Engineering, Inc.
8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232
An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
4090 NELSON AVE., SUITE J
CONCORD, CA 94520
ATTN: MR. KERRY LEFERER

PAGE NUMBER: 4
REPORT DATE: 04-30-93
DATE RECEIVED: 04-23-93
PROJECT NUMBER: 591-5287

CLIENT PROJECT NAME: FAIRMONT HOSPITAL
CLIENT PROJECT NUMBER: 693-5021

DESCRIPTION	UNITS	ESE SAMPLE 12123*13 SAMPLE DATE 04/21/93 SB-3@20' SOIL	METHOD NO.	DATE ANALYZED	ANALYST
BENZENE	UG/KG	< 5	8020	04-28-93	RMM
TOLUENE	UG/KG	< 5	8020	04-28-93	RMM
ETHYLBENZENE	UG/KG	< 5	8020	04-28-93	RMM
XYLENES,TOTAL	UG/KG	< 5	8020	04-28-93	RMM
TOTAL PETROLEUM HYDROCARBON DIESEL	MG/KG	< 1	8015MOD.	04-30-93	RAU

Report Approved by: Vickie M. Wynkoop
Vickie M. Wynkoop
Project Manager

DATE 4/20/93 PAGE 1 OF 2

CHAIN OF CUSTODY RECORD

PROJECT NAME Fairmont Hospital

ADDRESS 15401 Foothill Blvd. San Leandro

PROJECT NO. 6-93-5021

SAMPLED BY KERRY LEFEVER

LAB NAME ESE - Peoria

ESE Environmental Science & Engineering, Inc.
A CILCORP Company
4090 Nelson Avenue Suite J Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED: TPH-D 8015M	BTEX 8020	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
SB-1@5'	4/21/93	1255	Fairmont	X	X	SOIL	1	BRASS RING 12123-1
SB-1@10'		1305	Hosp	X	X		1	-2
SB-1@15'		1310		X	X		1	-3
SB-1@20'		1322		X	X		1	-4
SB-2@5'		1350		X	X		1	-5
SB-2@10'		1400		X	X		1	-6
SB-2@15'		1412		X	X		1	-7
SB-2@20'		1422		X	X		1	-8
SB-2@23'		1435		X	X		1	-9

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. Kerry Lefever			
2.	Allen R. Hogan	4-23-93	am 9:00
3.			
4.			
5.			

9 TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO: PAT GALVIN

SPECIAL SHIPMENT REQUIREMENTS

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):

5 DAY TA. PLEASE INCLUDE QA/QC DATA

SAMPLE RECEIPT

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

DATE 4/20/93 PAGE 2 OF 2

CHAIN OF CUSTODY RECORD

PROJECT NAME Fairmont Hospital

ADDRESS 15401 Fairmont Hosp
San Leandro, CA

PROJECT NO. 6-93-5021

SAMPLED BY KERRY LEFEVER

LAB NAME ESE-Peoria

ESE Environmental Science & Engineering, Inc.
A GILCORP Company
4090 Nelson Avenue
Suite J
Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED: TPH-D 8015m	ANALYSES TO BE PERFORMED: BTEX 8020	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
SB-3@5'	4/21/93	1035	Fairmont	X	X	SOIL	1	BRASS RING 12123-10
SB-3@10'	"	1047	Hosp	X	X	"	1	-11
SB-3@15'	"	1105	"	X	X	"	1	-12
SB-3@20'	"	1125	"	X	X	"	1	-13

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. Kerry Lefever			
2.	Ella R. Hogan	4-23-93	9:00 am
3.			
4.			
5.			

4 TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO: PAT GALEN

SPECIAL SHIPMENT REQUIREMENTS

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):

5 DAY TA. PLEASE INCLUDE QA/QC DATA ~~sit~~.

SAMPLE RECEIPT

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

Environmental Science & Engineering, Inc.
8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232
An IEPA Contract Laboratory

Environmental Science and Engineering, Inc.
Table of Definitions for QC Reports
Columnar Terms

Item	Title	Definition
FOUND	Sample Concentration	SPIKE SAMPLE CONC - LESS THE UNSPIKED SAMPLE CONC.
FOUND #1	Concentration of UNSPIKED Sample	
FOUND #2	Concentration of Replicate Sample	
%RECV	Percent Recovery:	100*(FOUND/TARGET) displayed in appropriate significant figures.
RECV CRIT	Recovery Criteria	Criteria for Percent Recovery set in the parameter record.
UNSPIKED	Unspiked Sample Concentration	Concentration of the DA or UN sample.
M*BLK	Concentration of Method Blank	
R.P.D.	Relative Percent Difference (Matrix Spikes)	100*(ABS (%RECV SPMn - %RECV SPMn-1)/(%RECV SPMn + %RECV SPMn-1)/2).
R.P.D.	Replicate Percent Difference (Control Spikes)	100*(ABS (%RECV SPn - %RECV SP1)/(%RECV SPn + %RECV SP1)/2)
R.P.D.	Replicate Percent Difference (Replicate Samples)	100*(ABS (Conc Rep #2 - Conc Rep #1)/(Conc Rep #2 + Conc Rep #1)/2).
MAX % REPL DIFF	Maximum value of Replicate Difference	
C.D.L.	Calibration Curve Detection Limit	
NA	Not Analyzed	
N/A	Not Available	
UNSPIKED = 0		If the parameter is reported as a "LESS THAN", the data is converted to 0 for calculation purposes.
MIN.REC	Minimum Recovery Limit	Average Recovery - Recovery Limit.
MAX.REC	Maximum Recovery Limit	Average Recovery + Recovery Limit.
DA		Refers to sample.
UN		Refers to second analysis of sample for QC purposes.
SP		Spike of reagent (blank) water or soil.
SPM1,SPM2		Duplicate Matrix Spikes of a sample.
SPM		Matrix Spike of a sample.
MB		Refers to Method Blank.

CONCORD 12123

Method Blank (MB) Sample Summary

NAME	UNITS	STOR*METH	BATCH	SAMPLE	DATE	FOUND
BENZENE	UG/KG	34030*PFS	P12827	MB*NONE*1	04/28/93	<1
BENZENE	UG/KG			MB*NONE*2	04/29/93	<1
TOLUENE	UG/KG	34010*PFS		MB*NONE*1	04/28/93	<1
TOLUENE	UG/KG			MB*NONE*2	04/29/93	<1
ETHYLBENZENE	UG/KG	34371*PFS		MB*NONE*1	04/28/93	<1
ETHYLBENZENE	UG/KG			MB*NONE*2	04/29/93	<1
XYLENES,TOTAL	UG/KG	81551*PFS		MB*NONE*1	04/28/93	<1
XYLENES,TOTAL	UG/KG			MB*NONE*2	04/29/93	<1
TPH AS DIESEL	MG/KG	97468*PCS	P12833	MB*NONE*1		<1

CONCORD 12123

Sample Matrix Spike (SPM) Recovery Summary

NAME	UNITS	STOR*METH	BATCH	SAMPLE	DATE	TARGET	FOUND	%RECV	RECV CRIT	UNSPIKED	R.P.D.	R.P.D. CRIT.
BENZENE	UG/KG	34030*PFS	P12827	SPM1*12123*9	04/29/93	40	35	88	42-146	0.0		42
BENZENE	UG/KG			SPM2*12123*9		40	27	68	42-146	0.0	26.0	42
TOLUENE	UG/KG	34010*PFS		SPM1*12123*9		40	36	90	54-123	0.0		45
TOLUENE	UG/KG			SPM2*12123*9		40	28	70	54-123	0.0	25.0	45
TPH AS DIESEL	MG/KG	97468*PCS	P12833	SPM1*12123*1		49	34	69	48-143	0.0		N/A
TPH AS DIESEL	MG/KG			SPM2*12123*1		47	27	57	48-143	0.0	19.0	N/A

CONCORD 12123

Surrogate (SUR) Spike Recovery Summary

NAME	UNITS	STOR*METH	BATCH	SAMPLE	DATE	TARGET	FOUND	%RECV	RECV CRIT	SPIKE CONC
AAA TRIFLUOROTOLUENE	UG/KG	96101*SUR	P12827	MB*NONE*1	04/28/93	40.0	40.0	100.0	34-123	40.0
AAA TRIFLUOROTOLUENE	UG/KG			MB*NONE*2	04/29/93	40.0	40.0	100.0	34-123	40.0
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*1		40.0	33.6	84.0	34-123	33.6
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*2		40.0	37.1	92.8	34-123	37.1
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*3		40.0	36.8	92.0	34-123	36.8
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*4		40.0	24.8	62.0	34-123	24.8
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*5		40.0	40.9	102.3	34-123	40.9
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*6		40.0	35.8	89.5	34-123	35.8
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*7		40.0	30.9	77.3	34-123	30.9
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*8		40.0	37.7	94.3	34-123	37.7
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*9	04/29/93	40.0	41.0	102.5	34-123	41.0
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*10		40.0	29.7	74.3	34-123	29.7
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*11	04/28/93	40.0	35.7	89.3	34-123	35.7
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*12		40.0	34.2	85.5	34-123	34.2
AAA TRIFLUOROTOLUENE	UG/KG			DA*12123*13		40.0	38.0	95.0	34-123	38.0
AAA TRIFLUOROTOLUENE	UG/KG			SPM1*12123*9	04/29/93	40.0	34.2	85.5	34-123	34.2
AAA TRIFLUOROTOLUENE	UG/KG			SPM2*12123*9		40.0	29.8	74.5	34-123	29.8